Megatrend Review

The international review of applied economics

Vol. 8 (1) 2011

Megatrend University, Belgrade

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Vol. 8 (1) 2011

Published by:
Megatrend University

For publisher:
Nevenka Trifunović

Publishing director:
Dragan Karanović

ISSN 1820-4570

UDK 33

The review is published twice a year in Serbian and twice a year in English language.

All papers have been reviewed.

Adress:
Megatrend Review
Goce Delčeva Street 8, 11070 Belgrade, Serbia
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The financing of journal edition has been supported by The Ministry for Science of The Republic of Serbia.

“Megatrend Review” is registered
as the leading scientific review of national interest (M 51),
by settlment of the Board of Social Sciences,
Ministry of Science of Republic of Serbia, on May 14th, 2009.

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“Megatrend Review” is registered
in The International Bibliography of the Social Sciences (IBSS)
produced by the London School of Economics and Political Science
since May 17th, 2007.

* * *

“Megatrend Review” is registered and published
in EBSCO's (EBSCO Publishing Inc.) Database "Business Source Complete":
http://www.ebscohost.com/titleLists/bth-journals.xls

* * *

“Megatrend Review” is registered
in GESIS "Knowledge Base SSEE", Leibniz Institute for the Social Science:
http://www.cee-socialscience.net/journals/

The Library of Congress Catalog

Megatrend review: the international review of applied economics.

LC Control No.: 2007201331
Type of Material: Serial (Periodical)
Uniform Title: Megatrend Revija. English.
Main Title: Megatrend review : the international review of applied economics.
Published/Created: Belgrade : ill. ; 24 cm.
Description: v. : Megatrend University of Applied Sciences, [2004]-
Year 1, no. 1 (’04)-
ISSN: 1820-4570
CALL NUMBER: HB1 .M44

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

33

*MEGATREND revija : međunarodni časopis za primenjenu ekonomiju / glavni urednik Dragana Gnjatović . - God. 1, br. 1 (2004)- . - Beograd (Makedonska 21) : Megatrend univerzitet primenjenih nauka, 2004- ([Beograd : Megatrend univerzitet primenjenih nauka]). - 24 cm

Dva puta godišnje

ISSN 1820-3159 = Megatrend revija
COBISS.SR-ID 116780812

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SPONZORSHIP IN MUSIC ARTS – SOCIAL RESPONSIBLITY OR A PROFITABLE INVESTMENT?**

Abstract: *Interest and respect for cultural and artistic values is growing throughout the world. Today, as in the past, artists need an economic base, support from patrons, whether they are individuals, corporations, non-profit foundations or state institutions. Supporting artists is a serious task, which requires time and money. To invest in culture and arts assumes means to provide artists and cultural institutions with assets, i.e., physical and human resources. In return, the image of the culturally engaged firm is improved. Those who want to influence the world around them have to offer society something that has a healing and positive impact – culture and arts, which contribute to the vitality and mental health of society, to a sense of identity, to finding a meaning to life in turbulent times. Following Serbian and world practice, Madlena Zepter, the founder and owner of the Madlenianum Opera House and Theatre in Zemun, has made such a contribution, by founding institutions and funds, and launching numerous undertakings in the cultural field, in which she has invested large amounts of money. At the beginning of 2011, Madlena Zepter became the first laureate of the "Golden Wreath" award, awarded by the Ministry for Culture of the Republic of Serbia for a contribution to Serbian cultural development through sponsorships and donations.*

Key words: *patronage, musical arts, corporate policy, investments, socially responsible behavior*

JEL classification: Z11, H81

De sponzoribus nihil nisi bene (Say nothing but good about sponsors)
(Paraphrase of the Latin saying: *De mortibus nihil nisi bene*)

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** Supported by the Ministry of Science and Technological Development of the Republic of Serbia (Project no. 47004).

1. Introduction

There is a growing desire throughout the world to adequately evaluate the worth of artistic products and goods, so that governmental and non-governmental sources of financing – sponsors, donors, patrons and philanthropists – can make efficient financing decisions, as well as a growing interest and respect for cultural and artistic values. Today, as in the past, artists need an economic base and support, which is a serious task that requires time and money. All serious investment in art must be based on an understanding of mutual relations between art and logistic support (classical music-ballet-dance-opera-scene-theatre), in the form of quite needed economic, human and physical resources.

To invest in culture and arts means to provide artists and cultural institutions with money, resources and organizational services in return for, for instance, improving the image of the culturally engaged firm. Those who wish to influence the world around them must offer society something that has a healing and positive influence – such as culture and art, which contribute to the vitality and mental health of society, and to feelings of identity and cultural differences. On the heels of this realization, the Serbian Chamber of Commerce established an annual award for the most successful cooperation in the area of art and the economy.

Regardless of whether art makes the world a better place or us into better people, it is subject to economic-commercial relations. As more of an aesthetic and spiritual rather than an economic value category, art should be protected from the harsh struggle of the open market. The arts need the protection of society, because they are not market-oriented and cannot survive the laws of the marketplace. It is hard for artistic organizations and artists to survive on the free market without financial help, because artistic practice is economically inefficient. The factors that impede the survival and the advance of artistic organizations on the open market are:

- teleological differences (the goals and purposes of art are separated from commercial goals);
- technological differences (handicap due to the means of "production" in art).[1]

If art accommodates itself to a commercial society, it loses its social role of catalyst of changes. This loss cannot be compensated, as it leads to the creation of "ecological cracks," to increased alienation, a society heading selfishly and hedonistically toward self-destruction. When the state is not economically capable of supporting the highest art, sponsors, donors and patrons appear on the scene.

Sponsorship differs from patronage by its strictly business-based relationship, related to the contractual and executive actions in this connection. Cultural sponsorship means the provision of money, resources, knowhow and orga-

[1] I. Adižes: *Menadžment za kulturu*, Adižes menadžment konsalting, Novi Sad, 2002.

nizational services to artists and cultural institutions, with the goal of gaining something economically relevant or ideological in return. The sponsor's motive is not just to aid art, but to improve his social image, which ultimately has an economic, market motive. It is believed that a socially responsible company will reach potential customers more easily with the aid of the improved image it has gained through cooperation with artists, while the media transmit information about the sponsors, acquainting the public with their humanistic gestures and giving them an image of trustworthiness. Such investment brings numerous benefits to companies (gaining new customers, more intimate relations with existing customers, greater employee devotion, reduced business costs, an improved corporate brand, building of a positive image, integration into the local community), which can ultimately also have a positive effect on the company's financial results.[2] Marketing experts use a well organized and legally ordered sponsorship as the most successful tool in capturing a given market. As these hard times have increased the need for sponsors, as well as their importance, so have sponsors come to demand a tangible return on their investment.

On the other hand, in the role of patrons, philanthropists first of all seek to fulfill their desire to be included in the exciting world of art and artists, at the same time creating a positive image about themselves and their business world. For the most part, corporations, successful firms and businessmen in Serbia are not interested in patronizing serious artistic projects, for various reasons. Is it because they were busy creating capital and, thus, did not have time to become better acquainted with art, or because they already invest in basic human needs, among which they do not include art, or because it is difficult to measure results and achievement in art, in spite of art's beneficial spiritual effect on people?[3] The domestic successful firms sponsor only the things that will bring them the most benefit, in terms of self-advertisement and media impact.

This magnifies the effect of what Madlena Zepter, founder and owner of the "Madlenianum " opera and theatre in Zemun, has been doing for the past ten years. More on the activities of this unique philanthropist in our region will be said later, with the note that, at the beginning of 2011, Mrs. Zepter was the first recipient of the "Golden Wreath" award, given by the Ministry of Culture for contributions to the development of Serbian culture through patronage and donorship. Mrs. Zepter's contribution is reflected in the institutions and funds she has founded, as well as in her undertakings in culture and art, into which she has invested over thirty million euros.

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2 P. W. Roberts, G. R. Dowling: "Corporate reputation and sustained superior financial performance," *Strategic Management Journal* 23 (12), 2002, pp. 1077-1093.

3 M. Garber, *Patronizing the Arts*, Princeton University Press, Princeton, 2008, p. 111.

2. Brief overview of patronage in musical arts

The term "patronate" comes from the Latin word *patronatus*, which denoted the formal relationship between patron and client. Gaius Cilnius Maecenas (70 BC – 8 AD), friend to Augustus, Roman noble and descendant of Etruscan nobility, gathered and materially aided the great poets of his time (Virgil, Horace, Propertius, etc.), giving birth to the term *maecenas*, a man who helps art and artists.

The term "philanthropy" derives from the Greek words *philos* (friendship) or *phileo* (I love) and *anthropos* (man), thus standing for love of man, beneficence, and readiness to help others. An endowment is a philanthropic institution or fund that is a legal entity, established for achieving a humanitarian, cultural or educational purpose.4 Big and wealthy families in Renaissance Italy were patrons to artists, who glorified and immortalized them. It was a relationship of reciprocal good business. Lorenzo il Magnifico (1449–1492), from the splendid Medici family, supported scientists and artists at his court in Florence, and engaged in art himself. The powerful Sforza family helped many artists at its Milan palace, including the famous Flemish composer Josquin de Pres, (1440–1521), Johannes Ockeghem (1410–1497), Alessandro Agricola, lutist Pietrobono, and many others. Nobility throughout Europe supported, in accordance with its financial capacities, musicians and actors, even entire theatres. A rivalry developed between the Renaissance courts of Venice, Milan, Florence, Naples and Toscana regarding the "acquisition" of better music and better composers, which were symbols of rulers' status, prestige, and economic power. The first opera was performed at the end of the sixteenth century in a *private* space in Florence. Baroque composers served patrons (aristocrats, the church or the state/ruler), viewing themselves more as craftsmen than as artists. The greatest portion of Baroque music was commissioned, for special or quite ordinary occasions, for a specifically commissioned moment, not for history. As a result, most of the sheet music was treated as disposable material, similarly to yesterday's paper. Much music was lost as a result, but much was also saved, because composers had to work hard and fruitfully in order to be able support their families. The lives of the musicians that marked the world history of music were closely tied with their patrons, who allowed them to live and work, and leave their art for future generations.

The German composer **Johann Jakob Froberger** (1616–1667), one of the greatest composers of his time and a great model to Johann Sebastian Bach, was a court organist in Vienna, at the court of Holy Roman Emperor Ferdinand III Habsburg (1608–1657), for whom he not only composed and performed music but, also engaged in non-musical endeavors in the field of diplomacy and, possibly, espionage on his numerous travels, as was done earlier by English composer John Dowland (1563–1626) and painter Peter Paul Rubens (1577–1640). He wrote his most beautiful harpsichord pieces on the occasion of the deaths of Ferdi-

[4] *Enciklopedija leksikografskog zavoda* VII, Zagreb, 1964, p. 737.

nand IV (*Lamento sopra la dolorosa perdita della Real Maesta di Ferdinando IV*) and Ferdinand III (*Lamentation faite sur la mort tres douloureuse de Sa Majeste Imperiale, Ferdinand III*).

Johann Sebastian Bach (1685–1750) and his sons. One of the greatest composers of all time had to live as a court musician, with the status of a servant, in order to secure the livelihood of his large family. As an organist and cantor in Arnstadt, a part of his duty was to perform in the count's palace chapel. In 1717, he gained the appointment of Kapellmeister at the princely court of Anhalt-Köthen, in the service of Prince Leopold in Köthen. There was no organ at the court, so Bach had to compose for several instrumentalists, whose duty was to entertain the master, which is how most of his instrumental masterpieces came about. As a token of gratitude to the Russian ambassador at the Dresden court, von Kaiserling, who suffered from insomnia, Bach wrote the "Goldberg Variations," one of the most capital works of Baroque music for harpsichord, so that Kaiserling's house musician, Theophilus Goldberg, could have something to play to him during sleepless nights. Bach sent the six Brandenburg Concertos as a gift to the Count of Brandenburg in 1710, when he was hoping to gain work at his court. It can be said that almost all of Bach's music was written only after it was commissioned, which was the way every craftsman of the time would have acted.[5]

When the prince in Köthen married an "amusa," a woman who did not like music (an anti-muse, as Bach referred to her), Bach left Köthen and became a cantor at St. Thomas Church in Leipzig, where he lived out the rest of his days. He performed numerous duties there, from writing cantatas each week for church services, to giving music lessons, transcribing notes, conducting the ensemble, playing the organ, even instrument maintenance. He had to deliver a new cantata for the church each week. Almost 200 of them have been saved, and it is thought that more than a hundred have been lost, because Bach the craftsman did not attend to the music that had already been performed. For his Passions and Oratorios, Bach employed a small orchestra of professional musicians, who were paid by the municipality.[6]

Bach's son, Carl Philipp Emanuel Bach (1714–1788), was appointed as harpsichordist at the court of Prince Regent Friedrich of Prussia, the latter King Friedrich II. His duty was to play the harpsichord at the king's regular evening chamber concerts at the courts in Berlin and Potsdam, as well as to give lessons to the royal family. Bach's older son, Wilhelm Friedemann Bach (1710–1784), wanted to live the life of a free artist, without dependence on patrons and their money, but the social conditions were not yet ripe. He died in poverty. Johann Christoph Friedrich Bach (1732–1795) was appointed Konzertmeiseter at the court of Schaumburg-Lippe-Bückeburg in Bückeburg. Johann Christian Bach (1735–1782), whom his older brother, Carl Philipp Emanuel, had molded into

5 S. Isaković: *Menadžment muzičke umetnosti*, Megatrend univerzitet, 2010, p. 83.

6 C. Sanford Terry: *The Music of Bach*, Dover Publications Inc., New York, 1963, pp. 1-9.

one of the best harpsichordists of his time, secured a wealthy patron in Milan, Count Agostino Litta, who appointed him as conductor of his private orchestra and gave him a stipend for studies in Bologna, with the famous composer Padre Martini. The Queen of England, Sophie Charlotte, became interested in him, so he moved to London, where his success secured him the position of the Queen's Music Master. Among other things, he taught music to the queen's children.

Differently from the elder Bach, Georg Friedrich Handel (1685–1759) spent most of his life fighting for his independence, but lack of money finally forced him to take the position of conductor at the court of Prince-Elector Georg Ludwig, later King George I of England. Handel lived in London, under the patronage of the king and the queen, including, for a time, at the palace of the Duke of Chandos. He would remain under the protection of the court for the remainder of his life. In addition, he was an exceptional entrepreneur, a man of many ideas, and combined the court's patronage with his own sources of income. He founded theatres, brought Italian opera to London, sold and resold organs, composed, conducted and published his own works. When Italian opera was no longer in fashion, Handel quickly turned to composing scenic oratorios (religious compositions for chorus, orchestra, and vocal soloists, for concert or church performance[7]) in the English language, which earned him a fortune.

Jean-Baptiste Lilly (1632–1687) spent his entire professional life as official composer, conductor, ballet master and violinist at the court of King Louis XIV. He gained and retained the king's favor despite the constant turbulence that accompanied this patronage. Fortunately for Lilly, the Sun King loved music and ballet more than anything else in the world. At the same court, François Couperin le Grande (1668–1733), one of the greatest harpsichordists of all time, composed program pieces for harpsichord, some of which where specifically devoted to the royal patron and the turbulent atmosphere at the French court.

As a court musician, Domenico Scarlatti (1685–1757), the Naples-born Italian composer, taught music and harpsichord to Portuguese princess Maria Barbara, who, through her marriage to the king of Spain, became the Spanish queen. As a result, Scarlatti spent the rest of his days as a court musician at the Spanish court. Maria Barbara respected him greatly, even covering his gambling debts, and he retained a rarely privileged position at the court until death. At the same time, the famous castrato singer Carlo Maria Broschi, 1705–1782) also resided at the court in Madrid.

Antonio Vivaldi (1678–1741), the "Red Priest" and great Venetian composer and violinist, enjoyed the support of the Catholic Church in Venice. He lived for a time in Rome, where his patron was Cardinal Pietro Ottoboni, who, as a great lover of music, had already aided the composer Arcangello Corelli. Vivaldi was, thus, able to enter high Vatican circles, and even play the violin to the pope himself in private audience. However, he lost the patronage of the church in Venice as a result of a sentimental affair.

[7] The Oxford Companion to Music, Oxford University Press, Oxford, 1977, p. 720.

Joseph Haydn (1732–1809) spent most of his life in the service of the Austro-Hungarian princely Esterházy family, as their Kapellmeister. He lived on their estate in today's Hungary and did not display much of a desire to travel, although he was known and respected throughout Europe. Prince Esterházy respected him as a composer, but Haydn's status was equal to that of servants. He organized and conducted the music at the court, and composed new pieces for court needs, constantly residing at the palaces in Eisenstadt and Esterházy.

While Haydn made use of the advantages of patronage, Wolfgang Amadeus Mozart (1756–1791) fared much more poorly. Few years separated him from the status of wunderkind, whom European royalty bathed in gold, and material poverty. He did not know how to bow his head to powerful people that would finance him in return. The scandal with Archbishop Coloredo in his native Salzburg, when Mozart presented himself as an ingenious composer instead of a servant, sealed his fate in regard to further financial support from Salzburg. Without a secure source of income, Mozart became his own manager, negotiating his own concerts through subscription, where he performed his own compositions or improvised on selected themes, in which he was an unsurpassed master. He earned money by giving piano lessons and by performing and selling his printed works. Mozart's earnings were not small. When comparing the currency of his time with the US dollar of the 1990s, it is estimated that his annual salary in Vienna came to about 175,000 dollars. "The Marriage of Figaro" opera itself earned about 30,000 dollars. Still, orders for major works, such as operas, were sporadic, while Mozart spent a great deal. Embittered, Mozart wrote: "... The best, the truest friends are the poor. The rich know nothing about friendship. Especially those born to wealth, as well as those made such by fate. These often forget themselves in their happy state."[8] He also added: "Wherever there is money, people are easily won."[9] When the new ruler assumed the Austrian throne, Mozart attempted to resolve his financial situation one last time. In 1790, a year before his death, he wrote the following appeal:

"Your Royal Highness,

I take the liberty of most humbly appealing to Your Royal Highness to most kindly intercede with His Majesty the King regarding the matter of my support..."[10]

He did not receive the position of Kapellmeister, whereupon he turned to his Masonic brothers, to whom he devoted his most famous opera, "The Magic Flute," for help. He died in destitution.

8 Mocart: *Pisma ocu*, Glas, Banja Luka, 1990, p. 126.

9 Mocart: ibid., p. 128.

10 Ibidem, p. 253

Ludwig van Beethoven (1770–1827), a man of the new era of freedom during the transition from Classicism to Romanticism, despised dependence of any kind, especially financial, and openly demonstrated this. In the age of the creation of a new, post-revolutionary world, in which Beethoven had come of age, the institution of royal and aristocratic patronage gave way to the more insecure mechanism of commerciality. Note printing, concerts, subscriptions, the free market – it was a chaotic world of civil liberties, one that was, nevertheless, filled with possibilities, within which Beethoven managed in the best he could. As an already famous composer, he sold his works to domestic and foreign publishers. Thus, he sold piano and chamber music, as well as his First Symphony and the Second Piano Concerto to Franz Anton Hoffmeister (1754–1812), owner and founder of the *Bureau de Musique* publishing house in 1802. When, due to Hoffmeister's death, the publishing house changed ownership in 1814 (becoming the Bureau de Musique de C.F. Peters), negotiations concerning the publishing of Beethoven's complete works ended unsuccessfully.

Beethoven did not handle money well, even though his earnings were not insubstantial. In order to secure a more-or-less secure livelihood – as he did not wish to enter court service due to his love of liberty, the princes Kinsky and Lobkowitz and Austrian archduke Rudolph (1788–1831) became his patrons, with the obligation of paying him an annual appanage. From March 1, 1809 to November 3, 1812, he received five biannual payments each from Kinsky and Lobkowitz, and seven from the Archduke – a total of 11,500 florins in all. In the spring of 1810, Clementi paid him 200 pounds, while Thomson gave him 150, and then 90 ducats. Beethoven thought that his financial problems were solved. However, as the wars with Napoleon were draining the state treasury, it was decided to increase the amount of paper money in circulation (Banco-Zettel), from 74 million in 1797, to 1,061 million in 1811. Paper bills could no longer be converted to specie, paper money was losing buying power, while inflation led to a higher prices and the impoverishment of the population. When Beethoven signed a patronage contract in 1809, his annual salary of 4000 florins in paper was worth 1620 florins in silver specie. The 600 ducat salary offered to him at the court in Kassel was the equivalent of 2700 florins in specie. By August 1810, it was worth 890 florins, and only 416 florins by December.

Finally the Austrian government realized that national bankruptcy was inevitable, and heeded the advice of Court Chamber President Count Wallis: all the paper currency was devaluated in 1811. By the decree of Emperor Joseph I, of February 20, 1811, the so-called Bankrottpatent, all the paper currency in circulation was to be devaluated by one fifth starting with March 15, and exchanged for coupons of the new Viennese currency (W.W.) by January 31, 1812. In order to stem the losses on pensions, annuities, etc. until the decree came into force, the new value was calculated according to special tables. In any case, Beethoven was once again on the losing end, so it is no surprise that his extensive correspondence was filled with complaints regarding living expenses and the high cost of services and food, as he tried to obtain the highest possible prices for his compositions from his publishers (Hoffmeister, Peters, Breitkopf and Härtel, Ignaz Moscheles). He wrote the following to Hoffmeister on January 15, 1801: "I am presently offering you the following: septet 20 duc., symphony 20 duc., concerto 10 duc., great solo sonata allegro, adagio, minuetto, rondo 20 duc... The entire sum would, thus, come to 70 ducats for all four works; I will accept no other money than Viennese ducats. It is no concern to me as to how much this comes to in your gold tallers, as I am a truly awful merchant and calculator."[11] In March 1805, he wrote to Breitkopf and Härtel: "You can return it (the oratorio) to me after the performance, and if it suits you, the fee would be 500 forints in Viennese currency, with the condition that you publish it as sheet music only, and that I retain the rights of publishing the piano score here in Vienna...." In another letter, of June 1810, he wrote the following to them: "Things have gotten even more expensive here, and it is terrible how much a man needs; for this reason, and generally speaking, the fee is doubtlessly not excessive, what with my 4000 fl., with which I simply cannot manage now, and with Kinsky not paying a single heller, although the fee does not even come to 1000 fl. in conventional money."[12] From the publisher Peters from Leipzig, Beethoven asked 1000 florins for a great mass with choirs, 30 golden Viennese ducats for variations on a piano solo, 12 ducats each for each solo song to Goethe's verses, 24 ducats for an elegy, 20 ducats for a dervish choir with orchestra, etc.[13] In his final letter before death, written on March 18, 1827 (he died on March 26), he thanks Ignaz Moscheles and the English Philharmonic Society for a remittance of 1000 forints.[14]

As a token of gratitude for their patronage, Beethoven devoted several works to his patrons, thus immortalizing them. To Archduke Rudolph he devoted the Piano Sonata op. 81a (Les Adieux), its three parts being dedicated to his departure, absence and return to Vienna during the war of 1809. On the front page, Beethoven wrote: "Farewell, Vienna, May 4, 1809, On the departure of his Imperial Highness, for the Archduke Rudolph in admiration." This sonata is, thus, viewed as a composed biography. To Prince Lobkowitz, Beethoven dedicated the new String Quartet op. 74, composed in Baden during summer and fall of 1809, as well as the Fifth and the Sixth symphonies (also dedicated to Count Razumovski).

In romanticism, everyone had to fend for themselves. If not for the rich widow, Nadezhda von Meck, who generously and unconditionally (they never met or saw each other personally) financed Pyotr Ilyich Tchaikovsky (1840–1893), the world would surely have been left without his ingenious music, and Tchaikovsky would have sunk into the job he despised – piano professor at the

11 H. Leichtentritt: *Betovenova pisma*, Svjetlost, Sarajevo, 1955, p. 24.

12 Ibidem, p. 52 and 71.

13 Ibid, p. 178.

14 Ibid, p. 226.

Moscow Conservatorium. Nadezhda von Meck also helped the young French composer, Claude Debussy (1862–1918), who had come to Moscow upon finishing his studies, and spent a brief time as music professor to her children.

As part of the many decolonizations of the modern era, while it gained its independence from the British crown, India lost the royal patronage in arts. In order to make classical music more accessible to its middle class, the Indians introduced it as a subject of study at universities and educational institutions. However, the results were modest.

Music lovers' societies have been founded as alternative models of financing in culture and art from the 19th century to the present. In organizing and sponsoring public performances, concerts and operas, these organizations were the precursors of contemporary art patrons. Since the 17th century, wealthy and generous music lovers in Europe have been founding the so-called Collegium Musicum societies, in which they performed music themselves, but also financed professional musicians and composers. Johann Sebastian Bach led such a Collegium in Leipzig, in which his sons, who would later become well-known composers, played along with the music lovers.[15]

The most well-known European music lovers' society, which continues to exist today, was founded in Vienna in 1812. *Music lovers from the middle and upper civil classes established Gesselschaft fur Musikfreunde*, as music had previously been the privilege of aristocrats. The appearance of the bourgeoisie broadened the auditorium and the interest in music, concerts, opera and ballet. The goal was to organize concerts and promote classical and contemporary music. In 1814, Archduke Rudolph, the emperor's brother and Beethoven's student, became the patron of GFM, which became officially known as the Society of Friends of Music of the Austrian Empire. The first performers were amateurs and music lovers, with excellent conductors. Among these was Antonio Salieri, Mozart's rival and enemy. Professional musicians succeeded them, and this process culminated in the establishment of the Vienna Philharmonic in 1900. Honorary members of the Vienna Society of Friends of Music have been world-famous conductors such as Herbert von Karajan, Leonard Bernstein, C.M Giullini, Claudio Abbado, Riccardo Muti, etc.

The European trend continued in the US. The St. Cecilia Society, established in mid 18th century in Charleston, South Carolina, was the main music organization in the US for almost fifty years. During colonial and early federal times, from 1766 to 1820, the Society organized guest performances by the best European orchestras, the promotion of the latest music, and guest appearances of prominent solo artists. Under the influence of the English model, the Society acted as the patron of the best performances of contemporary European music for members of Charleston's wealthier social strata.

[15] S. Nikolajević: *Muzika kao događaj*, Clio, Beograd, 1994, p. 12.

The Society of Friends of Music of the Library of Congress was established in 1928, in Washington DC. They mainly organized chamber music concerts, initially in the Library's concert hall and reading rooms and, subsequently, in other spaces, art galleries and private residences. Presently the "Friends of Music" within the Smithsonian Chamber Music Society finance scholarships, maintain and augment their collection of valuable instruments and organize top music performances within the Society. The Society of Friends of Music was established in Indiana in 1964, in order to sponsor exceptionally talented students of music at the Jacobs School of Music in Bloomington, i.e., those that could not otherwise afford studies at this prestigious institution. The Belgrade Symphony also has its own Society of Friends. In recent times, as it has become apparent that states lack both economic power and understanding for the world of art, many successful musicians throughout the world have donated concerts to institutions or philanthropic actions, as well as founded endowments and funds supported by themselves and their colleagues. In both numbers and economic power, "art foundations" are enjoying an upward trend throughout the world. In fact, any concert at which a musician performs for free can be considered a one-time philanthropic act. This is a growing trend in Serbia as well.

The Musical Youth (Jeunesses Musicales) were founded in Belgium and France during World War II. This gathering of young people around music and art was seen as a way of turning people's attention to something beautiful and positive, thus lessening the effects of war on the young. A similar organization, the Society of Friends of Music, was established here in 1953, later changing its name to the Musical Youth of Yugoslavia, and then Serbia, wholly financed by the state. The programs and activities of the Musical Youth were subordinated to the cultural-educational function, so it was the most active in the schools. Its adaptive repertoire with a mandatory program brought down the barrier between art and the audience. After being taken off the budget in 2000, the MY acquired the insecure status of a so-called civil sector organization, with uncertain financing, inevitably leading to a search for sponsors, donors and patrons.

The establishment of small funds, similar to endowments but of a significantly smaller format, is also tied to individuals. Thus, since the beginning of the 1980s, the Faculty of Musical Arts has hosted pianist Katarina Aćimović's Fund, established with her personal funds after her death in 1977, which awards the best performance of a Beethoven piano sonata at the annual piano examination at the FMA.

The media can also play the role of music patron. Radio and television frequently initiate new creations, through commissions and contests. This form of patronage is positive for composers, conductors, orchestras, and soloists and, along with them, note transcribers, orchestrators, and arrangers. For example, the Radio Television of Serbia Music Production finances its own musical ensembles (Symphony Orchestra, Pop and Jazz Orchestra, Great Folk Orchestra, Mixed Chorus, etc.), while the musical editorial sections regularly engage soloists and ensembles for their needs.[16]

An exceptional example of media musical sponsorship, enabling audiences worldwide to enjoy top music for free, are the direct radio broadcasts of opera performances from the Metropolitan Opera in New York. This season (2011), the patron of the broadcast is America's Luxury Home Builder Toll Brothers, together with the Annenberg Foundation, the Vincent A. Stabile Endowment for Broadcast Media, and the financial support of listeners worldwide. The series of directly broadcast Saturday matinees of opera performances from the Metropolitan Opera is the longest continually broadcast musical program in the history of radio (this season, which can also be followed by listeners of Radio Belgrade, is the eightieth).

3. How to approach potential patrons

Sponsorship and patronage have survived throughout the centuries, up to the present time, when they have been modernized and adapted to the new era. Today's sponsorship might be defined as the payment or some other service of a company or private individual to a cultural institution or individual artist, with the goal of helping art, while promoting the sponsor's product, service or name. In essence, it is a business arrangement between the two sides, rather than a philanthropic gift.[17] In any case, it is beneficial for the art of music.

"In these hard times for all, and especially for culture, the sponsor has acquired a special place in the lives of artists. The state was once the general sponsor in culture, but those times are long past, together with the many easy and beautiful things we had taken for granted. Since no state institution in the domain of culture can properly function today, a warm recommendation to all who wish to cooperate is: 'Find a sponsor.' Thus is thrift being applied to soloists, who are beginning to be divided into the capable and the incapable. Of course, not in the musical and artistic sense, but in the skill of finding someone who might sponsor a concert or something else, and in the speed and ability with which they can catch them and force them to a quick surrender and prompt payment. "De Sponzoribus nihil nisi bene."[18]

Individuals or firms decide to become patrons for various reasons: to improve their image by influencing target groups, to be included in the realization of a good idea that might become successful in the future, or to be included in an artistic project in which they are personally interested. The key in finding a financial sponsor lies in the identification of reasons for which someone might choose

16 V. Baronijan: *Muzika kao primenjena umetnos,* Akademija umetnosti, Beograd, 1981, p. 63.

17 P. Rot: *Sponzorisanje kulture,* Clio, Beograd, 1996, p. 122.

18 S. Isaković: *Zubati osmeh Maksa Grafa*, Prometej, Novi Sad, 2007.

a given project, which leads to a need to research potential donors: what they do, what they love, what they have previously sponsored, how they make their decisions, how big their funds are, how to best approach them, etc. The most important information concerns their method of sponsorship: many corporations have a certain procedure and certain deadlines; some become sponsors even before the project has started, as a response to a personal approach or a detailed plan and program. Some sponsorship only concerns the coverage of possible losses, sometimes it is expected that financial losses will be compensated, etc. All this information is important for the first step, and can be obtained in various ways, including through "social networking." Personal contacts occasionally open doors that are impossible to open through official channels. Knowing whom to address is the hardest aspect of the "first step" in finding a sponsor or donor (a sponsor conditions their help, while a donor occasionally does not).

Before seeking someone's sponsorship, it is very important to know the answer to the following question – what does the sponsor gain out of it? And, of course, how much does he know about the applicant? In contact with future sponsors, one should be honest and not promise what cannot be fulfilled. People and organizations give donations for different reasons (feelings of guilt or duty, social pressure, an honest desire to help, tax deductions, knowledge and love of music, etc.), of which the most important are:

- shaping a positive identity for the donor;
- connectedness with the artist's positive ideas;
- inclusion in something exciting, different from the everyday.[19]

If both the sides are honest and open, sponsorship can be a joy for both, for the longer term. Mutual trust is the key word.

4. Philanthropy in Serbia in the past

In the spirit of Serbia's state tradition, even in the 19th century there was a very positive relationship toward patronage, endowments and foundations of various kinds, which functioned all the way up to World War II. During that period, Serbian philanthropists belonged to various social strata, from the royal family to ordinary craftsmen. The Archive of Serbia contains data on 490 endowments and funds, with the golden period coming between the two world wars. From today's perspective, it is difficult to understand the motives of the endowers of a hundred years ago, but it is obvious that they were motivated by patriotism and a wish to help the people to which they belonged.

[19] L. Abramson: "Talking Business," *Classical Music Magazine*, UK, March-April 2004, pp. 12-18.

The laws of the day supported this form of activity. For example, as a state, Serbia adopted its first Law on Citizens' Associations on April 1, 1881. It is interesting that, in 1896, Serbia adopted a law allowing the "non-governmental" organizations of the day to perform some non-profit activities and to be able to reinvest eventual earnings into their basic activity, in the work of their own organization, instead of dividing them between the founders. Those were quite advanced solutions for Europe of that time.

Wealthy people left their funds for the general welfare and benefit. Some of the foundations were truly large, and the funds granted from their resources were substantial, even surpassing some of the more world-renowned foundations. The most frequent recipients were Serbian culture, the Academy of Sciences and the University, affirming the quite contemporary idea regarding the importance of knowledge, culture and art for the survival and the development of the community. The Archive of Serbia holds materials on 408 endowments. It is known that Belgrade University had 82 endowers, the Serbian Academy of Sciences and Arts 65, the Matica Srpska literary/cultural/scientific society more than 80, the Serbian Orthodox Church 32, and the pre-war "Privrednik" business society 94. To these should be added the 76 donors of Belgrade University up to 1939. The golden age of endowments in Belgrade occurred ""between 1918 and 1941, when several large endowments were established, such as the endowments of Nikola Spasić, Aleksa Krsmanović, Miša Anastasijević (the "Serbian Rothschild"), Luka Ćelović Trebinjac, Vlajko Kalenić, Ilija Milosavljević Kolarac, Nikola Čupić, Sima Andrejević Igumanov, Persida Milenković and others. The scientist Mihajlo Pupin (1854–1935) founded the "Fond Pijade Aleksić Pupin," which granted annual awards to students who had distinguished themselves in literature, history and "gusle-playing to songs collected by Vuk Stefanović Karadžić" (*gusle* are a traditional Serbian single-string instrument). In his will of 1908, Jovan Jovanović from Smederevo stipulated the establishment of "Jovanijanum," an endowment that would "serve the advancement of science and art."

The Law on Endowments of 1896 was replaced by a new one in 1912, while the Decree on the administration of endowment properties and the execution of supervisory rights over endowment administrations was brought in 1925. Serbian patrons were leaving large sums even by European standards. For example, in 1939, the capital of the Endowment of Nikola Spasić, known as the "Serbian Nobel," was 3% larger than that of the Nobel Foundation. It is known that the Kolarac Prize for Literature in 1940 was equal in terms of money to that awarded by the Nobel Prize for Literature in the same year. Today's building of the Kolarac Endowment, completed in 1932, continues to host Belgrade's central concert hall, by which Kolarac has permanently indebted Belgrade's music scene. Miša Anastasijević, better known as Kapetan Miša, left such funds to Belgrade University as to make it the third richest university in Europe at that time. At the same time, the endowers mainly lived modest and withdrawn lives, a total contrast with today's people of wealth.

5. Philanthropy in Serbia today – the example of "Madlenianum "

Good art is good business
Philip Morris

Vuk's Endowment was established in 1987, on the occasion of the bicentennial of the birth of Vuk Karadžić, the founder of the modern Serbian alphabet, with the goal of stimulating the development of our culture in the spirit of Vuk himself. The foundation agreement was signed by: the Serbian Academy of Sciences and Arts, the Serbian Parliament, the universities of Belgrade, Novi Sad, Priština, Kragujevac and Niš, Matica Srpska, and the Center of Emigrants of Serbia, the Serbian Cultural-Educational Association, the Loznica Municipality, the "Prosveta" publishing house in Belgrade and the Serbian Writers Association. Thus far, 5500 individuals and 427 legal entities have become members of the Endowment. Vuk's Endowment is an autonomous people's institution, without regular sources of income. The co-founders, endowers, philanthropists and donors make the work of the Endowment possible, which, however, excludes art music.

The Karić Foundation was established by the Karić family in Peć in 1979, as the first private foundation in our country after World War II, and registered in 1992, once the law allowed it. The London branch of the Foundation, established in 1998 for the purposes of affirming Serbian culture and art, was for a time the patron of a piano festival featuring the works of Serbian composers, selected by pianist Marina Milić Apostolović.

The Hemofarm Concern Foundation was established on March 4, 1993, for the purposes of helping, stimulating and rewarding individuals and institutions engaged in research and scientific work, and artistic work, making a contribution to culture and education, and to the achievement of socially beneficial and humanitarian goals. The Foundation's founding capital on the day of establishment equaled ten billion dinars. Several years later, the Hemofarm Foundation purchased the house of Dositej Obradović (the father of modern Serbian education) in Čakovo near Timisoara, Romania, and then founded the "Dositej Obradović" Foundation in Vršac, with offices in Belgrade. Other than purchasing Dositej's house of birth, in which it opened the Dositej Museum on December 21, 2007, the Hemofarm Foundation does not regularly finance the Endowment that it founded. It is expected that this institution will operate at a profit, which would allow it to carry out its non-profit mission. This, however, makes it hard for it to carry out its basic cultural role in society.

The first idea regarding the establishment of the **Mokranjac Endowment** appeared in public on January 9, 2001, in Negotin, at the celebration of the 145th anniversary of the birth of the greatest Serbian composer, Stevan Stojanović Mokranjac (1856–1914). The founding of the Endowment was ceremonially proclaimed in Mokranjac's house of birth in Negotin, on January 9, 2006, on what would have been his 150th birthday. The founders were various Serbian musical institutions, and the goal was to permanently celebrate the name and work of Stevan Stojanović Mokranjac, and stimulate the development of our musical culture in the spirit of Mokranjac's tradition. Among the legal entity founders were Telekom Serbia, the Stari Grad municipality of Belgrade, the BAS Bus Terminal Company of Belgrade, the Musicological Institute of the Serbian Academy of Sciences and Arts, the JKP "Gradske Pijace" farmers market company of Belgrade, the New Belgrade municipality, the Musical Youth of Serbia, the Serbian Composers Association, and the Republic of Serbia Intellectual Property Agency. Among the prominent individual founders were composer Dejan Despić, composer Rajko Maksimović, Đorđe Lazarević, and Danica Petrović from the Musicological Institute of the Serbian Academy of Sciences and Arts. For now, the Endowment is functioning sporadically, without showing substantial interest in functioning in accordance with its founding plan.

5.1 Nomen est omen[20]

There is no difference between the world of business and the world of art. Both rely on the imagination of individuals. Both fight for innovation and perfection. Both affirm our meaning, and elevate, improve and enrich our lives. Just like the former "Jovanijanum," established by Jovan Jovanović in 1908, the "Madlenianum " opera and theatre carry the name of its founder, owner and unique patron, Madlena Zepter, after the example of both Serbian and worldwide philanthropy, where big money sponsors great art. For example, in 2010, one of Michigan's wealthiest families, Betsy and Dick DeVos, donated 22.5 million dollars to the Kennedy Center for the Performing Arts in Washington DC: 2.5 million to help the newly established institute during the first five years, and 20 million to found a legacy. The DeVos Institute's activities reached an enviable level during the first year of operation.[21]

Following worldwide examples of patronage in the musical arts, the Madlenianum opera and theatre were established in Zemun in 1998, carrying the name of their patron, being the first private opera in this part of Europe. The founder and sole patron is Mrs. Madlena Zepter, whose investments in Serbian culture and art so far have come to more than thirty million euros, which represents the largest personal donation in this domain not only in this country, but in the region. As a part of the corporate image, the Madlenianum artistic project follows the standards of Zepter International Corporation, which operates in over forty countries and on four continents. For her philanthropic contribution to Serbian culture, Madlena Zepter was awarded the Serbian Ministry of Cul-

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20 *Nomen est omen* - lat. *Name is destiny.*

21 More on the DeVos Institute at: http://www.kennedy-center.org/education/artsmanagement/

ture's "Golden Wreath" award in January 2011, which will thereafter be awarded to individuals and companies for their help and contribution to the development of Serbian culture through patronage and donorship, opening the way to better cooperation between culture and art and the world of corporate capital.

The Society of Friends of the Madlenianum Opera and Theatre is a club of opera and musical theatre lovers, representing the foundation block, the base from which the Madlenianum musical theatre in Zemun has grown. The Zepter Foundation provides most of the financing for the Madlenianum theatre, whose annual budget is about two million euros, so it is normal that corporate strategic thinking is also active in Madlenianum 's world of art. Investment in the art of music must be returned through various forms of benefits for the patrons, from improving the image of the Zepter Corporation at home and abroad, an image of socially responsible behavior that such patronage sends out into the world, to influencing musical-scenic activities in Belgrade. In this way, corporate strategy is also applied in the functioning of the opera.

In addition to investing substantial money in the theatre and opera building in Zemun, investment is also made in the future (granting stipends for young talents and patronage to cultural projects – more than 300 stipendists have been supported with a total of 550.000 euros): towards the development of the Madlenianum opera, the Club of Young House Singers, who will prepare for their future performances on the opera scene with prima donna Biserka Cvejić, was established last year. Another well conceived strategic move was the choice of the new Madlenianum board chairman, musicologist Dr. Branka Radović, long-time Belgrade music critic, and the sole music critic of the Belgrade daily Politika. As the opera repertoire is based on an orchestra that is not permanently employed at the Madlenianum opera, it was strategically important to name a permanent conductor, Vesna Šouc, which ensured continuity in the quality of the musical realization of opera and ballet performances. By investing in contemporary music, Madlenianum is demonstrating a feel for the time in which it exists, as well as an understanding of the importance of investing in the future. Madlenianum 's commissioned opera "Mandragola," written by our contemporary composer Ivan Jevtić, had a successful premiere last year, while new productions of the "La Traviata" opera (Yuri Alexandrov) and the "Madam Butterfly"[22] cyber-opera (Dejan Miladinović) have attracted a young audience to the opera, just like the "Les Miserables" musical. In capturing a young audience, Madlenianum is demonstrating the type of corporate strategic thinking that is sometimes foreign to the world of classical music. As the only opera in Serbia that is a

[22] Under the inventive direction of Dejana Miladinović, Puccini's Madam Butterfly begins as a video game, in which two characters, a muddleheaded kid and a sloppy housewife, choose their own characters over the Internet: she chooses the beautiful and exotic Madam Butterfly, and he the handsome and splendidly uniformed Lieutenant Pinkerton, and the cyber game-opera begins. The video projection in the background augments the quite barren scenography.

member of the RESEO international opera network, Madlenianum is included in international opera events and is working on its future. RESEO includes nearly seventy opera houses worldwide, which are propagating opera to the young in an organized way and, thus, creating a new audience. Madlenianum 's repertoire is constantly adapting to new times, becoming the scene of current events in artistic music in Serbia.

In addition to classical music and opera, Madlena Zepter also patronizes other artistic activities. There is the first private auction house, "Madl' Art," which holds its auctions in the Madlenianum building in Zemun, as well as the first post-war private museum in Knez Mihailova Street, where a 350-plus collection of contemporary Serbian art is on display. Over three million euros was invested in the museum pp to its opening in mid 2010. In the literary world, the Zepter Corporation has a publishing house (Zepter Book World), and is the patron of the "Žensko pero" ("Female Pen") and "Dobričin prsten" ("Dobrica's Ring") awards. Madlena Zepter is also the founder and honorary president of two awards in the field of literature and the fine arts of European and global scope – *Prix Littéraire Européen Madeleine Zepter* and the *Zepter International Design Award – Artzept*.

6. Conclusion

Will art always be in the shadow and in the service of its patrons' names, as good business?

Patronage, maecenate, sponsorship, and donorship are as old as civilization itself. The artist has always depended on financial support, especially in the ephemeral art of music, which is subjected to temporal criteria of the *here and now*, which blows through and disappears. In today's time of economic and geopolitical crisis, there is a renewed interest in culture and art as means of preserving lost identity, as storehouses of meaning. The recognition of the role of music in a complex world, of the ephemeralness and transcendentality of the art of music, gains currency during difficult times. Those who wish to influence the world around them, correct it and improve it, must become engaged, must offer society something that has a healing effect. In the opinion of sociologists, regardless of the camp to which social groups belong, nothing can contribute to the vitality and health of a society as much as intensified cultural and artistic activity.

Patrons are today more precious than ever, and cooperation with the business world is a prerogative. It has been universally demonstrated that contemporary forms of individual and corporate philanthropy – foundations, endowments and other philanthropic organizations – are necessary for the unhindered life of top musical-scenic art. What is needed is greater understanding between the two sides, a dialogue of constructively opposed sides with the goal of achieving a balance between the financial and the artistic plane. Relations with the business sector, as a significant potential domestic source of financing, continue to be sporadic, and only certain artists succeed in achieving such relations, for some short-term actions. There is no true, more permanent relationship, in which the business sector would recognize its interest to support the development of the art sector. Why? Because the key link in this regard is still the state, which should stimulate the people from that world by way of tax deductions and other types of financial stimuli. Art would then become a true link between the economy and society, while retaining its transcendental character, without succumbing to the proprietary corporate philosophy, in which art is just a means of expanded marketing, a brand that the corporation can flaunt, nothing more than a lucrative investment.

The creation of an acceptable modern framework (social, economic, political) would be a good beginning, having in mind the numerous needs in various areas of social life, culture and art. By implementing new legal frameworks,[23] stimulating individual and corporate philanthropy through a system of tax policy (donorship in culture is here still taxed as a profit!), nurturing knowledge about socially responsible behavior in the past, affirming local community funds and foundations, and using positive experiences from the practice of other transition countries, much constructive work could be done in the affirmation of this type of socially desirable model of behavior, in which music and art would be a window that allows man to become aware of his higher abilities.

[23] The Law of the endowments and foundations has been published on the website of the Ministry of Culture of Serbia: http://www.kultura.gov.rs/?jez=sc&p=56

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Paper received: February 25th, 2011
Approved for publication: March 10th, 2011

Original scientific paper UDC 37.068:304 ; 061.2:005.966.2

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PROMOTION OF VOLUNTEER WORK AS A GENERAL SOCIAL INTEREST

Abstract: *With changes in society and the development of non-profit sector, volunteering is growing into a new socio-cultural and economic phenomenon and becoming an important feature of modern society. Volunteer work, willingness to invest time and energy, but without any compensation, without expecting any benefits or personal gain from the assistance offered, is an internal need of many people but also a great economic potential that has not been sufficiently used in Serbia. A volunteer is not only a benefactor but also a person who has certain knowledge and experience and whose work contributes to the well being of an individual and/or society in general. The article analyses the motives that lead individuals to become volunteers and the means to encourage their enthusiasm.*

Key words: *volunteering, non-profit sector, motives for volunteer work, society*
JEL classification: Z13, J28

All that is necessary for the triumph of evil
is that good men do nothing.
Edmund Burke

1. Introduction

In all times, even during a time of the rule of selfish interests and a general fixation on profit, there are people, social groups and organizations whose way of thinking and behavior are rooted in consideration for others, in love for people with whom there do not share blood ties, in understanding for people in general. Dispassionate care for another's benefit, regardless of whether it is inborn or a result of learned behavior, is viewed in many societies as the foundation of moral values, and even as an ethical goal in itself.

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The enabling of people, especially the young, to view the world from the perspective of others' needs, is a subject of study of various social sciences – before all psychology, anthropology, sociology, economics and political philosophy. Within all of these, the question of trust appears as a constant sub-topic. The norms of beneficence vary to some extent between societies; still, as noted by Lazarus,[1] such behavior is more valued in societies where there is no battle over resources or where a harsh natural environment makes cooperation a necessity. On the other hand, authors such as Hobbes, Bentham and Mill think that the principles of humaneness and living for others are necessary social regulators, without which joint life would not be possible.

In social research, as well as in the tax systems of many countries, including ours, these types of organizations are referred to as the non-profit sector. Differently from other privately owned organizations, these organizations are profit-non-distributive, self-managing and voluntary; their task is not to achieve profits for the owners or directors, which means that eventual earnings surpluses must be spent for the realization of the mission for which they were founded.

The non-profit sector comprises a large number of different organizations. They mutually differ by the missions for which they were founded, the activities they are engaged in, the number of volunteers they gather, the resources at their disposal, the form in which they act, and an entire series of criteria. Referring to the characteristics that are common to all organizations in the non-profit sector, we can define it in the following way: *The non-profit sector is made up of organizations founded for the purposes of a general and/or joint interest, which in their functioning primarily rely on volunteer work, donations, social capital and the volunteer spirit of individuals and groups.*

With the development of the non-profit sector and the acceleration of social changes in the world, the role of volunteering is substantially changing and expanding. Thus, an old phenomenon (citizen associations, and various forms of voluntary work, self-help and solidarity) is developing into a new socio-cultural and economic phenomenon, which is now leaving its mark even on the most modernly organized societies.

Consciousness about the existence of different types of volunteers and their motives has great significance in the finding of ways to link volunteers with real opportunities and situations that require solidary help. Before one can begin to think about volunteer work, the proper conditions must be secured. Managers in non-profit organizations and other professionals who employ voluntary work must understand the motivation, determine the activities and recruit volunteers.

1 Dž. Lazarus: "Altruizam i saradnja," A. Kuper, Dž. Kuper (ed.), *Enciklopedija društvenih nauka* (J. Lazarus, "Altruism and Cooperation," A. Cooper and J. Cooper (ed.), *The Social Science Encyclopedia*), I, Službeni glasnik, Beograd, 2009, p. 24.

Although volunteer work is a natural need of a great number of people, what is lacking is an active role on the part of both the state and society as a whole, so that the existing interest of citizens to offer voluntary help can be directed to where help is most needed.

2. Terminological explanations and conceptual definitions

The concept of volunteer work itself is not easy to define in short, while the term *volunteering* comes from the Latin word *voluntas*, meaning – willing, disposed. In that sense, *voluntarius* is a volunteer, one who acts voluntarily, while volunteer activities are those in which people engage by their own free will, spontaneously or through institutions and humanitarian organizations, but always without material compensation. Volunteer work should be clearly distinguished from the term *voluntarism*, which also contains the Latin term *voluntarius* in its base. In the political sciences and sociology, voluntarism is taken to mean arbitrary, authoritarian, even dictatorial behavior and action, which does not respect existing laws and social norms.

In Vujaklija's "Dictionary of Foreign Words and Expressions," a *volunteer* (Fr. *voluntaire*. Lat. *voluntarius*) is one who serves by his own will and without recompense, a volunteer.[2]

According to the "Great Dictionary of Foreign Words and Expressions," by I. Klajn and M. Šipka, a volunteer is also "a person who, by their own free will and free of charge, without recompense, performs a job, a volunteer."[3] On the same page, *volunteerism* is defined as "voluntary, free-of-charge work in a given field." It is indicative that the "Small Encyclopedia" published by Prosveta (1986) does not contain the terms *volunteer* and *volunteering*, while the "Encyclopedia of the Serbian People," published by the Bureau for the Publishing of Textbooks and Learning Materials,[4] under the term *volunteer* mentions only fighters from Austro-Hungarian-Turkish wars, who came to fight from other countries, regardless of whether they were Serbs or not, and who fought in the ranks of the Serbian army or in autonomous units.

In foreign word dictionaries and social science encyclopedias, similar types of behavior are also described by the term *altruism*, which comes from the Italian word *altrui* – other, someone else's; the French use the term *autrui* for the same thing, while the old Latins used the term *alter*. In Klajn and Šipka's dictionary,[5] altruism is defined as "readiness to help another, self-sacrifice, and unselfishness." Auguste Comte saw altruism as the morality of the future; according to

2 M. Vujaklija: *Rečnik stranih reči i izraza,* Prosveta, Beograd, 1970, p. 160.

3 I. Klajn, M. Šipka: *Veliki rečnik stranih reči i izraza,* Prometej, Novi Sad, 2006, p. 266.

4 *Enciklopedija srpskog naroda*, Zavod za udžbenike i nastavna sredstva, Beograd, 2008, p. 295

5 I. Klajn, M. Šipka, ibid., p. 100.

him, the sole moral incentive should be the good of others. Comte also coined the imperative *vivre pour autrui* ("live for others"), which was quoted by Kirchner and Michaëlis in their "Dictionary of Philosophical Notions."[6]

Volunteering is based on the ideas of self-help, mutual help and beneficence, and is today most often carried out within religious, humanitarian, social and non-governmental organizations.

Volunteer work is a deep internal need of most people, as it affirms the noblest human characteristics. The essence of that work is the desire and the readiness of an individual for renunciation in order to help another in trouble, but without recompense, expectation of benefit or personal gain in return for the extended help. At the same time, it also represents a great economic potential, which has not been sufficiently exploited in our country.

3. Volunteering through the centuries

The development of volunteering is closely tied to the development of religious organizations. Jewish teachings promoted the view that the poor have rights, while the rich have obligations. "The world rests on three things: Scholarship (in Talmudic literature, this concept refers to the Pentateuch, the Torah), service and the performance of merciful works" (Book of Isaiah).

Early Christianity established funds for helping widows, orphans, the sick, the helpless, invalids and prisoners, and the Holy Scripture is full of examples where helping one's neighbor is glorified.

According to the Koran, the Moslem holy book, there are three categories of obligations: the first and the most important human obligation is toward one's family; the second is toward God and the performance of religious rituals and worshipping services according to Islamic rules; and the third is mercy, including voluntary, socially beneficial work.

The first volunteer camps in Europe were organized at the beginning of the 20th century, after the end of World War I, where young people from Germany, France and neighboring countries gathered in order to rebuild settlements, houses and buildings damaged by war. Today's volunteer camps in Europe have not changed much since. The goal has remained the same – volunteers help local communities to solve a certain problem, getting free room and board in return. Young people from different countries gather, work together, live, exchange and acquire knowledge. In return, they gain new skills, new acquaintances and experiences, and a feeling of self-worth.

The American philanthropist Robert Payton thinks that volunteer work in contemporary society serves as a corrective for the culture of individualism and

6 E. Kirhner, K. Mihaelis: *Rečnik filozofskih pojmova*, BIGZ, Beograd, 2004, p. 22.

the all-encompassing commercialization of society, thus serving to compensate for the philosophy of individualism.[7]

The first forms of volunteer work in Serbia are tied to traditional forms of solidarity, especially in rural communities. One of the most important of these is the so-called *moba*. According to the Matica srpska "Dictionary of the Serbian Language," the *moba* is a folk custom in which neighbors, mostly young people, voluntarily help other neighbors (usually those with large holdings) in the timely performance of certain jobs – harvesting, plumb gathering, house building.[8]

Youth volunteer camps (youth public works actions) were a very frequent form of youth volunteer work after World War II in Yugoslavia. The beginnings of public works actions are tied to the period of the National Liberation War (World War II resistance to Nazi occupation).

It is thought that the first organized public works action was the departure of a youth working group (comprising about 150 young men and women) from newly liberated Užice to Višegrad and Dobrun, to harvest corn. Youth work brigades, work companies and numerous groups in all parts of Yugoslavia put in a total of 35 million workdays during the war.

After World War II, in the newly liberated Yugoslavia, youth public works actions ("omladinske radne akcije" – ORA) were expanded to the reconstruction of the war-damaged country. Large federal public works actions were, thus, organized in the period up to 1952, where young people worked on construction sites of public interest, building railroads, roads, industrial plants and even entire cities (New Belgrade).

In the period between 1953 and 1958, there were about 20,000 mostly local youth construction sites, where volunteers were engaged in building structures that were important for the development of cities or regions.

Youth public works actions were not just a place where young people performed hard physical labor without recompense. After finishing their shifts, they would engage in sports, cultural and, as they were referred to at the time, "ideo-political" activities. Many returned from these actions with trade certificates (cosmetics, typing, electric welding, photography, etc.), driver's licenses or soccer referee certificates. They were, thus, trained for future professional work, and time spent at one of the ORAs represented a significant item in one's CV.

Although youth public works actions are today mostly thought of as places for the dissemination of ideo-political influence on the young, it should not be overlooked that such a mass response of volunteers was never to be repeated in the subsequent history of our country, and not for lack of reason.

7 R. Payton: *The Philanthropic Tradition in America, University Center on Philantropy*, Indiana, 1996, p. 151.

8 *Rečnik srpskoga jezika*, Matica srpska, Novi Sad, 2007, p. 723.

4. Motives for volunteer work in the general interest

"The strengthening of the volunteer spirit as a social interest" will remain an abstract phrase as long as more individuals do not become motivated to give their time and energy, to oblige themselves to acquire the skills that will enable them to offer their services. Volunteer work will be successful only if the volunteers feel sufficiently motivated.

The motives of volunteer work can vary and primarily depend on personal characteristics, although the influence of other factors cannot be neglected either, such as gender (women are more inclined to humanitarian work), age (those who are older are more devoted to volunteer work than the young), profession, family environment, social status, material security, etc.

People's motivation to help those in need has various forms, but it is present in all environments and at all levels.

The welfare of others is the basic motive that moves volunteers. There are, of course, other motives that influence the volunteer's readiness to engage, such as:

- a desire to acquire new knowledge and skills;
- a feeling of debt to society, repaid by the investment of time and knowledge;
- a need to spend free time in a useful way;
- securing social contacts;
- social prestige;
- filling voids in lives of people who no longer have professional or family obligations (this is a motive that drives mostly older people).

Older people are usually excellent volunteer workers in various organizations. According to Wilcox, they have much free time, are frequently searching for concrete action and can rely on their years of experience in many different fields of work.[9]

According to A. Maslov's theory, the motivation for volunteer work stems from the need to contact other people in order to overcome a feeling of loneliness and find one's place in a group. Volunteers satisfy their need to belong to a group with whose values and goals they can totally identify, their need for personal identity, self-respect and self-actualization.

Volunteers' need to contribute to the welfare of individuals or society as a whole with their work is not inborn and does not exist as a basic need (like, for example, the need for food, heating, clothing); thus, such needs must be developed, stimulated and created through education and upbringing.

Understanding and support for each volunteer's motivation, the securing of volunteer activities and recruitment, as well as an analysis of the motives of

[9] D. Vilkoks: *Odnosi s javnošću, strategije i tehnike* (D. Wilcox, *Public Relations: Strategies and Tactics*), Faculty of Economics, Beograd, 2006, p. 425.

the organization that is engaging them, are necessary prerequisites for the use of additional labor in many fields, and for volunteer work to become a factor of development.

Research on the motivation of volunteers would need to be able to answer the following questions:

1) What are the key moments in an individual's decision – either to volunteer or to avoid such activity, to either offer a significant part of their time and energy or to help only a little?
2) What are the moments that affect the decision about the type of volunteer work the individual chooses?
3) What are the bases for someone to decide to acquire specific types of knowledge necessary for volunteering?
4) What are the bases for someone to decide whether to continue or stop their volunteer work after a certain point in time?

When we observe motives, we note that some volunteers place an accent on the possibility of self-realization, while, on the contrary, others place an accent on the possibility of serving society, obligation and repaying their debt to society.

The first group sees opportunities for learning, fun and personal development, while others see opportunities to contribute, help and change society. As a working term, we may refer to these as internally and externally oriented volunteers. The "internals" place an accent on "their own powers" of decision, on feelings, as their decision-making guides. The externally oriented are more influenced by the norms of the group to which they belong, the status of volunteer activity, potential consequences for their job and social reputation, situational risk factors and support.

Some volunteers identify with the community and work for its good. The criterion regarding what is important for society and the community is decisive when choosing volunteer activities. Others identify with the organization or group to which they belong. Their decision is influenced by the image of the people with whom they will work, the kind of interpersonal support they will get and the meaning of the activity to their friends, family and group whose member they are.

Characterologically and psychologically, potential volunteers can be divided into two groups:

1) *Autonomously oriented* (the things that are important to them are conditions, freedom to make their own decisions, escape from routine and boredom, risk and the finding of new thrills), and
2) *Dependent* (they value relations with people their own age, chances for collegiality and possibilities for business relations, and personal relations at work are a critical factor for them).

Those that expect support want simply defined work, with a clear organization for training and supervision and help during work. They want to be sure that they will be doing something of which they are capable and that will give them pleasure. These volunteers wish to respect traditions and well developed norms and procedures, as opposed to the autonomous volunteers, who prefer new experiences, risks and freedom from tradition and expectations.

In analyzing the motives of the potential volunteer, assuming that he is listening to the thoughts of an individual who is trying to decide whether to devote his/her time and energy to a certain activity, Curt Levin has constructed a model by which he divides motivational powers into two main groups: those pulling towards YES, and those pulling towards NO to volunteering.

Each set is further divided into motivational forces that come from the inside, from the self, which Levin refers to as “own forces,” those that come from the outside, from the person’s ties to other people and membership in certain organizations (“interpersonal” and “membership forces”), and those based on the characteristics of the overall situation, determined by location, time and space, transportation, and similar (“situational forces”).

The forces shown in the diagram do not exert equal influence on a single individual. The forces are not equally strong and do not have to be equally important with different people. This list was composed on the basis of the opinions of a number of people.

Figure 1: *Curt Levin's model*

Forces supporting the "yes" decision	Forces opposing the "yes" decision and supporting the "no" decision
"Internal forces"	
I want to be where the action is	Their job is no longer that important - that's not where the action is
What they are doing is very important	I don't have the skills that are sought important
I want to escape the monotony of my everyday life	I owe my free time to my family
This is an opportunity for me to acquire new skills	I have worked hard to acquire my skills – they should pay me for them
I have received much help in my life, now it's up to me to	It will obligate me too much, I may wish to spend my free time give back differently in the future
"Interpersonal forces"	
Volunteer work is a tradition in my family, it's expected of me	No one trusts volunteers with important matters
They wouldn't ask me if it wasn't important	Others are paid for the same job
My best friend asked me	It's overly tied with politics
"Situational forces"	
It will be an adventure	It's too distant from my place of residence, and commuting is not simple
It fits into the free time which I plan to devote to volunteer work	They do not allow flexible working hours
There will be a number of us working at the same place	That place is dangerous

Source: T. Connors, *The Nonprofit Organization Handbook*, McGraw-Hill Book Company, New York, 1988, p. 17.

The most complete analysis of volunteer motives in our conditions was provided by the Volunteer Center of Serbia in 2010. The Volunteer Center's data base currently contains 513 volunteers and 102 organizations. By analyzing this volunteer data base, we gain the following picture:

- the average Volunteer Center volunteer is a female student between 18 and 27 years of age, who is performing volunteer work for the sake of personal improvement, i.e., acquiring experience, knowledge and skills;
- on the average, 85 new volunteers come to Volunteer Center each year;
- the ratio of women to men is 75 to 25 percent;
- most volunteers are 18-27 years old;
- the largest number of volunteers have a high education, followed by those with a secondary school education, who are currently pursuing higher degrees;
- the number of unemployed volunteers grows each year;
- the most frequent motives for volunteer work are the acquiring of experience and certain skills and knowledge, employment and the opportunity to make new contacts; the least frequent are the volunteers whose motive is of an exclusively humanitarian nature.

The domination of the desire for self-improvement and the acquirement of experience as a motive for volunteer work is understandable when we take into account the fact that those reporting to the center are usually young people mainly interested in one of the volunteer camps abroad. Those are short-term projects lasting two to four weeks. Research shows that such travels, the fulfillment of dreams and desires tied to careers outside the usual framework and social milieu – contribute to the subjective quality of life.[10]

However, if we expand the research of the motives of volunteer work to volunteers engaged by the Gerontological Association of Serbia and the Red Cross of Serbia, as well as to students who volunteered at the Serbia Open 2010 ATP Tournament, we gain a somewhat different picture of volunteer motives.

A survey of Megatrend University students who applied to volunteer at the Serbia Open 2010 provided an interesting picture of their motives. The following results were obtained on a sample of 50 participants.

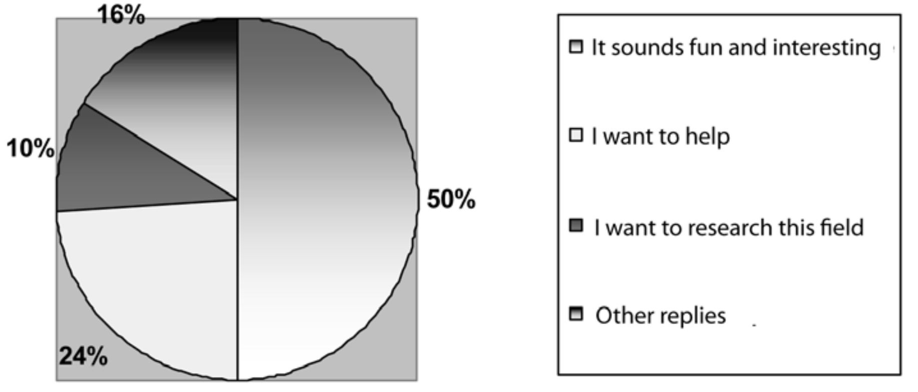
Females outnumbered males among the student volunteers (the ration was 3:2). Interestingly, 84% had previous volunteer work experience, while only 16% of the students were applying for some form of volunteer work for the first time. Most often, those were similar types of sports events (70%), "Eurosong" and actions organized by the Tourist Association of Serbia (22%), while only 8% of the surveyed students had participated in a humanitarian action.

The most frequent replies to the question "what drove you to volunteer" are:

[10] M. Gabor, T. Rac, M. Bakuc: "Jedno teorijsko putovanje granicom između blagostanja i dobrobiti," *Megatrend revija*, Vol. 7 (1), Beograd, 2010, p. 207.

- *it sounds fun and interesting* (50%);
- *I want to help* (24%);
- *I want to research this field, to see if it might become my profession* (10%).

Figure 2: *The most frequent replies to the question "What drove you to do volunteer work at the Serbia Open 2010 tennis tournament?"*



The Red Cross of Serbia organized a survey on its web site about the motives of voluntary blood donors, with 1262 participants. Among the most frequent replies to the question "what motivates you to give blood" are:

- *altruism, desire to help* (32%);
- *someone else's misfortune* (24%);
- *repaying a debt, someone in the family was a beneficiary* (5%);
- *social recognition* (4%);
- *feeling of duty* (4%).[11]

By comparing the data, we can see that each of these motivations is completely different, which increases the importance of the motivation of each individual volunteer.

The finding and training of volunteers, as well as the stimulation of their enthusiasm so that they can become reliable workers for the long term, are very important tasks for those who work in the non-profit sector.

Although the motives cited by people to donate their time and perform some sort of work free of charge vary, each organization that works with volunteers should find a way to express gratitude to them. All work has value, even volunteer work. The specificity of volunteer work lies in the fact that it affirms work that is not remunerated, but that, as such, must be rewarded in some way.

The type of reward is mostly based on the individual needs of each individual volunteer. It is necessary, especially on ceremonial occasions, to express gratitude for their engagement and emphasize the contribution they are making

[11] Source: www.redcross.org.rs

to their organization (praise in the media, greeting cards, certificates of thanks, tickets for a show, participation in a seminar, a collective outing, etc.).

Persons engaged in public relations work can help find new volunteers by providing information regarding the purpose of the organization, showing that volunteers play a key role, as well as by emphasizing that volunteers find social satisfaction and a feeling of success through their work. An excellent tool to use when searching for new volunteers is the use of testimonials of successful, satisfied volunteers.

5. Future development trends of volunteerism

Various forms of volunteer work have existed since the beginning of civilization but, with the development of society, its significance and role have changed. Noticeable changes have developed in the approach to volunteer work, in the number of volunteers, types of volunteer work and the motives that drive people to devote their time and energy without recompense.

Eva Schindler Rainman, member and founder of the International Association for Volunteer Effort (IAVE), predicted the basic trends of the future development of volunteer work:

1) The appearance of new motives for engaging in volunteer work. In addition to the altruistic motives that have moved people to voluntary work, new motives are appearing today:
   - desire to make changes in the organization of society, as a result of the consciousness of the individual that they have the power to change the present;
   - desire to supervise what is happening and do what is promised (this is a fairly new motivation that appears as a result of growing distrust in institutions);
   - desire to participate in a global movement: volunteer work has become increasingly international;
   - desire to gain experiences that will be useful and applicable in professional, paid work.
2) Increase in the number of people who are ready to volunteer, as well as their mutual differences (today's volunteers come from various economic, social and ethnic groups, and belong to different religions).
3) New forms of volunteer work are appearing, along with places where the help of volunteers is needed; today there are possibilities for volunteer work in all areas of society, including economics, politics, health care, education, the media sphere, culture, security.

4) The relationship between volunteers and the organizations that are engaging them is changing. It is no longer unusual for volunteers to demand some sort of written contract that outlines volunteer rights and the organization's obligations. Such contracts provide for the possibilities of training, supervision, recognition, insurance, and the provision of meals or fuel.
5) Managers specifically trained for relations with volunteers are being engaged with increasing frequency.[12]

The existence of seminars and courses, a growing body of literature and numerous organizations (e.g., the *Association of Volunteer Councils* and the *Association for Volunteers in Agencies* in the US, and the Volunteer Center of Serbia, the Novi Sad Humanitarian Center and the non-profit organizations gathered around the "IZVoR" Initiative in Serbia) have all contributed to the fact that today, more and more frequently, skilled and educated professionals are managing volunteer relations, stimulating and supporting individuals' motivations to donate a part of their time and energy.

Volunteers have a significant place in all societies, as they represent an added labor force in many areas. They perform various jobs, of varying degrees of complexity.

To be a volunteer today means to be a member of a large family distributed throughout the world, which, through its own form of positive energy, unites humanity and makes this planet a better place to live.

6. Conclusion

Volunteer activities are among each society's most precious goods. These activities represent a huge reservoir of skills, energy and local knowledge, an important treasure trove of human experience and social connections. In addition, volunteer activities give a fundamental contribution in the economic sense, because a volunteer is not an abstract do-gooder but a person possessing certain knowledge and experience, who enriches and changes the entirety of social life for the better.

Regardless of the evidence of its significance, in our country volunteer work is still not viewed as a strategic resource that can be influenced by appropriate state policy, nor is its promotion included in national development programs. Consequently, public relations people in non-profit organizations have the very important and responsible task of helping to make sure that volunteer work gets more adequate public treatment and becomes recognized as a precious and highly valued form of activity, important for the face of tomorrow's society.

[12] E. Schindler Rainman: *Trends and Changes Affecting the Volunteer World*, McGraw-Hill Book Company, New York, 2008, p. 163.

In the Universal Declaration on Volunteering, adopted by the Board of Directors of IAVE at a conference held in Amsterdam in January 2001, it is emphasized that volunteering is "one of the foundations of civil society," which affirms its essential values: solidarity among people, freedom, equal opportunity, security, justice, togetherness, pacifism. Thus understood, volunteering affirms the right of man to "become engaged individually or collectively, without expectation of material recompense," and to be "a responsible member of the community and, by helping others, gain valuable experience." Each modern society is, thus, expected to support these ideas, especially among the young, and to make adequate legal provisions regarding this subject matter.

A certain advance was made in Serbia with the adoption of the Law on Volunteer Work ("Official Gazette RS" 36/10), which allows a certain amount of financial profit for those who decide to be socially useful. One of the adopted amendments provides for some type of allowance, which, however, cannot be higher than 30% of the minimum monthly wage in Serbia. Only long-term volunteers would have the right to this kind of compensation (by the long term is meant an engagement of at least 10 hours per week over not less than three months, without interruption).

Another part of the law provides for an obligation on the part of the organizers of volunteer work to insure their "workers" against injury and on-the-job sickness, regardless of the work they are performing. Furthermore, volunteer work is forbidden under all conditions hazardous for life and health.

Volunteer work will also be allowed for persons below 15 years of age, but in accordance with regulations regarding upbringing and education. Thus, minors may be included only in activities connected with education and upbringing.

Practice tells us that the greatest number of volunteers can be found in areas where professional workers have come to realize that they will be more successful in carrying out their tasks in cooperation with volunteers. Unfortunately, there is still the problem of the great degree of disorganization and inefficiency of the organizations that recruit volunteers.

There is much evidence that volunteer activities help build social and human values and strengthen social inclusion, that they are a proven source of reconciliation and renewal in divided societies, a source of authorization for the disenfranchised and a source of lifelong learning.

Still, weaknesses of internal structure, lack of training of both volunteers and management in non-profit organizations that seek volunteer services, lack of understanding on the part of the state, and historical discontinuity in the activity of the volunteer sector are all factors that contribute to the fact that volunteer work is still marginalized and relatively uninfluential in many societies, including our own.

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Paper received: February 1st, 2011
Approved for publication: February 10th, 2011

Scientific review paper UDC 005.35 ; 659.4

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ARE SOCIALLY RESPONSIBLE ACTIVITIES A MODERN METHOD OF ADVERTISING?

Abstract: *Socially responsible business is a modern business concept that has been adapted by many companies, which strive in various ways to contribute to the solution of current social problems and, thus, build a positive public attitude and the image of socially responsible market participants. The presentation of a company's socially responsible activities could be performed in different ways – by advertising, informing interested groups, socially responsible advertising, or by organizing socially responsible activities. The paper discusses these various methods of communication with target public groups, their advantages and the results of recent studies on consumer attitudes regarding such activities.*

Key words: *socially responsible businesses, advertising, socially responsible activities*
JEL classification: M14, L53

1. Introduction

An important characteristic shared by successful companies, as well as those that strive for such status, is the application of the *concept of corporate social responsibility* (CSR). This is a very broad concept, one that is variously understood theoretically and practically. As a result, it is accompanied by a broader conceptual spectrum of notions such as *socially responsible business, sustainable responsible business, corporate social performance, corporate conscience*, etc.[1] All these terms refer to a concept that assumes that companies consciously and voluntarily devote themselves to activities that they harmonize with the framework of their primary activity, primarily for profit-making purposes, thus positively influencing their working, social and natural environment. Today's society is increasingly demanding towards companies when it comes to defining social responsibility, while companies are increasingly conscious that they must react

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[1] D. Wood: "Corporate Social Performance Revisited," *The Academy for Management Review* 4, 1991, pp. 691-718.

to these demands.[2] The environment determines consumer behavior in the purchase of durable and nondurable goods. i.e., consumers act in accordance with the level of the social, cultural and economic environment.[3] The practice of socially responsible business refers to a company's overall activity: products, manner of buying and selling, respect for legal regulations, treatment of employees, investments in the local community, contribution to environmental protection. In this way, companies demonstrate their consciousness regarding their position in today's global society. This form of investment brings them numerous benefits (winning new customers, achieving more intimate relations with customers, greater employee devotion, lower business costs, corporate brand improvement, building a positive image, integration into the local community), which can ultimately also positively reflect on the company's financial results.[4] Thus, the question that should be asked is whether the contribution of such investments is smaller relative to the contribution of classical advertising, considering the noticeable trend of growth in companies' investments in social responsibility, i.e., in the solution of problems faced by social communities within which companies do business. Interest groups are exerting increasing pressure on companies, which are expected to behave in a socially acceptable way. As a result, companies are undertaking numerous activities in order to form an image of social responsibility. Our view is that this process requires a strategic approach, the abandonment of traditional and the application of more modern marketing techniques, more appropriate to today's business conditions, as well as consumers' increasing informedness and caution. In addition to the submission of reports on concrete indicators of companies' social responsibility, such an approach also assumes the formation of strategic alliances with certain partners in society, sponsorships, participation in conferences devoted to problems that are affecting society, employee care, donorship and other forms of socially responsible activities.[5] There is an impression that aid is most frequently directed to schools, health care, culture, sports, the arts and environmental protection, i.e., to activities that contribute to the satisfaction of the needs of the local community into which the socially responsible company should be integrated. By totally integrating itself in the local community, the company builds an image of a socially responsible actor in the perception of other stakeholders and, thus, strengthens its market position. The goal of this work is to present the theoretical concepts and research done so far in connection to the work's starting hypothesis regarding the trend

2 D. Đorđević, S. Bogetić: "Uloga korporativne društvene odgovornosti u savremenom poslovanju," *Megatrend revija* Vol. 5 (1), 2008, pp. 151-165.

3 V. Milanović-Golubović: "Upravljanje tražnjom pomoću globalne marke," *Megatrend revija*, Vol. 1 (1), 2004, pp. 167-181.

4 P. W. Roberts, G. R. Dowling: "Corporate reputation and sustained superior financial performance," *Strategic Management Journal*, Vol. 23 (12), 2002, pp. 1077-1093.

5 F. Džefkins, *Oglašavanje*, Clio, Beograd, 2003, p. 210.

of a new type of communication with consumers, through socially responsible activities that are increasingly replacing traditional forms of advertising.

2. The concept of corporate social responsibility

The concept of corporate social responsibility is often used, not only in professional literature, but in everyday speech and writing as well. It is a concept that has a broad meaning, in the sense of various understandings and multiple meanings. In other words, it cannot be said that there is a precisely determined set of activities that it is supposed to encompass, and which companies are supposed to pursue in order to be socially responsible.

The origins of corporate social responsibility date back to mid 20th century. During the 1970s, corporate social responsibility gained in significance, and by the 1990s it was seen as a generally accepted measure of company success.[6] Levitt is usually listed among the first authors that dealt with issues of corporate social responsibility.[7] During the mid 1950s, Levitt studied the influence of corporate social responsibility on company business. In his wake, due to the importance of this issue, other authors also began to deal with it, which produced a large number of definitions of the concept of corporate social responsibility.

Thus, the United Nations defines corporate social responsibility as *a company's overall contribution to sustainable economic development.*[8] According to the World Business Council for Sustainable Development, *company social responsibility represents a company's continual devotion to ethical behavior and its contribution to economic development, together with improved quality of the lives of employees, their families, and of local and broader social communities.*[9] Under corporate social responsibility, the International Financial Corporation *assumes the determination of companies to contribute to sustainable economic development through work with employees, their families, the local and the broader social community, towards the goal of contributing to an improved quality of life, while at the same time achieving benefits for the company itself.*[10] In professional literature, Carroll's definition is among the most frequently cited; according to it, *corporate social responsibility represents a set of economic, legal, ethical and other*

[6] U. Golob, J. Bartlett: "Communication about corporate social responsibility: A comparative study of CSR reporting in Australia and Slovenia," *Public Relations Review*, Vol. 33, 2007, pp. 1-9.

[7] T. Levitt: "The dangers of social responsibility," *Harvard Business Review*, Vol. 36 (5), 1958, pp. 41-50.

[8] B. Radovanović: "Društvena odgovornost kao identitet kompanija," *Sintezis* I/1, 2009, pp. 135-148.

[9] B. Radovanović, ibidem

[10] Ibid.

discretionary expectations that society may have regarding a company at a given point in time.[11]

The question of corporate social responsibility is especially pronounced when it comes to the business of multinational companies. Their power and numbers have increased substantially in recent years, to the extent that, for example, some of them have annual sales greater than many countries' social products (for example,, Coca-Cola in comparison to numerous Latin American and African countries, such as Sierra Leone, Togo, Uganda, Suriname, Nicaragua, El Salvador).[12] Among other things, the economic strengthening and domination of multinational companies is a result of the use of the dispositive regulations of certain countries, low labor costs, environmental damage, human rights violations, etc. This has moved numerous non-government organizations (such as consumer associations) to exert pressure on multinationals to take on a certain degree of social responsibility and engagement.

It is important to emphasize that the term corporate social responsibility does not only refer to large corporations, but also to entrepreneurs and small and medium companies, which is a sign of tendencies in the direction of forming so-called *responsible enterprise*.[13] Responsible enterprise assumes the achievement of economic success on the part of small and medium companies and enterprise organizations, while taking into account the broader social community and controlling environmental impact.

When discussing corporate social responsibility, the inevitable question arises: to whom are companies responsible, and for what? Two responses to this question stand out in professional literature: classical theory and stakeholder theory.

The classical theory of company social responsibility sees companies' primary responsibility in their responsibility to their owners (stockholders) for achieving the basic goal of business – profit. Toward that end, Milton Friedman thinks that profit maximization, achieved with accompanying respect for the rules of the game and legal regulations, is the only thing for which companies are socially responsible. On the other hand, by collecting taxes and budget allocation, the state is responsible for solving societal problems. Thus, demands for companies to participate in the achievement of social goals (after they have fulfilled their tax obligations) can only mean an unnecessary additional burden for companies, especially having in mind that their managers cannot be competent to solve social problems. In other words, under market economy conditions, any goal other than profit making is in the shadow of the basic goal, and is justified only

11 U. Golob, J. Bartlett: "Communication about corporate social responsibility: A comparative study of CSR reporting in Australia and Slovenia," *Public Relations Review* 33, 2007, pp. 1-9.

12 International Monetary Fund, World Economic Outlook Database, October 2010: Nominal GDP list of countries. Data for the year 2010.

13 B. Radovanović, ibid.

if it is in the function of increasing profits.[14] On the other hand, *stakeholder theory* provides a different answer to the above question.[15] According to this theory, companies have a responsibility toward all who can in any way be positively or negatively affected by their business, i.e., toward individuals and groups that carry a certain amount of the companies' business risk. In addition, since they supply companies with the necessary resources (capital, materials, labor force, buyers, etc.), various stakeholders have the possibility of exerting an influence on them, whether positive or negative, and, under certain circumstances, can represent key factors of company survival and success or failure. In that sense, Edward Freeman[16] thinks that it is not just the owners that have a stake in the company: in a certain sense, stakeholders are also buyers, suppliers, employees, managers, the local community and others who bear a certain risk by cooperating with the company. Thus, a company is responsible to all the said groups and must take their interests into account when defining its business goals. Such a relationship creates the need for some kind of "social contract" that encompasses obligations for both sides: for society to allow companies to do business, and for companies to make their business lawful and socially acceptable.[17]

Although it may seem at first glance that the answers provided by the above theories are diametrically opposed and irreconcilable, the space to bridge the difference does exist. A compromise view would be reflected in the fact that the proponents of the stakeholder theory do not in the least neglect the importance of company profitability and long-term financial success; in fact, they emphasize that corporate social responsibility, i.e., a responsible relationship toward stakeholder groups, is also a good way to secure good financial results. On the other hand, the adherents of the classical theory demand that profit as a basic goal be realized while respecting certain laws, rules and customs, which is in accordance with the concept of corporate social responsibility.

As has already been emphasized, the application of this concept also ensures certain benefits for the company. These benefits are relatively numerous and significant, appearing in the form of winning new customers and achieving closer relations with them, greater employee devotion, reduced business costs, an improved corporate brand, building a positive image, integration into the local community, etc.[18] Their significance is reflected in the fact that they ensure the

14 M. Friedman: "The Social Responsibility of Business Is to Increase Its Profits," *New York Times Magazine*, September 13, 1970.

15 E. Freeman: "A Stakeholder Theory of the Modern Corporation," *Ethical Theory and Business*, Tom Beauchamp and Norman Bowie, Pearson: Prentice Hall, New Jersey, 2004, p. 67.

16 E. Freeman: ibid.

17 Ibid.

18 P. W. Roberts, G. R. Dowling: "Corporate reputation and sustained superior financial performance," *Strategic Management Journal*, Vol. 23 (12), 2002, pp. 1077-1093.

company's long-term competitiveness and are, thus, an important factor of company success. However, the body of empirical research conducted thus far on the connection between companies' social responsibility and financial performance gives different results and conclusions in that regard. According to the research of Porter and Kramer, a link between companies' social responsibility and financial performance cannot be clearly established.[19] On the other hand, the research of Cochrane and Wood indicates that the link is quite weak.[20] The third group of research (which includes the OECD research) indicates that *socially responsible companies achieve better financial performance on the average that companies that do not behave in a socially acceptable way.*[21]

Regardless of the dilemma that might appear due to the differing conclusions, it can almost certainly be determined that, ultimately, companies' socially responsible business operations contribute to the realization and the increase of profits, as well as to the formation of a positive public image.

Literature and practice are filled with discussions regarding the above-mentioned significant benefits accrued by companies that do business in a socially responsible way. These discussion are centered on the possibility that companies might "abuse" their socially responsible business operations, i.e., use them only as a front that hides their main business motive – achieving and increasing profits. However, practice has shown that companies that apply corporate social responsibility concepts only declaratively are usually punished – as unreliable business partners, while companies that genuinely apply this concept wind up being rewarded.

Under current business conditions, it has become clear that economic sustainability is indeed a necessary, but not a sufficient condition for the sustainability of a society. In that sense, responsible business dealings are one of the key solutions to the achievement of sustainable development, which allows the satisfaction of the needs of present and future generations. Responsible behavior on the part of companies contributes to the harmonization of the economic and the social goals of development.

3. Building an image of a socially responsible company

Profit creation and increase is the ultimate business goal of every company, for only the companies that can generate a profit succeed on the market. However, contemporary business has also brought certain changes in the concept of

19 M. Porter, M. Kramer, "Strategy and society: the link between competitive advantage and corporate social responsibility," *Harvard Business Review*, Cambridge, MA, 2006, p. 4.

20 P. Cochran, R. Wood, "Corporate Social Responsibility and Financial Performance," *The Academy of Management Journal*, 27 (1), 1984, p. 55.

21 Organization for Economic Cooperation and Development: *Informing Consumers on CSR in International Trade*, Workshop on Informing Consumers about Corporate Social Responsibility and Production and International Trade, Rotterdam, 2006, p. 12.

profitability, generating new categories to which companies strive, such as credibility in society, image and public favor. And trust, image and favor are pretty dependent on the degree to which all stakeholder groups are satisfied with the company's business. Thus, in addition to the application of the concept of profit creation, a company's long-term success also requires the application of the concept of socially responsible business.

Corporate image is a set of people's perceptions regarding the organization, and represents a result of everything that makes up (or does not make up) the company, from visual impression to experiences with a product or quality of service.[22] Phillip Kotler defines image as a *set of convictions, views and impressions held by individuals or groups regarding a certain object.*[23] Corporate image consists of four parts: product or service, social responsibility, environment and communication.[24] The elements of corporate image building are based on the construction of each of the said elements: creation of a quality product or service and maintenance of customer care, socially responsible business dealings with all the company's stakeholders, creation of an appropriate work environment (office, showrooms, production plant) and establishing a consistent way of communication (advertising, public relations, personal communication, etc.).[25]

The current global financial crisis, which has brought the collapse of large companies and numerous other negative effects to society, has merely strengthened the already quite pronounced pressure on companies to make additional contributions to society, by taking part in certain non-economic activities that are important for society as a whole.[26] Often invoked is the example of sustainable and transparent financial institutions, such as the Dutch Triods or ASN banks, which have retained their reputation even in turbulent times. In other words, companies are expected to act in a socially responsible manner even during crisis times, i.e., they are expected to consciously and voluntarily devote themselves to activities that are harmonized with their primary business activity, as well as exert a positive influence on their work, social and natural environments.

As already mentioned, social responsibility is an integral part of corporate image building. The role of the object varies depending on different views, but it is primarily oriented towards companies as active creators of the positive aspects of social responsibility, while consumers are the creators of the perception of social

22 R. Smit, *Marketinške komunikacije*, Clio, 2002, p. 422.

23 P. Kotler, D. Haider, I. Rein: *Marketing Places: Attracting Investment, Industry and Tourism to Cities, States and Nations*, The Free Press, New York, 1993.

24 R. Smit, *Marketinške komunikacije*, Clio, 2002, p. 422.

25 Ibidem

26 A. Pomering, L. Johnson: "Constructing a corporate social responsibility reputation using corporate image advertising," *Australasian Marketing Journal* 17, 2009, p. 106-114; Air Human Rights: http://www.aimforhumanrights.org/latest/news/newsitem/article/financial-crisis-demands-corporate-social-responsibility, 2011.

responsibility. Companies' socially responsible behavior can be one of the best ways for them to be positively perceived, i.e., to build a positive image and, thus, secure numerous benefits for themselves. These benefits can range from winning new customers or establishing closer relations with existing ones, greater employee devotion, reduced business costs and corporate brand improvement, to the company's total integration into the local community. Thus, it should be emphasized that we are referring to very important elements of company success, i.e., the securing of their long-term competitiveness and, thus, profit-making. The results of an OECD survey further illustrate the above claims: *70% of consumers in the EU state that it is important for them that companies whose products and services they buy are socially responsible; 95% of Americans think that companies are not driven by profit alone, but also by obligation and responsibility toward the local community; 58% of South Koreans are interested in products that are ecologically acceptable, especially in terms of ingredients and production process; 71% of Britons think that multinational companies doing business in developing countries should provide good working conditions and an honest relationship toward their workers, regardless of the degree to which the host country insists on this.*[27]

On the other hand, there are numerous examples of punishment meted out to companies that did not display a feel for socially responsible behavior: the organized boycott of Nike's products at the beginning of the 1990s, due to its inadequate treatment of employees in Indonesia; constant demonstrations against most oil companies due to their inadequate concern for environmental protection; pressures, criticism and even lawsuits against fast-food producers and their culpability for certain negative social phenomena, and many others.

All the above-mentioned has strongly influenced companies to not only increase their allocations for various projects within society but also to work seriously on a strategy of building their own image of socially responsible companies. In order to succeed in this striving, companies must have in mind all the aspects of their activities and make sure that they are in tune with the said principle.

In surveys regarding attributes of corporate social responsibility,28 the public has expressed that it most values corporate honesty, followed by the following attributes: production of quality products and services, fair treatment of employees, giving back to the community through various philanthropic activities, etc. The order of these attributes can serve as a good guide for companies and an indicator of activities that companies can undertake towards the goal of creating an appropriate image.

27 Organization for Economic Cooperation and Development: *Informing Consumers on CSR in International Trade*, Workshop on Informing Consumers about Corporate Social Responsibility and Production and International Trade, Rotterdam, 2006.

28 A. O'Connor, M. Meister: "Corporate social responsibility attributes rankings," *Public Relations Review* 34, 2008, pp. 49-50.

Constructing an image of a socially responsible company is a very complex task, and it is impossible to achieve this only by sticking to simple reporting of the company's contributions to society. This process demands much more than an ad hoc approach: it demands a strategic approach, the abandonment of traditional marketing strategies and techniques (such as advertising, company magazines, and such), and a more intense application of new ones (such as sponsorships, participation at conferences devoted to problems that are facing society, etc.), all in accordance with the companies' business. We can find confirmation for this in an empirical study conducted within Fortune 500 companies, whose results in fact testify to the growing significance of managing the process of company reputation building.[29] A single company, regardless of its success and power, cannot solve all of society's problems. On the other hand, for it, participation in socially beneficial projects from various spheres does not have the same contribution. In other words, in order for the message that you want to bring across to achieve the desired effects, research of a concrete market and consumer target group must first be conducted. As a result, companies usually participate in projects that make the biggest impact in circles of their present and potential clients. A good example of this is the American company Avon, which supports research and numerous other activities related to breast cancer, by which it has firmly tied its brand to a very current theme and grown even closer to its most important target group – women. In this way, companies are opting to establish strategic ties to certain partners in society, and even to form long-term strategic alliances.

One of the most important aspects of constructing an image of a socially responsible company is certainly the application of this concept inside the company itself, meaning, before all, a quality relationship with employees. This assumes an undertaking of a series of activities towards the establishment of a responsible policy of employment, health and safety at the workplace, continual employee training, rewarding in accordance with work results, and equality of chances for advancement, concern for the employment of marginalized social groups (invalids, national minorities, etc.), transparency of the organization's work, etc. Investment in human capital development in general, by supporting projects in healthcare, education, culture, sports or the arts, is highly ranked on the list of activities that contribute to company image.

In recent years, companies' contribution to environmental protection has appeared as a very important aspect of the construction of a socially responsible image. This aspect refers to a company's management of natural resources that are used in production, to reducing pollution and waste materials, concern about the natural environment affected by company activity, etc. This aspect is also closely related to a tendency of moving towards sustainable development, as a form of development that is concerned about future generations and their needs.

[29] J. Hutton, M. Goodman, J. Alexander, C. Genest: "Reputation management: the new face of corporate public relations," *Public Relations Review* 27, 2001, pp. 247-261.

Many other activities can also contribute to the construction of companies' positive image: for example, corporate promotion of social goals and marketing organizations linked to social goals. The construction of an image of a socially responsible company is also founded on the assumption that, by purchasing products and services from such companies, consumers wish to make a partial contribution to the solution of certain social problems.

The process and method of advertising and reporting also plays an important role in the function of creating a company's socially responsible image. Much research has been conducted in connection with this, in order to determine both a direct and an indirect correlational link.

4. Advertising in the function of creating a company's socially responsible image

Advertising is one of the forms by which market actors communicate with their target markets. The authorized British Institute for marketing defines advertising, as a *management process of profitably defining, predicting and satisfying customer needs.*[30] It is part of a producer's or service provider's promotional (communicational) mix (which, besides advertising, also includes personal sales, direct marketing, sales improvement and public relations), through which, in the right way, at the right time and at the right place, a message should be sent to the targeted market.[31] Faced with increased competition, an intensified market and an endless struggle for survival, advertisers must use time or print space, which are usually very dearly paid, in the best possible way. According to the Institute of Practitioners in Advertising, "advertising is the most convincing sales message directed to true potential product or service buyers at the lowest possible price."[32] The message that is sent through advertising is of a non-personal character, as the information is not sent in personal contact between the advertiser and the buyer, but through paid media. In other words, the advertiser pays separately for the use of media space that is most often owned by someone else.[33] It is a form of mass communication, where information is sent from one source to a large number of recipients whom the advertiser does not know. The goal is to promote, by directly or indirectly inviting customers to buy. In other words, the goal of sending information is to present the advertiser and his offer in a positive tone, in order to stimulate the customer's wish to buy. The advertiser

[30] F. Džefkins, *Oglašavanje*, Clio, Beograd, 2003, p. 10.

[31] P. Kotler, K. Keller: *Marketing Management*, Pearson Prentice Hall, New Jersey, 2006, pp. 567-603.

[32] F. Džefkins: *Oglašavanje*, Clio, Beograd, 2003, p. 11.

[33] J. Blyth: *Essentials of Marketing Communications*, Pearson Prentice Hall, New Jersey, 2005, p. 35.

must be known, i.e., the advertisement must clearly show who the sender of the message is.[34] Regardless of whether the goal of the advertising is to create consciousness about a certain brand, or promote or position a product or service, most researchers view advertising as a way to stimulate buyers to buy a product or use a service: the process is often described with the acronym AIDA (awareness, interest, desire and action), which explains the phases through which the consumer passes before buying a product or using a service.[35] Before deciding to use a certain form of advertising (TV or radio ads, billboards or some other form of external advertising, in newspapers, magazines or on the Internet), one should define the frequency, range and influence of the advertising, choose an adequate channel of communication and the message carrier, and choose the time of advertising.[36]

A separate area of advertising research introduces the socio-linguistic aspect of advertising language analysis. There are numerous examples of different rhetorical figures and language techniques whose task is to draw the attention of the potential consumer, stimulate his desire and spur him to action. Since market competition is quite sharp, while the business dynamic accelerates daily and the time in which we are open to attentive acceptance of advertising messages very short (although, in today's world, exposure to advertising during each working day is almost inevitable), the advertiser's far-from-easy task is to, in the most inventive, most understandable and most effective way, establish contact with targeted consumers. The language techniques used for that purpose (the form of the rhetorical question (*Do you want to lose weight?*), imperative exhortations (*Take care of yourself!*), etc.) show that the means for reaching consumer consciousness through advertising are numerous. Proponents of the critical analysis of advertising discourse see these techniques as manipulative and, according to some authors, the advertisement represents a typical medium of manipulation in a broader, semiotic sense, where manipulation is done not only with the text but with illustrations and photographs. Thus, the question that arises is – where is the boundary between the legitimate practice of persuasion, on the one hand, and manipulation, on the other.[37]

In the light of building an image of socially responsible market actors, having in mind the reputation of advertising as a means of communication and the constant growth of advertising in all forms of media, researchers of marketing need

[34] G. Ognjanov, *Integrisane marketinške komunikacije*, Ekonomski fakultet, Beograd, 2009, p. 92.

[35] D. Jobber, J. Fahy: *Osnovi marketinga*, Data Status, Beograd, 2005, pp. 235-304; P. Kotler, J. Bowen, C. J. Makens: *Marketing for hospitality and tourism*, Pearson Prentice Hall, 2003, pp. 541-554; S. Veljković: *Marketing usluga*, Ekonomski fakultet, Beograd, 2006, pp. 449.

[36] P. Kotler, J. Bowen, C. J. Makens: *Marketing for hospitality and tourism*, Pearson Prentice Hall, 2003.

[37] N. Silaški: *Kako delovati rečima*, Ekonomski fakultet, Beograd, 2009, pp. 925-938.

to consider whether, amidst the existing extremely high competition, consumers are beginning to ignore advertisements, as well as whether there are alternative forms of mass communication that will achieve the desired effect.38 Companies are increasingly turning to elements of socially responsible advertising directed toward a mass auditorium, reporting on business activities in annual documents and socially responsible activities as a new way of communication with consumers. It should also be born in mind that consumers are increasingly well informed and have additionally become, over the past several years, with the widespread use of the Internet, indirect media owners.[39]

4.1 Socially responsible advertising

Towards the goal of constructing an image of socially responsible market actors, numerous companies are more and more frequently turning to the concept of socially responsible advertising, which will be treated in this section of the work. Here, attention will be devoted to socially responsible advertising and the way in which consumers perceive this kind of advertising, since the starting premise of the work is to analyze advertising and socially responsible activities in the function of communicating with consumers.

Big companies such as Shell, British Petroleum, Nike, Timberland or Starbucks are increasingly including themselves in the resolution of current social problems. These companies present their activities in their annual reports, on their web sites and in CSR based corporate image advertising.[40] However, CSR based corporate image advertising presents numerous challenges to companies' business and does not always guarantee the formation of positive attitudes and emotions toward the corporate brand and the affirmation of its reputation.[41] Drumwright's view is that advertising with a social dimension is one of the most controversial marketing approaches and that it can be viewed both as "the greatest contribution to society," and as "shameless abuse."[42] Although some authors recommend that companies build "good company" images, as a way of improving their financial results,[43] there is always the inevitable issue of consumer skep-

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38 B. Radenković Šošić: "Integrisane marketinške komunikacije u turizmu," *Tims acta* 4, pp. 54-60.

39 D. Đorđević, S. Bogetić: "Uloga korporativne društvene odgovornosti u savremenom poslovanju," *Megatrend revija*, Vol. 5 (1), 2008, pp. 151-165.

40 A. Pomering, L. Johnson: "Constructing a corporate social responsibility reputation using corporate image advertising," *Australasian Marketing Journal*, Vol. 17 (2), 2009, p. 107.

41 Ibidem, 107.

42 M. E. Drumwright: "Company advertising with a social dimension: the role of noneconomic criteria," *Journal of Marketing* 60, 1996, pp. 71-87.

43 P. W. Roberts, G. R. Dowling: "Corporate reputation and sustained superior financial performance," *Strategic Management Journal*, Vol. 23 (12), 2002, pp. 1077-1093.

ticism regarding information on socially responsible company activities. Numerous research surveys show that companies are more and more frequently turning to CSR based corporate image advertising;[44] nevertheless, there is a dilemma as to whether this element of the communicational mix can overcome consumer skepticism and thus, contribute to the formation of a positive company image.[45] Although the primary goal of CSR based corporate image advertising is not to spur consumers to action but to promote the company's social initiatives without directly linking them with certain consumer reactions, and even though advertising is the easiest way to inform consumers about a company's philanthropic activities, the use of advertising itself also represents a platform favorable for the development of consumer cynicism and skepticism.[46] Both these perspectives should be kept in mind. On the one hand, research shows that CSR based corporate image advertising creates positive consumer attitudes toward the brand,[47] positive product evaluations[48] and positive attitudes toward social partners.[49] On the other hand, other research sheds light on the problems faced by CSR based corporate image advertising. Thus, Webb and Mohr say that consumer views are mixed regarding the participation of companies in socially responsible activities, which are subsequently advertised. They explain that, in that way, the "skeptical segment" of consumers, which is usually small relative to all consumers, becomes more predominant, that consumers are concerned as to why a company is getting involved in such activity, and that traditional buying criteria, which are important to consumers, annul the effects of CSR based corporate image advertising.[50]

We note that CSR based corporate image advertising is increasingly a subject of consumer distrust and that it is often connected to classical forms of advertis-

44 K. L. Becker-Olsen, B. A. Cudmore, R. P. Hill: "The impact of perceived corporate social responsibility on consumer behavior," *Journal of Business Research*, Vol. 59 (1), 2006, pp. 46-53; M. R. Forehand, S. Grier: "When is honesty the best policy? The effect of stated company intent on consumer skepticism," *Journal of Consumer Psychology*, Vol. 13 (3), 2003, pp. 349-356; P. McIntyre: "Westpac goes sustainable but beware of the greenwash," *The Sydney Morning Herald*, Sydney, Fairfax, 2007.

45 A. Pomering, L. Johnson, "Constructing a corporate social responsibility reputation using corporate image advertising", *Australasian Marketing Journal*, Vol. 17 (2), 2009, p. 107.

46 D. J. Webb, L. A. Mohr: "A typology of consumer responses to cause-related marketing: from skeptics to socially concerned," *Journal of Public Policy and Marketing*, Vol. 17 (2), 1998, pp. 1105-1113.

47 I. E. Berger, P. H. Cunnigham, M. E. Drumwright: "Identity, identification, and relationship through social alliances," *Journal of the Academy of Marketing Science*, Vol. 34 (2), 2006, pp. 128-137.

48 Ibidem

49 J. K. Ross, M. A. Stutts, L. Fatterso: "Tactical considerations for the use of cause-related marketing," *Journal of the Academy of Marketing Science*, Vol. 20 (1), pp. 93-97.

50 D. J. Webb, L. A. Mohr: "A typology of consumer responses to cause-related marketing: from skeptics to socially concerned," *Journal of Public Policy and Marketing*, Vol. 17 (2), 1998, pp. 1105-1113.

ing, whose goal is to direct consumers toward the purchase of a specific product or service. Thus, great caution is needed in the use of CSR based corporate image advertising.

4.2 Reporting as an instrument of social responsibility creation

In light of the previous section dealing with CSR based corporate image advertising, we note that consumer skepticism plays a very large role and greatly contributes to the creation of obstacles in communication with consumers. The return effect risk of such advertising opens up great challenges for companies. As a result, many are turning to *softer* methods, advertising their socially responsible business operations only in annual financial reports and on company web sites.[51]

The composition and presentation of company reports regarding their social responsibility is one of the first among the numerous activities undertaken towards the building of a corporate social responsibility image. This type of advertising is usually not realized within the usual set of year-end financial reports. Reports are a basic means of communication between the company and all stakeholders on the topic of social responsibility, containing data regarding the company's concrete actions in this domain, as well as explanations regarding eventual shortcomings in that regard. With good reason, companies have taken their task quite seriously, and are more and more frequently engaging professionals from the field of communications, seeking to draw as much attention as possible to company achievements in the area of social responsibility and, thus, indirectly, the company's products and services. The voluntary production of such reports is still the most prevalent. However, there are also those that advocate the introduction of mandatory reporting, subject to state regulation, for the sake of protecting the interests of citizens. Also used in practice, albeit relatively rarely, are so-called stakeholder-demanded reports, which are quite useful for providing certain stakeholders with more detailed information regarding issues of importance to them.

Taking into account the said characteristics of classical advertising, socially responsible advertising and financial advertising, there arises the issue of the efficiency of such a means of communication with the target audience, which is to a great extent defined by consumer preconceptions, divided attention, information overload and a broad auditorium (classical advertising) or narrowly defined target audiences (reporting). Thus, the work also analyzes other socially responsible activities devoted to company public communications.

51 M. Morsing, M. Schultz: "Corporate social responsibility communication: Stakeholder information, response and involvement strategies," *Business Ethics: A European Review*, Vol. 15 (4), 2006, pp. 323-338.

5. Comparative analysis of company advertising and socially responsible activities

The aim of companies' socially responsible activities is to highlight certain problems in society, create a positive corporate image and develop a successful relationship with consumers and stakeholder groups.[52] Some socially responsible activities were mentioned in the section on CSR based corporate image advertising while, in this section, the accent will be placed on the relation between these activities and advertising.

As already mentioned, sponsorship frequently appears as a form of companies' socially responsible activity, *representing the giving of monetary or some other form of support to a user, so that he can continue his financial activities, sometimes out of altruistic reasons, but usually in order to utilize the advantages of advertising.*[53] The possibilities of sponsorship are numerous, from the publishing of books and professional publications, granting education stipends and financing research, to sports events and artistic manifestations. Although sponsorship is principally set up as a socially responsible activity, its essence is reflected in the achievement of advertising goals – i.e., communicating with a target audience when advertising is forbidden (for example, cigarette advertising is forbidden in certain countries but, paradoxically, tobacco companies sponsor sports events, where their name or logo appears).[54] The goals of sponsorship are to create good will toward the company on the local, national and international level, build a corporate image and identity, name acceptance, create an opportunity to connect with partners and stimulate media interest to provide objective information about a given sponsored event.[55]

Donorship for humanitarian purposes, the so-called *corporate philanthropy*, whether in money, products, services or socially beneficial work on the part of employees, is another efficient way to contribute to the building of a socially responsible corporate image.[56] Its most frequent form is direct, philanthropic donations in cash or products.[57] A company shows altruistic tendencies with a starting idea of building a positive image in consumers' consciousness, without relying on classical mass advertising.

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52 Y. Yoon, Z. Gürhan-Canli, N. Schwarz: "The Effect of Corporate Social Responsibility (CSR) With Bad Reputations," *Journal of Consumer Psychology*, Vol. 16(4), 2006, pp. 377-390.

53 F. Džefkins: *Oglašavanje*, Clio, Beograd, 2003, p. 205.

54 F. Džefkins, ibid., p. 213.

55 Ibidem, p. 216

56 C. M. Sasse, R. T. Trahan: "Rethinking the new corporate philanthropy," *Business Horizons*, 50, 2007, pp. 29-38.

57 D. Đorđević, S. Bogetić: "Uloga korporativne društvene odgovornosti u savremenom poslovanju," *Megatrend revija*, Vol. 5 (1), 2008, pp. 151-165.

However, regardless of the numerous advantages generated by companies' socially responsible activities, we should not overlook research that shows that consumers more positively value companies when their socially responsible activities are in accordance with their products (let us remember the paradoxical example of the tobacco industry and the sponsorship of sporting events),[58] and that the negative effects of such activities are much greater in situations in which consumers judge that the advertising costs connected to a given socially responsible activity are greater than the costs of organizing the event itself or of giving a donation. In such situation, a negative reputation is created even vis-à-vis companies with a positive reputation.[59] Companies are frequently led by the assumption that events such as sponsorships or donorships create a positive company image among consumers, which will subsequently reflect on the final financial result. However, research shows that, although such events create media publicity, public presence and positive connotations related to the corporate name, consumers are displaying a high degree of suspicion and increasing informedness regarding companies' activities and intentions. Thus, although showing a constant trend of growth and increasing presence, socially responsible activities cannot be seen as a simple, easier and foolproof way of corporate image building without generating negative connotations similar to those that accompany advertising. We should not overlook the assumption according to which, like advertising, such activities may in the future become less noticed, and accepted in a negative context.

6. Conclusion

The imperative of socially responsible business is becoming an inseparable part of the success and the creation of competitive market actors. Due to numerous social problems and challenges, some of which are the result of marketplace battles and economic sustainability, companies are more and more frequently called upon to contribute to the solution of these issues through their activities. However, although partially less perceived as profit-oriented and profit-making activities, such activities cannot be considered as a sure way of reaching public consciousness. It is obvious that the numerous marketing techniques that were used in previous periods of corporate business are encountering increasing suspicion and caution on the part of consumers, regardless of whether we are talking about classical advertising, financial reports, advertising aimed at showing companies in the best possible light, or the organization of socially responsible

58 S. Sen, C. B. Bhattacharya: "Does doing good always lead to doing better? Consumer reactions to corporate social responsibility," *Journal of Marketing Research*, 38, 2001, pp. 225-243.

59 Y. Yoon, Z. Gürhan-Canli, N. Schwarz: "The Effect of Corporate Social Responsibility (CSR) With Bad Reputations," *Journal of Consumer Psychology*, 16 (4), 2006, pp. 377-390.

activities. A challenge has been placed before researchers and companies: how to best represent the company and reach consumers and the target audience with the current preconceptions. The answer that inevitably presents itself is that each instance non-transparency, inconsistency and short-term commitment ultimately contributes to increasing a company's negative image, regardless of whether we are talking about traditional advertising, the reporting of interested parties or the use of socially responsible activities with the goal of establishing company communication with target audiences. Having in mind consumer attitudes toward advertising, the lack of time, attention and positive preconceptions regarding the accuracy of the sent message, regardless of whether we are talking about classical product and service advertising or CSR based corporate image advertising or financial reporting, which are usually perceived by a smaller number of target audiences, socially responsible activities that serve to improve in various ways the quality of life of the local community, implement the company into the local environment and create more consistent stakeholder views – if performed in accordance with company business operations – appear as a better way of building a long-term relationship between the company and its environment, as they bring manifold benefits for the local community and for the future of the company itself.

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Paper received: December 16th, 2010
Approved for publication: January 24th, 2011

Original scientific paper UDC 334.72 ; 005.21:334.72.021

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ONE OR TWO-TIER CORPORATE GOVERNANCE SYSTEMS IN SOME EU AND NON EU COUNTRIES

Abstract: *There are two basic concepts of corporate governance:* ***the one- and two-tier system.*** *As concerns the legal regulation of the governance structures there is the approach of the compulsory one-tier system (like USA, UK) or compulsory two-tier system (Germany, Austria).*

In addition, there are countries which ***leave shareholders to decide*** *upon introduction of the one - or two-tier system, according to Articles of Incorporation as in France or, for example Slovenia.*

There are also countries with ***different types of two-tier system****, with different competences and legal position of the supervisory body, which range from the more or less classical Supervisory Board, to Supervisory or other monitoring and auditing bodies with limited competences.*

Key words: *corporate governance, on-tyre system, two-tier system, directors, supervisory board, management board*

JEL classification: G34, L26

1. The German Compulsory Two-Tier Corporate Governance System

There is **only a two-tier management system** with the Management Board, and the Supervisory Board, under the German Joint Stock Company (Public Limited Company), law (g AktG)[1]. German law on a Public Limited Company does not regulate the one-tier system of corporate governance at all.

Under g AktG the Management Board has direct **responsibility for the management of the company**. The Supervisory Board supervises the management of the company. Management responsibilities may not be conferred on the Supervisory Board. However, the Articles or the Supervisory Board may determine that

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1 German Stock Corporation Act, Translation as at 16 October 2009, Norton Rose LLP January 2010 Edition NR 6622 01/10.

specific types of transactions may be entered into only with the consent of the Supervisory Board. If the Supervisory Board refuses to grant consent, the Management Board may request that a Shareholders' Meeting be held to approve the grant. The Shareholders Meeting by which the shareholders' approval requires a majority of not less than three fourths of the votes cast. The Articles may neither provide for any other majority nor prescribe any additional requirements. Members of the Supervisory Board may not confer their responsibilities on other persons.

The provisions governing the appointment of a labour representative on the Supervisory Board and labour Director to the Management Board are in separate pieces of legislation (so called co-determination).

2. The Austrian Compulsory Two-Tier Corporate Governance System

There is, like in German law, **only a two-tier management** system with the Management Board, and the Supervisory Board, under the Austrian Joint Stock Company (Public Limited Company) law (an AktG)2.

Austrian company law, like German law, **does not regulate the one-tier system** of corporate governance at all. In Austria it is responsibility of the Management Board to manage the company in the best **interests of the company**, considering the interests of the shareholders and the employees, as well as the interests of the public.

The Supervisory Board **supervises the management**. Actions reserved to the management cannot be transferred to the Supervisory Board. The aAktG, unlike German and Slovenian law, which leaves that to the Articles and to the Supervisory Board, defines transactions[3] that require the approval of the Supervisory Board. The Company Statutes or the Supervisory Board, as in German law, may also provide that certain kinds of transactions require **the approval of the Supervisory Board**.

The members of the Supervisory Board, according to the aAktG may **not delegate their duties** to others. The Company Statutes may, however, permit that a member of the Supervisory Board be represented by another member. The right to serve as Chairman cannot be delegated.

There are separate rules for employee participation in the companies' bodies in employees' participation legislation, in the two-tier system of corporate governance.

2 The Austrian Stock Corporation Act, Bilingual Edition, Deutsch/English, Translation by Dr. Alexander Fruehmann, LL.M. (Yale), Attorney-at-Law (New York), StBDr, Tibor R.Nagy, Steuerberater, Vienna 2005, Manzsche Verlags- und Universitätsbuchhandlung.

3 Para. 95/ a AktG

3. The French One or Two-tier System

The French Société anonyme (SA) can be, as in Slovenia, managed in **one of two ways** under a two-tier board or under a single board.[4] Since there are no mandatory rules it is, as in Slovenia, up to the shareholders to decide which type to introduce. According to article L225-57 of the

French LCC, the Memorandum and Articles of Association of any public limited company may stipulate that it be governed by the provisions of Sub-section 2: Management and Supervisory Boards[5].

In the two-tier system, the management of an SA is split up into a Directorate (Directoire) and a Supervisory Board (Conseil de Surveillance). The Directoire is an Executive Board and the 'conseill de Surveillance, a Supervisory Board. The 'Président du Directoire' is responsible for representing the company, with regard to third persons, although each member of the directorate has powers to act in the name of the company.

The **Supervisory Board is not concerned with the general management** of the company, but rather with control of the management of the company. Control of the company's management means that at any stage of the financial year the Supervisory Board may control the running of the business as carried out by the members of the executive board.

The control includes the grant of **consent for special transactions**. Consent of the Supervisory Board is necessary for financial guarantees given by the company, except for guarantees given by banks. The Supervisory Board may furthermore require the Directorate to obtain its **consent for transactions** other than current transactions. Such a requirement does not however affect third parties.

The Supervisory Board **appoints the members of the Directorate** and supervises the management of the company. Members of the Supervisory Board are appointed by the General Meeting for periods of up to six years. They can be removed by the General Meeting at any time. They may resign; they retire when their period of office expires. The Directorate must report every three months to the Supervisory Board. The Supervisory Board lays down the policy of the company.

The French system uses German law as its inspiration but it should be carefully distinguished from the management of a German, Austrian (or Slovenian) two-tier corporate governance system (governed by the Vorstand and Aufsichtsrat).

Under the single-board system, the SA is managed by a Board of Directors (conseil d'administration) comprising a number of directors (administrateurs). It is headed by a Président Directeur Général (PDG).The PDG may be assisted by

4 Loi 2003-775 du 21/08/03 (JO 22/08/03).

5 Corporate Governance in France, Gérard Charreaux, Peter Wirtz: By the end of 2004, 76% of the CAC 40 companies had chosen the unitary board. This percentage is confirmed by larger samples, and it seems that the two-tier board system has been on the decline in recent years. Among the CAC 40 companies having chosen the unitary board, 22% had separated the functions of the chairman and the CEO by 2004.

one, two or five directors (Directeurs Généraux (DG). The president is elected by the board from among its members.

The **board delegates to the president** nearly all its powers. The president takes full responsibility for managing the affairs of the company. He represents the company vis-à-vis third parties. The full board can revoke the appointment of the president at any time.

Employee representation on the board is not mandatory, but not more than one-third of the directors may be employees of the company; moreover employees are eligible to sit on the board only after two years' service.

4. The Slovenian One- or Two-Tier System

Under the Slovenian Company's Act (s CAct, article 253 (Selection of management system)[6], as in the French law, a company may choose:

- **a two-tier management** system by appointing a Management Board and a Supervisory Board, or
- **a one-tier management** system by appointing a Board of Directors.

The management and supervisory bodies under the s CAct therefore are:

- the Management Board, and the Supervisory Board in a two-tier management system,
- the Board of Directors in a one-tier management system.

It is therefore up to the shareholders to decide, and put to the Articles of incorporation, what kind of corporate governance system to introduce in the Slovene joint stock (public limited) company; none of the types is compulsory for any kind of companies.

There are separate rules for employee participation in the companies' bodies in employees' participation legislation, both in the one- and two-tier system of corporate governance.

5. Single Board Only in the USA

US corporate law only provides for **a single board system** with no compulsory labour representation. There is no two-tier system under US law.

According to the MBCA (Model Business Corporation Act), each US Corporation must have a Board of Directors. Exceptions refer to a shareholders' agree-

[6] Companies Act (Uradni list RS [Official Gazette of the Republic of Slovenia], Nos 42/06, 60/06 – corrigendum, 26/07 – ZSDU-B, 33/07 – ZSReg-B, 67/07 – ZTFI, 10/08 and 68/08).

ment that may dispense with or limit the authority of the Board of Directors, as explained in the previous chapters.

US law thus provides for a shareholders' agreement as a tool to introduce a non-traditional corporate governance model (we discuss the shareholders' agreement on corporate governance separately).

The MBCA therefore requires that each corporation has a Board of Directors (except those with a shareholders' agreement), and no other corporate bodies (supervisory etc.) are required in addition.

The powers and duties of the Board of Directors are defined by the following rule: 'All corporate powers shall be exercised by or under the authority of, and the business and affairs of the corporation managed by or under the direction of, its board of directors, subject to any limitation set forth in the articles of incorporation or in an agreement authorized.'

There is no mandatory labour participation on the Board under US law.

6. Single Board Only in the United Kingdom

There is **only a single Board of Directors** in the UK as well, and normally it is composed of executive directors (in effect professional employees) and non-executive directors who, although officers of the company, are not its employees and are not involved in running the company's business[7].

According to The UK Combined Code on Corporate Governance[8], the Board's role is to provide entrepreneurial leadership of the company within a framework of prudent and effective controls which enables risk to be assessed and managed. The board should set the company's strategic aims, ensure that the necessary financial and human resources are in place for the company to meet its objectives and review management performance.

Non-executive Directors should constructively challenge and help develop proposals on strategy. Non-executive Directors should scrutinize the performance of management in meeting agreed goals and objectives and monitor the reporting of performance. They are responsible for determining appropriate levels of remuneration of Executive Directors and have a prime role in appointing, and where necessary removing, executive directors, and in succession planning.

Non-executive Directors represent the shareholders' interests, and supervise the management of the company as performed by the Executive Directors.

7 Financial Reporting Council, The Combined Code on Corporate Governance, June 2008: Ff The Listing Rules require UK companies listed on the Main Market of the London Stock Exchange to describe in the annual report and accounts their corporate governance from two points of view, the first dealing generally with their adherence to the Code's main principles, and the second dealing specifically with non-compliance with any of the Code's provisions.

8 Ibidem.

The Board should include a **balance of executive and non-executive directors** (and in particular independent non-executive directors) such that no individual or small group of individuals can dominate the board's decision taking[9].

It is said in the Code that here should be a clear **division of responsibilities** at the head of the company between the running of the board and the executive responsibility for the running of the company's business.

No one individual should have unfettered powers of decision (the roles of chairman and chief executive should not be exercised by the same individual).

Directors are **legal agents of the company** for which they conduct business and perform legal actions. On the other hand, directors are in a Single Board Only in the United Kingdom way trustees of the company, but their position as trustees differs from that of ordinary trustees.

By law, Directors are trustees as far as the assets which they are entitled to deal with are concerned and as far as the legal transactions in which they involve the company that they run are concerned. Directors are not trustees in the legal sense, in the sense of having a fiduciary relationship with the company and the shareholders.

There is no mandatory labour participation on the board under the UK law.

7. Some Other Comparisons on One or Two-Tier Systems

Three Basic Approaches: Basically there are three different approaches in the comparing countries:

- There is **only a two-tier management** system under German law and Austrian (g AktG) for stock corporation (AG).
- The French Société anonyme (SA) can be, like a Public Limited
- Company in Slovenia, managed in one of two ways, either under a **two-tier board, or under a single board**. It is up to shareholders to decide on the system of corporate governance, but so far in France, unlike Slovenia, the one-tier system by far prevails.
- US and UK corporate law only provide for a **single board system** with no compulsory labour representation. There is no two-tier system under US and UK law.

In addition there are **a number of other countries** with the one-tier system only, or at least a predominant one-tier system, like Finland, Spain, Sweden, Greece, Cyprus, Turkey, Canada, etc.

On the other hand there are many countries with a predominant, but **not exclusive two tier system**, or with different **mixed systems**, some of which we are presenting as follows.

[9] Ibidem.

7.1. Countries with a (Predominant) One Tier System

7.1.1. Predominant One Tier System in Finland

As a rule, Finnish listed companies **use the one-tier governance** model, which, in addition to the general meeting, comprises the Board of Directors and the Managing Director[10]. According to the Limited Liability Companies Act, a company may also have a Supervisory Board, but very few listed companies have Supervisory Boards.

The right to elect the Directors (and auditors) at the General Meeting is one of the most important rights of the shareholders[11].

The majority of the Directors **must be independent** of the company. In addition, at least two of the Directors representing this majority must be independent of significant shareholders of the company.

The Code has a detailed description of **independence criteria**[12]. It is said in the Code that the Managing Director is a corporate body, which is in charge of the day-to-day management of the company in accordance with the instructions and orders issued by the board. The Board **appoints and discharges the Managing Director** and supervises his or her operations.

7.1.2. Greek Board of Directors

As it is stated in the Greek Corporate Governance Code, the corporate governance framework should ensure the **strategic leadership** of the corporation, the efficient **monitoring of management** by the Board of Directors and the accountability of the Board to the corporation and its shareholders[13].

The Board of Directors is the authority that **governs the corporation.** Its duties involve decision-making and full and efficient monitoring of all activities of the corporation. The Greek Board has the responsibility to deal with the corporation's affairs exclusively in the interests of the corporation and its shareholders.

The Board has the main responsibility for ensuring the establishment of **efficient governance rules**; it is accountable to the General Shareholders' Meetings for its activities and performance. The Board has the main responsibility for

10 The Board of the Securities Market Association approved Finnish Corporate Governance Code in October 2008. The Code replaced the Corporate Governance Recommendation for Listed Companies issued in 2003.

11 The Corporate governance Code recommends that the Directors be elected for a term of one year.

12 Finnish Corporate Governance Code Securities Market Association 20 October 2008.

13 Principles on Corporate Governance in Greece: Recommendations for its Competitive Transformation Athens, Greece, October 1999, Committee Corporate Governance in Greece under the coordination of the Capital Market Commission.

setting the corporation's **long-term goals** and making all **strategic decisions**, as well as the **appointment and supervision of management.**

At the same time, the General Shareholders' Meeting has the responsibility of appointing the Directors on the Board; Non-executive members of the Board should form **independent judgements** especially with respect to the corporation's strategy, performance, asset management and the appointment of management. Certain non-executive members of the Board should be **independent from executive members** and the majority **shareholders i**n the corporation.

7.1.3. The one-tier System in Cyprus

In Cyprus, every listed company should be **governed by the Board** of Directors, which must guide and control the company[14].

The Board of Directors should include a **balance between executive and non-executive directors**, as well as independent non-executive directors, such that no individual director or small group of directors may dominate the Board's decision-making and such that no group of directors may outvote any of the other two groups. All directors should exercise **independent and unbiased judgment** in carrying out their duties[15].

7.1.4. Spanish Board of Directors

There is only the **one-tier system** of corporate governance in Spain. According to the Spanish Corporate Governance Code[16], the Board of Directors must perform its duties **independent from Management** and in the company's best interest, maximising the company´ s value over time.

The Board of Directors must ensure that the company:

- abides by the laws and regulations in its relations with stakeholders;
- fulfils its obligations and contracts in good faith;
- respects the customs and good practices of the sectors and territories where it does business;
- upholds any additional social responsibility principles it has subscribed to voluntarily.

The core components of the Board's mission are to approve the company's strategy, authorise the organisational resources to carry it forward, and ensure

14 Cyprus Corporate Governance Code (2nd edition, March 2006).

15 Ibidem.

16 Spanish Unified Code on Good Corporate Governance, 18 January 2006, Comisión nacional del mercado de valores. Sub Directorate of Corporate Governance, Madrid,

that management meets the objectives set while pursuing the company's interests and corporate purpose[17].

Directors may, according to the Code, belong to one or other of the following groups:

- **Executive** or Internal Directors (senior officers or employees);
- **Proprietary** Directors, (who owe their board place to being company shareholders);
- **Independent** Directors (having no personal or business connection with the company, its shareholders or its management).

The nature of each Director must be explained to the General Meeting of Shareholders. The number of independent Directors must be three or more, and represent at least a third of all Board members[18].

7.1.5. The Canadian One-tier System

According to paragraph 86 of the Canada Corporations Act[19], the affairs of the company have to be managed by a Board of Directors. Under paragraph 90 (1) of the Canada Corporations Act, Directors of the company are elected by the shareholders at the General meeting of the company.

7.1.6. Turkish Board of Directors

According to the Turkish Corporate Governance Code[20], the Board of Directors is **the strategic** (the Board should approve the strategic goals constituted by the Executives) **decision-making**, **representation** and highest management (**executive) body** of the company.

In conducting its business, the Board should pay special attention to maintaining the **balance** between the interests of the **shareholders and the company's** growth prospects. The Board should closely monitor and supervise whether or not the company's operations comply with the relevant legislation, articles of association, in-house regulations and policies.

An interesting specific of the Turkish law is, that before commencing work, members of the Board should **declare in writing that they will comply with the legislation**, Articles of Association, in-house regulations and policies, and

[17] Ibidem.

[18] Ibidem.

[19] 10. Canada Corporations Act, Current to January 25, 2010, Published by the Minister of Justice at the following address: http://laws-lois.justice.gc.ca.

[20] The Capital Markets Board of Turkey (CMB) has issued the Corporate Governance Principles of Turkey, © 2003.

in case of incompliance, that they would be jointly liable to compensate the loss accrued to the shareholders and stakeholders.

The Board comprises both **executive and non-executive** members. It should be maintained that the **board chairman** and **Chief executive officer** are **not the same person** and that majority of the Board should consist of non-executive members. Non-executive members of the Board should regularly conduct internal meetings. The Board should be composed to comprise **independent members** who have the ability to execute their duties without being influenced under any circumstances. Independent board members should comprise **at least one third** of the Board and, in any case, two members of the board should be **independent.**

While calculating the number of independent members, fractions should be considered as the next whole number[21].

7.2. Countries with the One- or Two-tier System

7.2.1. The Bulgarian One- and Two-Tier System

In the Bulgarian national code of corporate governance[22] we find both the **one- and two-tier system** of corporate governance.

As stated in the Code, it is the duty of public companies towards their shareholders to comply with corporate governance principles and good practice. The Code therefore addresses in detail the role of the Board of Directors in the One-tier systems, and the nature and principles of the cooperation between the Supervisory Board and the Management Board in the Two-tier systems[23].

In the **one-tier governance structure** the governing, representative and controlling functions are carried out by the Board of Directors. The Board of Directors must govern the company in a responsible and **independent** manner and set the vision, goals and strategies of the company in the best interests of all shareholders. The Board of Directors elected by the General Shareholders Meeting should ensure that its members carry out their tasks independently and impartially in the best interest of the company.

The number of the independent Directors and their skills should be according to the shareholders' interests[24].

In the two-tier system, the management oversight and representative functions are carried out by a **Management Board**, while the strategy and control functions are carried out by the **Supervisory Board.** In the two-tier system the Management Board manages the company in accordance with the company's

[21] Ibidem.

[22] Bulgarian national Code of corporate governance, October 2007.

[23] Ibidem

[24] Ibidem.

visions, goals and strategies established by the Supervisory Board in the best interest of all shareholders.

The Supervisory Board must appoint the Management Board of the company, provide it with strategic guidance, oversee and control its activities. The members of the Supervisory Board should carry out their tasks independently and impartially in the best interest of the company[25].

7.2.2. The Czech Executive and Supervisory Board

The **Executive Board**, under the Czech Commercial Code[26], **governs and represents** the company. It determines the company's objectives and policies, appoints the company's management and reports to the Supervisory Board and to the shareholders at the General Meeting.

The Czech **Supervisory Board oversees** the activities of the Executive Board and represents the company in actions against the directors. It oversees how the Executive Board exercises its range of powers and how the business activity of the company is conducted.

In order to do this, the members of the Supervisory Board have the right to **inspect all documents** relating to the company's activities and to review the annual financial statements and the proposed distribution of profits[27].

7.2.3. Denmark

The Danish Companies Act[28] introduces for the governing bodies the term **supreme governing body** (the Board of Directors of companies with an Executive Board and a Board of Directors, and the Supervisory Board of companies with an Executive Board and a Supervisory Board).

In public limited companies, the shareholders are the ultimate decision makers and all or the majority of the members of the company's supreme governing body (the Board of Directors or the Supervisory Board) are elected by the shareholders at the general meeting[29].

Danish companies are **free to choose** between the different management structures. All the management models of the Companies Act share one common feature: the **Executive Board** of the company is in charge of the **day-to-day management**. In addition, public limited companies must have either a Board of Directors or a Supervisory Board.

25 Ibidem.

26 Czech Commercial Code (Commercial Code no. 513/1991 Coll.).

27 Czech Corporate Governance Code based on the OECD Principles (2004).

28 Act no. 470 of 12 June 2009 on Public and Private Companies.

29 Recommendations on Corporate Governance, Committee on Corporate Governance, April 2010.

If the company has a **Board of Directors**, the Executive Board will only be in charge of the day-to-day management, while the Board of Directors will be in charge of the overall and strategic management and will supervise the Executive Board. If the company has a **Supervisory Board**, such board will only **supervise the Executive Board**, as the executive board will be in charge of the entire management function, i.e. also the overall and strategic management[30].

The **Supervisory Board** must handle the overall **strategic management** and the financial and managerial **supervision** of the company and continuously evaluate the Executive Board's work.

It is important that the Supervisory Board is composed in such a way that its members can act i**ndependently** of special interests. Therefore, it is recommended that the majority of the members of the Supervisory Board elected by the general meeting are independent.

7.2.4. Management and Supervisory Board in Estonia

The Management Board must, according to the Estonian Corporate Governance Code[31], 23 make independent day-to-day decisions without favouring personal and/or controlling shareholders' interest. The Management Board makes decisions based on the best interests of all the shareholders.

The duty of the Supervisory Board is to manage internal control of the Management Board activities. The Supervisory Board participates in making important decisions. The Supervisory Board must act independently and in the best interests of all shareholders[32]. Management Board and Supervisory Board must co-operate closely.

The Management Board must operate under strategic guidelines provided by the Supervisory Board and regularly discuss its strategic management questions with the Supervisory Board[33].

7.2.5. Italian Three Governance Options

First, corporations may adopt the Italian traditional system of governance which has been modernized by the reform of corporate law. This model of governance is still the most influential and most commonly used in Italy. Besides the traditional model, two other 'alternative' systems of governance were created by the 2003 reform: the two-tier system and the one-tier system. The first model

[30] 22. Report on Corporate Governance in Denmark – the Copenhagen Stock Exchange Committee on Corporate Governance, December 2003,

[31] 23. Corporate Governance Codes and Principles – Estonia, Financial Supervision Authority Tallinn Stock Exchange, 1 January 2006.

[32] Ibidem.

[33] Ibidem.

owes its basic structure to the German tradition, where the shareholders' meeting appoints a Supervisory Board, which then appoints a Management Board. In contrast, the one-tier model derives from the Anglo-American tradition. In this system the Shareholders' Meeting appoints the Board of Directors, which then appoints a number of Directors to an audit committee entrusted with monitoring functions[34].

7.2.6. Hungarian Supervisory Board

Supervision of the operations of a company by the owners is, according to the **Hungarian Act on Business Associations**[35], performed by the **Supervisory Board**. Section 33 of the said law stipulates that for the purpose of supervision of the companies' management, the members (shareholders) have the option or the obligation to prescribe in the Memorandum of Association the creation of a Supervisory Board.

Establishment of a Supervisory Board is, according to the said law, **mandatory for public limited companies**, except for any public or private limited company that is controlled by the one-tier system. The Supervisory Board is **mandatory also for private limited companies if requested** by the founders or members (shareholders) controlling at least five per cent of the total number of votes.

The Supervisory Board is mandatory also irrespective of the form and operational structure of the company, **where prescribed by law with** a view to the protection of public assets or to the activities in which the company is engaged; In addition the Supervisory Board is mandatory where so prescribed in the Act with a view to the exercise of the control rights of employees (Section 38 of Hungarian Law on Business Associations).

Section 34 of the Hungarian Law on Business Associations, stipulates, that the Supervisory Board **act as an independent body**. A member of the Supervisory Board may not be instructed in this capacity by companies' members (shareholders), or by the employer.

The Supervisory Board may request information from the executive officers and from the executive employees of the company, which has to be provided in the manner and within the time limit specified in the Memorandum of Association. The Supervisory Board may inspect the books and documents with the help of experts when deemed necessary (Section 35).

The Articles of Association of private limited companies or the memorandum of association of private limited-liability companies **may contain provisions to**

[34] Corporate Law Reforms in Europe: The Two-Tier Model and the One-Tier Model of Corporate Governance in the Italian Reform of Corporate Law, Federico Ghezzi Bocconi University – Institute of Comparative Law (IDC), Corrado Malberti Bocconi University – Institute of Comparative Law (IDC) January 19, 2007 Bocconi Legal Studies Research Paper No. 15.

[35] Lezrva: 2009. szeptember 30. Jogtár expressz, Hatály:2009.IX.1. – 2009.X.31. HMJ-English-Act IV of 2006 on Business Associations, Promulgated on 4 January 2006.

assign the right for the appointment and removal of Management Board members and managing directors, and for establishing their remuneration upon the **Supervisory Board**, and to render the passing of certain peremptory resolutions subject to the **prior consent** of the Supervisory Board (peremptory Supervisory Board). In this case members of the Supervisory Board are treated **as executive officers** as regards the functions of management.

If the annual average of the number of full-time employees employed by the business association exceeds **two hundred**, the **employees** have the right **to take part in the supervision** of the company, **unless there is an agreement between the works council and the management** of the company to the contrary. In this case the representatives of the employees have to comprise one-third of the members of the Supervisory Board

In the case of **public limited companies controlled by the one-tier** system, the procedures for exercising the right of employees – according to the articles of association – in supervising the company's management must be laid down in **agreement between the Board of directors and the works council**. (Section 38).

The Articles of Association of public limited companies may also contain provisions to tender **management and supervisory functions** upon the **Board of Directors** (public or private limited companies operated by the one-tier system). Such a (public or private) limited company has **no Supervisory Board**, and the members of the Board of Directors are treated as **executive officers** (Section 20).

7.2.7. The Netherlands

The Netherlands' Management Board is Accountable to the Supervisory Board36. According to the Dutch Corporate Governance Code, the role of the **Management Board is to manage the company** (it is responsible for achieving the company's aims, the strategy and associated risk profile, the development of results and corporate social responsibility issues that are relevant to the enterprise).

The Management Board is **accountable for this to the Supervisory Board** and to the general meeting. The Management Board must be guided by the interests of the company, taking into consideration the interests of the company's stakeholders. The Management Board must provide the Supervisory Board in good time with all information necessary for the exercise of the duties of the Supervisory Board[37].

[36] 28. The Dutch Corporate Governance Code, which became Effective as of 1 January 2004. On the basis of almost five years' experience with the Code, the Monitoring Committee Dutch Corporate Governance Code (also known as the 'Frijns Committee') made an updated version of the Code which became effective as of 1 January 2009. From the 2009 financial year onwards, Dutch listed companies are to report on their application of the revised Code and to explain any deviations from its best-practice.

[37] II.1.2 of the Dutch Code: The management board shall submit to the supervisory board for approval: (a) the operational and financial objectives of the company; (b) the strategy designed to achieve the

7.2.8. Management Board and Supervisory Board in Poland

According to the Polish Corporate Governance Code[38], the main objective of the company should be to operate in the common interest of all shareholders, and the company boards (Management Board and Supervisory Board) should act as guided by the concept of shareholder value creation. The company boards should ensure that the rights and interests of the company stakeholders, including employees, creditors, suppliers and local communities, are duly respected. The composition of the Supervisory Board (at least two members should be independent) should facilitate oversight of the company and reflect the interests of the minority shareholders. As it is said in the Code, the powers of the

7.2.9. Management and Supervisory Boards in Portugal

The **Board of Directors** must, according to the Portuguese Corporate Governance Code, ensure that the company acts in accordance with its goals; it should not delegate the following duties:

- definition of the company's strategy and general policies;
- definition of the corporate structure of the group;
- decisions taken that are considered to be strategic due to the amounts, risk and particular characteristics involved[39].

Within the limits established by Law for each Management and Supervisory structure, and unless the company is of a reduced size, the Board of Directors must delegate the day-to-day running and the delegated duties should be identified in the Annual Report on Corporate Governance[40].

The Board of Directors must, according to the Code, include a number of non-executive members that ensure the efficient supervision, auditing and assessment of the executive members' activity. Non-executive members must include an adequate number of independent members. The size of the company and its shareholder structure must be taken into account when devising this number and may never be less than a fourth of the total number of Directors.

objectives; (c) the parameters to be applied in relation to the strategy, for example in respect of the financial ratios; and (d) corporate social responsibility issues that are relevant to the enterprise.

[38] Polish Corporate Governance Code, Gdansk June 2002, 54 Some Other Comparisons on One- or Two-Tier Systems Supervisory Board should ensure an effective Supervisory Board process and secure interests of the shareholders.

[39] 31. Corporate Governance Codes and Principles – Portugal, Comissão do Mercado de Valores Mobiliários (CMVM), 4 March 2009.

[40] Ibidem.

Besides fulfilling its supervisory duties, the General and Supervisory Board has to advise, follow-up and carry out on an on-going basis, the assessment on the management of the company by the Executive Board of Directors[41].

7.2.10. The Dominant Two-Tier Board System in Slovakia

The Slovak two-tier system **separates managing and supervisory functions** into two different bodies. The Management Board is a body that bears the main responsibility for business strategies and ensures appropriate return on investment to the shareholders, whereas the Supervisory Board is a body that bears responsibility for monitoring of the Management Board as well as the activity of other key executives of the company who are not members of the Management Board. The Supervisory Board is therefore composed **only of Non-Executive directors.**

The Management Board, on the other hand, comprises only Executive Directors[42]

In the case of the **one-tier board system**, which is in Slovakia permitted **only for European company forms**, it is necessary to point out that this system joins the functions of the supervisory board and the management board into one body – the administrative board-which thus combines managing and supervising functions[43].

8. Conclusion

Serbian system of two tier corporate governance is, comparing it with EU countries company laws, somehow specific. It does not follow the main stream concepts, that we have presented in this article.

According to article 329 (Supervisory Board, Internal Auditor or Audit Committee) of the Law on Business Companies of Serbia[44], the Articles of Association or by-laws of an open company may, and of a **listed company must,** provide that the company has a Supervisory Board. Supervisory Board is therefore compulsory just for listed companies and on disposal for others. In addition a company must have a Supervisory Board if the law other than Company **Law requires** that it must have a Supervisory Board because of the activities which it conducts.

41 Ibidem.

42 Corporate Governance Code for Slovakia, Central European Corporate Governance Association.

43 Ibidem.

44 Law on Business Companies of Serbia (Official Gazette, Republic of Serbia, No. 125/2004) Unofficial Translation – USAID – CCASA Project – Ver 4.0 Not intended for legal advice 1-2-18-05.

Next interesting specific of the Serbian Company law is, that all of the members of a Supervisory Board must be persons who qualify under the definition of **independent director** (given by the law). In the EU Recommendations an in the majority of EU countries there is a recommendation rather than legally binding obligation that the majority (not all) of the supervisors are independent.

The members and the chairman of a Serbian Supervisory Board are **elected by the Shareholders' Assembly**, except that the initial members may be appointed in the initial Articles of Association or by a decision of the founders of the company (Article 330 of the Law on Business Companies of Serbia (Membership, Election and Removal of Supervisory Board). This is quite comparable with the EU countries two tier governance systems.

What is again the specific of Serbian two tier governance system are the competences of the Serbian Supervisory Board. In carrying out their duties the Supervisory Board (likewise internal auditor or audit committee) **may inspect all documents** of the company, request statements and explanations of members of the Board of Directors or employees and inspect the state of the company's assets. There is no provision, that Supervisory Board is according to law entitled to nominate and revoke Board of directors like in almost all EU countries' company laws.

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Paper received: January 25th, 2011
Approved for publication: February 18th, 2011

Scientific review paper UDC 005.591.4:334.72.021

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THE ROLE OF CORPORATE IMAGE IN THE PROCESS OF COMPANY TAKEOVERS

Abstract: *In the modern business environment, where companies need to differentiate themselves from the competition, the role of the corporate image attains its full affirmation. The rise of global ecological awareness motivates companies to implement standards of ecological and social responsibility and to incorporate these values in their corporate image. Apart from that, the modern business environment is also characterized by changes of ownership and management in companies, i.e., processes of mergers, acquisitions and takeovers. Depending on the reaction of the board of directors and management, takeovers can be friendly or hostile. The general hypothesis is that corporate image, especially its ecological component, plays a significant role in modern processes of company takeovers. Along these lines, it can be further hypothesized that companies with a strong ecologically responsible corporate image become desirable partners, which makes them not only attractive for cooperation and mergers, but also desirable targets of takeover, by which their valuable corporate image would be "bought." The aim of this paper is to accentuate the role of corporate image in modern takeover processes, using the case study method and analyzing cases of smaller, ecologically and socially responsible enterprises that were taken over by the multinational companies.*

Key words: *corporate image, ecological and social responsibility, company takeovers, friendly and hostile takeover*

JEL classification: M14, G34

1. Corporate image, corporate identity and corporate communications

Corporate image is the result of everything a company does. Image is determined by all the company's activities in the domain of products and services, behavior and attitudes (corporate culture), approach to growing questions regarding ecologically acceptable and socially responsible business practices, and corporate communications. All this influences the forming of public perceptions

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regarding what the company actually represents, with different groups forming their own perceptions regarding the company's image. A common element among the numerous definitions of corporate image can be observed: image primarily relates to the overall impression that the company leaves in the public consciousness. Image possesses a cognitive (logical) component, which refers to clearly observable product quality, packaging, color, logo, symbols, etc. In addition to tangible and clearly observable characteristics, image also possesses a connative (emotional) component, reflected in its power to induce appropriate emotional states (joy, tranquillity, excitement...) among consumers.

A company's corporate image is formed on the basis of its history, beliefs and business philosophy, nature of its technology, ownership structure, the people that make up the company, and its ethical and cultural value system.[1] Corporate identity can also be defined as the sum of the entire value system that predominates within a company, its purpose of existence and market behaviour, chosen corporate strategy, organizational structure and organizational culture.[2] Although symbols such as logos, colors and slogans represent important practical instruments for sending messages on corporate identity, the increasingly complex competitive battle for consumer loyalty is pressuring company managements to view the influence and role of corporate identity from a broader aspect.

Corporate communications refer to the process that transforms identity into image. The public forms a perception regarding a company's image on the basis of sent messages. Since the creation and transmission of messages is controlled by the company itself, the conclusion that can be drawn is that image represents a useful instrument that can and should be actively managed. In addition, a formed image does not represent a static category. Image formation is an evolutionary process of changing, modifying and adapting messages on newly adopted values within the company, which are a result of new economic, ecological and social conditions in which the company is operating. Corporate communications play the role of connector between corporate identity and corporate image. The influence of the communications concept is very significant from the aspect of product acceptance and positive positioning in consumer consciousness, creation of loyalty to the company and to what it offers, as well as a general positive public perception regarding everything the company does in the economic-social sphere. The planning and implementation of programs of internal and external communication and the choice of adequate communication channels represent an important segment of corporate communications.

1 N. Ind: *Corporate Image. Strategies for effective identity programs*, Kogan page, London, 1992.

2 J. Balmer, E. Gray: "Corporate Identity and Corporate Communications: Creating a Competitive Advantage," *Corporate communications: An International Journal*, Vol. 4 (4), 1999, pp. 176-177.

Corporate identity, corporate image and corporate communications are three inseparable concepts. Thus, each significant change in corporate identity reflects on the perception of the company's corporate image.

Of key importance is the perception of the company held by its stakeholders – both internal and external. This awareness makes it possible for managers to more easily harmonize corporate communications and corporate identity, while respecting various group interests. The path from identity to reputation encompasses the way in which the company presents itself and the various ways in which the company is perceived by consumers, the community, investors and employees.[3] Company image should be accommodated so as to satisfy the expectations of various stakeholders. It is also important to emphasize that the performance of business activities in different countries additionally accentuates the importance of efficiently managing corporate image and reputation, from the aspect of adjusting to different cultures.[4]

2. Elements of corporate image

In building corporate image, company management should carefully approach the issue of conceiving and managing tangible components that influence the formation of image – the array of products and/or services offered, their attributes, additional, clearly observable benefits, etc. Attention should also be paid to intangible components that are becoming increasingly important in the process of differentiation from the competition and the building of a distinct corporate image under contemporary market conditions – service before, during and after sales, loyalty programs, specially designed service and benefit packages for specific buyers, etc. The growing importance of intangible image elements points to the importance of employees and their motivation to additionally strengthen the company's positive image in interactive contact with consumers. In addition, in a time filled with burning ecologically related questions, clearly expressed and adequately communicated company views on environmental protection policy can significantly contribute to improvements of its image in consumer consciousness.

[3] J. C. Fombrun: *Reputation: realizing value from the corporate image*, Harvard Business School Press, USA, 1996, p. 37.

[4] http://www.duplication.net.au/ANZMAC09/papers/ANZMAC2009-390.pdf

The following stand out as the most important elements of corporate image:[5]

- **Products and/or services – attributes and benefits for consumers**
  - ✓ Quality
  - ✓ Innovativeness
- **People and relations**
  - ✓ Company orientation toward consumers/stakeholders
- **Values and programs**
  - ✓ Ecological responsibility
  - ✓ Social responsibility
- **Corporate credibility**
  - ✓ Expertise
  - ✓ Trust
  - ✓ General public approval

Image in the domain of products encompasses product attributes, as well as consumer benefits from them (added value). For example, if high quality is one of the associations connected with a company's products, image relates to a general consumer impression that the company produces quality products. A second association can be innovativeness expressed through the introduction of new products on the market, intense modification and improvement of current products and unique marketing programs developed by the company.

In the formation corporate image, it is important to emphasize the role of people and the predominant relations within the company. Values, ways of internal and external communication and the actions of all company employees reflect on the company's perceived image.[6]

Values and programs refer to the company's publicly expressed concern for ecological questions. A company demonstrates its stance regarding environmental protection and improvement through a responsible approach to a sustainable and effective use of resources, as well as through respect for prescribed ecological standards in the entire chain of its business activity. An image of a socially responsible company is also attained through a voluntary, active contribution to and participation in the solution to existing problems within the community in which the company does business. In order to improve their reputation, companies have turned to the concept of socially responsible business. However, the initial stages of the implementation of this concept were not sufficiently understood by a large segment of market participants. Namely, many companies recognized that socially responsible business would positively affect corporate

5 K. L. Keller: *Strategic brand management*, 2nd edition, Prentice Hall, Upper Saddle River, NJ, 2003.

6 K. L. Keller, K. Richey: "The importance of corporate brand personality traits to a successful 21st century business," *Journal of Brand management*, 14, 2006, p. 74.

image, and then proceeded to delegate the task to their public relations departments. This led to numerous instances where reality significantly diverged from the promoted image. In order for the implementation of the concept of socially responsible business to produce good results, it must involve the entire company, i.e., all its business functions. In order for the company to gain integrity and for the practice of socially responsible business to become sustainable within the company, the projected image must be consistent at all levels.[7]

Company credibility, as the most abstract image component, encompasses expertise, acquired trust and the company's general positive public image. Company expertise refers to its ability to produce its products and services and make them accessible. Honesty in business also positively reflects on the entire company image, as consumers gain trust in the company. Attractiveness, credibility, prestige and dynamism are just some of the elements that can significantly contribute to image formation.

3. Importance of companies' ecological responsibility in the formation of a positive corporate image

In the modern market economy, company development and social progress have become much more accessible goals than was the case in the past, especially in the period after World War II and the expansion of the state's social role. That time was characterized by the existence of a sharper line of division between the social issues that were in the domain of the state and the creation of business and profit, which was essentially the concern of business actors on the market. In their goals for the new millennium, the United Nations were the first to emphasize that the business sector possesses large potentials and resources to aid in the elimination of certain social problems, by which it would contribute to the overall social welfare. Thus, already beginning in the year 2000, large multinational corporations began to be included in a series of socially oriented programs. The concept of socially responsible business became an unavoidable topic in business, managerial and academic circles, which led to extensive research of the very concept of social responsibility and its implications on the entire company as a business entity (its business operations, products, business processes, technology, marketing, etc.). On the other hand, the systematic public promotion of this concept contributed to the growing sensitiveness of consumers and other stakeholders to questions of ethical and responsible company operations, which resulted in a situation where a large number of companies became lastingly committed to creating a socially and ecologically responsible corporate

7 A. Davies: *Best practice in corporate governance: building reputation and sustainable success*, Gower Publishing Ltd., England, 2006, p. 105.

image. Today's society demands responsibility and contribution.[8] The Natural Marketing Institute conducted research on the basis of which it created a ranking list of fifty socially and ecologically responsible companies, with the top ten being the following:[9]

- Microsoft
- Whole Foods Market
- Kellogg's
- McDonald's
- Home Depot
- Walt Disney
- UPS
- Coca-Cola
- Starbucks
- PepsiCo

Companies' ecological responsibility is especially accentuated as one of the basic components of social responsibility. Foremost among those compelled to fulfill the new demands for ecologically responsible business operations are the multinational companies whose core business is directly linked to high degrees of environmental pollution, such as oil companies, the automobile industry, etc.

Convincing proof of the significance of the ecological component of the corporate image is embodied in the continual activities and investments of "potential polluter" companies so as to maximally neutralize the negative environmental impact of their business operations. The multinational British Petroleum company represents an appropriate example of a strategic orientation towards building an ecologically responsible corporate image.[10] This has also become a strategic issue for Exxon Mobil, which is increasingly frequently promoting alternative energy sources and their positive effect on the environment.[11]

So-called green companies, committed to the use of renewable energies, are becoming attractive for investors (socially responsible investing). The number of ecological firms on global stock exchanges (NASDAQ, NYSE, etc.) has reached an admirable level.[12] However, enough time will have to pass and the first positive indicators of the profitability of investment in socially responsible companies (stock performance and dividends) will have to appear before larger numbers of

8 D. Đorđević, S. Bogetić: "Uloga korporativne društvene odgovornosti u savremenom poslovanju," *Megatrend revija*, Vol. 5 (1), Megatrend univerzitet, Beograd, 2008, p. 152.

9 http://www.nick-rice.com/docs/EnvironmentChart.pdf

10 http://www.bp.com/liveassets/bp_internet/globalbp/STAGING/global_assets/e_s_assets/e_s_assets_2009/downloads_pdfs/Environmental_management.pdf

11 http://www.thepanelist.net/ethanol-biofuels-finance-10036/1230-exxon-mobil-xom-works-on-its-eco-image

12 http://www.ecomall.com/biz/menu$.htm

small investors are encouraged to consider the option of investing in "green" company shares.[13] The US Environmental Protection Agency also includes Johnson&Johnson, Starbucks, Hyatt Regency, Safeway Inc., etc. on its list of the top socially responsible companies.[14]

In reference to ecological responsibility, Fortune magazine has also compiled and published a list of the top 10 "green" giants (Table 1), along with a description of each company's ecologically responsible projects.

Table 1: *Ten green giants*

No.	Company	Business	Location	Year of founding	Earnings (in $)	**Number of employees**
1.	Honda	Automobile industry	Japan	1945	84.2 billion	145,000
2.	Continental Airlines	Airline industry	Houston	1934	13.1 billion	44,000
3.	Suncor	Refinery	Canada	1917	13.6 billion	5,500
4.	Tesco	Energy	G. Britain	1919	71 billion	380,000
5.	Alcan	Aluminum production	Canada	1902	23.6 billion	68,000
6.	PG&E	Energy	San Francisco	1852	12.5 billion	20,000
7.	S.C.Johnson	Household cleaner production	Racine, Wis.	1886	7 billion	12,000
8.	Goldman Sachs	Banking	New York	1869	69.4 billion	24,000
9.	Swiss Re	Insurance	Switzerland	1863	24 billion	10,500
10.	Hewlett-Packard	High technology	Palo Alto	1939	91.7 billion	156,000

Source: http://money.cnn.com/galleries/2007/fortune/0703/gallery.green_giants.fortune/index.html

The choice of how to build an ecologically and socially responsible image, which is in synergy with the company's business goals, vision and mission, becomes a strategic decision.

The implementation of social responsibility might begin with the improvement of business processes, whereby a positive image is formed on the basis of the company's core activities. This category would encompass things such as the

13 http://www.investorideas.com/Research/Industries/Article/InvestGreen.asp

14 http://www.env-econ.net/2006/01/environmentally.html

recycling process and the reduction of waste materials, ecologically acceptable product packaging, correct purchasing prices, safe and secure products, ethical marketing, an honest employee policy, etc. An especially important part of this strategy is to reduce negative effects of business operations on the environment, as well as the company's commitment to a continual advancement of harmless ways of producing and distributing goods and services.

The second approach starts from the external environment, where the appropriate socio-ecological problem (most often logically linked to the company's core business activity) is chosen, and a long-term commitment to solving it is made. For example, the Nestle Company has made a holistic approach to creating its corporate image, linking improved business operations with social benefits. Namely, Nestle has obligated itself to help in the development of local dairy and milk producing firms, from which it purchases its main production input – milk. This business decision has reflected positively not only on the stabilization of its milk-buying but also on its creation of a socially responsible company image. In addition to the above, the development of the concept of socially responsible business is accompanied by growth in the importance of company communications (its board of directors and management) with all stakeholders. In this way, improved company interaction with stakeholders also becomes a part of the company's social responsibility concept.

4. Company takeover processes

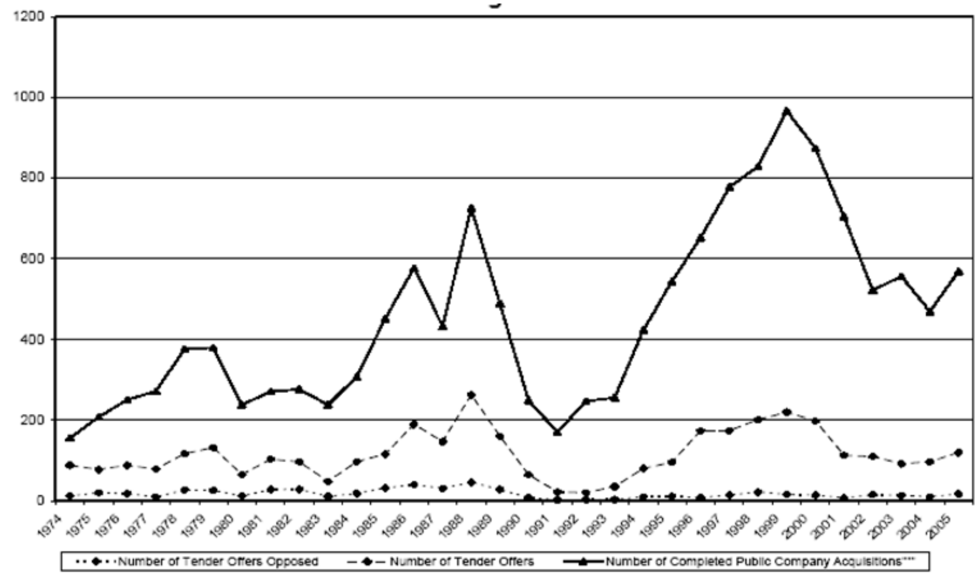
The processes of company mergers and takeovers result in changes in corporate control. A company that seeks to take over another can gain management control over the target company or, depending on the agreement that is reached, to share control with the target company's shareholders. In case of merger, it is possible to form a wholly new company. These corporate events usually result in great managerial changes, as well as in changes in or even the elimination of the corporate board of directors.[15]

A takeover can either have a positive or a negative effect on future value, which is most often determined on the basis of company market value on the day of acquisition (or merger/takeover), as well as on the basis of company performance after this corporate event.

During the 1980s, the frequency of hostile takeovers increased and reached its peak. This then fell off, only to reappear during the 1990s, but as a smaller segment of the overall corporate control market. The graphic below provides a comparative overview.

15 F. Kaen: *A Blueprint for Corporate Governance*, AMACOM, NY, 2003, pp. 155-156.

Graph 1: *Tender offers as a portion of total mergers*



Source: www.law.ucla.edu/.../bratton__is_the_hostile_takeover_irrelevant.pdf

The upper line on the graph shows the total number of completed public company acquisitions realized on the annual level from 1974 to 2005. The middle line shows the number of company mergers by way of registered tender offers, in a friendly context. The bottom line shows the number of tender offers opposed by target company management and board of directors (hostile takeovers).

4.1 Friendly company takeovers

This is a transaction where a company takes over ownership and management control over another company, but with the full consent of the target company's board of directors and employees. Thus, the basic characteristic of this type of takeover is mutual consent and joint agreement. The management of the company engaged in the takeover and the management of the target company negotiate the conditions and all the concrete details of the takeover process, e.g., how shares will be distributed within the company, and then the boards of directors and the owners of the capital of both companies give their consent. In the case of closer connectedness between the owners of the capital and the board of directors (the same or closely connected people), the acquisition is usually friendly. In that case, if the owners of the capital agree to sell the company, the board of directors is most often in agreement, or under their influence.

In order to gain control, the company making the offer most often offers a premium, i.e., a price higher than the current share price.

For example, since 1970, takeover premiums have ranged between 38% and 44% in the US. On the international stage, premiums vary considerably, from 10% in Brazil and Switzerland to as high as 120% in Israel and Indonesia.[16]

The friendly takeover process consists of the following steps:[17]

- Preparing the acquisition program
- Signing of preliminary terms
- Announcing intent to acquire and explaining the reasons
- The takeover act is connected with the decision to form a new board
- Producing an industrial conversion plan
- Implementing a new long-term policy relating to the new possibilities
- Evaluation of takeover results

Thus, in a friendly takeover, the target company board and management are receptive to the idea of being taken over and recommend approval of the takeover process to the owners of the capital (shareholders).

4.2 Hostile company takeovers

A takeover process against the wishes of shareholders, current management and/or the board of directors represents a hostile form of takeover. As distinct from a common agreement in the case of a friendly takeover, a hostile takeover is characterized by a tender offer, most often with an offered premium over the current market share price of the "attacked" company. Other forms that may be taken are accumulation of shares on the open market or a shrewd battle with the goal of installing new directors. The most frequent cause of hostile takeovers is a striving to achieve economies of scale. Since a hostile takeover most often means a change of executive management, this can positively reflect on the efficiency of company management, especially in new, changed circumstances, when the relationship between current management and shareholders has been "exhausted."[18] A takeover thus ensures the existence of competitive efficiency among the executive management and contributes to the safeguarding of shareholder interests.

The most frequent motive for a friendly takeover is synergy (increased performance as a result of merger), while for a hostile takeover the motive is more often disciplinary. Also interesting is the fact that there is a high incidence of hostile takeovers among large companies.[19]

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16 http://knol.google.com/k/understanding-friendly-versus-hostile-mergers-and-acquisitions#

17 http://mfiles.pl/en/index.php/Friendly_takeover

18 http://mpra.ub.uni-muenchen.de/22123/1/MPRA_paper_22123.pdf

19 M. Jensen: *Characteristics of Targets of Hostile and Friendly Takeovers: Comment*, Harvard Business School, University of Chicago Press, 1998, pp. 2-3.

The key question that comes up in the takeover process, especially under conditions of dispersed shareholding, concerns the authority of the target company's directors to undertake defence measures.[20] In case of a hostile takeover, the board of the target company might use various measures to prevent it, such as: "poison pills" (e.g., buying shares at a discount), "golden parachutes" (ensuring large compensation packages for board members in case of takeover), the "white knight" (search for competing offers), the "white squire" (sale of shares to a friendly company uninterested in taking over control), etc. Under such conditions, management can undertake certain planned and targeted activities as defence from the "attacking" company, which can negatively reflect upon the overall corporate image of the attacked company. Namely, some research has confirmed that, in vertically differentiated industries, the executive management of the attacked company uses discretionary defense measures and deliberately maintains a low level of research and development, thus lowering the potential for quality and innovation (the product as an element of corporate image). In addition, management deliberately reduces investment in promotion, thus neglecting the important issue of consumer preferences (people and relationships as an element of corporate image).[21]

Since the shareholders are the ones that receive the takeover offer, it follows that they should be the ones to make the final decision on whether to accept or reject it, and on whether the ultimate takeover method will be friendly or hostile. However, the large number of shareholders (dispersed shareholding) makes mutual communication for the purposes of reaching a collective decision difficult. Consequently, when weighing the offer, shareholders are led by their own individual interests rather than the interests of the company or other shareholders, which is otherwise known as the "stampede effect." The very knowledge that there is a chance that the company making the offer might execute a takeover pressures shareholders into accepting the tender offer, regardless of the fact that the majority might not consider that to be the most desirable outcome.

Faced with the prospect of takeover by way of a tender offer, the board of the target company needs to decide whether to support it (thus making the takeover friendly), reject it and actively oppose it (hostile takeover), or take a neutral position. As the board has an obligation of loyalty to the stock company, it should take the principled approach of being guided exclusively by the interests of the company and its shareholders, while also taking into account the interests of other stakeholders.[22] However, a takeover can also bring the board members into an unenviable position (dismissal, reduction of contractual rights), so it is more often the case that the board opposes a takeover regardless of the above sides' interests.

[20] M. Vasiljević: *Korporativno upravljanje – Pravni aspekti*, Pravni fakultet, Univerzitet u Beogradu, 2007, p. 173.

[21] http://mpra.ub.uni-muenchen.de/22123/1/MPRA_paper_22123.pdf

[22] M. Vasiljević, ibid., p. 175.

Like the board, the management is also faced with the dilemma of whether to oppose or support a takeover. And, just like the board, management also follows its own interests. The interests of executive management are not limited to pecuniary benefits such as salary and profit share, but extend to certain non-monetary benefits, such as security, power, status, prestige, professional reputation, etc.

5. Takeover processes in the function of strengthening an ecologically responsible image

Business practice has confirmed that multinational companies are more and more frequently taking over small, ethically established firms, especially on the territory of the United States. Although not every takeover of smaller, ecologically responsible companies on the part of multinationals is publicized, several such processes have nevertheless attracted broader public attention (Table 2). Smaller, ethical companies are key players in the campaign of introducing ethicalness in the operations of large companies, as the smaller companies are the ones that initiate changes and shape new consumer expectations. The promotion of an innovative, socio-ecologically responsible business standard increases pressure on multinational companies to follow that standard. With their work, small, ethical companies demonstrate that it is possible to found and successfully run a business through a non-traditional approach, building valuable brands and conquering significant market niches while making admirable profits. In other words, ecologically and socially responsible companies are proof that ethics and money are complementary, not irreconcilable.

Table 2: *Takeover of ethical companies on the part of multinationals (examples)*

Company	Founding year	Product	Acquiring company	Acquiring company's total sales	Time of acquisition	Price paid	Ethical evaluation before*1	Ethical evaluation after *
Body Shop	1970	Cosmetics	L'Oréal	£9.8 billion	March 2000	£652 million	11	3.5
Green &Blacks	1991	Chocolate	Cadbury Schweppes	£4.7 billion	May 2005	£20 million	16	8.5
Ben and Jerry's	1978	Ice cream	Unilever	£28 billion	April 2000	$100 million	n/a	3.5
Tom's Maine	1970	Toothpaste	Colgate Palmolive	£5.5 billion	March 2006	$100 million	16	10.5

Source: http://www.ethicalconsumer.org/CommentAnalysis/Features/ethicalcompanytakeovers.aspx

Interestingly, most of the said takeovers were positively received by the owners, managers and boards of ethical companies, thus making their takeovers by multinational companies predominantly friendly. A representative example of a friendly takeover – and the one most often cited publicly – is the case of Body Shop and L'Oréal. Both the sides were extremely satisfied with the takeover process, so much so that L'Oréal even decided that the British company, with its globally known image of an ethical and ecologically responsible business, should continue to operate as an independent and autonomous company, under the leadership of its founders. In other words, this was a case where the effects of merging with a multinational company were indeed positive – the management, ethics, image, products, people and business policy remained the same (meaning that the consumers, sympathizers and activists were not "betrayed"), and further strengthened by substantially greater resources, capacities, expertise and logistics.

However, although less frequent, hostile takeovers also occur in practice. One such example is the takeover of Ben & Jerry's.[23] Although its sales markedly increased after being taken over by Unilever (70% between 1997-2003), to the extent that Ben & Jerry's had become the best selling ice cream in the US by 2003 (212 million dollars in sales), ethicalness did advance in the same way. In its last review of the social aspect of its business, Unilever revealed that only 45% of its employees thought that the company took its social mission seriously. In the first three years after takeover, 20% of Ben & Jerry's employees were dismissed, and Unilever also stopped donating 7.5% of pre-tax profits, which was a part of Ben & Jerry's pre-takeover business policy.[24] Regardless of the fact that the publication of such data on the part of Unilever in its report on its social business component was itself ethical, it is evident that the positive effects of a hostile takeover are substantially lower, reduced to the multinational "attacker's" motive to increase sales and profits, without continuing to invest in the corporate image of the ecologically and socially responsible company that has been taken over.

Takeovers of innovative companies in the renewable energy field are also frequent, although insufficiently publicized. The approach of the big "polluters" to the need to create an ecologically responsible image is twofold: strategic investments and a gradual improvement of processes (e.g., British Petroleum) or the acquisition of another company that has started and is successfully conducting so-called green business. An example of the latter approach is the takeover of the leading Canadian company in the field of clean energy development, Canadian Hydro Developers Inc., by Canada's biggest polluter – Canadian TransAlta. The takeover was hostile, and the tender offer equaled 1.5 billion dollars.[25] This is just one of many such examples in the energy sector, where it is expected

23 http://www.meadowbrooklane.com/business.ethics.legacay.pdf

24 http://www.ethicalconsumer.org/CommentAnalysis/Features/ethicalcompanytakeovers.aspx

25 http://www.treehugger.com/files/2009/07/transalta-hostile-bid-canadian-green-power-company.php

that the big polluters will try to label their businesses as ecologically responsible and improve their own ecological performances with the help of takeovers. The motives of the large energy companies in launching their frequently hostile takeovers of "green" companies still remain somewhat unclear, and are subject to various interpretations, of which three stand out:

- takeover as a defence measure, for the purposes of facilitating the company's process of accommodation to prescribed measures related to ecologically responsible business practice;
- takeover as part of an intent to slow the process of expansion of renewable, green energy before profits brought by conventional ways of energy production are totally exhausted;
- takeover as a phase of gradual transition to a strategic adoption of an ecologically responsible way of creating energy.

Acquisitions and takeovers represent a part of a general trend among multinational companies to become active in ethically responsible business. The growth in sales of ethical products has thus become so important that the risk of being involved in "green" business is certainly smaller than that of being totally left out of it. The big companies have come to realize that corporate responsibility has become a truly important issue and, at the same time, a potentially very profitable trend. Commercial outlets with their own renowned brand names are now also including the top brand names of specialized producers if they are not able to develop a specific strong brand name themselves or if consumers are expressing exceptional preference for and loyalty to a specific brand.[26]

On the basis of examples from business practice, Ethical Consumer magazine has distinguished three ways in which multinational companies are becoming involved in the ecological business:[27]

- *creating new ethical products* (e.g., *Nestlé's Fair-trade* coffee or the expansion of *Wal Mart* into the organic food business);
- *acquisition of ethical brands* – considered to be an easier, less risky and cheaper way of becoming involved in responsible business (e.g., big pharmaceutical companies are increasingly frequently acquiring smaller ones, with the risk of an associated innovative company, rather than opting to initiate their own research and development);
- *other ways* – activating partners and consumers (e.g., *Marks & Spencer* and risk minimization in the supply chain), and social goal marketing (e.g., *American Express* and *Gap*).

[26] V. Milanović Golubović: "Upravljanje tražnjom pomoću globalne marke," *Megatrend revija*, Vol. 1/04, Megatrend univerzitet, Beograd, 2004, p. 175.

[27] http://www.ethicalconsumer.org/CommentAnalysis/Features/ethicalcompanytakeovers.aspx

The public perceives the acquisition of ethical companies by multinational corporations from two aspects: as a victory of money over morals or as a chance for ethical and ecological products to achieve mass expansion and, thus, a global influence of consumption and buying habits in favor of ecological products. Small, ethical companies are also faced with a dilemma: either remain "clean" and wield great influence on a smaller market segment (a significant market niche) or achieve a compromise and have smaller influence on a substantially greater market. The globalization process is linked with growth in the power of large companies, which opens up many questions, such as those regarding the survival and role of small and medium enterprises in the global economy. The fear of large companies' domination on the global market is a well known and widely present topic, which has attracted significant attention to the role of small enterprises in international business.[28]

There are additional sceptical viewpoints in connection with the multinational companies' trend of building or acquiring ethicalness.

First, corporate takeovers of socially responsible businesses can lead to concentrations of wealth and power in the hands of a smaller number of business actors, which represents a potential threat to the market mechanism of competition. Second, attention should also be paid to large multinational companies' potential influence on regulatory bodies that set down business ethical standards. In addition, there is also the question as to whether fusion with multinational companies is the only way to capture the mass market. The intensifying propagation of data regarding the explosive growth of smaller, ecologically responsible companies after their takeover by multinational companies still does not negate the possibility of their growth over time, without the assistance of new, large partners. Finally, the acquisition of ethical companies represents a more painless way to enter new, ecologically sensible markets. In that way, corporations can avoid including ethicalness in their core business and operations, i.e., they can relatively quickly and "cheaply" acquire epithets of ecologically responsible and ethical companies.

6. Conclusion

The topic of socially responsible business and, thus, the topic of ecological responsibility, which represents a significant component of this concept, are still characterized by opposing views regarding the feasibility of the symbiosis of ethics and profit. However, the growing number of companies that are strategically implementing socially and ecologically responsible business practices testifies not only to the survival of the ethics wave in contemporary business but also to the growing influence of ecological and social responsibility on company finan-

[28] B. Leković, S. Marić: "Mala preduzeća u globalnom okruženju," *Megatrend revija*, Vol. 4 (2), Megatrend univerzitet, Beograd, 2007, p. 132.

cial performance (share value, access to capital, ratings given by financial institutions, etc.). In turn, on the basis of available examples from practice, this fact confirms the general assumption about the important role of corporate image, especially its ecological component, in today's company takeover processes. In addition, an increasing number of ethically well positioned companies are being taken over by other companies, contributing, among other things, to the latter's stronger corporate image. Therefore, examples from practice also favour the second assumption, according to which companies that carry a positive, ecologically and socially responsible image become attractive acquisition targets for other companies, most often multinationals.

What has become evident, under conditions of hyper production and hyper competition, which are a direct effect of globalization and intense technological development, is a high degree of product homogenization and great similarity between what companies from various branches offer. Differentiation and the achievement of a relevant and more lasting noticeable distinctiveness is a true challenge for every company. Under such conditions, corporate image can become a key means of differentiation between competitive products. It should reveal and communicate a unique and significantly different message about the advantages of both the product and the company itself. Thus, the task of today's management approach is to develop, nurture and communicate a strong and recognizable company image and identity, which is a very trying and, at the same time, creative and innovative demand. In building such a corporate image, of special value is the intent to pay equal attention to responsibility to consumers, employees and other important stakeholders, and to social responsibility, which recognizes the necessity of involving business in the solution of the big problems faced by humanity, starting with ecological problems, lack of renewable resources, poverty and neglected social problems.

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Paper received: December 29th, 2010
Approved for publication: January 24th, 2011

Scientific review paper UDC 334.72.021 ; 005.7

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CORPORATE GOVERNANCE AS A LEARNING PROCESS: ORGANISATIONAL AND SOCIETAL LEVELS

Abstract: *The paper differentiates the organisational and the societal level of corporate governance. At the organisational level, around which the debates usually revolve, the focus is on the relationships between shareholders, CEOs and boards of directors, and provisions for other stakeholders to exert some influence on economic, social and/or environmental issues. By assuming developed legal frameworks, financial markets and effective judiciary, such an approach neglects the societal level of corporate governance. That level entails a network of institutions and organisations, as well as the embedded social understandings, which steer managerial and corporate behaviour through legal and habitual instruments. Governance failures of particular corporations in developed economies and the difficulties of Central and Eastern European countries to build effective corporate governance regimes provoke questions whether these problems should solely be attributed to the shortcomings of particular individuals and corporations, or whether they are symptoms of more systemic governance failures. At the societal level, corporate governance can be viewed as a learning process that operates through interaction and dialogue among various stakeholders and results in particular social habits and institutions. Its effectiveness can be analysed in terms of processes (e.g. levels of transparency and accountability of managers and firms to their stakeholders) and (economic, social and environmental) outcomes. Although channelling of the business conduct through laws, customs, codes of conduct and reporting standards is a tentative and insufficient prerequisite of managerial accountability, it is necessary in hindering the reinforcement of unethical behaviour within particular organisational cultures. Effective governance requires a balancing process between the macro-level wider institutional frameworks, meso-level opportunities for stakeholder interaction and micro-level managerial autonomy and accountability.*

Key words: *corporate governance, agency theory, systemic governance deficit, level of corporate governance, process of institutionalisation, learning process*

JEL classification: G34, M10

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1. Introduction

Corporate governance denotes 'the relationships among the participants in determining the direction and performance of corporations'.[1] It tackles the intrinsic nature, purpose, integrity and identity of the corporation, as wells as its strategic direction, socio-economic and cultural context, externalities and constituencies.[2] Governance processes operate at multiple levels, which are reflected in definitions of corporate governance. Narrow meaning refers to the governance of the corporation in the interest of dominant stakeholder groups (usually the shareholders), raising the issues of board structure and performance, executive compensation, disclosure and accountability of management to shareholders (including the minority ones). Broader meaning of governance denotes legal and habitual frameworks defining corporations and governing the pursuit of business within society,[3] and involves a more extensive concept of accountability to stakeholders. Despite the prevalence of the former approach in research and policy, governance failures of particular corporations in developed economies and the difficulties of Central and Eastern European countries to build effective corporate governance regimes provoke questions whether these problems should solely be attributed to the shortcomings of particular individuals and corporations, or whether they are symptoms of more systemic governance failures.

In this paper we challenge the assumptions of restricting corporate governance to the organisational level (governance of the corporation), and argue for a more systematic dealing with the socio-economic context of the firm and its interrelationship with the environment. First, we analyse the main facets of agency theory as the dominant paradigm of corporate governance and identify a systemic governance deficit stemming from it. This deficit pertains to inadequacies in perception and management of governance risks at the organisational level, coupled with insufficiently comprehensive and/or effective governance mechanisms within society. Consequently, we define organisational and societal levels of corporate governance. Corporate governance is subsequently viewed as a learning process that results in particular patterns of institutionalisation, which should be viewed in cognitive, normative and regulative terms. Effective processes of corporate governance are viewed as processes of organisational and societal learning that contribute to the development of relational assets within and between organisations and at the societal level.

1 R. A. G. Monks, N. Minow: *Corporate Governance*, 2nd ed., Blackwell, Oxford, 2001, p. 1.

2 See: Mueller, in: P. L. Cochran, S. L. Wartick, "Corporate Governance – A Review of the Literature", in: R. I. Tricker: *International Corporate Governance: Text, Readings and Cases*, Prentice Hall Singapore, 1994, pp. 8-18.

3 Cf. J. Hendry: *Systems of Corporate Governance*, unpublished manuscript, The Judge Institute of Management Studies, Cambridge, 1998a.

2. Governing the corporation: the prism of agency theory

The dominant paradigm of governance research and policy is agency theory.[4] It views the relationship between shareholders and managers as a principal-agent problem whereby agent's behaviour is derived from a set of assumptions, including opportunism, bounded rationality and maximisation of economic utility[5], which require monitoring and result in agency costs. Corporate governance thus becomes a regulatory process linked to the view of the firm as a nexus of private contracts.[6] When the firm is viewed as a creation of private contract, outside influences, such as regulation and stakeholder pressures, require further justification and can only exceptionally override the firm's autonomy in the pursuit of instrumental business goals. Shareholders are given a special position as principals and 'residual claimants' whose claims are contingent upon satisfaction of the contractual or legally enforced financial claims of other stakeholders (suppliers, employees, creditors and the state). Higher risk of their claims justifies higher expected returns, and the primacy of the shareholders' interests expressed through their monitoring prerogatives over managers.[7] Contractarian theories focus on explicit and implicit contracts between employers, employees and other contractors, and see the informational and other difficulties in formulating, monitoring and enforcing contracts as essential in explanations of existence and functioning of firms.[8] Such contracts should engender incentive structures that will reduce transaction and other costs, align the interests of key stakeholders and alleviate metering and monitoring problems.[9] Corporate governance thus revolves around definition and enforcement of relevant laws, codes

4 S. Ross: "The Economic Theory of Agency: The Principal's Problem", *American Economic Review*, 63, 1973, pp. 134-139; M. C. Jensen, W. H. Meckling: "Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure", *Journal of Financial Economics*, 3, 1976, pp. 305-360; E. F. Fama, "Agency Problems and the Theory of the Firm", *Journal of Political Economy*, 88, 1980, pp. 288-307; N. Podrug: *Stewardship Relations Within Management Hierarchy in Large Croatian Companies*, Poslovni i Ekonomski fakultet, Zagreb, 2010.

5 Hendry (1998b) provides an alternative theory of agency relationships, which is more closely related to management and organisational studies. Hereby agency problems attributed to limited competence and incompletely specifiable objectives, rather than to self-seeking behaviour.

6 D. Tipurić: *Korporativno upravljanje*, Sinergija, Zagreb, 2008.

7 D. Tipurić, ibidem

8 G. M. Hodgson: "Evolutionary and competence-based theories of the firm", *Journal of Economic Studies*, 25 (1), 1998, pp. 25-56.

9 Cf. J. F. Hennart: "The 'Comparative Institutional' Theory of the Firm: Some Implications for Corporate Strategy", *Journal of Management Studies*, 31(2), 1994, pp. 193-207.

and contracts, which should assist investors to rationally exercise their ownership rights over companies[10].

Effectiveness of this approach depends upon a combination of regulation and financial markets as external disciplinary mechanisms that should ensure partial transparency of crucial corporate practices and enable shareholders, analysts and other relevant actors to monitor company (financial) performance. The underlying intuition is that managerial accountability can best be ensured by arms-length governance mechanisms that are as specific and enforceable as possible. Board of directors - an institution whose members are appointed (predominantly) by particular shareholders, but representing the company as a whole - should mediate the requirements of external bodies and the strategies/policies enacted by corporate management.[11] Governance mechanisms should be treated as performance-enhancing constraints to managerial autonomy to control information on the company or disregard obligations to the company and stakeholders in general and shareholders in particular.[12] Among these mechanisms, laws, codes and contracts specify enforceable rules, whereas financial markets generate performance expectations that need to be met. In both cases, non-compliance results in sanctions, enforced either by regulators and the judicial system, or by financial markets (i.e. decrease of share price and/or deterioration of credit rating[13]). The result is a system based on external market mechanisms - markets for managerial labour and corporate control.

The paradigm focuses on abstractly defined *rules and goals* that need to be observed or achieved, rather than on the *processes* by which governance operates. The emphasis on contextual rules undermines their legitimacy, facilitating actors to approach them instrumentally. Despite their intentions of specificity, governance rules tackle complex issues, thereby remaining prone to limitations, exceptions and caveats (with the rules regarding disclosure and transparency being a good example – cf. OECD, 1999), which leaves them open for interpretation, probably resulting in minimal levels of compliance. Since the rules are

10 By using Honore's (1961) framework of ownership rights, Kay (1997) demonstrated the unfeasibility of identification of ownership over shares with ownership over companies. Namely, shareholders rights unequivocally satisfy only two minor conditions of ownership over the company (right to the residual equity, and absence of temporal limits of share ownership). Other characteristics of ownership – the rights of possession, use, management, income, the right to the capital value, transmission, residual control, security from expropriation, and no limit of term on the rights) and duties to do no harm and to satisfy debts of the owner if necessary – are either unsatisfied, or are satisfied partially and/or conditionally.

11 D. Tipurić, ibidem

12 N. Podrug, D. Filipović, S. Milić: "Critical overview of agency theory", *Annals of 21st DAAAM World Symposiums, Annals of DAAAM for 2010 & Proceedings of the 21st International DAAAM Symposiums*, 21 (1), 2010, pp. 1227-1228.

13 Both of these conditions make access to capital more expensive; the former also increases the threat of replacement of current management and/or (hostile) takeover.

reduced to their regulative dimension (i.e. a system of incentives and sanctions), they rarely become internalised and institutionalised, which makes their observance closely related to monitoring and enforcing capabilities of external bodies that enacted them. In the case of corporate governance, these capabilities are inherently low due to information asymmetry favouring organisational insiders. Governance is essentially an ongoing interactive process that requires learning, dialogue and interpretation, rather than a set of rules to be complied with; the latter can provide the foundation for the appropriate interactive processes, but they cannot replace them. Abstract principles cannot be effectively applied to the organisation of business processes unless woven into a larger configuration of reconciled values,[14] which is rooted in actual practices and linked to stakeholder interaction and societal context. Although accountability is considered central to effective corporate governance,[15] the attention to how processes of accountability operate has been scarce.[16] However, the effects of accountability processes are 'typically more profound, ubiquitous and varied than is typically assumed within agency theory'.[17] Hereby Roberts contrasts individualising and socialising effects of accountability. The former are associated with operation of market mechanisms and formal hierarchies, and generate an essentially independent sense of self and instrumental relationships to others. The latter are associated with face-to-face accountability between actors of relatively equal power (e.g. within the board), and engender a sense of interdependence with others, and viewing relationships in instrumental and moral terms alike.

Correspondingly, the dominant approach to governance primarily *oriented towards arms-length control*: it assumes that corporate governance becomes effective through hierarchical and market-based control mechanisms that limit managerial self-seeking behaviour through individualising processes and effects of accountability.[18] That leads to the disregard of 'system effects'[19] which may involve legitimising and even advancement of the very self-interest which was supposed to be curtailed, as well as underestimation of actual correspondence of interests

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14 Cf. C. Hampden-Turner: *Charting the Corporate Mind: From Dilemma to Strategy*, Blackwell, Oxford, 1994.

15 Cf. R. A. G. Monks, N. Minow: *Corporate Governance*, 2nd edition, Blackwell, Oxford, 2001.

16 R. Munro, J. Mouritsen: *Accountability: Power, Ethos and Technologies of Management*, International Thompson Business Press, London, 1997.

17 J. Roberts: "Trust and Control in Anglo-American Systems of Corporate Governance; The Individualizing and Socializing Effects of the Processes of Accountability", *Human Relations*, 54(12), 2001, pp. 1547-1572.

18 D. Filipović, N. Podrug, M. Krišto: "Relations' assessment among stewardship and stakeholder theory", *Annals of DAAAM for 2010 & Proceedings of the 21st International DAAAM Symposiums*, 21 (1), 2010, pp. 1229-1230.

19 Cf. R. Jervis: *System Effects: Complexity in Political and Social Life*, Princeton University Press, Princeton, 1996

of managers, directors and shareholders. The remedies offered for the curtailment of self-interested opportunism have fed the very mentality they have seemingly sought to control: explicit linking of individual executives pay with the performance of units they manage (through stock options and bonuses) has been associated with bidding up levels of senior executive pay.[20] As for the actual congruence of interests between shareholders and executives, it occurs through the joint interest in increased stock price, and may be further reinforced by the collusive relationship between the board and senior executives. Although a degree of congruence is conducive to effective governance, it may also occur at the expense of the interests of other stakeholder groups or long-term organisational capabilities.[21] Since it views the company as a creation of private contract and treats stakeholders instrumentally, the dominant paradigm does not enable mechanisms that could restrain the effects of collusion between managers, directors and/or shareholders on the company and its less powerful stakeholders (apart from the improvement of position of minority shareholders). This contributes to underdevelopment of socialising forms of accountability – both within the board and in relationships with key stakeholders – and the neglect of trust-building they can facilitate.[22]

Even if we assume the preferability of market-based approach to governance and its current definition, the issue of its *scope* remains. Corporate governance, as it is viewed and practised nowadays, mainly pertains to the publicly traded companies, which severely limits its scope in bank-based financial systems whereby the stock market plays an ancillary role in corporate finance, and the takeover threats are rare because of concentrated ownership structures.[23] That leaves most large companies in such countries outside of an effective corporate governance umbrella. Although the principal-agent relationships may not pose particular challenges in this context, the issues such as disclosure and transparency of corporate practices, and the treatment of minority shareholders and other stakeholders, remain largely unresolved. Inadequate regulation and/or ineffective judicial systems, as it is witnessed in many transition countries of Central and Eastern Europe will further reinforce these problems. In other words, reliance on market-based modes is inadequate in the absence of markets for corporate control and a comprehensive and effective legal system that would enable efficient redress mechanisms.

[20] Cf. J. Roberts: “Trust and Control in Anglo-American Systems of Corporate Governance; the Individualizing and Socializing Effects of the Processes of Accountability”, *Human Relations*, 54(12), 2001, pp. 1547-1572.

[21] Cf. J. Froud et al.: “Shareholder Value and Financialisation: Consultancy Promises, Management Moves”, *Economy and Society*, 29(1), 2000, pp. 80-110.

[22] N. Podrug: *Stewardship Relations Within Management Hierarchy in Large Croatian Companies,* Poslovni i Ekonomski Fakultet, Zagreb, 2010.

[23] D. Tipurić, B. Tušek, D. Filipović: “Internal and External Supervisory Mechanisms in Corporate Governance”, *South East European Journal of Economics and Business*, 4 (2), 2009, pp. 57-70.

3. A systemic governance deficit?

Defining corporate governance in terms of an instrumental relationship between shareholders and managers leads to an overemphasis on the *governance of the corporation*, which is defined too narrowly. The corporation is viewed as a closed system with predetermined objectives whose relationship with the environment is reduced to strategic communication – predominantly with current and potential investors. Governance is primarily viewed as a set of financial-performance-enhancing constraints to managerial opportunism, rather than as an interface integrating stakeholder interests for the purpose of longer-term benefit of then company and its stakeholders. We argue that these conditions contribute to a systemic *governance deficit* – relatively widespread inadequacies in perception and management of governance risks at the organisational level, coupled with insufficiently comprehensive and/or effective regulative and market-based mechanisms within society. In addition to the inadequacies of regulative and market-based mechanisms discussed above, governance weaknesses and failures (by which we refer to different degrees of inadequacies in managing risks and processes that define stakeholder relationships and create value for stakeholders, and the company's reputation) often occur due to lack of stakeholder interaction and/or its perceived low importance. This is especially pertinent when external influences or intensified competition jeopardise institutional foundations of an organisational field. In such cases, due to the structure of incentives, actors may find it difficult to act in mutually beneficial ways (in dyadic relationships) or may resort to illegitimate collusion (in network- or market-based relationships), both of which may cause governance weaknesses or failures. The governance deficit occasionally becomes effectuated through governance failures of particular corporations, and contributes to the inadequacies of corporate governance systems.

Due to an exclusive focus on the narrowly defined governance of the corporation, the mainstream approach often fails to adequately integrate the interrelationship between the firm and the environment into governance concerns. That interrelationship tends to be either undervalued (e.g. stakeholder relationships) or taken for granted (e.g. legal and other institutions, including financial markets). The current approach undervalues risks and opportunities for productive cooperation stemming from a network of stakeholder relationships, thereby weakening the connection between corporate governance and corporate social responsibility, with detrimental effects on both practices[24]. Furthermore, the lack of context-related concerns leads to an implicit assumption of appropriateness and

[24] Corporate governance focuses on the 'hard' issues of financial reporting, auditing and compliance. Corporate social responsibility mostly tackles 'soft' issues linked to reputation building or human resource management; environmental concerns might be the CSR concern closest to core business practices.

effectiveness of external governance mechanisms[25]. Comprehensive and efficient financial markets, legal frameworks and judiciary systems seem to be assumed, resulting in automatic attribution of governance failures to practices of specific individuals or corporations, without sufficient attention to the contextual issues that might have exacerbated them. The preconditions and processes that facilitate effective regulatory and market pressures - which are far from certain – are not tackled. Due to reductionism and emphasis on formal regulation disembodied from the social context, the dominant paradigm stops at acknowledging the gap between ideal and actually operating markets, or between formal rules and actually institutionalised behaviour, thereby failing to take into account the learning processes that can reduce those gaps. Acknowledgment of these processes would require viewing of the corporation as an open system capable of learning and integrated into wider societal environment. An alternative view proposed here approaches governance as an ongoing learning process that defines and institutionalises stakeholder relationships (as opposed to contracts alone) and value creation processes at the level of particular firms and societies/economies in general. Its roots are in competence-based and knowledge based theories of the firm. Although such an approach can be applied in any context, it is argued here that it is especially relevant for contexts that witness marked institutional change and/or widespread institutionalisation of antisocial/unethical behaviour – like the transition countries of Central and Eastern Europe.

4. Organisational and societal levels of corporate governance

Conventionally, corporate governance issues have been tackled at the corporate level, rather than on the societal one. They have focused on governing corporations through negotiation between stakeholders based on antecedent legal provisions, rather than on dealing with more fundamental issues of governing the pursuit of business within society, which includes debate and possible reform of legal provisions and societal understandings upon which they are (or should be) based. Although organisational strategies are focused on goal attainment, their effectiveness requires appropriation by organisational members, as well as negotiation with stakeholders. Governance of intra-organisational processes and relationships with key stakeholders (including the shareholders), which are reproduced by organisational cultures and procedures/structures, are necessary but not sufficient preconditions of effective corporate governance.

However important the corporate level of governance is, it has to be ontologically precluded by institutionalised societal understandings supported by

[25] Correspondingly, this facilitates an unreflective transfer of these institutions into the countries building corporate governance systems (e.g. transition economies) – mostly for the sake of facilitation of foreign investment (cf. OECD, 2003).

legal provisions and adequate distribution of societal power. At the societal level, the process of corporate governance can be viewed as building of effective social institutions that influence business conduct within a particular social context – both by increasing the accountability of firms to their stakeholders, and by facilitating a prudent use of resources. When they are not subjected to the challenge of social institutions and their normative implications, both markets and organisations may be prone to the abuses of power, which implies lack of moral responsibility and governance weaknesses. By increasing transparency and accountability and reducing the excesses engendered by markets and organisational hierarchies alike, such an approach can create a facilitating environment for appropriate business practices. Individual integrity remains the 'final frontier' of ethicality and governance in business, but it should be recognised that the conditions in which such integrity is encouraged or discouraged play an important role. That is particularly important for transitional countries with limited experience in socially and economically effective market economy, such as the countries of Central and Eastern Europe.

Governance processes can be viewed through an interaction of organisational and societal aspects, which result in institutionalisation of particular patterns of thought and behaviour. Organisational aspect of corporate governance incorporates the *economic* dimension, which deals with the acquisition of resources/assets necessary for the definition and fulfilment of organisational strategies, and the accountability processes that secure the rights of various resource providers, and the *strategic* dimension, which tackles the strategising processes by which organisations achieve internal consensus and external effectiveness in relation to stakeholders, and the preconditions of such processes. Societal aspect comprises the *public policy* dimension, which tackles the societal processes that constitute public interest (i.e. the 'common good') and social and political legitimacy of (formal and informal) institutions, and the *ethical* dimension, which deals with the moral adequacy of institutions within a society. The integrative or *institutional* dimension is the site of interaction of organisational and societal aspects whereby particular patterns of behavioural and cognitive reinforcement are (re)constituted by explicit or implicit means.

5. Corporate governance as a process of institutionalisation

Scott argues[26] that institutions 'consist of cognitive, normative and regulative structures and activities that provide stability and meaning to social behaviour'. In his view, they are 'transported by various carriers – cultures, structures and routines - and they operate at multiple levels of jurisdiction.' Institutions arise and develop spontaneously and through exercise of authority, and signify

26 W. R. Scott: *Institutions and Organizations*, Sage, London, 1995, p. 33.

infusion of practices 'with value beyond technical requirements of the task at hand'.[27] Regardless of the source of institutional rules, institutions over time confront the dual test of internal appropriation by actors and fitness to attain goals and mobilise resources from the environment. Successful institutionalisation accompanies the cognitive processes within actors with development of collective competences for strategic action of confronting problems and attaining goals. Within organizations, the complexity of tasks and interconnections with the environment engenders the division of labour, which implies establishing hierarchies and defining actor's roles in terms of duties and rights. Interaction with the environment leads to internal differentiation, but maintenance of purpose as an integrating principle of action requires the sufficient level of consolidation of understandings and beliefs. Institutions have a dual nature. They embody normative intuitions or principle of actors who live in or under the institutions in question,[28] but also exist to fulfil a clearly specified purpose that justifies their existence. The constitution and effectiveness of both formal and informal institutions simultaneously depend upon socialising actors into specific modes of thought and behaviour and upon wider social acceptance of institutional purposes and activities that lead towards it, coupled with maintaining the certain level of performance in the achievement of the purposes. Institutions provide a social context for the exercise of practices, facilitating co-operation and enabling actors to focus more effectively on aspiration towards excellence within a practice. Well-functioning institutions unburden actors from strategic considerations, because institutionally prescribed courses of action are expected to yield beneficial or at least tolerable outcomes.[29]

Successful institutionalisation is a learning process whereby individual and collective actors appropriate new patterns of thought and behaviour. The implications of these patterns are cognitive (they are taken for granted), normative (they are infused with values transcending instrumental considerations) and regulative (they supported by incentives and/or sanctions). Since governance rules often tend to be vague and insufficiently linked to explicit sanctions, strategic and instrumental approach to the adherence to rules (implied and even advocated by agency theory) cannot secure their performance. On the other hand, cognitive and normative processes of institutionalisation that define actual patterns of thought and behaviour (including the relations to formal rules) tend to be under-researched and even overlooked. We argue that the solutions to institutional insufficiency within corporate governance systems should be sought in more encompassing views of the process of institutionalisation – in particular in their learning dimensions.

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27 P. Selznick: *Leadership in Administration*, Row, Peterson and Company, Evanston, 1957, p. 17.

28 C. Offe: "Designing Institutions in East European Transitions", in: R. E. Goodin: *The Theory of Institutional Design*, Cambridge, Cambridge University Press, 1996, pp. 199-226.

29 C. Offe, ibid.

6. Corporate governance as a learning process

Corporate governance can be viewed as a learning process whereby particular patterns of thought, action and communication among the stakeholders are systemically reinforced due to formal and informal institutionalisation. Since the direction of reinforcement is open, mechanisms for habitual or occasional questioning of the prevailing state of affairs are needed - at organisational and societal levels alike.

The infusion of organisational practices, duties and rights with value that transcends instrumental and opportunistic considerations lead towards utilisation of the crucial strength of organisations – leveraging the human ability for taking initiative, co-operation and learning. Organisations fail when they cannot provide social context conducive to building trust and commitment upon which co-operation depends.[30] Governance processes are the interface of stakeholder interaction within the organisation and between the organisation and its environment. Their quality is thus a key to organisational effectiveness, which is based on *organisational learning* and development of appropriate *relational assets*.

Due to its assumptions, the dominant paradigm of corporate governance is almost exclusively associated with defensively strategic approach and, thus, adaptive learning, which partly explains its deficiencies. Affirmation of higher-order learning would require recognition of the corporation as a network of stakeholder relationships, which would require consideration of stakeholders' rightful needs and provision of dialogue opportunities. Since governance weaknesses and failures often occur due to lack of stakeholder interaction and/or its perceived low importance, stakeholder relationships should be practically disputable internally (through communication opportunities) and externally (through legal protection when necessary). Disputability should include not only instrumental actions, but also driving values and embedded tradition-systems[31]. Hereby firms are expected to act in accordance with the salience[32] of particular stakeholders, which partly depends on the level to which the organisational relationships with particular stakeholders are linked to organisational strategic concerns, and, par-

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30 N. Podrug, J. Prester, D. Filipović: "Managerial role in development of employees' behavior in large Croatian companies", *Proceedings of FEB in Zagreb*, 8 (2), 2010, pp. 7-21.

31 Cf. R. P. Nielsen: *The Politics of Ethics: The Methods for Acting, Learning, and Sometimes Fighting with Others in Addressing Ethics Problems in Organizational Life*, Oxford University Press, New York, 1996. Nielsen and Bartunek (1996) developed a typology of single-, double- and triple-loop learning methods that can be used for challenging the prevailing schemata and opening them up to ethical considerations in the context of stakeholder relationships.

32 Mitchell, Agle and Wood (1997) defined salience in terms of stakeholder power, legitimacy and urgency. - R. K. Mitchell, B. R. Agle, D. J. Wood: "Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who or What Really Counts", *Academy of Management Review*, 22(4), 1997, pp. 853-886.

ticularly, assets perceived as valuable. The coupling of governance processes with strategic concerns does not guarantee their effectiveness but can facilitate it.

Organisational learning partly occurs through stakeholder interaction and contributes to the development of relational assets. Relational assets are the forms of capital based on the productive value of socio-economic relationships among stakeholders – both within and between organisations. They are human intensive, strongly contextual and partially path-dependent. They cannot be owned, but only influenced in development[33]. Given the complexity of relationships a firm faces, the capacities for effective communication and interaction with the stakeholders need to be developed and sustained, which reduces risks and enables better realisation of productive opportunities. Since a purely instrumental approach hereby does not suffice, governance arrangements transcend their role of controlling mechanisms and can be explicitly linked to organisational effectiveness.

Sustainable reproduction and enhancement of relational assets also depend upon the social context, including the pool of available material and symbolic resources in the environment. The reproduction of relational assets reinforces the need to recognise not only organisational but also the societal level of corporate governance – the network of institutions, organizations and embedded social understandings, which steer managerial and corporate behaviour through legal and habitual instruments. The learning aspects of the societal level of corporate governance are related to the processes of institutionalisation that pertain to populations of organisations and their stakeholders that face similar institutional regimes. Hereby society entails the level whereby relevant decisions are made, and where accountability processes can occur. The historical role of the nation-state in this regard is being complemented and partially replaced by complex configurations of stakeholders interested in securing their rights and/or greater transparency and accountability of business, which will also facilitate the conditions for reproduction of relational assets. Moreover, although institutional channelling of the business conduct and stakeholder relationships - through laws, customs and codes of conduct - is tentative and insufficient prerequisite of good governance and/or ethicality in business - there is a need for such codification aimed to prevent reinforcement of inappropriate behaviour within particular corporate cultures (see Hartman, 1994)[34].

[33] Dunning (2003) provides a list of 'selected ingredients' of relational assets, including trust, loyalty, reciprocity, dependability, willingness to learn, forbearance, adaptability, work ethic, spirit of community, commitment, social capital, integrity, honesty, empathy, curiosity etc. Among the negative virtues/values he includes opportunism, moral hazard, corruption, free riding, volatility and instability. - J. H. Dunning: "Relational assets, networks and international business activity", in: J. H. Dunning, G. Boyd (eds.): *Alliance Capitalism and Corporate Management: Entrepreneurial Cooperation in Knowledge Based Economies*, Edward Elgar, Cheltenham, 2003, pp. 1-23.

[34] See: E. Hartman: "Virtue and Rules: A Response to Robert Solomon" in: T. J. Donaldson, R. E. Freeman (eds.): *Business as a Humanity*, Oxford University Press, New York, 1994, pp.

7. Concluding remarks

Effective corporate governance requires a balancing process between the macro-level wider institutional frameworks, meso-level stakeholder interaction and micro-level managerial autonomy and accountability. To achieve that, as we have argued throughout this paper, arms-length mechanisms of market-based governance, regulation, and law enforcement, upon which the current approach is based, need to be complemented by cooperative processes of learning and legitimising, which occur not only within and between organisations, but also at the societal level.

Strategic and public policy perspectives and motives for taking seriously the relations of interdependence within the corporate governance context may be different, but they seem to pinpoint in the same direction, giving a pivotal role to the processes of institution-building within and between organisations and across societies. More research into the issues in question is undoubtedly needed, which would link and extend the existing knowledge, which seems to be dispersed across different disciplines and theoretical perspectives. That would enable better understanding of the issues in question, as well as clearer guidance to business practitioners and policy makers who may want to practically implement adequate practices through their policies, strategies and managerial activities.

76-87. Managers often act unethically because the organisational routines out of which they operate do not incorporate ethical dimensions. - R. P. Nielsen, J. M. Bartunek: "Opening Narrow, Routinized Schemata to Ethical Stakeholder Consciousness and Action", *Business and Society*, 35(4), 1996. Unethicality and poor governance often do not stem from conscientious decisions, but from socially constructed and internalised 'myths and metaphors' which reinforce a structural inability to respond to ethical and governance challenges. – Cf. R. C. Solomon: *Ethics and Excellence*, Oxford University Press, Oxford, 1993.

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Paper received: November 30th, 2010
Approved for publication: January 13th, 2011

Scientific review paper UDC 005.8 ; 330.322

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METHODOLOGIES FOR THE EVALUATION OF PUBLIC SECTOR INVESTMENT PROJECTS

Abstract: *This work provides a definition of methods that can be used simultaneously for decision-making in each specific situation. Public sector investment projects are long-term and complex projects with a large number of participants, requiring huge sums for their realization. Thus, by their characteristics, such projects require the use of many methods that can help decision-makers in the evaluation process.*

Key words: *investment projects, project evaluation, public sector*
JEL classification: L32, H43

1. Introduction

Problems of project analysis are too multifarious to allow the use of a single mechanical process for the evaluation of their feasibility. Economic and social conditions vary from country to country, and different problems appear in each sector. In addition, project size, experiences gained on similar projects, degree of uncertainty and the price of performing the analysis itself play a decisive influence on the scope of the necessary evaluation work.

In essence, almost all existing methods of investment project evaluation can be characterized as "shortened" or "partial" benefit-cost analyses, with either the former or the latter being emphasized as the essential part.

Various benefit-cost analysis methodologies have been developed. All start from the same theoretical framework, differing by the fact that they include different assumptions.

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The cost-benefit analysis methodology is widely used throughout the world for evaluating investment projects in which social effects are predominant. These are usually infrastructural projects that, in addition to direct economic effects, have much more significant indirect, non-economic effects. The social valorization of these projects encompasses assessment of a broader specter of economic and extra-economic benefits and costs. The methodological and theoretical framework is the general economic balance and the social optimum of resource use.

Development projects represent investments in the development of a country's social and economic infrastructure, and differ from standard industrial or economic projects in terms of their significance for the country, the institutions that finance them, evaluation criteria and total effects. Large development projects concern the entire social community, both in terms of financing and in terms of project effects. That is why specific socio-economic criteria for the evaluation of the acceptability of such projects are applied, as distinct from standard projects, where the emphasis is on micro financial and microeconomic quality indicators.

While in the case of standard investment projects a financial analysis of investment profitability and creditor risk is mainly applied, usually augmented by required standards of the investment's social evaluation, when it comes to development projects criteria of economic returns at the level of the country's total economy must be applied. With these projects, the selection criteria are socio-economic efficiency in the sense of increasing the country's economic wealth, social standard, redistribution of the social income in a regional, sectoral and temporal sense, as well as return effects on the economy's microeconomic efficiency. Cost-benefit analysis is the methodological basis for the choice of the best programs for developing the country's social infrastructure. It determines and measures the total social costs and benefits of a project, for the purpose of their comparison. If total benefits surpass total costs, the project is valid.

This method is used for extra-economic investment projects, before all in healthcare, culture, and education, due to the large indirect effects of these projects, and it is also used in the evaluation of projects that demand large financial investments, such as transportation projects, large energy plants, and agriculture.

2. Cost-effectiveness analysis

In situations where projects can be identified but not adequately valued, the choice of projects can be based only on the results of cost-effectiveness analysis. This analysis is based on the same principles as cost-benefit analysis, and is used for projects whose results cannot be measured in money terms or in order to achieve set goals. While goals can be evaluated only indirectly, costs tied to each offered alternative can be calculated on the basis of options WITH the project or WITHOUT the project.

The purpose of this analysis is to locate resources, activities, processes or interventions that minimize the use of resources for the achievement of desired results.

Cost-effectiveness analysis determines the efficiency of various input combinations, in order to choose the lowest cost option. It is assumed that each option achieves the set goal or a set of complementary goals.

Cost-effectiveness analysis is used when choosing between alternative ways of achieving a certain goal. For example, an analysis regarding whether to build a hydro, thermo or nuclear power plant.

The problem of choosing between available possibilities is posed in three ways:

1) the choice falls on the project that ensures the realization of the set goal at the lowest cost;
2) the choice falls on the project that allows the achievement of the set goal with limited available resources, and
3) the choice falls on the project that ensures an optimal ratio between invested resources and the realization of the goal.[1]

The results of cost-effectiveness analysis need not be expressed in monetary form. It can be applied to public sector investment projects, where there is a large number of relevant quantitative project indicators that still cannot be expressed monetarily, while being comparable with the appropriate quantitative indications of other analogous projects.

Table 1 gives an illustrative example from the healthcare sector, from the Manual for the Economic Analysis of Projects (ADB),[2] which shows how a comparative cost-effectiveness analysis can be applied in the public sector.

Table 1: *Choosing between alternative programs through the application of cost-effectiveness analysis*

Types of costs	Program 1	Program 2	Program 3
1. Annual costs (in USD)	300,000	200,000	160,000
2. Number of rural health worker visits	2,000	2,500	2,100
3. Number of population healthy days saved by rural health worker visits	20,000	25,000	21,000
4. Number of performed vaccinations	500	350	200
5. Number of healthy days as a result of vaccination	25,000	17,500	10,000...
6. Total saved healthy days	45,000	42,500	31,000
7. Cost savings per saved healthy day (in USD)	6.67	4.71	4.16

1 P. Jurković: *Osnove ekonomike društvenih delatnosti*, Ekonomski institut, Zagreb, 1986.

2 Guidelines for the Economic Analysis of Projects, ADB, Manila, 2004.

The most cost-effective program is not necessarily the most effective overall health solution. Program 2 is the most cost-effective, but Program 1 will save the most healthy days. The problem is that this will be accomplished at a higher overall cost.

Since the application of cost-effectiveness analysis starts from the goal that must be accomplished, it begins with its definition. A clear definition of the goal or group of goals related to the execution of a task gives meaning to the entire action that is to be undertaken. The next step is to consider the possibilities for achieving the set goal, after which the resources necessary for each possibility are specified and the criteria that will be applied in choosing the most favorable possibility are determined.

A cost-effectiveness analysis is performed by defining the costs of each option according to the time of their appearance, after which the costs are discounted and the option with the lowest present cost value is chosen.

The use of this analysis is much more complex when it comes to public sector projects, where it is necessary to fulfill a certain goal that is not directly measurable; for example, environmental or educational improvement.

The use of this analysis is considered through five phases:

1) definition and systemic analysis of goals;
2) search for relevant alternatives;
3) estimate of the total costs of each possibility, both direct and indirect, initial and operative, monetary and those that cannot be monetarily expressed;
4) evaluation of the effectiveness of each possibility from the aspect of the extent to which the goal is achieved and the aspect of total costs;
5) comparison and analysis of alternatives.[3]

A separate problem with public sector projects lies in that the goal is usually measured through some indicators believed to be sufficiently descriptive of the given goal; for example, in the case of healthcare, the number of hospital beds per given population, mortality rate, etc. In that context, the costs of different possibilities for achieving a given goal, e.g., improving healthcare, can be linked with the indicator, e.g., costs per hospital bed, and that can serve as a criterion for goal achievement evaluation and the selection of alternatives. Also, the researcher can calculate the value that could be ascribed to the goal indicator; for example, results per hospital bed, in order to equalize net present value with zero.

According to Kazanovski,[4] a cost-effectiveness analysis requires the fulfillment of three conditions:

[3] H. Rowen: "Objectives, Alternatives, Costs and Effectiveness," in: Hinrich, H. H. – Taylor G. M. (eds.): *Program Budgeting and Benefit-Cost Analysis*, 1969.

[4] A. D. Kazanovski: *A Standardized Approach to Cost-Effectiveness Evaluations*, J. .Morley English, Wiley, 1968.

- determining a common goal or application that must be achieved;
- the existence of alternatives to the achievement of the goal;
- the existence of limiting factors in the solution of the problem.

Goals are needed in order to have a base for comparison. For example, it would not make sense to compare investments in the production of submarines with investments in a highly developed communications network. In addition, alternative ways of goal fulfillment must exist in order to be able to compare them. Finally, the limiting factors of time, price or efficiency must be within reasonable bounds, so that the possibilities that are being considered can be determined and defined in the best possible way.

Kazanovski points out that it is necessary to fulfill 10 standard steps in order for the approach to analysis to be correct, and that they must be fulfilled in a certain order:

1) Define the goals, purpose, application and everything else of significance for the project. Cost-effectiveness analysis will find the best possible way for their achievement.
2) List the conditions necessary for the achievement of goals. This means to first present the basic prerequisite for the achievement of the goal, followed by the others.
3) Develop alternatives for achieving the goals. At least two possible ways to achieve a goal must exist.
4) Determine verification measures that are acceptable for the proposed alternatives. A possible list of valuation criteria would be: feasibility, availability, reliability, sustainability, etc.
5) Choose an approach for determining fixed successes and fixed costs. In using fixed success criteria, the most favorable alternative is the one with the minimum price of achieving separate goals or degrees of success. The options that cannot achieve goals at that price are either excluded or penalized. In using fixed cost criteria, the amount of achieved results at a given price is taken, where the "price" is usually the present value of annual costs during the project life cycle, encompassing research and development, engineering, construction, project implementation, maintenance, protection and other costs incurred by the project during its life cycle.
6) Determine the advantages of an alternative expressed in established valuation measures.
7) Express alternatives and their advantages in an acceptable way.
8) Analyze different alternatives on the basis of success criteria and cost consideration.
9) Analyze the sensitivity of alternatives, in order to see how small changes in assumptions or conditions cause changes in alternatives.
10) Submit in writing all considerations, analyses and conclusions from the previous nine steps.

Another example illustrates an application of cost-effectiveness analysis:

Four alternatives are being considered, four different propulsion systems. The project life cycle costs are in the range of 2.0-2.4 million dinars. It is decided that the measure of success will be the reliability of implementing alternatives, which is defined as the probability of the propulsive systems working error-free under given conditions and over a given time period.

Four contractors are competing for systems that were evaluated as shown in Table 2. As long as even a single success measure exists, the results from Table 2 can be expressed graphically:

Table 2

Systems	Prices during project	Reliability
I	2.4	0.99
II	2.4	0.98
III	2.0	0.98
IV	2.0	0.97

If the systems are compared in pairs, e.g., I and II are equal in fixed costs, system I would be chosen due to its higher degree of reliability (0.99). In a similar vein, system III would be chosen over IV. If only systems II and III are compared, the criterion would be the fixed effect, and III would be better due to lower costs. Thus, system I is more favorable than system II, system II more favorable than system III and, finally, system III more favorable than system IV. Left for comparison are systems I and III. The choice depends on whether one point of reliability is significant enough to justify an additional 400,000 dinar investment.

3. The Little–Mirrlees method

The method of analyzing and evaluating the economic validity of developmental investment projects, known as the Little–Mirrlees method, is one of the most widespread and well known pragmatic methods in the world.[5] This method expresses the value of all relevant categories in international prices. Internationally tradable goods are expressed in world prices, while other, non-tradable goods are valued with prices obtained through a complex procedure of converting domestic into world prices. Relevant conversion factors for a broader circle of goods are calculated for each appropriate input and output. The standard conversion factor could represent the reciprocal value of the opportunity costs of foreign exchange resources. The essence of this method is that project validity is expressed through

[5] The method is elaborated in: Ian M.D. Little and James A. Mirrlees: *Manual of Industrial Project Analysis for Developing Countries*, 1968, and *Project Appraisal and Planning for Developing Countries*, Heinemann Educational Books, London, 1974.

the international competitiveness of investments, which represents the establishment of much sharper criteria for allocating production resources. Domestic prices and relative price ratios do not play an important role here.

The method has several important theoretical assumptions: first, that the size of project inputs and outputs belongs to the class of perfectly tradable goods; second, that export demand and import supply are perfectly elastic, i.e., that world prices are the parameters given both on the export and on the import side; third, that the world prices (CIF for exports and FOB for imports)[6] are a good approximation of the shadow prices; fourth, that a smaller number of non-tradable goods can be successfully divided into inputs of tradable goods and primary factors, with a negligibly small "remainder" of non-tradable goods, fifth, that such "residual remains" of non-tradable goods can be, without larger errors or a palpable effect on the project evaluation, converted into world price equivalents with the application of "standard conversion factors"; sixth, that all the project effects are expressed in terms of free foreign exchange funds in the hands of the state, which represent a unit of measure (numeraire)[7]; and seventh, that the inclusion of some other effects and goals is included in project evaluation.[8]

The three most important evaluations that stand out in the Little–Mirrlees method are:

1) Evaluation when world prices and the foreign exchange conversion rate are not optimal shadow prices. This occurs if relative world prices (terms of trade) change. At that time, due to the imperfection of the global market, a more significant volume of goods enters the category of non-tradable goods that cannot be decomposed in a satisfactory way (without remainders) into tradable goods and primary factors. In addition, the state is not able to eliminate interventions in the area of foreign trade in the foreseeable future.
2) The base shadow prices in the Little–Mirrlees method – the shadow discount rate, the shadow price of investments, and the shadow prices of primary factors are mutually linked and it is not possible to evaluate them independently. That is why an eventually simultaneous finding of these and other shadow prices of so-called national parameters is undertaken, which represents a consistent general balance model.

6 CIF – price (cost, insurance, freight); the price of imported goods at the border, including the foreign purchase price and the costs of international transport and insurance, which have to be covered before the goods can be delivered to the destination and unloaded. FOB – price (free on board); price of export goods, loaded and ready for delivery.

7 *Numeraire* is an accounting unit that allows the summation of mutually differing, otherwise immeasurable quantities.

8 D. Vujović: "Dometi primenjenih metoda ocene investicija u unapređenju alokacije resursa," *Vesnik*, Investbanka, May 1987.

3) The method and criterion of project selection are implicitly based on the concept of a planned economy with an unlimited supply of labor.[9] Although this method has the appropriate theoretical foundation, there are nevertheless limitations to its use in the evaluation of development project economic efficiency. The following limitations are referred to in the literature: first, the international prices for all goods that are not subject to international trade contain a high degree of hypothetical measure, which may produce the wrong signs regarding the feasibility of an investment. In fact, border prices are used as international prices, and these are not authentic world prices, and are not logically linked to domestic prices; second, in the procedure of calculating conversion factors, mistakes are possible due to lack of information or the insufficient expertise of analysts; third, the method requires large additional calculations under conditions of expectation of changes in the opportunity costs of foreign currency reserves in the period of project exploitation, in order to obtain new, necessary conversion factors.

4. The UNIDO method

The project analysis concept known as the UNIDO method is based on an expanded financial analysis, where inputs and outputs are not expressed in market prices but according to standards of relative resource scarcity. Internationally tradable goods are primarily considered as rare resources, and are expressed through direct export and import flows and indirect export-import relations. They are expressed in international price standards as an opportunity cost of the project's foreign currency resources. Non-tradable goods are expressed in domestic scarcity parameters and represent an indicator of domestic opportunity costs. At the base of the analysis is the determination of the appropriate coefficients of the economic efficiency of investments on the basis of alternative and opportunity use of production resources.[10]

The UNIDO method emphasizes consumption as the ultimate reason for investment and, in accordance with this, the project costs and benefits are measured in relation to consumption, instead of in relation to investments, as is the case with the Little–Mirrlees method.

It determines shadow prices on the basis of the characteristics of domestic demand or an estimate of the size of willingness to pay for a given good or service, and uses aggregate consumption as a unit of measure.

The UNIDO procedure is closely connected with development planning at country level. Its basic premise is that resource allocation improvement makes

9 D. Vujović, ibid.

10 Manual for Evaluation of Industrial Projects, UNIDO, 1978.

sense only in relation to development questions, while development essentially relies on planning.

The UNIDO project evaluation method is divided into 5 phases, each of which is conceived to view the acceptability of the project from a different angle. None by itself is able to provide sufficient data for an evaluation of the project's positive effects, because each such effect is measured from a different standpoint – that of the project's effect on the investor's profit, on the degree of use of the country's available resources, the country's distribution of savings and consumption, income distribution or any other goal that decision-makers wish to consider.[11]

Phase I encompasses the calculation of financial profitability at market prices, which represents a necessary condition for each economic evaluation of the project. The basic problems of financial analysis are cost analysis, market research and the securing of funds.

In fact, this phase refers to the determination of the so-called commercial profitability of the project – the benefits expected by investors from the project. It is determined by net profit earned through the realization of the project.

A commercial profitability analysis contains:

1) an investment profitability analysis and
2) a financial analysis.

Investment profitability analysis – Several methods are used in these analyses depending on the approach to the problem. If the approach is static, the following methods are used in the profitability analysis:

- simple rate of return and
- repayment period.

The dynamic approach assumes the use of these methods:

- net present values and
- internal rates of return.

a) Simple rate of return method

The simple rate of return represents a ratio between net profit in a normal year of the project life cycle and the initial investment capital (fixed and working).

$$P_p = F/I$$
$$P_k = F/Q,$$

where:

P_p – simple rate of return,

[11] L. Squire, H. van der Tak: *Economic Analysis of Projects*, Johns Hopkins University Press, Baltimore, 1976.

P_k – simple rate of return on capital,
F – net profit in a normal year,
I – value of total investments, including stocks and credits,
Q – invested stock capital.

If the rate of return is higher than the interest rate earned on the capital market, the project is good. Among multiple projects, the best is the one with the highest rate above the interest rate.

b) Repayment period method

The criterion of this method is the time necessary to return all the invested funds.

$$I = r\,(F_t + A_t),$$

where:
I – total investments,
r – repayment period,
F_t – annual net profit,
A_t – annual amortization.

A project is acceptable if the repayment period is shorter than the maximum period, and that is the lifetime of the project's exploitation. Among multiple such projects, the best is the one with the shortest repayment period.

c) Net present value method

The net present value of a project represents the difference between the present value of total cash inflows and the present value of total outlays. The project is acceptable if this difference is a positive value. The mathematical expression of this criterion is:

$$NSV = \sum_{t=0}^{n} (GP - GI)_t * d_t,$$

where:
NSV – net present value,
GP – annual inflow in year t,
GI – annual outlays in year t,
d_t – discount factor.

If the project satisfies the condition that

$$NSV >= 0,$$

that means that the positive effects achieved in the period of the investment's exploitation are greater than or equal to total outlays necessary for its implementation. Among multiple investment projects, the best is the one with the highest positive value of this criterion.

This method measures the size of net benefits from the investment, but does not deal with the size of total investments necessary for achieving those positive effects.

d) Internal rate of return method

The internal rate of return represents the discount rate at which a project's net present value is equal to zero.

The project is acceptable if its internal rate of return is higher than the current interest rate on the capital markets.

Financial analysis – A project financial analysis is performed by applying liquidity analysis and capital structure analysis. Both are done by years of the project's lifetime, and their goal is to have secured adequate financial resources at any moment.

Phase II of the UNIDO method is the determination of direct economic profit, i.e., the determination of the project's pure present value, expressed in privileged, shadow, not market prices.

This phase also includes the determination of the project's so-called national profitability. This is the benefit that the country as a whole can obtain from the project. Determination of commercial and national profitability can be performed in both the public and the private sectors. The approach where national profitability is measured is usually used for public sector projects. A private investor cannot be expected to favor national profitability over commercial profitability. A national profitability analysis is useful for private sector projects where the consent of a state institution is necessary for the realization of the project or where the state is supposed to provide financial support.

National profitability analysis is performed with the help of the base criterion, additional indicators and additional considerations.[12]

The base criterion measures the project's contribution to increasing the national income through net added value indicators.

Net added value represents the difference between the value of outgoing goods or sales earnings and the value of incoming materials and services:

$$NDV=OV-(U+NI),$$

12 Manual for Evaluation of Industrial Projects, UNIDO, 1988

where:
NDV – net added value created by the project,
OV – expected project output value – sales earnings,
U – expected value of the current material input,
NI – total investment.

Net added value contains two important components: wages and social surplus. Wages express the employment level and average employee salaries. Social surplus expresses the capacity of the project returns.

This indicator can be measured for each year individually or for the entire lifetime of the project.

Additional indicators that are used in project national profitability analysis are:

- The employment effect can be direct and indirect. A project's direct effect on employment is measured by the number of new job openings within the project itself, while indirect influence refers to employment found in other projects linked to the said project.
- The distribution effect, which measures the effect of the project on distribution to social groups, regions of the country, and similar.
- Net foreign exchange effect, performed by evaluating the project's balance of payments effects and evaluating import substitution.
- International competitiveness, where the competitiveness of the project's future product on the international market is evaluated.

Additional considerations that are performed in evaluating national profitability are concerned with the project's effect on:

- infrastructure, in a situation where the existing infrastructure is inadequate for the realization of the observed project, making it necessary to build new structures before its realization; here it is necessary to determine whether the new costs will burden only the observed project or some other projects as well;
- knowledge development – the effect of technical knowhow is realized depending on the applied technology and the place where the project is realized;
- environment – the project's effect on natural or socio-cultural conditions is measured; the effect on the natural environment is measured by the costs necessary to restore the nature to its original state, while effect on cultural-historical values is much harder to determine.

5. World Bank methodology

The best known approach to socio-economic evaluation of development projects in underdeveloped countries is used by the International Bank for Reconstruction and Development (IBRD), or the World Bank for short. This is an international financial institution that participates in the financing of development projects in the Bank's member countries.

The methodological basis of the approach is a systematic search for criteria for the rational allocation of limited resources and the realization of optimal development goals.[13] The choice of project evaluation criteria is directly dependent on the predetermined development goals of a wider region or a country. At the same time, there is insistence on a strict exactness of measuring the total benefits, costs and opportunity costs of planned projects.

The World Bank evaluates projects with the help of net present value (the discounted cash flow method), i.e., the internal rate of return. The project costs and benefits are calculated according to shadow prices, which have a twofold role. On the one hand, they should be an internationally and internally comparable common denominator. In order to achieve this, all domestic factor and goods prices are translated into world prices and expressed in a single currency, either foreign or domestic. This is done for all goods, regardless of whether they are mutually traded or not. The important thing is that world prices are used as the shadow prices. On the other hand, the shadow prices should be weights applied for the commercial as well as the special development goals of the project (e.g., the need for greater accumulation, more equal income distribution, the balance of payments aspect, etc.). These additional goals are especially taken into consideration when calculating shadow discount rates, wage rates and the exchange rate. The final result in net present value should be an expression of the investment project's international and internal economic efficiency. At the same time, it should also be an expression of the measured and united development goals that a country seeks to achieve with its investment and development policy.

At the base of the project evaluation methodology used by the World Bank is the cost-benefit analysis. Benefits are defined by their effect on the realization of the country's fundamental goals, while costs are viewed from the aspect of lost benefits in an alternative use of resources, again depending on their effect on the achievement of social goals. Basic social goals are best expressed through the choice of accounting unit (numeraire). The World Bank uses present uncommitted social income as the numeraire. It is expressed in a convertible foreign currency or an equivalent value of a foreign currency expressed in the domestic currency by using the official exchange rate. This is because the Bank gives credits and aid in a foreign currency, so it is possible to compare nominal interest rate with the interest rate on foreign loans.

[13] Provided in the work: L. Squire, H. van der Tak, *Economic Analysis of Projects*, 1975.

In this methodology, economic costs and benefits are valorized with the help of shadow prices, which can deviate from the market prices with which financial costs and benefits are valorized.

Shadow prices are determined by the interdependence of the fundamental goals of development and available base resources. If certain resources are not well represented, i.e., if demand for them varies, then their shadow price or opportunity cost tends to be high.[14] Market prices usually correctly reflect inadequate supply, but in a perfect market. Undeveloped markets, such as exist in underdeveloped countries, cause deviations between market and shadow prices. These deviations are especially high for three important resources: labor, capital and foreign currency.

The use of shadow prices that reflects the base goals and limitations is an important element of a proper analysis of the project in all phases, from the development plan to identification to estimates.

The World Bank methodology determines the difference between inputs and outputs "with" and "without" the project, because the realization of the project changes the supply of inputs and outputs to the rest of society. At the same time, determining the difference is the basis for identifying the project's costs and benefits. Economic costs and benefits can be determined through a correction of financial calculations, in two ways:

1) excluding (or including) from analysis the costs and benefits that were included (or excluded) in the financial analysis.
2) it is necessary to valorize some inputs and outputs due to the differences between their shadow and market prices.

1. Costs and benefits that should be excluded (included) from financial analysis

- ♦ **Transfer payments**

In financial analysis, there are some payments that represent the transfer of control over resource allocation from one social sector to another. Such are interest payments on domestic loans, because that is simply a transfer of buying power from the project to the creditor, and transferring does not represent an economic cost. Economic analysis need not deal with funding sources and repayment methods. Amortization, taxes and subsidies are also transfer payments and do not represent costs of resource use, but may influence distribution of earnings.

[14] L. Squire, H. van der Tak: *Economic Analysis of Projects*, 1975.

♦ **Inflation**

Economic analysis should encompass price movements only in the scope in which they cover expected price changes of certain project elements. All other price movements should be excluded from analysis due to domestic and foreign inflation, if the differences in inflation rates are equalized through exchange rate differences. If that is not the case, then inflation above that used as a common denominator in exchange rates should be included in economic analysis.

♦ **Previous investment costs**

Costs incurred on the project before its evaluation should be excluded from analysis, because only the costs that can still be avoided are important.

2. Valuation of costs and benefits with the aid of shadow prices

Project costs and benefits in economic analysis are valued with the aid of shadow prices. Their values depend on the estimate given by the government, the technical parameters and parameters of good business, and the resource limitations in the country.

The value set by the government determines the importance that will be given to: future consumption relative to the present, i.e., development as against technical consumption, the addition of different classes or different regions: future employment or other goals such as national independence or modernization.

Shadow prices are defined as the values of contributions to state, i.e., socio-economic goals, which come about through any kind of marginal change and production factor availability. In that sense, shadow prices depend on the goals of the country as well as on the economic environment, where marginal changes come about.

The procedure of investment project evaluation performed by World Bank experts is very complex, but can be divided into four general phases:

- project identification,
- project preparation,
- project evaluation,
- project realization supervision.[15]

The most important here is the research of different technical solutions, after which it is evaluated which is the most economically acceptable option.

The World Bank and its experts insist that the preparation phase should last as long as possible, in order to achieve the greatest possible accuracy and objectivity. Sometimes this phase lasts for years.

[15] P. Jovanović: *Upravljanje investicijama*, Beograd, 2001.

Evaluation. In this phase, the project's validity is evaluated, from several aspects. The evaluation is exclusively performed by World Bank experts, along with concrete research in the country seeking the credit.

The technical part of the evaluation represents a checking of the validity of the approved technical solution for the said country. This has to fit the existing conditions.

The economic part encompasses the project profitability analysis, with the application of various criteria, depending on the nature of the project. If it is an industrial project, then a financial analysis is sufficient. If it is a socially beneficial investment, then an economic analysis is needed as well.

The commercial part represents a consideration of the possibilities of all purchases and sales. It comprises analysis of the sales market and analysis of the market for the purchase of raw materials and other needed resources.

The financial part is a consideration of the resources needed, i.e., their securing. A financing mechanism should be established and sources of financing should be listed.

The management part encompasses consideration of the personnel that will participate in project realization.

The organizational part deals with the internal organization of the credit applicant and brings it into connection with the future organization that will come about after project realization.

After the evaluation is completed, the World Bank expert team composes a report that is considered by the appropriate Bank board, which makes the final decision. This is followed by a discussion process with the credit applicant regarding eventual changes in the project or the innovation of some portions of the project, all with the goal of the most efficient possible project realization. Sometimes it is necessary to reach agreement with the government of the country in question regarding subsidized prices for the resources that will be most used in the project.

On the basis of the project evaluation, a credit agreement is concluded between the World Bank and the credit applicant, containing the mutual rights and obligations of the contracting parties. In addition, the agreement contains numerous definitions, purpose of the loan, terms of drawing funds, repayment currency, interest provisions (usually LIBOR + spread), possibility of changing loan terms on the part of the creditor, changed circumstances, the necessary preconditions the applicant needs to fulfill to draw the credit, conditions for early loan repayment, loan costs, loan organization fees, engaged fund fees, loan administration fees and the creditor's direct costs; the project financing contains an additional fee for risk, jurisdiction, etc. A World Bank loan agreement elaborates in detail provisions on the debtor's responsibilities in the realization and management of the project, including engaging experts to aid the investor.[16]

[16] B.Vasiljević, M. Đilas: "Konzorcijalno finansiranje projekta," *Vesnik*, May 1987.

6. Conclusion

An analysis of investments in public sector projects represents a very complex set of problems, with many unknowns and unsolved problems. Investing is a complex and uncertain managerial task. There are no guarantees that the investment decision that has been made is good, much less optimal. This work presented some general methodological approaches to investment project evaluation, which define certain solutions related to public sector investments. In principle, public sector investments bring multiple effects, economic and non-economic, direct and indirect, important for a wider circle of users.

Experience has shown that, by itself, no methodological research of any complex phenomenon can offer a solution that would be automatically (as a whole "package") applicable in practice. This is especially the case with complex material such as the preparation and evaluation of public sector projects.

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Paper received: January 25th, 2011
Approved for publication: March 3rd, 2011

Scientific review paper UDC: 005.337:334.72.021 ; 339.542

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THE COMPENSATIONAL ROLE OF OPTIONS IN MODERN CORPORATE GOVERNANCE

Abstract: *Modern corporate governance emphasizes the multi-interest character of the key corporate factors. In this sense, the different positions of shareholders and managers in achieving their goals are being discussed. Convergence of interests is possible with an adequate compensation policy that is consistent with the performance of managers. Compensation packages composed of options, as a form of financial derivatives, allow managers to become owners of capital in order to optimally manage corporations and minimize the impact of agency problems. Lack of regulation of corporate governance practices and financial markets has led to new techniques for the use of share options, in order to create more wealth for the top management structure. The result is the creation of corporate scandals of global proportions, which, among other things, have created the need for redefining the role of option compensation.*

Key words: *stock options, compensations, corporate governance, managers*
JEL classification: M12, G32

1. Introduction

The current international order, characterized by an accelerated process of globalization, has made it necessary to review the various effects of its implementation. There is no doubt that such a process has contributed to the creation of the positive elements that make contemporary life easier, faster and conditionally wealthier. However, in the second decade of the 21st century, the global economy is faced with a multitude of problems that are imposing the need to construct a different international structure. The financial or economic crisis that first appeared on the horizon in 2007 has opened up a Pandora's Box of activities on the global financial stage, which have brought the most serious consequences since the Great Depression.

The financial markets, as one of the most important legacies of modern business, represent a genuine example of how we can observe the process of globalization from different, critical angles in order to try to understand their role and

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significance. Numerous financial innovations and mechanisms have led to an overly broad dispersion of capital and a neglect of the primary function of allocating financial savings from surplus toward deficit economic units. The liberal concept, constructed on the basis of the laissez-faire approach, has rejected any kind of regulation that would follow modern trends in global finance.

Financial derivatives hold an important place in the conducting of business on today's financial markets. Their derivativeness has allowed the creation of a totally new business concept that, due to its different risk perception and the turbulence of financial conditions, has taken a leading place in the understanding of the present and future positions of economic factors. The increasing informedness and sophistication of participants in global business has led to the creation of a wide array of financial derivatives that are supposed to fulfil various participants' demands. Options, futures, forwards, swaps, warrants and various other instruments appeared, depending on the nature of and the need for financial derivatives. The "depths" of the financial markets contain even more complex instruments ("derivatives of derivatives," structural financial instruments, etc.). Their use and broad dispersion testify to the importance of term markets in today's business world. It is necessary to restore confidence in the financial marketplace, so that it can successfully carry out its assigned functions – before all the stimulation of capital flows in the direction of their most productive use, and the discovery of the prices of market instruments. Regulation must protect the participants on the financial markets, stimulate competition, maintain the stability of the financial system and help achieve macroeconomic stability. The crisis has shown that regulation has fallen short of the task.[1]

The globalization of business has contributed to the increasing integration of the financial markets and the real sector, which mutually influence each other through transmission mechanisms. In that sense, it is impossible to speak about financial derivatives' effect on today's financial markets without looking at the broader picture that shows a causal connection with the business sector. As a recognizable entity, and as the main vehicles of globalized activity, corporations play an immeasurable role in contemporary economic systems. Their complexity, size, wealth, as well as the modern business paradigm, are imposing new business models that are introducing various activities, closely connected with the financial markets.

One of the most important term markets is the options market. Their significance also stems from the wide range of business activities for which these financial derivatives can be used (average daily volume on the options market equals about 207 billion USD).[2] Options are contracts on the basis of which the buyer

1 S. Vučković: "Regulacija finansijskih tržišta nakon svetske ekonomske krize," *Megatrend revija*, Vol. 7 (1), 2010, p. 47.

2 Triennial Central Bank Survey: *Foreign exchange and derivatives market activity in April 2010*, BIS, September 2010, p. 13.

has the option, i.e., the right to buy or sell a given financial instrument at a determined price, called the strike price, i.e., the price of exercising the rights from the contract on a determined date or up to the expiration of the determined term.[3] The seller (sometimes referred to as the writer) of the option obligates himself to buy or sell the financial instrument to the buyer, depending on the decision of the owner of the option. This relationship defines the very characteristics of options: the owner or the buyer of the option does not have to exercise it, i.e., he has the *right* to execute the contract. On the other hand, the option seller does not have a choice – he *must* buy or sell the financial instrument if the owner of the option decides to exercise his right. This right that the owner has at his disposal has its value, which is "paid" a certain amount, referred to as the *option premium*.

Options contracts can refer to many different financial instruments (futures options, stock options, currency options, interest options, etc.). This paper will deal with stock options – not through their primary function but through the role they play in today's corporate governance. The mechanism of compensatory options itself will serve to demonstrate their importance in overcoming basic corporate problems, as well as shortcomings that result in the unequal treatment of stakeholders within a corporation.

2. Options as a mechanism of resolving agency problems

The concept of corporate management is attracting increasing attention from relevant factors of today's business. Their activity dates back to the 19th century and the Standard Oil Trust Company, which is considered to be the first true modern corporation. Although modern corporations dispose of most of the world's capital and do not represent a new form of business organization, they have nevertheless become a focus of interest during the period of financial crisis. The transformation of family businesses into corporate conglomerates has raised numerous questions regarding their management and functioning. The key relationship was developed between the owners of the capital and the managers, whose unequal positions were predicated upon their specific roles within the corporation. The complexity of the corporation results in a separation of the ownership over capital and its control. The conflict of interest and the problem of access to information were noted as early as the 19th century by Berle and Means, who referred to this problem as the agency theory. Among other things, the relationship between "agents" (managers) and shareholders contains the opportunistic problem, which highlights the personal interest of the man-

[3] F. Mishkin: *Monetarna ekonomija, bankarstvo i finansijska tržišta*, Data Status, Beograd, 2006, p. 320.

ager and the numerous perks that he can have at his disposal.[4] It is, thus, necessary to find internal mechanisms that will lead to a satisfaction of the basic roles of both shareholders and management. The principle of stimulation through stock ownership is cited as a solution in the overcoming of personal and corporate interests. This principle imposes the need for the executive director and the management that is close to him to own company stock, in order to overcome the conflict between managerial arbitrariness in managing information and creating personal status and the creation of a strong image and a financially strong corporation.[5] In order to harmonize managerial and shareholder preferences, compensation should be linked to performance. Activities that create value for the shareholders are rewarded, while those that erode it are penalized.

Various mechanisms of rewarding and stimulating managers by way of huge bonuses have partly contributed to the deepening of the crisis, which has brought catastrophic results and even bankruptcies to some corporations. The use of financial derivatives has been connected to numerous financial scandals. Nevertheless, they still represent a popular and powerful mechanism for transferring risk and information between economic agents. Such failures, caused by a wide range of complex relations, serve to highlight new risks, which did not previously exist in traditional financial modeling.

Corporate scandals have raised the question of the compensation packages that have been paid out to company management structures. The basic component of these compensations are executive stock options (ESO). The types of options usually used for compensation are call options, which give the employee the right to buy a specified number of shares at a fixed price, before or on the day of maturity. In that sense, ESOs are a typical form of “American options,” which can be realized on any day up to the maturity date. A simple example of the way these options function is the following. Let us assume that company XYZ, whose shares are trading on the exchange at a price of 30 USD, has employed person A at a managerial position. In addition to the basic salary, person A has also been given an option to buy 10,000 shares of XYZ company at a price of 30 USD per share (when the contracted price of the option equals the market price of the underlying asset, that option is referred to as “at the money”) in the next ten years. During the following four years of work, person A will be granted 2,500 company shares each year. If the person leaves the company before this period, all future option payouts would be terminated, and person A would only have the right to the options gained during their time of employment at the company. The employee would not have the right of selling the options, or “short-

4 F. Kaen: *A blueprint for corporate governance: strategy, accountability, and the preservation of shareholder value*, American Management Association, 2003, pp. 1-17.

5 T. Dragičević: *Corporate Management During the Crisis*, 7th International Scientific Conference, Dealing with the Global Economic Crisis by Companies and Economies, Belgrade, 2009, pp. 125-134.

selling"[6] them. Such a plan of option contracting stimulates the manager to work on increasing his company's value and, thus, the value of the stock that he will be able to realize through option buying in case he remains with the company. If after five years, XYZ's stock is trading on the exchange at a price of 100 USD, the employee will exercise his option, which would then be worth 700,000 USD.[7]

Such a mechanism of valuing and rewarding employee activities (i.e., basically high and middle corporate management level) appears relatively simple and simulative. If shareholders desire a rise in the value of their stock, one of the best ways of achieving this is to give financial stimuli to company management. Managers that possess a large number of options are slated to become very wealthy if the price of their company's stock rises; otherwise, there is no use in possessing option contracts. Nevertheless, there is a question as to the usefulness of these kinds of management stimuli. The underlying assumption is that managers are obliged, "with the diligence of a good businessman," to do everything in their power in favor of their employees and shareholders. In principle, this kind of setup is sound. However, the measure of its implementation in modern business is best explained by one of the basic principles of agency theory, by which agents (such as managers) most often act in accordance with their personal interests. Managerial behaviour may be described in the following way: if the company is not doing well, they will lose their job, along with the stimuli that go with it. On the other hand, if the company has average or slightly better than average success, they will retain their position. Managers that receive fixed salaries are often not inclined toward profitable (and perhaps risky) activities that might bring negative results. On the other hand, the shareholders would perhaps like the company to undertake profitable yet risky activities if their optimal portfolio diversification allows it. From this it can be seen that shareholders are the ones that are prone to risk, not managers.

The nature of the agency problem, and the view that different forms of compensation result in better managerial performance, has opened the way to a widespread use of options as a form of compensation. In 2004, more than 97% of the 741 US corporations whose data on managerial compensations were accessible used option-based compensation. The average income tied to option contracts equalled 1.49 million USD.[8]

[6] Short selling represents a form of reverse trading, in which the participant sells financial assets that he usually does not own, in expectation of a fall in the price of the asset and its repurchase at a lower price. In that way, the asset is restored to the owner, while the participants profits on the price differences of the same financial instrument in different periods, minus the interest (commission) on the borrowed financial funds.

[7] 700 000 = 10 000 x (100 USD – 30 USD).

[8] J. Angel, D. McCabe: "The Ethics of Managerial Compensation: The Case of Executive Stock Options," *Journal of Business Ethics*, 2008, pp. 225-235.

3. Valuing stock options

In order to understand the simulative role of compensatory options, it is important to understand the basis on which ESOs are valued. There are three forms of valuation, of which two are less indicative as regards the calculation of the true effectiveness of option plans. The first form of valuation is called the *objective (nominal) value* of options; this is the value of options, identical by its characteristics for internal actors (managers), at which an external investor would be prepared to engage his funds.[9] This value is simpler to quantify, using the standard *Black-Scholes*[10] model of option valuation.

Looking at the preceding example, the objective value of the compensatory options package of manager A is the market value of ten-year options to 10,000 shares at a price of 30 USD (the *at the money* price). If the company does not pay out a dividend, it is not rational to exercise the option before maturity.[11] Let us now assume that the value of the options package is 200,000 USD (i.e., ten-year options are worth 20 USD per share). The objective value of 200,000 USD assumes that the market is prepared to pay the said amount for the presented options package. However, practice confirms that this sum does not represent a cost for company XYZ, or a value for employed manager A.

3.1 Firm's cost value

Although the standard options valuing model is exact and correct in terms of determining objective value, it has shown less relevancy in theory and practice. More important for the company is the so-called *firm's cost value* (FCV), which represents the current value of the company's future payouts to managers, based on a compensatory options plan.[12] This value is most often lower than the objective (nominal) value. One of the reasons for the said claim lies in the possibility of termination of the manager's executive position, or his transfer to another company. In the cited example, if a manager terminates his four-year employment period, which is the length of the options package, the options package is terminated as well. This possibility underlines the fact that such an option will be worth less than its objective value of 200,000 USD. For the needs of the FCV,

[9] M. Cassano: "Executive Stock Options: Back to Basics," *The Australian Economic Review*, Vol. 36, No. 3, 2003, pp. 306-15.

[10] The Black-Scholes model is a referential mathematical model of valuing instruments on the financial derivatives market. It is based on a partial differential equation, whose results are mostly used for valuing European-type options. It owes its name to the economists *Fischer Black* and *Myron Scholes,* who first published it in 1973.

[11] If a dividend is paid out, activating the option before the dividend payouts can be profitable for the external investor, if the value of the option is positive (*in the money*).

[12] M. Cassano: "Executive Stock Options: Back to Basics," *The Australian Economic Review*, Vol. 36, No. 3, 2003, pp. 306-15.

it would be optimal to estimate the probability of job change or dismissal, establish a risk premium for such events and, in accordance with this, adjust the value appropriately. The second, more important reason why cost value is lower than objective value is the fact that internal and external actors handle their financial assets differently. Namely, internal owners (managers) are exposed to various trading restrictions, most often in the form of being barred from transferring their options or short-selling their shares. These types of restrictions are natural, as they refer to forms of conflicts of interest, which stimulate the lucrative nature of such activities. The limitations to which managers are subjected result in a situation in which they behave differently in comparison to external investors, as their assets lack diversification. This fact turns out to be extremely important in the course of ESO valuation.

If we go back to the example and assume that company XYZ will not be paying out dividends in the next 5 years, the external investor has no interest in activating the call option before the expiration of that term. In order to demonstrate this, we will introduce into the transaction external investor B, who owns ten-year "at the money" options for 2500 shares at a value of 30 USD. After one year, let us assume that the price of XYZ shares grows to 80 USD. Both manager A (who has received an option for 2500 shares after one year of work) and investor B have identical option positions. However, a direct exercising of the options after one year would be irrational for investor B, which may not, however, apply for the employed manager. The investor has no interest in activating the option before maturity, because such a decision would entail a monetary outlay to the tune of 75,000 USD (2500 shares x 30 USD). If he opts to retain the shares, regardless of their future value, it does not pay for the investor to prematurely activate his option. If the value of shares continues to remain above 30 USD, the investor can exercise his option subsequently, and pay 75,000 USD at that time. Bearing in mind the temporal value of money, it is more economically rational to pay the same amount later than in the immediate future. The same argument would apply for the employed manager; if he intends to retain the shares after activating his option, he will not opt for this move before the final maturity date.

It may be concluded from this example that it is irrational for both participants to activate the option prematurely, if they opt to retain their shares. However, their positions have a different assumption if they decide to sell their shares. In such a situation, different approaches come into play precisely because of the participants' unequal positions, which is manifested in the restrictions that apply to internal owners of compensatory packages, or in the possibility that, after one year and the rise in the value of shares to 80 USD, investor B opts to activate his option worth 30 USD per share and sell them on the financial market at the new price. This arbitrage would lead to a profit of 125,000 USD.[13] Instead of choosing this option, a better alternative for the investor would be to

[13] 125000 USD = 2500 shares x [share market value (80 USD) – option strike price (30 USD)].

short-sell the shares, which leaves his option in an active position. Such a decision not to exercise his option would bring a windfall of 200,000 USD (2500 x 80 USD).[14] Out of that amount, he can set aside 75,000 USD, which would bear interest through time-deposit savings, and keep the remaining 125,000 USD (the same amount he would get if he had prematurely activated his option and sold his shares). In time, the investor can opt to buy 75,000 USD worth of shares (plus the interest earned), in order to hedge his activity with a counter position. If the value of the shares is higher than 30 USD, he will exercise his 30 dollar option; if not, he will be able to buy the same number of shares *for less* than 75,000 USD. The conclusion that can be drawn is that, regardless of whether he retains or sells his shares after prematurely activating his option, it would doubtlessly be better for the investor to keep his option in an active position.

Here we can see the basic difference between the positions of manager A and investor B. The manager cannot enter short-selling positions and, thus, cannot adopt a strategy that would bring him certain earnings. Due to such a position, the decision as to whether to exercise an option depends on the investor's individual attributes, such as tendency (or aversion) to risk, current wealth and current degree of portfolio diversification. Let us assume that manager A has high aversion to risk and possesses a relatively undiversified portfolio (i.e., that his package of compensatory options represents a significant portion of his wealth). This would greatly influence his decision to exercise his option. If, for example, the value of the option after a year is fairly positive (e.g., the share price is 60 USD, while the option is exercised at 30 USD), the manager will opt to exercise his option and earn 75,000 USD (2,500 shares after one year), even though the objective (nominal) value is 100,000 USD. This value probable makes up a large portion of his wealth and, combined with other XYZ company shares he owns, can expose the manager to high risk related to future price performance. Under such a scenario, the true cost for the company equals 75,000 USD due to the premature exercising of the option. The FCV is entered into the balance books as an expenditure and represents a substantially smaller cost than the objective (nominal value).

3.2 Subjective value

The subjective value of an options plan represents the value perceived by the owner of the compensation package himself – the manager. Any form of restriction that pertains to managers not only affects decisions regarding the exercising of the option but also shows the standard valuation model as being less useful. Different decisions on exercising options are a result of the perception of the value of the options plan for managers, depending on their characteristics. It is necessary to take into account risk aversion, current wealth and the manager's

[14] With the note that, due to the nature of short-selling, he will have to obligate himself to purchase the shares at the current future price.

existing portfolio. If we were to ask two managers for how high a profit they would give up an identical options plan, we would probably obtain two different answers. Subjective value considers this issue in detail. It is the minimum amount of money that an employee would accept in place of compensatory options. Although fairly simple to define, this value is somewhat non-trivial in terms of quantification. Except in the case where managers have lower risk aversion, subjective value will most probably be lower than the firm's cost value.

3.3 Opportunity cost

After defining the objective and subjective values of compensatory options, we should also deal with the possibility of opportunity cost for the company. If the FCV is higher than the subjective value, there arises the question of the necessity of issuing stock options. In other words, instead of giving managers compensatory options whose cost will be at FCV level, companies could pay out lower sums, i.e., the subjective value. In the said example, let us assume that the compensatory options package for employed manager A is worth 175,000 USD, but that he values it at 125,000 USD. In that case, the company could sell the option to an external investor (e.g., an investment banker) for 175,000 USD and pay the manager 125,000 USD. Such a transaction would satisfy both sides.

On the other hand, the option incurs a cost of inefficient resource allocation (*dead-weight loss*) for the manager. A situation where this amount would not represent a cost would be when the simulative effect of the compensatory options surpasses the difference between these two values, which would be considered an ideal case.

4. Variability of compensatory options

The use of the classical form of stock options as a means of compensating executive directors and managers dates back to the 1950s, the goal being to link employee compensation (and motivation) with the interests of the owners of the capital. At that time, a reward of 30,000 options was considered generous.[15] Options reached the peak of their popularity during the 1980s and 1990s, before all in high technology companies based in Silicon Valley. High market growth and earnings were bringing corporate managers an exponential rise in their earnings, together with the inevitable invocation of *pay to performance* (P2P). Options packages worth several hundred thousand or even million USD were becoming the norm in contemporary corporate management. The traditional options model allowed employees to buy a certain number of company shares at an agreed price, at some future time. The option (strike) price was usually set at

[15] R. Monks, N. Minow: *Corporate Governance*, Blackwell Publishing, 2004, p. 64.

the level of the market price at the moment of the maturity of the options package. The tying of the options price to the future market price suited both sides: the company issuing the options and its employees. The reason for this popularity also should be sought in the accounting advantage offered by such derivatives. Issuances were not entered as costs on the income statement while, at the same time, they were stimulative in terms of taxes because they did not enter the base for calculating income tax (the tax break limit was 1 million USD).

However, such practice changed over time, especially thanks to changes in accounting standards adopted by US regulatory organs. According to the new rules, each issuance of share options would have to be entered as a cost item based on the fair value of the option at the time of maturity. Even an option whose value is equal to or lower than the market value of the shares at the moment the option is exercised carries a certain value, which is defined by the options valuation model. The role of the options themselves was more than clear: to establish "ownership prospects" for managers, and intensify efforts of working for a company that is cash poor at the moment but has prospects of strong future performance. Rewarding current managerial activities with future benefits is key in a situation when they do not need additional earnings at the moment. As options can be used and shares cashed out from them, managers constantly strived, using (un)lawful methods, to significantly increase the share value over a short time interval. As the great corporate scandals have demonstrated, financial reports are frequently manipulated in order to increase company net profits and, consequently, increase share value. In addition to the use of financial manipulations, net profits can also be increased by employee dismissals or by plant closures. In other words, managers have various possibilities at their disposal that might effect a rise in share value. That options did not represent a contractual relationship that was strictly applied and respected is best shown by the two most frequent practices of their variable use: *option repricing* and *option backdating.*

4.1 Option repricing

When the share price surpasses the price of exercising the option, it would be logical to assume that the owner of the share (the manager) will exercise his option and, thus, gain a greater portion of company stock capital. This capital should motivate the manager to increase his interest in his corporation's success, as his personal interest and the corporate interest converge to a great degree. The great rise in the financial markets during the 1990s made stock options extremely valuable but, as the markets began to fall, so did the values of investors' assets. However, in spite of this, average compensations paid out to US managers were higher in 2002 than in 1999.[16] In other words, manager-owners continued to

[16] *Leaders: Running Out of Options; Pay for Performance*, The Economist Online, December 9th, 2004.

reap the benefits of huge compensation packages while, at the same time, external investors were faced with weakening stock portfolios. Such a turn of events was, in some measure, the result of the markets' reaction to the financial scandals created by corporate manager-owners.

As share value falls, so does the value of compensatory options. In many cases, the market share price was lower than the value of the options, giving the latter *out of the money* status and, thus, negating the original benefits of compensation. One solution was for companies to reprice the existing options, at a level below the current market share price. The new *strike* price was usually 30-40% lower than the previous one, and the term of the modified option was also prolonged. The net effect was a transformation of a weakly valued option into an option with respectable value for the manager. Repricing is possible, either through the canceling of the existing option in favor of a new one, with improved conditions, or through a simple change in the existing option contract. The US Financial Accounting Standards Board (FASB)[17] views both transactions equally.[18] Critics of option price repricing invoke two essential viewpoints. First, the use of repricing usually accompanies a period of bad price performance of shares and a fall in company value. There is, thus, the appearance that managers are being rewarded for badly managing the corporation. Instead of perhaps ridding itself of their services, the company creates the opposite effect, by increasing their wealth. The atmosphere being created is that of the inseparableness of management and the company, where the stockholders have no (or very little) possibility of enacting personnel changes. Second, repricing undermines the essential role of options as a link between managerial and stockholder wealth. With such practice, management profits rise either way – whether the option is *in the money* or *out of the money*.

Institutional managers are especially critical toward the mechanism of option price repricing. For them, it is an example of managerial arbitrariness and a fixation of a job position, to which regulatory organs cannot adequately respond. Certain institutions are recommending that repricing cannot be carried out without absolute stockholder consent. The FASB has considered the accounting policy of stock options, deciding that repricing cannot be viewed as a "fixed" operation, but that companies must utilize a variable accounting method if they wish to adopt this technique. This method is unpopular because it requires that repricing costs be explicitly evidenced in the income statement.[19] A negative influence would be equivalent to the number of shares (to which repricing is

17 Financial Accounting Standards Board.

18 N. K. Chidambaran, N. R. Prabhala: "Executive Stock Option Repricing, Internal Governance Mechanisms, and Management Turnover," *Journal of Financial Economics*, 69(1), 2003, pp. 53-89.

19 Differently from previous practice, where activities were not entered on the expenditure side but in the notes.

applied) multiplied by the difference between the original option price and the final market price of the shares. Thus, the higher the share price after repricing, the larger the reduction in future profit. Managers benefit from lower option prices, but the company and other investors are faced with lower net profits and, thus, possibly a lower price of shares.[20]

Proponents of repricing offer two explanations as to why this technique should be used. The first is that the option that is deeply out of the money does not offer any incentive to the manager, and that its price should be revised downward. The second argument, frequently offered by high-tech companies, emphasizes the importance of repricing for retaining key managers. This explanation is often used by Silicon Valley companies, such as Symantec Corporation and Apple Computers, which have utilized these techniques in order to retain talented managers.[21] On the other hand, it is justified to raise the question as to the ethical correctness of such decisions, i.e., just how key are such managers if they occupied management positions while negative results were achieved and share value was falling.

4.2 Retroactive definition of the option contract

The mechanism of compensatory options has shown, in the greatest measure, that the price of exercising an option is equalized with the current share market price primarily in order to avoid compensatory costs and the possibility of taxing the owner of the options on the basis of additional income. However, research conducted by Professor Erik Lie from the University of Iowa has shown that many compensatory stock options between 1992 and 2002 (5,977 option contracts in all) were practically retroactively changed. This change pertained to changes in the exercising date of the option to the period of the lowest value of company shares during that business year – a mechanism known as *option backdating*. The essence of backdating is to pick a right past date, which would subsequently bring bigger profits to management once the option was exercised. In the period between 1996 and 2002, 23% of option compensation packages were changed or otherwise manipulated. The mechanism was applied differently among companies. It was more frequently used in small, technological companies, whose shares were more volatile on the financial market. Nearly 30% (or 2000) of companies that issued compensatory options between 1996 and 2005 manipulated these packages one or more times.[22]

[20] C. Raiborn, M. Massoud, R. Morris, C. Pier: "Ethics of Options Repricing and Backdating," *CPA Online Journal*, 2007.

[21] N. K. Chidambaran, N. R. Prabhala: "Executive Stock Option Repricing, Internal Governance Mechanisms, and Management Turnover," *Journal of Financial Economics*, 69(1), 2003, pp. 53-89.

[22] E. Lie: "On the Timing of CEO Stock Option Awards," *Management Science*, 2005, pp. 802-812.

The date on which the option can be exercised is a very important issue. Let us assume that a manager receives 100,000 options on the day when shares are worth 30 USD apiece. If he uses the option at the moment when shares are worth 50 USD, he will make a profit of 2 million USD. However, if the date of the option is moved back a month, when a share was worth 20 USD, in exercising his option the manager will earn an additional million USD. This brings into question the essential (and original) role of options, whose purpose was supposed to be to link a manager's performance with his performance in the company, in order to produce positive future results. In this way, the manager scores immediate benefits, i.e., he is rewarded for the mere fact of being on the current company payroll.

Liberal regulations have contributed to the widespread use of the backdating mechanism, as companies were not obliged to publish information on issuance of stock options until the end of the business year. From January 2007, almost 200 companies have come under investigation of the US Securities and Exchange Commission (SEC). The passage of the Sarbanes-Oxley Act in 2002, which defined new rules on the issuance of options, was considered a watershed.[23]

The dimensions of the use of backdating were enormous. In the period between 1995 and 2002, all 6 option packages received by Jeffrey Rich, CEO of Affiliated Computer Services Inc., were exercised at the moment that company share prices had reached their lowest level during the year – immediately before their value increased. A week later, during the period of the 2002 options package, the share price rose by 27%. Analysts calculated that the probability of such an event was 300 billion to 1, which doubtlessly indicates that this mechanism was used. One of the largest compensations was paid to William McGuire, CEO of the insurer United Health Group Inc., who received an incredible 14.6 million options in three instalments. He has exercised 5% so far, at a profit of 39 million USD. If he were to exercise all his options at the same time, he would earn 717 million USD. It turned out that backdating was used for each instalment, with option prices that were the lowest or near the minimum for that year.[24]

Companies have the right, if they so desire, to give their managers generous compensation, but they must not deceive and neglect stockholders when making such decisions. Although the backdating mechanism is not prohibited, it can lead to serious problems in terms of lack of credible financial transparency. Companies issue compensation packages with an "option plan" that was previously approved by stockholders. The plan assumes that the options will contain the price of the shares from the day they were distributed to management, or from the previous day. If it turns out otherwise, the company can be accused of violating the option plan, making it potentially vulnerable to allegations of secu-

23 Companies had to submit reports on the issuance of stock options on separate forms, at most two days from the moment of issuance, which would significantly reduce the possibility of retroactive changes to the exercise date.

24 C. Forelle, J. Bandler: "The Perfect Payday," *Wall Street Journal*, March 18, 2006.

rities fraud. The company may also face accounting problems, as it would have to revise its previous financial results because it did not enter the costs into its income statement.[25]

5. Conclusion

The contemporary concept of corporate management imposes the need for a multi-interest approach to satisfying the needs of all stakeholders within the corporation and outside it. We cannot say that the interest of the owners of the capital (stockholders) is the only one that must be respected. In order to ensure the continued development of economic actors, it is necessary to take into account various specters of interest: employees, management, creditors, the corporation itself, as well as the broader societal interest. The striving for the supremacy of the interests of the owners of the capital is justified. However, there is a question as to the extent to which this can be fulfilled, due to the separation of management and control from capital ownership.

The question of management compensation has captured the attention of both theory and practice to such an extent that it seems as though it has changed the previous paradigm of corporate management, which was based on directors' fiduciary duty to society. This paradigm is being replaced by a paradigm in which directors' interests are primary. According to this paradigm, directors' compensation is no longer a problem of corporate governance but, in fact, the solution to that problem, as they form a part of governance technique.[26] In that sense, instead of controlling or eliminating managers' personal interest, the new paradigm demands that it be made legitimate. The equalization of manager and shareholder interests is possible with an adequate compensation policy, which would follow manager performance and effect on the overall value of the corporation.

In their past use, option contracts tied to shares have shown that it is possible to stimulate managers in order to overcome the basic agency problem. With an adequate application of the option plan, approved by shareholders, managers were motivated to run the corporation in the right way. The sophistication of the financial markets has opened the way to the achievement of impressive corporate results, which were accompanied by adequate affirmations of corporate success. Incompletely regulated accounting practices, accompanied by economic growth, have not wholly kept step with new techniques in the policy of determining top management compensation. This led to huge compensation payouts, which did not respect the multi-interest approach to satisfying needs. Companies were suf-

[25] According to accounting rules, the "instant" profit produced by the backdating mechanism is equivalent to added costs that were not entered on the side of expenditure, which thus reduces company profit.

[26] M. Vasiljević: *Korporativno upravljanje, pravni aspekti*, Pravni fakultet, Beograd, 2007, p. 189.

fering losses while, on the other hand, compensation packages were reaching millions of USD. Correlation between the business results of corporations and their managers no longer existed in the measure that would prevent the bringing of arbitrary decisions.

Stricter regulation of compensatory options has appeared as a priority in the wake of the big corporate scandals, and with the onset of the global financial crisis. The need to revise option contracts serves as evidence of the negative results of inadequate adherence to the basic corporate paradigm, as well as the excessive freedom of managerial action. Only adequate regulations (as well as their consistent implementation) can help converge managerial and shareholder interests, to the benefit of the entire corporation, as well as its immediate and broader environment.

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Paper received: January 11th, 2011
Approved for publication: January 28th, 2011

Original scientific paper UDC 330.341:620.9(497.11)

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ALTERNATIVE ENERGY SOURCES AS AN IMPORTANT FACTOR OF SERBIA'S ECONOMIC DEVELOPMENT**

Abstract: *Over the last several years, Serbia's economic development has been characterized by deterioration in the quality of growth. Thus, in the coming years, rational use of domestic economic resources and working potential will be the priority issue. In that sense, energy supply represents the greatest challenge for the Serbian state and economy. Natural resources are bound to be exhausted, so there has been a move towards new technologies and the production of alternative (renewable) energy sources. The degree to which Serbia will be capable of coping with such challenges depends on its success in defining a national strategy of economic development based on the necessity of securing energy effectiveness.*

Key words: *energy effectiveness, alternative energy sources, Serbia*
JEL classification: Q42, Q28

1. Introduction

Within the framework of contemporary political and economic international relations, the global problems of the world's economy are manifested through the scarcity of food, energy and mineral raw materials. Serbia has been endowed with the first two, which gives it the capacity to become one of the leading countries in the region, in terms of both food and energy. Energy production represents the greatest challenge for Serbia's state and economy. Natural resources are exhaustible,[1] which is why new technologies and the production of alternative (renewable) energy sources are being pursued, with the world's most developed countries taking the lead, while smaller countries are left to fend for themselves,

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** Research performed within Project No. 47004 of the Ministry of Science of the Republic of Serbia: "Improving Public Policies in Serbia in the Function of Improving Citizens' Social Security and Sustainable Economic Growth."

[1] According to the research of several Western companies, if continued at the present pace, oil exploitation can continue for 60 to 80 years more.

to utilize what they know best and the resources that they possess, and to produce. However they will be faced with strong competition on the global market. That is why the issue of rational energy use is so important for Serbia.

Energy effectiveness stands for a reduction in the use of energy per product unit, without affecting the level of product and service quality. The prerequisite for this is the existence of an appropriate institutional framework, in accordance with international and European energy standards.

Serbia is a signatory to several very important documents pertaining to the use of fossil fuels. First among these are several protocols within IRENA (International Renewable Energy Agency). Serbia was also a participant of this institution's founding conference, held in Bonn, Germany, on January 26-27, 2009. IRENA's main goal is to become the main moving force in an accelerated transition to widespread and sustainable use of renewable energies throughout the world. Serbia is also party to another important document, the so-called European Commission Green Book (full title: EU Energy Security Strategy).[2] The strategy anticipates the replacement of 20% of fossil fuels with biofuels by 2020, in the road transportation sector. The third important document was signed by Serbia in 2005, in Athens, Greece – the Agreement on the establishment of an energy community.[3] Article 20 of the Agreement obligates all the state signatories to adopt the ES 2003/30 directive, which requires the adoption of a Rulebook on the minimum content of biofuels in motor vehicle fuels. Furthermore, Serbia has also ratified the Kyoto Protocol, which calls for a reduction of greenhouse gases and mandatory use of renewable energy sources.[4] The European Union has taken on the obligation to reduce CO_2 emissions by 8% by 2010.

Rational consumption of electrical energy and energy in general is the *conditio sine qua non* of resource use in a sustainable development strategy. One of the characteristics of our domestic industry is that our companies do not have the institution of energy manager. In developed European countries, companies engaged in production use the concept of energy management, which is under the charge of the energy manager. His task is to monitor energy usage, make up an energy balance sheet, and plan and implement measures for improving the company's energy effectiveness.

Serbia is in the process of adopting a *Law on rational energy use*. One of its main novelties is that it establishes an obligation for all economic actors that use larger amounts of energy to carry out a detailed energy review every two years,

2 European Commission: *EU Energy Security Strategy,* 2006.

3 Law on the ratification of the Agreement on the establishment of an energy community between the European Union and the Republic of Albania, the Republic of Bulgaria, Bosnia and Herzegovina, the Republic of Croatia, the Former Yugoslav Republic of Macedonia, the Republic of Montenegro, Romania, the Republic of Serbia and the Provisional Mission of the United Nations in Kosovo, in accordance with United Nations Security Council Resolution 1244, "Official Gazette of the Republic of Serbia," No. 62/2006.

4 Kyoto Protocol: http://unfccc.int/kyoto_protocol/items/2830.php

with the goal of achieving energy effectiveness for the whole economy. Support in this regard will be provided by EU-based institutions, such as the Office of Germany's KfW development bank in Belgrade, as well as the establishment of a Fund for the financing of renewable energy sources and energy effectiveness in Serbia,[5] whose funds will be available for industrial projects that save energy and reduce toxic material emissions. Also invited to apply are energy-saving projects that offer a 20% reduction in energy use, as well as toxic-emission projects that offer a 20% reduction in the emission of carbon dioxide and other toxic substances. At the same time, the rate of return on invested capital must be at least 8%.

2. The possibility of oil production from oil shale in Serbia

At the end of the 1980s, oil shale exploration was conducted in the Aleksinac area, and total estimated reserves equaled two billion tons. Beobanka bank financed the project. The processing of this shale would yield about 200 million tons of oil, enough to satisfy Serbia's oil needs for several decades. Another significant oil shale deposit is located in southern Serbia, near Vranje. At the same time, research on improving the technological process of oil production from oil shale was conducted, financed by the Udružena Beogradska Banka bank, and it was found that a semi-industrial plant could yield a quality product.[6] One of the reasons why further exploration and the construction of an industrial plant for shale oil production were not further pursued was the fact that its true economic price at the time would have been a little over $40 per barrel.[7] It should also be added that the quality of the Aleksinac oil shale was significantly above average, as it had a 10-12% oil content. In addition, the use of an accelerator would have made the investment profitable in the long term.

Canada, which has huge oil shale reserves from which it produces oil, is a good example to learn from. Its deposits hold an estimated 170 million barrels, of which about 1.8 million barrels a day are exported to the US. Canadian experts have installed relatively wide pipes inside their drill holes. As the shale is mostly located under sand-covered surfaces, steam is injected down to the oil shale, heating it up and liquefying it, after which it becomes lighter than the sand and rises to the surface, into a collection lake, as practically crude oil, which is then transported to refineries for purification from the sand and further processing. The cost of such processing is not high, and the location of the fields and refineries is a great advantage to nearby consumers, along with the security of supply.[8]

5 KfW Entwicklungsbank/Serbia: Promoting Sustainable Growth www-kfw.de

6 D. Sokolović, Č. Bijelić, D. Gagić: "Ispitivanje mogućnosti istovremene eksploatacije uglja i uljnih škriljaca u Aleksinačkom basenu," *Rudarski radovi, Bor,* No. 1, 2010, pp. 37-56.

7 The price of oil on the global market at the time equaled 22-25 USD per barrel.

8 "World Largest Oil and Gas Companies," *Oil and Gas Journal*, September 15, 2010.

3. Electrical energy demand in Europe and the region

Europe has suffered from a supply deficit of electrical energy over the past several years, especially Southeast Europe. According to data from EFT Group, this region is faced with a growing energy deficit, as a result of years of insufficient investment in production capacities.[9] The investment cycle in the region has begun, but the new electrical plants will not begin production until 2012. Due to demand being greater than supply, electrical energy prices will have an upward trend. Electrical energy supply in the region lags 3% behind demand on the yearly level. It is expected that the crisis will begin to subside during 2012, when new production capacities will come on line.

Serbia's new electrical energy production capacities will be mostly oriented toward Southeast Europe, but some surpluses will be left to offer to Western Europe as well, which would make for an excellent consumer target group. Here is a look at how much electrical energy is lacking in Serbia's neighbourhood.

Table 1: *Lacking capacities in Southeast European electrical energy systems*

Country	GW	Country	GW
Romania	3.36	Greece	3.00
Bulgaria	1.82	B-H	0.99
Hungary	1.75	Albania	0.88
Croatia	1.21	Macedonia	0.62
Serbia	1.46	Montenegro	0.25
(Kosovo – UNMIK)	0.58	Total:	16.70 GW

Source: Serbian Electrical Company (EPS), Belgrade, 2010.

Analyses show that Southeast European countries suffer from very low energy effectiveness and irrational energy usage, which is 40% greater than that found in developed Western countries. Even if this situation were to improve, the savings would not be large, as the values of irrational use are high. The large need for continued electrical energy consumption will remain, which represents a great opportunity for Serbia to invest in its capacities. This is aided by the fact that Europe is demonstrating a constant trend of growth in the consumption of fuels and of electrical energy. Great attention is now being devoted to alternative energy sources, where Germany has taken the lead.

9 EFT (Energy Financing Team) Group: *News*, January 2011; http://www.eft-group.net/

4. Electrical energy production capacities in Serbia

Serbia's total installed power of electrical energy production equals 7,135 MW, while the length of its grid for electrical energy distribution equals 138,431 km.

Table 2: *Installed power plant power (at transmission threshold)*

	Net installed power		**MW**	
	With Kosovo-based capacities	%	Without Kosovo-based capacities	%
Coal-powered thermal power plants	5,171	61.52	3,936	55.16
Thermo-electrical plants-heating plants (gas, mazut)	336	4.00	336	4.71
Hydro-electric plants	2,898	34.48	2,863	40.13
Total EPS power plants	8,405	100.00	7,135	100.00

Source: EPS, Belgrade, 2010.

Table 3: *Serbian power distribution grid*

	With Kosovo-based capacities	**Without Kosovo-based capacities**
Grid length (km)	158,045	138,471
Installed transformer power (MVA)	30,911	28,301

Source: EPS, Belgrade, 2010.

In order to reliably supply consumers with energy under the most favorable economic and the most acceptable ecological conditions, one needs to produce a long-term evaluation of energy needs, based on a review of the achieved level of energy development, the present state of energy capacities, available energy potentials, global energy-related development tendencies, expected technological development in the field of energy, as well as a reliable evaluation of the Serbian population's economic activity growth. The existence of an evaluation of energy needs is a basic prerequisite for a harmonized development of the energy sector and the economy as a whole, for building the energy sector's branch structure and for securing a safe and economical supply of energy to the economy and the population.

The evaluation of Serbia's energy needs should drive the reform of Serbia's energy sector, with the goal of establishing qualitatively new conditions of the work, business and development of the productive energy sectors and the energy consuming sectors. These new conditions will have a stimulative effect on Serbia's economic development, on environmental protection and on the integration of the domestic energy sector into the regional and the European energy market.

5. Coal reserves

Serbia has significant coal reserves at its disposal. Several sites are currently being exploited on a regular basis.

Table 4: *Coal production capacities in Serbia*

in 1000s of tons

	With Kosovo-based capacities	Without Kosovo-based capacities
Surface extraction sites	44,900	36,950

Source: EPS, Belgrade 2009.

The latest research shows that Serbia has sufficient coal reserves for the production of electrical energy, mostly lignite. The Kostolac site alone has reserves for the next 60 years, while the still unexplored Dubravica site has an estimated 600 million tons of coal. On top of these is the Kolubara basin, whose own reserves are more than adequate.

It is also expected that new thermo-electric power plant capacities will be built, based on the process of coal gasification, a new method of protection from carbon dioxide emissions that preserves the environment.

Most coal consumption goes toward household heating. Brown coal consumption in Serbia currently runs at about 2.5 million tons, with one third of all households using coal for heating. In Serbia, about 400.000 households use coal or wood for heating, including remote heating that uses coal in place of gas or mazut.

6. Serbia's hydro-potentials

According to EPS data, Serbia's total, technically usable hydro-energy potentials equal about 17,000 GWh, of which 15,000 GWh from electrical plants with over 10 MW of power. A little over 10,000 GWh has been activated up till now, or about 60% of total potential. The greatest portion of the remaining potentials is located in the Drina and the Morava valleys.

Together with the Drina River, Serbia's total remaining, technically usable hydro-energetic potential equals 6,500 GWh per year. On top of this is the estimated 1,700 GWh per year that can be produced by small hydro-electrical plants, of up to 10 MW in power, bringing total technically unused potential to about 8,200 GWh per year, with the most favorable portion of unused potential being located in the joint middle and lower flow of the Drina.

Table 5: *Serbia's unused hydro-energy potentials*

Waterway	Technically unused potential (GWh)	
Drina	1,472	*
Danube, upstream from Novi Sad	1,045	
Sava	530	
Lim	439	
Velika Morava watershed	2,505	
Beli Drim watershed	517	
TOTAL	6,508	
Small hydro-electrical plants	1,699	**
Total	8,207	

* Calculation assuming that one half of the remaining potential belongs to the Republic of Serbia

** from 0.1 to 10 MW of power

Source: EPS, Belgrade, 2010.

Research shows that, of the total amount of water that flows through Serbia, only 9% originates on its territory, while the remaining 91% are waters in transit. The Danube is 2,845 km long from its source to the Black Sea, with the Serbian portion equaling 581 km. This has allowed for the building of two hydro-electrical plants, with a third, of the reversible variety, being in the works.

6.1. Building small hydro-electrical power plants – Serbia's prospects of developing renewable energy sources

Renewable energy sources represent a true challenge for those seeking to engage in electrical energy production that does not pollute the environment. Namely, conventional kilowatt-hours produced from oil and coal, while seemingly cheap, cause dire environmental consequences, and the state must invest large sums of money in repairing the ecological damage caused by such capacities. The competent ministries in Serbia are also aware of this, which is why the Strategy of developing renewable energy sources, including hydro-potentials, emphasizes these in its plans up to 2015. Moreover, according to the document, "Strategy of Energy Development of the Republic of Serbia up to 2015," the "increased use of renewable sources, in addition to obvious economic effects, such as the reduced consumption of imported energy and threats to the environment, engages domestic capital, and stimulates small and middle enterprises, as well as the domestic production of equipment for the exploitation of these energy sources."[10]

[10] Energy Development Strategy of the Republic of Serbia up to 2015, "Official Gazette of the RS," No. 44/2005.

According to the data of the Serbian Ministry of Mining and Energy, only about 10% of the energy produced in Serbia, or 0.86% million ten (tons-equivalent of oil), comes from renewable sources, with all or almost all of the production coming from the big hydro-electrical plants such as Đerdap I and Đerdap II.

The economic calculation for building mini hydro-electrical plants can be explained as follows. When it comes to construction costs, it is considered that a single watt of installed power costs one euro, which means that an investment of 10,000 euros can produce a 10 kW electrical power plant, enough for the needs of a single household. Out of that total, about 60% of the money would go for the machinery that produces electrical power, while the rest would go to construction costs. Furthermore, a small hydro-electrical plant of e.g. 1.5 MW of power, can be built in the space of 9 months to a year.[11] All the waterways going through Serbia can yield about 500 MW of electrical energy by way of mini hydro-electrical plants, with the most suitable locations being in the areas of Kragujevac, Užice and Niš. If built, these 500 MW of power produced from mini electrical power-plants, integrated into Serbia's electrical power grid, would bring a savings of 50 million euros per year relative to the construction of a thermo-electrical power plant of the same power.

Of course, the profitability of constructing mini hydro-electrical power plants depends on their size. A mini hydro-electrical power plant of 2 MW of power will pay itself off in 5 to 7 years, and would cost about 2 million euros to build.

The problems encountered by potential investors in the building of mini hydro-electrical power plants in Serbia are, it can be freely said, absurd. Their requests are very efficiently resolved at the level of the Ministry of Mining and Energy, within 15 days, but the big problems start in gaining location and construction permits, which are issued at local, i.e., municipal level. Although required by law to issue all the necessary documents within one month, many local authorities simply ignore this deadline, under the excuse that they lack an adopted spatial plan. Thus, the issuing of such permits can last a year or longer. In that context, Serbia has already obligated itself to the European Union to produce at least 20% of its energy from renewable sources by 2020. At this moment, we are lagging behind the EU by at least 15-20 years, and are producing only 2-3% of energy from renewable sources.

7. Serbia's electrical power grid (EMS)

The revitalization of the existing and the introduction of new transformer stations and power lines into Serbia's electrical grid works has ensured Serbia's

[11] An investor recently raised 7 million Euros for the building of three mini electrical power stations with 3.6 MW of total power. It requires 2.2 m^3 of water flow per second, which is something that any mountain spring or stream in Serbia can provide.

leading position in the transfer of high voltage electrical energy, and the Serbian Electrical Company's plans for building new capacities in Serbia and Republika Srpska serve as a guarantee that sufficient electrical power will be available both for domestic use and for export. When the Western European power system collapsed in November 2006, most of Germany, Belgium, Holland, France, Spain, Portugal, Switzerland, Italy, Austria and Slovenia were left in the dark. Households as well as industrial plants were left without power, with the longest outages lasting 90 minutes. This caused substantial damage, with effects being felt as far away as Morocco, which is connected to Spain by cable. Europe lacks electricity, and high voltage transfer over the high voltage grid is often problematic. Thus, by way of a domino effect, a breakdown in the north German grid was automatically felt throughout Europe.

Serbia's electricity supply was not affected, but the Serbian dispatch center closely monitored the events both in Western Europe and in the region, and managed, by connecting their consumers to the Serbian system, to save the neighboring electrical power systems of Hungary, Bosnia and Herzegovina and Croatia from outages. The initial problem in the Western European electrical power system occurred on the long-distance power lines on the Ems river in Germany, which are shut down at certain intervals to allow the passage of ships. Still, the Serbian EMS managed to protect its consumers from the chain reaction and the ensuing dark. Of course EMS would not have managed this without the Serbian Electrical Company. While EMS constantly invests in the grid in order to improve the electrical energy transfer system and raise the security of power supply, EPS is the entity that actually produces the electricity.

According to our research, at the beginning of 2007, EMS launched the 400/110 kV Sombor III transformer station. The total cost of the project equaled 16.9 million euros, with the European Bank for Reconstruction and Development providing 15.5 million euros and EMS providing the rest. The significance of this transformer station is great: on the one hand, it raises the quality of delivered electrical energy by increasing the voltage, thus stabilizing electricity delivery while, on the other, the resulting stable delivery reduces loss of electrical energy during transfer through the grid (8 MVA), reduces the pressure on other transformer stations in the area and increases the security of delivery to consumers. The second construction phase calls for the connection of this transformer station with the Sremska Mitrovica II transformer station by way of a 400 kV transmission line, the building of an interconnection link with the Hungarian power transmission system, and the installation of a second, 300 MVA transformers. Together with the previously opened Jagodina IV 400/110 kV transformer station, the Sombor III station is the most modern plant within Serbia's transmission system, in accordance with the latest European standards.[12]

[12] "Pustena u rad trafostanica Sombor III," *Danas*, January 16, 2007.

Thanks to Serbia's geographical position, its existing transmission grid is recognized as an important factor of European integration. In order to strengthen this position, in addition to regular maintenance of it transmission system, EMS devotes particular attention to investments. Thus, in 2011, it will start with the construction of an international transmission line from Niš to the Macedonian border (toward Skoplje), beginning with the portion extending to Leskovac.

Also important to mention as that EMS is the operator of the transmission system and of the electrical energy market and, as such, represents a natural monopoly. EMS was conceived after the example of transmission system operators in developed European countries, and is absolutely ready for liberalization in the course of the creation of an electrical energy market. It, thus, ensures non-discriminatory access to the grid to all licensed participants in the electrical energy market, manages bottlenecks in the transmission grid, and ensures transparent pricing and procedures for the provision of cross-border capacities. EMS is an important factor in European integrations, especially in Southeast Europe, in regard to the north-south and east-west transmission of large amounts of electrical energy, as well as the implementation of the provisions of the agreement on the establishment of the Energy Community of South East Europe.

The plans for the development of EMS transmission capacities up to 2015 are in accordance with regional needs. This is especially important when it comes to the building of interconnected transmission lines with neighbouring countries.

8. Projected development of electrical energy capacities in Serbia

The development of Serbia's electrical energy capacities has been projected on the basis of the Republic of Serbia Energy Development Strategy up to 2015.

Table 6: *Projected production, consumption, and import of electrical energy, and projected losses in the distribution grid*

Production	Unit of measure	Realized 2007.	2008	2009	2010	Plan 2011	Plan 2012	Plan 2013	Plan 2014	Plan 2015
El. energy	GWh	34,952	35,220	34,638	34,886	36,543	37,161	37,119	38,362	38,575
Prod. HE	GWh	10,453	11,041	11,128	11,128	11,128	11,128	11,128	11,128	11,128
Prod. TE	GWh	24,499	24,179	23,510	23,758	25,416	26,033	25,991	29,062	29,139
Prod. coal for TE	1,000 t		35,472	35,824	35,552	36,309	35,802	35,864	37,262	38,952
Total coal prod.	1,000 t		37,951	37,709	37,772	38,529	38,022	38,084	39,482	41,172
Final EE consump.	GWh	27,156	28,515	28,963	29,465	29,871	30,294	30,633	30,912	31,195
Agreed Serbian delivery	GWh	1,235	1,105	1,071	1,071	1,071	1,071	1,071	1,071	1,071
Import	GWh	1,041	1,060	2,126	2,363	1,029	751	1,033	0	0
Grid losses	%	12.2	13.8	13.6	13.4	13.2	13.0	12.8	12.7	12.6

Source: EPS documentation

In preparation for the coming market competition, EPS has engaged three consulting firms for three projects: the organizational and financial restructuring of the company, choosing and attracting strategic partners for the building of TE Kolubara B power plant and the project for the reconstruction of the TE-TO Novi Sad power plant. In realizing these projects, the EPS leaderships expects to take the leading role in the electrical energy sector in Southeast Europe, in addition to becoming a significant exporter of electricity.

A consortium comprising EPIC (Austria) and the Belgrade University Faculty of Electrical Engineering is to analyze potential investment projects for the completion of the TE Kolubara B, as well as for the construction of a new, high-efficiency block of similar or greater capacities. Both the power plants should use the same type of fuel: lignite from the Kolubara surface digs. This should be a power plant with two blocks, each with 350 MW of installed power. As certain potential strategic partners have shown greater interest in the building of a new, modern thermal energy plant of about 700 MW of power as well, but at the site of the TE Nikola Tesla B plant in Obrenovac, than in continuing the construction of TE Kolubara B, the people at EPS are of the opinion that the building of this second power plant should also be considered. The construction of new capacities is economically more profitable in the long term than investment in installing ecological equipment onto inefficient plants, and it also allows a more rational use of limited coal reserves.

The reconstruction and new additions to the TE-TO Novi Sad plant will allow this, one of the biggest thermal energy plants in Serbia, to definitely stabilize the state of the high voltage power grid. TE-TO Novi Sad uses natural gas or mazut as fuel. The reconstruction of this plant into a combined plant with a gas and steam turbine, or the building of a new gas-steam block at the same site, should ensure its profitability under market conditions and normal fuel and energy price ratios. The new plant should be flexible in terms of workload changes. Also, it should be able to come on line at great speed, which is significant for the functioning of the electrical energy system. In addition, new electrical energy capacities in Vojvodina will contribute to the stabilization of the work of the transmission grid and secure the needed reactive power. The financing model assumes the participation of a foreign strategic partner, similarly as in the case of the thermal energy plant that is to be fueled by Kolubara lignite.

When we add to these plans the realization of the joint project with Republika Srpska in the construction of the "Buk Bijela" hydro-electrical plant on the Drina, as well as the revitalization of the HE Višegrad hydro-electrical plant on the Drina, Serbia would, along with Republika Srpska, be in a position to completely end dependence on imported electricity, becoming the leading electrical energy producer in Southeast Europe.

9. Economic aspects of using wind for producing electrical energy

Wind-produced electrical energy is the cleanest form of energy. Despite significant advances in the efficiency of use of this form of energy, wind is currently used only by states whose potentials have been explored or those with the financial capacity to invest in the research and production of eolian energy. So far, over 100,000 MW worth of wind-generating capacities have been installed throughout the world, of which about 60,000 in Europe. It is estimated that 160,000 MW will be installed by 2011, with China and India leading the way. Serbia has the potential of producing 2.3 billion kWh of wind-produced electrical energy, which would bring about 120 million euros in profit.

Wind power stations have once again become interesting as a powerful source of energy. Namely, in addition to the US, in the 1980s Germany, Italy, Holland and Denmark undertook to master wind-generated energy. The Dutch made the best blades, while the best generators were produced in Denmark. In that context, it is interesting to note that one of the leading Danish firms was using asynchronous motors produced by the Subotica-based "Sever" company and installing them in its final product, which was exported to the US. Between 1991 and 2001, the average annual growth of wind-generated energy equaled 30%, while installed power quadrupled between 1999 and 2005.[13] Wind-powered

[13] M. Popović: "Energija vetra, snaga pokretnog vazduha," *Planeta* magazine, No. 22, 2007.

plants have a short period of investment construction, their seasonal peak electrical energy production matches seasonal peak consumption, and their production has minimal environmental impact.

Research conducted by Prof. Marko Popović reveals that, in order to economically produce electrical energy with a wind-powered generator, one requires a minimum average annual wind speed of 5 meters per second, at 50 meters above ground level. Serbian sites that are the most favorable for the construction of wind-powered stations have been explored and located. These are sites on Mt. Midžor, Mt. Suva Planina, Vršački Breg hill, Mt. Stara Planina, Krepoljina near Donji Milanovac, Mt. Tupižnica, Mt. Jastrebac, Deli Jovan. The village of Dolovo in Vojvodina has been explored as a characteristic model of site suitable for exploration in other regions. For example, a 100 MW wind-powered generator could be installed in the area of Bela Crkva, and a 20 MW generator in the Inđija area. The total power potential of wind-powered energy plants that could be built in Serbia equals 1,300 MW of energy.[14]

A 6 kW wind-powered generator can produce 16,500 kWh of electrical energy. Research shows that the most economically rational combination is to build and combine a solar module and a wind-generated power plant on Serbian farms, which would allow great use of the wind and the sun, which are natural energy resources, and also bring significant financial effects. Also, Serbian meteorologists have developed a globally recognized method for modeling air streams, primarily for the purposes of more accurate weather forecasting. These methods can also be used in the field of wind-powered energy.

9.1. The economic aspects of building a wind power stations

Windmill construction is quite expensive. An investment in a wind farm costs 1.7-2 million USD per unit. Since there is no such production in Serbia, it is proposed that the price per kWh should be 11.5-euro cents. The average price for electrical energy produced by hydro and thermo-electrical plants equals 5.7 cents per kWh. Naturally, the question is – who is going to make up the price difference? Wealthy states subsidize the building of wind farms, with Germany, Austria and Denmark leading the way in Europe, and China, India and the US states of California and Texas in the rest of the world.

The price of wind-generated electricity cannot be compensated solely over the backs of individual consumers and households. The method of price dispersion in the accelerator should be used here as well. In other words, all electrical energy consumers should share the load equally, meaning both households and businesses. The Republic of Serbia has set up an appropriate support mechanism for the production of green energy, but more on this later.

[14] Ibidem

Currently interested investors have raised about 150 million USD for the construction of wind power stations in Serbia.[15] The first wind power station will be plugged into Serbia's electrical energy system at the end of 2011, with the others following in 2012 and 2013.

9.2 The German experience

Germany has seen electrical energy production from renewable sources rise each year. By 2010, eco-electricity production in that country has risen to 41.4 billion kWh, making up for 13.3% of all electrical energy produced in Germany.[16]

Germany produces 24,000 MW of wind-powered electricity, or 10% of its electrical company's installed energy, which, of course, does not satisfy the Germans. The plan is for at least 50% of energy produced by 2020 to come from renewable sources – the wind, the sun or sea waves.[17]

In order to achieve this, the Germans have also elaborated measures that will facilitate the construction of wind power stations. Namely in addition to laying down the rules of the game through regulations, due to its long-term interests of electro-energetic security and stability, the German state has also decided "to pay a bonus of ten euro cents to everyone who produces and brings into the grid at least one kilowatt-hour of electricity." In this way, the state stimulates investors to engage in this business and increase the capacities of this form of renewable energy.

The Germans have also identified a small problem faced by wind power stations during times of extremely strong winds. The solution is to turn them off until the storm ends, and to compensate the missing kilowatts from other sources.

10. Solar energy as a natural resource in the production of energy from renewable sources

In Serbia, solar energy is used only for home heating purposes and, eventually, for the heating of plastic greenhouses. The experience of developed countries, whose financial capacities allow them to use solar energy, shows that sunlight could satisfy the needs of humanity as a whole, if only a way to massively use this potential could be found.[18]

Serbia has adequate conditions for the production of heat and electrical energy from sunlight. Serbia's insolation is 20-30% above the European average. With an

[15] The Serbian Wind Energy Association (SEWEA) has been established for the purpose of resolving the problems that appear in the procedure for obtaining documentation for the construction of these plants.

[16] "The Wind Industry in Germany 2010/2011," *Germany Trade and Invest,* January 2011.

[17] Ibid.

[18] A 3 KW photo-voltaic solar module can produce 28.500 kWh worth of electricity.

average of 267 sunny days per year, the average insolation in Serbia equals 1000 kWh per square meter. In accordance with economic capacities, solar energy facilities can be built for the purposes of supplying hotels and tourist complexes with energy. Also, 20 m^2 solar collectors can be installed on household roofs. As there are about 370,000 single houses in Serbia, if a solar collector was installed on every other one, this would yield several billion kWh per year.[19]

10.1. US experiences

National Geographic magazine published an account of the functioning of the Solar One plant in Nevada.[20] On a sunny day, when high temperatures are expected, the engineer's job is to monitor the solar cells, i.e., the parabolic mirrors that direct sunlight toward the long steel pipes through which oil flows, heating it up to a temperature of 400 °C. From the "mirror field" the hot fluid flows into giant radiators that extract the heat and turn water into steam. The steam powers the turbines and the dynamo, producing up to 64 MW for the electrical grid, or enough electrical energy for 14,000 households.

American scientists have also arrived at an interesting calculation. Namely, humanity today needs about 16 terrawatts of energy (1 terrawatt = 1 billion watts), and this is supposed to increase to 22 terrawatts by 2020. Total solar energy on the landmass of the earth equals 120,000 terrawatts, which means that this form of energy is inexhaustible and practically limitless.

In addition, scientists are now only a step away from finding a way to use the sun's entire light and heating potential. Namely, the said article mentions that there are two ways of overcoming the problem of using the sun's potential.[21] The first is the production of steam by way of parabolic channels, as is done in Nevada, or through fields of flat, computer-guided mirrors or "heliostats," which focus sunlight onto the receptor at the top of a huge tower. The second way is to convert sunlight directly into electrical energy by way of photovoltaic (PV) plates, made of intermediate products such as silicium.

10.2. German experiences

Germany is the world's leading producer of solar energy equipment. In fact, the Germans are so successful in this field, that it is estimated that 53% of all the world's photovoltaic energy today is obtained by solar panels placed between the Baltic Sea and the Schwarzwald, over an area 200 km long and 60 km wide.[22]

[19] Energy Efficiency Agency of the Republic of Serbia: *Developing Capacities for the Use and Promotion of Solar Energy in Serbia*, Belgrade, 2010.

[20] G. Johnson: "Plugging Into the Sun," *National Geographic*, September 2009.

[21] Ibid., p. 32.

[22] RWE, AG: *Solar Energy in Germany*, www.rwe.com

The industry of PV equipment for solar energy production has created tens of thousands of jobs over the past several years, and has enjoyed a high rate of growth. There are more than 300,000 photovoltaic systems in Germany today, dispersed throughout the country, thanks to the stimulative measures provided by the state. Electrical companies are obliged to purchase these systems at subsidized prices over the next 20 years. Today, German photovoltaic systems provide about 3,000 MW of electrical energy, or 1000 times more than in 1990.[23]

The essence of the stimuli for the production of solar, eolian and hydro-energy lies in the so-called feed-in power rate, according to which the local electrical company guarantees payment to all producers of such energy. The companies are obliged to buy solar energy for 0.49 euros per kWh. This price is, as we have mentioned, three or four times greater than the market price.

The German state will also, through its corporations, invest 400 billion euros for the construction of solar energy plants in the Sahara. At the same time, the Germans are well on their way to resolving the problem of the transmission of thus obtained electrical energy, which has a high cost due to the distance of the consumers from the base production. Experts from Siemens claim that there are high tech solutions that will resolve the problem of electrical transmission, as modern transmission lines have reduced energy loss to a tolerable 7%. According to calculations made by some German experts, a 360 km x 360 km solar mirror in the desert can gather enough energy to meet the energy needs of the entire world.

11. The economic aspects of building waste-powered energy plants

The great climatic instability caused by man-made global warming is most certainly an ecological problem of great, global dimensions. Unfortunately, greed-driven economic development has generated many mistakes, and we are now paying the price of the global technological boom, in the midst of the present economic recession. Between 30 and 50 million tons of waste of all forms and origins is thrown away throughout the world each year, most of it going to developing countries. Aware of the fact that waste is one of greatest ecological pollutants, the European Union has set down rules providing for the clear obligation of each producer to take responsibility for the waste left behind by his products.[24]

Taking into consideration all relevant facts, the Ministry of Mining and Energy of the Republic of Serbia has undertaken appropriate measures for the utilization of waste for the production of electrical and heat energy. Namely, several waste disposal sites have been built in the area of Užice, and their capacities can satisfy the entire region for the next 12 years or so. The site will also be able

[23] Ibid.

[24] European Commission Directive EC 1774/2002.

to take in waste from the surrounding towns. A waste-to-energy plant is planned to be built, and this should solve the environmental problems of Užice and Mt. Zlatibor, as well as extend the capacities of the "Duboko" waste disposal site by about ten years. The fact that a similar energy plant is located practically in the center of Vienna testifies to the efficiency and cleanness of this type of setup. The Užice project will undoubtedly succeed, and may well cause other towns to follow its path, with the help of EU funds.

Between 40 and 60 million euros will be invested in the Užice energy plant, depending on the chosen technology. Calculations show that about 250 tons of community and other waste will arrive to the "Duboko" site each day, which is sufficient supply for an 8-10 MW energy plant. The price per kWh produced would be 3.33-6.5 euro cents, which would be economically justified from the broadest aspect. [25]

12. Energy produced from biomass

We will now present the basic parameters of the very high efficiency obtained in the use of biomass for the production of electrical energy. Each 22 hectare farm can produce the energy necessary for its own functioning. A 12kW plant can yield about 32,500 kWh of electrical energy. It is also important to stress that 1 hectare of agricultural land can yield about three tons of waste biomass, which is the equivalent of one ton of light coal per year, or one ton equivalent of oil.[26]

By calculating the land area and the number of people engaged in agricultural production, we have concluded that regions that yield raw materials for biodiesel and bioethanol would each be able to employ 20,000 people, while Serbia as a whole would employ 100,000 people. The production and the placement would be certain. In addition, the logistics of the transportation of raw materials to the main factories would also employ a large number of people. As a whole, this would also be conducive to the revival of villages.

"Oil from wheat" (biodiesel) is an ecological motor fuel, produced by the fermentation of organic materials – wheat, sugar beet and corn for the present. It consists of 85% ethanol and 15% gasoline, and its emissions reduce the amount of carbon monoxide produced by 80%. It is a direct substitute for fossil fuel, and the biggest car manufacturers, such as Volvo, Ford and SAAB are already producing so-called flex fuel automobiles, whose motors run on this type of fuel.[27]

Bioethanol, a clean fuel used in internal combustion engines instead of gasoline and oil, is considered to be the energy imperative of the 21st century. The European Union has ruled that non-fossil fuels must make up at least 2% of its

[25] B. Pejović: "Prva energana na otpad," *Politika*, 22/9/2009.

[26] M. Despotović, M. Babić: *Energija biomase,* Mašinski fakultet, Kragujevac, 2007.

[27] Ibidem

energy market by 2010, with the percentage rising each year by 0.75 points, up to 5.75 points in 2013.[28]

According to our research, if only the combustion chambers in the heating plants in most Serbian cities were refurbished, this would save roughly 0.8-1 million tons of oil each year, together with the use of biomass as a renewable source. Total savings would come to about 800 million dollars annually.

13. State stimulus measures for the production of electrical energy from renewable energy sources

Stimulus measures of the Republic of Serbia for the production of electrical energy from renewable sources were defined in 2009.[29] The stimulus policy guarantees purchasing prices for all quantities of electrical energy produced in small hydro-electrical power stations, biomass energy facilities, wind power stations, solar power stations and biogas, waste or sewage gas-powered stations. The plan is to apply the stimulus measures over a period of 12 years from the beginning of production in these plants. Current calculations show that the state stimuli for energy production from renewable sources are acceptable.

Table 7: *Stimulus prices for energy production from renewable sources*

Power plant type	**Purchasing price (euro cents/kWh) x 107.00 din.**
Small hydro-electrical power stations	7.8 = 8.35 din/kWh
Biomass	11.4 - 13.6 = 12.19-14.55 din/kWh
Biogas	12.0-16.0 = 12.84 – 17.12 din/kWh
Sewage and waste gas	6.7 = 7.16 din/kWh
Wind-powered	9.5 = 10.17 din/kWh
Solar-powered	23.0 = 24.61 din/kWh
Geothermal-powered	7.5 = 8.03 din/kWh
Combined power plants	7.6 – 10.4 = 8.13 – 11.29 din/kWh
Waste-powered	8.5 – 9.2 = 9.10 – 9.84 din/kWh

Source: inistry of Mining and Energy of the Republic of Serbia, 2009.

Depending on the use of the renewable energy-run plant, our calculations show that it is most profitable to invest in small, 2 MW hydro-electrical power

28 European Commission: Report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling (February 25, 2010).

29 Ministry of Mining and Energy of the Republic of Serbia: Measues for Stimulating Energy Production from Alternative Sources, 2009.

stations, whose return on investment requires 7-9 years, while solar and wind power stations require 10-15 years for a return on investment (calculated in Serbian prices). If we were to join the European Union in that interval, then the period of return on investment would be reduced by 1-3 years, depending on the type of energy plant.

The plan is to build at least 45 MW of small hydro-electrical station capacities by 2012, 45 MW of wind-powered plant capacities, 5 MW of solar and biogas capacities, and 2 MW of biomass capacities. Total funds to be invested in various forms of energy should total 9 billion euros by 2015. The first biomass power plant, located in Dragačica village near Čačak, has been completed, and is slated to be plugged into the Serbian electrical grid in 2012.

14. Conclusion

Serbia is a signatory to various documents that regulate electrical energy production from renewable sources, as well as a participant of the Founding Conference of the International Renewable Energy Agency (IRENA). Documents from that conference are obligatory. Serbia has also ratified the Kyoto Protocol, which obliges the signatory countries to reduce global warming in order to preserve the environment. Also, Serbia is obliged to reduce fossil fuel consumption by 20% by 2020, and replace it with energy from renewable sources.

In the foreseeable future, Serbia could produce 5,000 MW of electrical energy from renewable sources. If two billion euros were invested in renewable sources of energy, Serbia's imported energy needs would drop by 30%, and fossil fuel imports would be reduced by 25%. The total volume of waste biomass equals one-third of total biomass, which, calculated in kg/J, is equivalent to about 1 million tons of oil per year. Biomass and biofuels (biodiesel and bioethanol) could replace 1.8 million tons of oil per year.

The state's current stimulus measures are stimulative and guarantee the purchase of produced electrical energy for a period of 12 years from the beginning of production. In comparison with the stimulus measures in developed Western countries, especially Germany, our stimuli are lower, which means that we must closely monitor developments and adjust to them. The stimulus level and its adjustments will also depend on the sources of the produced energy.

Together with Republika Srpska, Serbia can become a leading electrical energy provider in Europe. The Republic of Serbia is slated to invest about 9 billion USD in the building of energy plants by 2020. It would be good if 2 billion USD were invested in renewable sources of energy. Serbia's energy efficiency is 40% lower compared to the European Union, which opens up the question of applied standards in housing, commercial and industrial construction, as well as the possibility of introducing energy managers, charged with identifying inefficient energy use in companies.

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Paper received: December 15th, 2010
Approved for publication: February 27th, 2011

Original scientific paper UDC 327::911.3(497) ; 620.92:005.334(497)

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BALKAN ENERGY CORRIDORS AS A SOURCE AND POTENTIAL FOR SOLVING SECURITY PROBLEMS

Abstract: *Energy-related problems often serve as a cause for provoking broader conflicts and endangering state, regional, and even global security. The resolution of potential conflicts depends on local elites' approach to the problem as well as on their wisdom.. The area of the Balkan Peninsula is a meeting place for the interests of almost all key geo-political actors. The ability of the states within the region to recognize their mutual interests and jointly pursue their realization can largely neutralize the tendencies of great powers to pursue their own interests through the (mis)use of individual local actors. A common approach on the part of the states within the region could alter the way in which the great powers treat their interests.*

Key words: *energy hub, energy strategy, security, Balkans*
JEL classification: Q43, O13

1. Introduction

The Balkans have always held great geopolitical significance. Despite past statements that could be heard in the international political arena, such as Otto von Bismarck's saying that *the whole of the Balkans is not worth the bones of a single Pomeranian grenadier*, today's prevailing consensus is that the Balkans are a key Eurasian crossroads, a hub of international interests. In the contemporary world, the Balkan Peninsula area has not lost its importance: on the contrary, its significance has taken on a new quality in the context of geopolitical actors' changed relations and interests. Besides the interests of the Balkan states, the energy, political and security interests of great powers such as the US, EU and the Russian Federation also meet in this geographical space. Energy security appears as one of the most important security topics today. Concepts such as

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energy security, energy diplomacy and geo-energy have already cone to the forefront in both political and diplomatic public discourse. The position of the Balkans, and especially Serbia, which is located at the very center of the peninsula, is unquestionably of great importance in the said context.

This paper contains an analysis of the geographical position of the Balkans, and especially Serbia, in the context of geostrategy and energy strategy, in relation to external factors. Special emphasis is placed on the fact that Balkan states' state strategies, as well as the overall strategy of the Balkans as a whole, are to a great extent determined by external factors.

2. The Balkans: great power interests and the Balkan countries

As already mentioned, the Balkans represent one of the most important Eurasian junctions. However, the former thought regarding the position of the region, that *the road from Europe to Asia leads through the Balkans*, might today be replaced with a more adequate observation, that *the road from Asia to Europe leads through the Balkans*. Significant energy reserves in one part of the Eurasian whole, on the one hand, and increased demand for primary fuels, on the other, have once again placed the Balkan transit corridor into the center of geopolitical events. Great powers such as the US, the EU and Russia are once again turning a good portion of their attention to the Balkan Peninsula. Previously viewed as buffer zones between the ideological blocs of the East and the West, Balkan states are now taking on new attributes of geostrategic definition, appearing as key transit corridors for Russian and Central Asian energy flows.[1]

The way in which the importance of the Balkan space is manifested mostly depends on the relations of the above-mentioned great powers. Due to their ethnic mixes, Balkan states are vulnerable to the fomenting of targeted internal instability. It is, thus, no surprise that they are viewed as politically problematic and economically underdeveloped, i.e., that their state is described as either "transitional" or "post-transitional." Although the most drastic forms of conflicts have ended, these states are still unable to create, much less realize, autonomous state or regional strategies, which would articulate their interests in relation to the interests of external factors. As a result, Balkan states' existing strategies are to a great extent limited and practically conditioned upon current processes (globalization, commercialization and transition) and the relations between the political, economic and military giants.

The European Union is committed, at least declaratively, to the eventual integration of all the Balkan states. This politically significant organization is run on the basis of a common strategy made at the level of the Union. Entry into

1 M. Stepić: "Geopolitička orijentacija Srbije – evroatlantizam i/ili evroazijstvo," *Megatrend revija*, Vol. 2, No. 2, Megatrend univerzitet, Beograd, 2005, pp. 7-21.

its ranks means renunciation of a portion of state sovereignty. In that context, besides other state strategies, Serbia and other states that seek admission to the Union should also harmonize their energy strategies with that of the EU. And, since the EU has a common energy security policy and strategy, Serbia and other candidate countries have little choice but to fulfill the set criteria. In accordance with M. Simurdić's explanation of the significance of the sectoral integration in Serbia's accession to the EU as a general developmental orientation, the expected integration will be especially important for the energy sector. Serbia joined the EU's Energy Community Treaty back in 2005, along with other Southeast European states. The essence of the Treaty, and the Energy Community upon which it is based, is the implementation of directives in the area of electricity and gas, the opening of the region for necessary investments, solidarity and support for the development of member states' energy potentials. According to Simurdić, the overall effect of the said process should be the strengthening of energy security. Like other Balkan states, Serbia will become a part of the EU's energy space through *sectoral integration*, practically coming under a multinational *energy umbrella*. This is precisely the paradigm that emphasizes the Balkan states' transit potential and highlights its growing importance, in proportion to the realization of the construction of east-west corridors.[2]

However, as the Balkan geopolitical and geo-energy hub becomes more current, new options are beginning to appear, along with other actors on the pan-continental Eurasian scene, with their own views regarding the significance of the Balkan space. For the Russian side, which is the largest energy exporter to Europe, whom many are referring to as an "energy hegemon," the ordering of the Balkan energy infrastructure has a somewhat different form than for the EU. Namely, the Russian-championed South Stream energy corridor is appearing as the main competitor to the US-favored Nabucco corridor. Nabucco (which is slated to pass through Turkey-Bulgaria-Romania-Hungary-Austria) stands in opposition to the Russian plan for delivery diversification, the South Stream (Russia-Black Sea-Bulgaria-branching off to Greece and Italy-Serbia-Hungary-Austria).3 As these two projects have different paths, it is clear that Balkan states will favor the one that passes through their own territory, as well as the one that allows a more stable supply and subsequent expansion of network capacities. Therein lies the cause of the incoherence in the creation of a single regional energy policy. In that context, Serbia's position vis-à-vis the two competing projects is fairly complex. Immediately after the signing of the South Stream agreement between Serbia and Russia in Moscow, on January 25, 2008, certain EU and US

2 M. Simurdić: "Ruska energetska politika i Balkan," *Energija u Jugoistočnoj Evropi*, the sixth report within the framework of the project: "Praćenje rusko-srpskih odnosa," ISAC, Beograd, 2009, pp. 34-36.

3 R. Gec: "Trka u cevovodima između EU i Rusije," in: Bariš, K. (ed.): *Cevovodi, politika i moć – Budućnost enrgetskih odnosa EU–Rusija*, Centar za evropsku reformu, Evropski pokret u Srbiji, Beograd, 2009, pp. 93-103.

officials and energy experts expressed the view that this project undermines the planned US-EU-sponsored Nabucco gas pipeline. There are opinions to the effect that the South Stream represents a blow to the EU's plans to build its own gas pipeline, running from Iran and Azerbaijan, by way of Turkey, which would supply it with gas and reduce its dependence on Russia. On the other hand, Branko Terzić, Deloitte and Touche's Washington-based global energy expert, thinks that the South Stream has not distanced Serbia from the EU. At the same time, Terzić considers that Russian ownership over this important branch of the Serbian economy is bringing Belgrade closer to Moscow.[4] Officially, the European Commission's view is that "Serbia and Russia are sovereign countries, which are not members of the EU, and that it has no comment." However, Commission officials have also stated that "the EU hopes that the sale of the Serbian state oil company NIS (which is tied to the construction of the South Stream) will be conducted in accordance with fair market procedure." Most analyses concerning the relationship between the South Stream and Nabucco encompass broader geopolitical and economic reasons, Thus, for example, N. Sartori thinks that Moscow is aware of the strivings of the EU to diversify its gas supply, and that it is, thus, seeking to consolidate its position in the Balkan states, before all on their energy markets, since these states are future EU members.[5] In that context, it is emphasized that "the Balkans have been a region of special Russian interest for a long time, which is something that is not likely to change in the near future."[6] There is also the view that "Russia is seeking to expand its influence in order to counterbalance the Balkan states' tendencies in the direction of NATO and the EU." In that sense, M. Smith explains that Russian energy interests are the basic means of strengthening Russian influence in the Balkans and in Southeast Europe as a whole. They are a part of its energy strategy towards the EU, with the South Stream gas pipeline and the Burgas-Alexandroupolis oil pipeline as the main projects.[7]

According to M. Simurdić, Russia's energy policy intersects with the EU's energy policy at several points in the Balkans. Namely, a number of Balkan states already have EU membership (Greece, Romania, Bulgaria) and are implementing the EU's energy policy, which is still mostly under the competence of the member states. Brussels is increasing its engagement on two planes: a) by strengthening

[4] B. Terzić: "Korist za Srbiju od *Južnog toka*," *Net Dnevnik*, 8/8/2009, available at: http://www.netdnevnik.com/ekonomija/korist-za-srbiju-od-juznog-toka, as of 10/10/2010.

[5] N. Sartori: "Russia's Energy Strategies in the Balkans," *Interns Yearbook*, Analytica, Skopje, 2009, p. 48.

[6] P. Bonin: "The last reserve of the imagined Great Power - On the significance of the Balkans for Russian political and economic actors," *New Balkan Politics*, No. 3, Skopje, 2002, p. 10.

[7] M. Smith: *Russian Energy Interest in the Balkans*, Defence Academy of the United Kingdom, London, 2008, available at: http://www.da.mod.uk/colleges/arag/document-listings/balkan/08(07)MAS.pdf/view, as of 9/10/2010.

internal market regulations and improving the connectedness of the gas pipeline infrastructure and b) by pursuing a dynamic external energy policy in order to find new sources of supply. Balkan non-EU states are, nevertheless, actors within the stabilization and association process, with clear membership prospects. At the same time, by entering the process of EU integration, the Balkan states are also becoming members of an energy space and, thus, integrating themselves into the EU's internal energy market. By joining the association process, states also take on the obligation of applying EU regulations in the areas of gas and electricity. This means that, in the Balkan region, Russian energy policy is intersecting with that of the EU, whose additional ambition is to expand its regulations to the Russian "near abroad" by "exporting" them, as well as by expanding the rules guiding its internal market, thus strengthening its energy security.[8] Hence, for both actors, transit space is a priority. In the Russian case, it is a matter of finding an alternative to excessive dependence (almost 80%) on transit through Ukraine and, partially, Belarus, while the EU is seeking to lessen its dependence on Russian gas (25% average consumption and about 40% of gas imports) and to create supply paths that are independent of Russia. The embodiment of this competition is the "competition between the said two projects" (South Stream and Nabucco).[9] In addition, it should also be emphasized that the EU possesses significant leverage through its gas market regulations, which the South Stream will be forced to deal with in the future. There is also the fact that both the projects are facing the consequences of the economic and financial crisis that have come into play since 2009. Essentially, we are dealing with two approaches to the same energy issue. In the case of Russia, whose gas pipelines mostly run westward, the orientation is toward vertically integrated, monopoly companies such as "Gazprom," while the EU is pushing for market liberalization, anti-monopoly regulations and competitiveness. Currently, "gas diplomacy" has come to the forefront along the entire energy chain. Simurdić speaks of four phases in the construction of a corridor: conceptual, political, commercial and construction. "Now is the time when the matter is being decided," since both the projects are in mid course, between the political and the commercial phases.[10]

If we take into consideration that the Russian side's priority is to diversify supply routes, reduce dependence on transit states and consumer states, as well as to valorize the price of oil and gas down the entire length of the transit chain, all the way to the end users, then it can be concluded that Russia's plans are to a great degree compatible with Serbia's interests. Since the position of Serbia, as well as the entire Balkan space in today's world, is to the greatest degree determined within the EU-Russia-US triangle, it is necessary to explain the way in which the US influences the geo-energy paradigm of the Balkans. In addition

8 M. Simurdić: "Ruska energetska politika i Balkan"..., ibid., pp. 63-64.

9 Ibidem, p. 64.

10 Ibid., p. 63.

to participation in the Nabucco project, both the US and the EU are striving to diversify their energy routes. Although it favorizes Nabucco over the South Stream, the US is greatly interested in the continued diversification of energy corridors. Testimony to this are the plans to build the AMBO Burgas-Valona corridor. The AMBO project gained impetus back in 1996, at the initiative of the eponymous company (AMBO), which represents a joint project of Albania, Macedonia and Bulgaria. The US directly supported this project within the so-called South Balkan Development Initiative (SBDI), and through the Trade and Development Agency (TDA).[11] This project was conceived for the purposes of following transport Corridor VIII (Varna/Burgas-Sofia-Skoplje-Tirana), from the Black Sea to the Adriatic Sea, passing through Bulgaria, Albania and Macedonia. All the rights regarding the construction of this corridor were granted to the Anglo-American AMBO group. Some analysts, such as M. Chossudovsky[12] and G. Matthias,[13] are of the opinion that this project, whose greatest support has come from the US administration, actually represents support for US oil giants such as BP Amoco – ARCO, Chevron and Texaco. Although it did achieve higher phases of realization, AMBO nevertheless never managed to come to life, due to, as the authors claim, the intensified conflict in Kosovo and Metohija. However, explains G. Ganev, if the financial scheme were to be reactivated and completed, the project could be operational within four years.[14]

Even without the above, US presence in the region is noticeable, as testified by the Bondsteel military base, one of America's key strategic points in Southeast Europe.[15] Although, other than the Nabucco and AMBO projects, the US does not significantly participate in the creation of the Balkan energy network, the geographical proximity of Turkey and the South Caucasus is of fundamental importance for the US side. The significance of the Balkans for the US is perhaps best evidenced from the following comment: "The new step has been made – the bridgehead towards Middle East. The access to and influence on East Mediterranean, Middle East, Kavkaz Region and further towards Central Asia has been enabled across Slovenia, Bulgaria and Romania, being of utmost importance in

[11] B. Klimov: *Geopolitics vs. Globalization in the Balkans: The New Rivalries in the Energy and Transport Sectors*, Central European University, Budapest, 2003, pp. 63-68.

[12] M. Chossudovsky: *America at War in Macedonia*, Centre for Research on Globalisation (CRG), Montréal, 2001, avaliable at: http://www.globalresearch.ca/articles/CHO109A.html, as of 28/11/2010.

[13] G. Matthias: "Where is the Eight Corridor? – The Pan-European Networks (PAN) and the Economic Significance of Eastern Europe and the Balkans," *Current Concerns* 9/10, Zurich, 2001, avaliable at: http://www.currentconcerns.ch/archive/20010907.php, as of 27/11/2010.

[14] G. Ganev: "Bulgaria and Balkan Energy Flows," Centre for Liberal Strategies, Sofia, 2000, avaliable at: http://www.cls-sofia.org/publications/papers/bulgaria_and_balkan_ene rgy_flows.pdf, as of 3/4/2009, p. 3.

[15] T. P. M. Barnett, *The Pentagon's New Map*, Putnam Publishing Group, New York, 2004.

the context of approach to oil and battle against global terrorism, whose major military and ideological centers are situated in those areas."[16]

Retaining control over Turkey, which has been increasingly turning to eastern partners of late, and which has also launched its own regional initiative, is also of great importance to the US. Two key corridors, BTC (Baku-Tbilisi-Ceyhan) and BTE (Baku-Tbilisi-Erzurum), are practically the only routes that avoid Russia in the export of south Caucasian gas and oil, so their control is a priority for the US side. Maybe precisely because of this, the US is quite devoted to the promotion of the so-called Wider Black Sea Region, which would geographically complete the Turkish-Balkan energy scene. Since Turkey is also interested in deepening cooperation with Balkan countries, with the centrally located Serbia being especially important, the importance of this initiative certainly holds potential and possible benefits for all the involved actors.

The stability of the region is of the utmost importance for the Balkan states, including, of course, Serbia, with energy stability holding a special place. However, regional stability greatly depends on the mutual relations of the great powers, whose interests intersect in this region, which means that it will not greatly depend on the activities of the Balkan states themselves. Viewed from that aspect, global restructurings inevitably affect existing regional constructs, thus threatening the security of individual states, as well as the region as a whole. The inevitable conclusion when it comes to the Balkan states is that it is necessary to find compromise regarding geostrategic interests on the regional levels. The said compromise should be a result of constructive mutual cooperation, based precisely on the energy platform.

A similar concept in analyzing Northeast Asia was presented by N. Swanström, when he suggested the possibility of the formation of the so-called Asian Union, which would gather under *a single umbrella* Japan, the Russian Federation, Mongolia, Kazakhstan, China, North and South Korea and some other Central Asian states.[17] This is a fairly interesting concept, especially considering the fact that some of these states used to be in conflict, just as the Balkan states once were. Of course, the civilizational, economic, culturological and all other aspects of such a concept in Asia are quite different from those that apply in the Balkans, but an approach to an essential strategic analysis of potentials can also follow the lines of an alternative idea such as this. However, in order to be able to think in this direction, it is necessary to review all the options available to the Balkans and to Serbia, as well as what the real and projected interests of the Balkan states might be within the framework of the current order.

16 N.B. Vučinić, "Nastanak i širenje NATO – pakta," in: B. Raonić, Ž. Glušica, L. Đokaj (eds), *Razumijeti NATO*, Nansen dijalog centar - Crna Gora, Podgorica, 2007, p. 25.

17 N. Swanström: "An Asian Oil and Gas Union: Prospects and Problems," *The China and Eurasia Forum Quarterly*, Vol. 3., No. 3., Johns Hopkins University, Washington/ Institute for Security and Development Policy, Stockholm, 2005, pp. 81-97.

Before all, it is necessary to see whether a regional energy concept is at all possible, having in mind the interests of the great powers. In order to undertake a strategic analysis, it is necessary to avoid the established logic and the strategic thinking that currently exists within the framework of great power relations, at least to the extent that it is possible. Before all, this would require an essential focusing on the region itself, and the possibilities that have eventually been left unexploited.

3. The role of Turkey in Balkan energy prospects

As both a Balkan and a Eurasian state, Turkey plays a very important role in the Balkan energy paradigm. Numerous authors have explained the manifold importance of this country, in relation to Russia, the EU, as well as the US (Engdahl, Marketos, Singh, Schleifer and many others). For the Balkan space, it practically represents a transit connection with Central Asian energy reserves. Thanks to the BTC and BTE energy corridors, Turkey holds a leading role in the Middle Eastern geopolitical context and can, in fact, be called a *geopolitical balancer*. Precisely this role of Turkey holds the key for the prospects of the Balkan states and the entire Balkan region.

Namely, already in the 1990s, when it was exclusively Western-oriented, Turkey was placing emphasis in its foreign policy activities on the Black Sea region. In that context, the concept of a Wider Black Sea region should be highlighted. During the said period, Turkey undertook the initiative to institutionalize cooperation around the Black Sea, by founding the Organization for Black Sea Economic Cooperation (BSEC). In this way, Turkey showed that it understood the potential of the region much before the EU. At the same time, it undertook to create its own constructive arrangement, broadening the definition of the Caspian region to include the Balkans and the Caucasus.

The question is – what is the significance of the BSEC for the Balkans and Serbia? The BSEC has come to include Azerbaijan, Armenia, Albania, Serbia, Greece and Moldova. S. Cornell, A. Jonsson, N. Nilsson, and P. Häggström explain that, "although the establishment of the organization has not led to the recognition of the region's identity on the part of either the EU or the US, the BSEC has shown itself to be an important instrument for regional cooperation."[18] If we add to this the fact that Turkey has also gathered around itself many Central Asian and South Caucasian states through an *association of Turkish-speaking peoples*, through which it has strengthened energy ties with *energy depositor*

[18] S. Cornell, A. Jonsson, N. Nilsson, P. Häggström: "The Wider Black Sea Region: an Emerging Hub in European Security," *Silk Road Paper*, Dec. 2006, Central Asia-Caucasus Institute & Silk Road Studies Program – A Joint Transatlantic Research and Policy Center, Johns Hopkins University – SAIS, Washington, Uppsala University, Upssala, 2006, pp. 15-16.

states, such as Kazakhstan and Turkmenistan, then the potential for developing cooperation with Turkey gains in significance. Also, through a 2007 agreement, Turkey has secured Kazakhstan's (the biggest oil and uranium depositor in Central Asia after the Russian Federation) inclusion in the BTC, which, according to P. Varbanets, significantly strengthens Turkey's position in the wider region.[19] Bearing in mind that Turkey has been an EU membership candidate for 25 years already, S. Cornell et al. emphasize that the EU has "missed a golden opportunity to, by admitting Turkey, secure long-term influence in the region and solidify its energy security."[20] In that context, the integration of the Balkans into the EU would bring Turkey geographically closer to the EU. Further, since portions of the most important energy corridors are already present in Turkey, it is logical to assume (which is evident from the draft projects for Nabucco and the South Stream) that the connections will be established over the Balkan spaces.

Regardless of which of the said projects will be realized, for the Balkan states it is of essential importance to identify Turkey as an important partner, not only in the economic area (more concretely, energy), but in terms of security as a whole. Turkish experiences show that it is possible to find room for maneuver, speaking in geopolitical terms. The finding of space for independence in strategic decision-making, while at the same time respecting the aspirations and ambitions of the great powers, for which the entire pan-region is a space of strategic interest, can serve as a guidepost for the resolution of numerous problems.

An analysis of Turkey's relations with Russia, the EU and the US is important for further prospects of developing ties between the Balkan states and Turkey. The said relations can greatly influence the security of Balkan states, especially in the area of energy security. Turkey's position in relation to Russia has become more positive and open in recent years. Turkey's so-called *recent eastward turn* has opened up possibilities for cooperation and for improving the security situation in the Caucasus and Central Asia, which certainly suits the countries on the western shores of the Black Sea. Turkey could become an important partner for Russia when it comes to energy delivery diversification. The now-established holding of the *Kurultay* and the promotion of the neo-Kemalist strategy, which, according to K.G. Singh, is making Turkey into a leading actor in Eurasian international relations, and drawing it closer to Russia and Iran than to the EU and the US.[21] Sometimes characterized as a bridge, and sometimes as a barrier between East

19 P. Varbanets: "A Turkic Alliance: Possible Alternative To Turkey's Unrealized Membership?", *Central Asia And The Caucasus*, No. 1(55), CA&CC Press, Institute for Central Asian and Caucasian Studies, Luleå / Institute of Strategic Studies of the Caucasus, Baku, 2009.

20 S. Cornell, A. Jonsson, N. Nilsson, P. Häggström: "The Wider Blask Sea Region: an Emerging Hub in European Security," *Silk Road Paper*, Dec., Central Asia-Caucasus Institute & Silk Road Studies Program – A Joint Transatlantic Research and Policy Center, Johns Hopkins University – SAIS, Washington, Uppsala University, Upssala, 2006, p. 19.

21 K. G. Singh: *US-Turkish Realtions Go Wobbly, Now Over Syria*, South Asia Analist Group, paper No. 131, Noida, 2005.

and West, today's Turkey has the role of a catalyst, which, as H. Bagci explains, "now has the possibility of presenting itself as the factor that can gather together all the regional powers, with the goal of transforming the Middle East, similarly to what the US did in Europe during the Cold War."[22] In that sense, Turkey's interest in the Balkans gains additional importance. However, in order to understand the significance of the link between the Balkans and Turkey, it is necessary to also consider both EU and US interests regarding this question.

In light of the above, the EU is faced with a fundamental challenge, especially in regard to Turkey's admission to the Union. As J.W. Walker notes, tensions within Turkey regarding the country's candidate status are on the rise. The great majority of the population is feeling anxious and practically betrayed by the EU and the US.[23] On the other hand, as T.N. Marketos explains, in addition to certain EU states' antipathy toward Turkey, "the situation is not the same for an EU that stops at the Bosporus and for an EU that is touching Central Asia and embracing the Middle East."[24] Turkey's entry would compel the EU to change its Common European Security and Defense Policy. For the Turkish side, that would also entail a restructuring of its own security sector, and even of its foreign policy doctrine. On the other hand, Turkey is a longstanding NATO member and an important energy partner, especially having in mind US interests in the wider region. Especially problematic for the EU is Turkish prime minister Erdogan's statement from 2001: "Turkey should certainly take the EU into consideration, but the EU should not be Turkey's only alternative."[25] The changeable nature of Turkish-EU relations represents a variable that can also be understood as a danger to Balkan stability, as well as a chance to find a platform that might bring real benefits to all the interested parties. However, the further course of events will also greatly depend on US actions in the region.

US policy in the wider Middle East region has long followed the Truman Doctrine: that Turkey should be protected from the former Soviet Union, and that it should also be brought closer to Europe, i.e., the EU. Turkey's NATO membership is just one of Turkey's manifest ties with the US.[26] However, current events in the Middle East, as well as their consequences, are opening up space for Turkey's autonomous engagement, separated from its Western partners' plans. According to W.F. Engdahl, the increasingly stronger manifestation of Turkey's

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22 H. Bagci: "Turkey Plays Greater Role in Middle East Than Many Think," *World Security Network* News Letter, London, 2002, p. 2.

23 J. W. Walker: "Learning strategic depth: implications of Turkey's new foreign policy doctrine," *Insight Turkey*, Ankara, 2007, p. 3.

24 T. N. Marketos: "Turkey in the Eurasian Energy Security Melting Pot," *China and Eurasia Forum Quarterly*, Vol. 7, No. 4, Uppsala University / Central Asia – Caucasus Institute and Silk Road Studies Program, Johns Hopkins University, Washington, 2009, p. 96.

25 Marketos, ibid., p. 97.

26 Ibidem

so-called strategic depth in international relations and its emphasis of its regional leadership have led to a *cooling of Turkey's relations* with the US.[27] T.N. Marketos also places significance on Israel's cancellation of participation in a NATO military exercise in Turkey in 2009.[28] Many analysts have noted the strengthening ties between Turkey and Syria, as well as pronounced Turkish-Russian and Turkish-Iranian activities (Schleifer, Walker, Singh, etc.). S. Cagaptey considers that Turkey's neighbors are also benefitting from the current development of events, and that they, thus, support Turkey in its external activities, seeking opportunities to realize some of their own foreign policy agendas in the process.[29]

In the context of the analyzed course of events, the activities of the US and its European partners testify to Turkey's rising significance, as well as to the position of the Balkans in the broader regional context. Namely, in accordance with the US Greater Middle East concept and the maintenance of US primacy in Eurasia, the linking of the Balkans, the Black Sea region and the Caucasus is a vital US interest. The energy hub that is being actualized in the said space opens up the question of existing and planned energy routes, as well as questions regarding future potentials, along with the so-called *fourth corridor*, and even the *African routes*. In that context, besides Turkey and the Middle East, the African north can also join the Balkan energy transit space (before all Algeria, Libya and Egypt), thus creating a mesoregional energy complex.[30] The significance of Turkey is also affirmed through increasing US and German activities toward the completion of the mesoregional complex. In that sense, the activities of the Marshall Fund and the US administration in gathering the broader academic community and in the organization of numerous seminars – towards the goal of institutionalizing the region's identity – are quite conspicuous. Such activities do not speak only about academic discussions and the feasibility of the concept, but also about geopolitical aspirations. According to S. Cornell et al., the conceptualization of the wider Black Sea region allows the inclusion of a broader scope of security measures – from energy supplies, through organized crime, to the revival of the conflicts in Moldova and the Caucasus – which could be resolved in a comprehensive way, instead of the previous piecemeal, bilateral, ad hoc arrangements. As S. Cornell et al. conclude: "This is not just an invention, but something that reflects today's reality, in accordance with changes in

27 W. F. Engdahl: *Full Spectrum Dominance: The Geopolitical Agenda Behind Washington's Global Military Buildup*, Oil Geopolitics und Economics im Netz, Frankfurt am Main, 2008, available at: www.engdahl.oligeopolitics.net, as of 5/1/2010.

28 Marketos, ibid., p. 98.

29 S. Cagaptay: "Hamas Visits Ankara: The AKP Shifts Turkey's Role in the Middle East," *Policy Watch* # 1081, Feb. 16, Washington Institute for Near East Policy, 2006, available at: http://www.iranian-military.org/templateCO%.php, as of 4/12/2009.

30 K. Klotin, Dž. Pajper: "Energetski dijalog Rusija-EU," in: Bariš, K. (ed.), *Cevovodi, politika i moć – Budućnost enrgetskih odnosa EU-Rusija*, Centar za evropsku reformu, Evropski pokret u Srbiji, Beograd, 2009, pp. 25-33.

the European security environment."[31] The strengthening of organizations such as the BSEC and the creation of new ones, founded on energy-related platforms, will contribute to the region's energy security, as well as to overall stability in every way.

4. Conclusion

Accepting the fact that access to energy resources in today's conditions is practically the foundation of a long-term strategy, it can be observed that the regional linking of the Balkans, the Black Sea region and the Caucasus is vitally important for all the involved actors. Current conditions for stronger regional integration are not favorable due to existing ethnic tensions. However, such links would benefit not only Balkan and Caucasian states, but also the great powers – energy importers and exporters – which are trying to find a compromise solution for their energy agendas. Such a conceived energy cooperation in the region could take the place of *competing gas and oil pipelines*, through a coherent energy policy, based on an economic and security equilibrium. Although such a complex arrangement would require a compromise between the great powers, before all the US, the EU and Russia, its initial seeds might be found in subregional initiatives, which the states of the region themselves must launch and realize, in accordance with their energy and overall state policies. In fact, the critique expressed in this paper refers precisely to this lack and, in certain cases, non-existence of state energy strategies. In that sense, tendencies of being influenced by external forces represent the biggest problem. As V. Batrushka commented in his critique of the EU's energy solidarity: "It is necessary that each state first does its part of the work, its own homework, after the example of Germany and the Russian Federation, before becoming a part of the joint plans and solidarity that will eventually include all European states."[32]

The states of the region should harmonize their already initiated sectoral integrations with the EU with alternatives that could contribute to the establishment of the region's energy and, even, overall stability. The said alternatives are not necessarily opposed either to the already initiated processes vis-à-vis the EU, nor to further US plans in the region. In that context, Russian-Serbian historical, cultural and economic ties should also be mentioned, as well as those between Russia and other Balkan states. None of the analyzed options is a priori good or

[31] S. Cornell, A. Jonsson, N. Nilsson, P. Häggström: "The Wider Blask Sea Region: An emerging Hub in European Security," *Silk Road Paper*, Dec. 2006, Central Asia-Caucasus Institute & Silk Road Studies Program – A Joint Transatlantic Research and Policy Center, Johns Hopkins University – SAIS, Washington, Uppsala University, Upssala, 2006, p. 16.

[32] N. Radičević: "Rusi igraju pametnu igru," *Politika online*, Beograd, 2010, available at: http://www.politika.rs/rubrike/Svet/Rusi-igraju-pametnu-igru.lt.html, as of 19/6/2010.

bad; all should be viewed in the context of current great power relations, as well as of the interests of the Balkan states themselves.

Other planned corridors besides the South Stream and Nabucco can also play a significant integrative role in state and regional planning. Very important among these is the Constanza-Trieste energy corridor, which practically intersects the Balkans and offers new possibilities in energy-related projections. It was the brainchild of Romania, which sought to secure its own position in the region. The competition between two pathways – AMBO, which was promoted by Albania, and Burgas-Alexandropoulis, promoted by Greece, together with Bulgaria, which alternately supported both, gave birth to a new project of trans-Balkan linking, as a response to Romania's absence from regional energy plans. Constanza-Trieste appeared as a surprise, and it greatly changed the possibilities and the direction of strategic thinking in the region.[33] This project has shown itself to be both innovative and competitive, introducing a new principle and a different dimension in strategic thinking. The project shows that regional plans can also be a creative product of the confronted strategies of the *big players* interested in the Balkan transit space. In that way, all plans that are currently in play can be viewed through the prism of Balkan-Black Sea-Caucasian energy integration. Perhaps, in this context, Balkan states' state strategies might be set up differently. As many authors have observed, during the time of globalization, creativity in integrative processes is practically the key to the stability of the new world order, as well as a base for the further progress of human society as a whole.

Taking into account Russia as Serbia's most important energy partner, and its energy strategy in the Balkans, it can be concluded that all the above-mentioned developments are certainly contributing to the way in which the situation in the region has been playing out. Then Russian president Vladimir Putin's 2007 statement contributes to the pan-regional concept. In addition to saying that *Russia's strategic goal is to provide reliable energy supplies to all the states in the region*, he also spoke of future plans to *develop the gas network in Macedonia, which would eventually expand to Albania, southern Serbia and Kosovo and Metohija*, thus completing a portion of the regional complex.[34] M. Simurdić explains that the goal of Russia's energy policy is to plug as many states as possible into the gas pipeline. With such a projection, the Turkish-Balkan concept would produce multiple new possibilities, as well as advancing the market-based values, such as competitiveness and liberalization, promoted by the EU countries.

Concrete benefits from the expansion or linking of the emerging energy sub-complexes into a whole would be reflected in the following:

33 B. Klimov: *Geopolitics vs. Globalization in the Balkans: The New Rivalries in the Energy and Transport Sectors*, Central European University, Budapest, 2003, p. 68.

34 M. Simurdić: "Ruska energetska politika i Balkan," *Energija u Jugoistočnoj Evropi*, the sixth report within the framework of the project: "Praćenje rusko-srpskih odnosa," ISAC, Beograd, 2009, p. 62.

1) reduction of external costs in the energy sector;
2) increased efficiency of energy production, conversion, transmission, distribution and use;
3) reduction of transport costs in the import of quality energy sources;
4) improved security of energy supply;
5) reduction of energy poverty;
6) increased competitiveness on the energy market, investment promotion in the region; and
7) increased stability of the region.

Points 4,5,6 and 7 are especially important, in addition to which the strategic position of the Balkan countries would gain an added dimension – a continuation of the *intermediary role in great power relations*, in place of their previous role of a *wall between the East and the West.* As a continuation of the Turkish transit chain, the Balkan states, including Serbia, could play the role of catalyst in great power relations, by which they would, in a certain sense, emancipate themselves vis-à-vis the great powers and preempt eventual new crises in the Balkan region. Bearing in mind some of the common problems they are facing, the states of the Balkans, the Black Sea basin and the Caucasus could join their efforts in winning a better position on the transcontinental Eurasian "chessboard." This would raise the level of the region's security. Within that context, the BSEC could serve as a basis for connection and an initial step toward a more intense regional sectoral integration.

Further developments in the Balkans will show whether the geopolitical field of conflicting interests can become a space for cooperation and an integrative factor. The energy question in the Balkan region has caused many problems, and the roots of the decades of instability lie in the way in which the geopolitical and geo-energy strategies of the global actors linked with this space have been realized. If the current plans were approached from the standpoint of human security, most of the existing security challenges faced by the Balkan states would be resolved without new hardship and conflicts.

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Paper received: October 21st, 2010
Amended, upon request of the reviewer: November 12th , 2010
Approved for publication: December 1st, 2010

Original scientific paper UDC 005.591.6:334.72.021(497.11) ; 338.124.4(100)

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THE INFLUENCE OF THE GLOBAL ECONOMIC CRISIS ON RESEARCH AND DEVELOPMENT IN SERBIAN CORPORATIONS

Abstract: *The wave of the global economic crisis began to shake the world economy as early as 2007 and, by all economic measures, its consequences are still being felt today. Companies are searching for ways to survive on the market while, at the same time, continuing to work on their development. One of the ways of survival is increasingly linked with companies' abilities to develop and apply in production novelties that are a direct result of new technologies. New technologies represent a result of numerous activities within a company, especially research and development, which generate new knowledge, leading to the development of innovations. As a product of research and development, innovations have often proven to be the key determinant of company survival and development. This paper discusses the role of research and development in Serbian companies in the years before and during the crisis. Through a review of research results, we will provide answers to questions related to the degree to which research and development departments are developed in Serbian companies, as well as pose the following question: has the crisis affected these departments and the structure of their financing, and are these departments seen as drivers of development.*

Key words: *research and development, company development, global economic crisis*
JEL classification: O32, M21

1. Introduction

During the past several years, the Republic of Serbia has sought to renew and develop its economy, which was weakened by a decade of sanctions and the NATO bombardment of 1999. The wave of the global economic crisis which,

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thanks to globalization, has rapidly expanded to all national economies, has added new hardship. Greatly affecting the global economy, the economic crisis has caused large economic losses in the economic systems of all countries, some of which have had an easier time in battling this phenomenon, while others, and especially countries undergoing economic transition, have had a more difficult time in tackling its effects.

After nine years of transition,[1] implemented structural reforms and the creation of a more favorable business environment for companies, which was reflected in the Serbian economy's positive financial results in 2006 and 2007, the global economic crisis came in, further eroding the already existing unprofitability of Serbian companies during 2008, and making its effects especially evident in 2009. This assessment is additionally confirmed by data from the Republic Development Office, according to which Serbia's economy registered a negative net financial result in 2009, to the tune of 95.7 billion dinars (1 billion euros). The sustained losses (373.9 bil. dinars, or 4 billion euros) were 34.4% higher than profits (278.2 bil. dinars, or 2.9 bil. euros), equaling 12.9% of the GDP. The most negative effects of the crisis were registered in industrial production (-12.2%), especially manufacturing (-15.8%), trade (-8.7%) and construction (-17.1%).[2]

Economic indicators show that Serbia's economy has been substantially affected by the crisis, albeit with a real lag relative to the world's leading economies. The first to be hit was the Belgrade Stock Exchange, which suffered incredible falls in the values of all securities. Namely, the Belgrade Stock Exchange was greatly dependent on foreign investors, and most of its daily volume was produced by non-citizen natural persons and legal entities. The negative downward trend on the Exchange has brought problems to many funds, which have experienced significant capital outflows. Amidst these adverse business conditions, the economy has turned to financial institutions. As a result, at least in terms of business volume, the banks have suffered the least.

Due to relatively favorable legal-bureaucratic state regulations, banks in Serbia did not find it overly difficult to adapt to the new situation; they turned to the development of savings and the government anti-financial crisis package, which significantly reduced the effects of the crisis relative to that felt by other branches of the economy, where the effects of the crisis multiplied. The Government opted to fight the crisis through certain anti-crisis packages – primarily by subsidizing credits, making them cheaper for the general populace, while, at the same time, at least sustaining consumption levels, thus preventing an even deeper crisis.

Still, the Government's above-mentioned crisis-fighting method can only have a short-term effect. Stable companies must be founded in high flexibility and adaptability to market conditions, as well as in increased operational effi-

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1 According to: http://sr.wikipedia.org/sr-el/Tranzicija, from 2002. The World Bank defines Serbia as a transition country.

2 Data of the Republic Development Office.

ciency. The conclusion that can be drawn is that companies' competitive positioning, aimed at constantly following changes in the marketplace, lies precisely in investing in research and development, which can bring them comparative advantage through improved processes and innovation. It is a fact that investment in R&D can appear "thankless," as it often doesn't yield short-term results. Especially in times of crisis – when the goal is to reduce costs – investment in R&D can appear as a sort of a luxury. Still, prior experience has shown that, when top management incorporates R&D investment in its vision as a high priority, it often comes out of crisis times in a leadership role. Companies that seek to achieve a competitive advantage must develop models that are more accommodated to their environment and have greater chances of success, even if the development of such models represents an innovation not initially understood by most employees.[3]

The authors of this work conducted a survey among eighty domestic companies in various fields during 2010. The gathered data were used to carry out a wholesale analysis based on a comparison of the development of Serbian companies in the pre-crisis period and during the global economic crisis. The research results indicate differences in the way the companies did business before and during the crisis in all aspects, including their research-and-development function. This work will present the research results, placing an accent on research and development, and draw conclusions on changes in trends of R&D investment as a way of fighting against the crisis.

2. The significance of research and development in corporations

Research and development has special economic significance and can be viewed as one of the most important mechanisms for creating changes in a company. Innovations stimulated by research and development are an important factor of survival, development and competitiveness, both for the company and for the national economy. According to Professor Blagoje Babić, there are not enough natural resources for the development of the entire world considering the current dynamic of developed countries' development; thus, research and development has a special economic significance and can be viewed as one of the most important mechanisms for creating changes within a company.[4] Innovations driven by research and development are an important factor of survival, development and competitiveness, both for companies and for the national economy. Investment in research and development are usually an indicator of a

[3] I. Ljumović: "Simulacioni modeli kao podrška korporativnom finansijskom planiranju," *Megatrend revija*, Vol. 5 (2), Megatrend univerzitet, Beograd, 2008, pp. 131-149.

[4] B. Babić: "Managing current development in economies in crisis," *Megatrend Review*, Vol. 1 (1), Megatrend University, Belgrade, 2004, pp. 35-54.

government's or a company's readiness to forego ongoing operations or profits for the sake of improving future performance or return on investment, as well as of their capability to carry out research and development activities. Research and development activities are conducted in specialized units or centers belonging to companies, universities or public institutions – state institutes. Research and development refers to a sector responsible for activities of acquiring knowledge on new market-oriented products and processes.[5] The basic role of R&D is the invention and the development of products (goods and services), processes and systems that bring commercial possibilities (innovations), i.e., that secure choices for potential business growth. R&D creates possibilities, while marketing decides whether these will be used and commercially exploited.[6]

The introduction or modification of new products, processes or services that are a result of research and development satisfies existing market needs, anticipates future needs or creates new ones. In connection with this, the following issues should be subjects of detailed analysis and important decisions within companies: a) how much to invest in research and development in order to produce new products or processes; b) how much should be invested in order to improve existing products and services; and c) having in mind existing and potential knowledge and experience, is there a chance of success in a new R&D field?[7]

Companies in highly developed countries invest a great deal into research and development, seeking to make it their main pillar of development and prosperity. One of the main reasons for the existing large gap between the level of investment of highly developed countries and that of underdeveloped countries (and, thus, their respective companies) lies precisely in the amount of funds at their disposal that can be channeled into research and development. Although this may appear to be the decisive factor that makes the difference between these companies, it is also important to point out that great attention should be paid to the research and development process itself, to the goals that are sought to be achieved and the ways that will make it possible to achieve them.

According to the data of the European Commission Research Center, the 50 global companies with the highest level of research and development investments in 2006/2007 invested a total of 168 billion Euros. Highly developed countries, led by the US and EU member-states and their respective companies, lead the process of R&D investment. Growth in research and development investment was registered throughout the world in the pre-crisis years, especially in American companies. In addition, companies based in developing countries also

5 G. Komazec, S. Petrović-Lazarević: *Upravljanje razvojem preduzeća,* Megatrend univerzitet, Beograd, 2007.

6 P. Bamfield: *Research and Development Management in the Chemical and Pharamaceutical Industry*, Second, Completely Revised and Extended Edition, Wiley-VCH GmbH & Co.KgaA, 2003.

7 D. Đuričin, S. Janošević: *Menadžment i strategija*, Ekonomski fakultet, Beograd, 2005.

significantly increased their investments in research and development. This confirms a trend noted in the years that preceded the crisis, which was especially prominent in US companies and companies from developing countries. As well, companies based in Taiwan, South Korea, China and India also increased their R&D investments to above-average levels in global terms.

In order to find out what occurred during the crisis years, and what the significance of R&D is, we can refer to a recent European Commission Survey, *EU Industrial R&D Investment Scoreboard*, covering 1000 EU companies, as well as the 1000 companies throughout the world that invest the most in R&D.

The research shows that R&D investments on the part of EU-based companies fell by 2.6%, although sales and profit levels fell significantly more: 10.1% and 21.0%, respectively. The fall in R&D investment on the part of the leading US-based companies equaled 5.1%, or more than double relative to the EU. Most other countries reduced investments by about 1.9%, while Japan maintained them at the same level. Companies in some other Asian countries, such as China, India, Hong Kong, South Korea and Taiwan continued the strong trend of growing R&D investment from previous years. For the second year in a row, the Japanese Toyota automobile manufacturer led the way, with 6.8 billion Euros invested in R&D, while Volkswagen continued to lead the EU, with 5.8 billion Euros, closely followed by Nokia. As the leader of the research commission, Máire Geoghegan-Quinn, points out: "The fact that European companies relatively maintained their level of R&D investment shows their conscious strategy to use R&D investments to come out of the crisis even stronger. Still, the growing gap in favor of US companies in areas such as software and biotechnology, on the one hand, and, on the other, the increasing growth of Asia-based companies points to the dearth of innovation that threatens Europe."

During 2009, the most developed EU countries reduced R&D investments to a significantly smaller degree than did US-based companies, even though the falls in their sales and profits were at similar or even higher levels.

EU companies' R&D investments are low in key high-tech sectors. For example, the investments of analyzed US companies are five times higher in the area of semiconductor production, four times higher in the area of software development and eight times higher in biotechnology development. The largest Asia-based companies maintained their level of investment growth. China increased its R&D investments by 40.0%, India by 27.3%, Hong Kong by 14.8%, South Korea by 9.1% and Taiwan by 3.1%.

The list of the top ten investors in research and development includes three European companies (Volkswagen, Nokia and Sanofi-Aventis), three American companies (Microsoft, Pfizer and Johnson & Johnson) and one Japanese company (Toyota, of course). The list of the top fifty contains 16 European, 19 American and 12 Japanese companies. As many as 30 of these 50 companies have reduced their R&D budgets since the crisis began. In spite of the crisis, the structure of R&D investment among different sectors has largely remained unchanged. Thus, the sectors that strongly rely on R&D, such as pharmaceuticals or the IT industry, account for almost two-thirds of total R&D investment. Some automobile producers have significantly decreased the funds allotted for research and development: Ford (32.5%), Renault (26.5%), and General Motors (24.1%). On the other hand, companies such as Hyundai have actually increased their R&D investments. Still, not all the companies that have increased their investments in this regard have also succeeded in increasing their sales and profits. Such was the case with Hawaii Technologies (27.8%) and Apple (25.4%), while Bayer and General Electric have actually seen a fall in sales and profits. The alternative energy sector, for its part, has continued its rapid growth. This year's research covered 15 companies (9 more than last year) that are totally focused on ecologically clean energy. During 2009, these companies invested 500 million Euros, which represents a 28.7% growth relative to the previous year. Nevertheless, it should be pointed out that investments in alternative energies are also made by companies from other sectors, such as oil and gas manufacturers. With the EU, growth in R&D investment varies due to the differences in the structure of sectors. Some of the largest reductions in R&D investments at the national level have occurred in Germany and France – due to their large automobile industries. Countries such as Finland and Sweden, where developed IT companies prevail, have also felt the effects of the crisis. It is interesting that R&D investment in Spain increased by 15.4% - even as sales fell by 6.4% - mostly due to investments on the part of Telefonika and Acciona.[8]

3. Research method

The research was carried out in April 2010, for the purposes of gathering data on the effects of the global economic crisis on company development in Serbia. The survey encompassed eighty companies in Serbia that were on the list of three hundred best companies at that time.

A questionnaire was used as the main research instrument, composed of questions that the surveyed companies were supposed to answer. The research was based on a survey of management and employees that possessed the necessary information and could reply to the given questions, which were of both the closed and the open variety – a total of twenty.

This paper analyzes the questions related to research and development sectors in large corporations. The questions were grouped into two segments. The first group of questions was related to the situation in the years before the global economic crisis, regarding the existence of an organized entity devoted to devel-

[8] *EU Industrial R&D Investment Scoreboard*, http://iri.jrc.ec.europa.eu/research/scoreboard_2010.htm

opment, the number of employees in such organizational entities and the allocation of company financial resources for development. The second group of questions focused on the same areas, but on a different time dimension, i.e., the period of the global economic crisis. By comparing the situation in the years before and during the crisis in large Serbian corporations, the research served to indicate the changes in the R&D sector from the aspect of time distance and conditionality vis-à-vis the economic crisis.

The data collection process was carried out with much difficulty, due to the underdeveloped research culture in Serbia. According to contemporary findings, researchers are increasingly moving from post-positivism to constructivism and are becoming more ethical, displaying greater political wisdom and justness in the representation of research participants' voices.[9] Unfortunately, such a level of research culture has yet to be reached in Serbia. There were many instances where those who were surveyed resisted and refused to participate. The survey was mostly done in the form of private contacts, as, in most cases, other means of communication were unsuccessful. And even those that did furnish answers did it reluctantly. As a result, when conclusions were drawn, a certain level of eventual insincerity was taken into account, which meant that, during the final processing of data, the sample was formed on the basis of companies that were ready to participate and were economically successful.

After the survey was completed and the necessary data collected, the surveyed companies were divided into two groups. The group that we set aside, which we will present in this work, consisted of forty companies – the large corporations in Serbia. Under a corporation we mean a legal entity that accumulates capital for the purposes of production and distribution of goods and services and investment.[10] The very definition of the term "corporation" refers to a complexity and variability of structures and interested parties, so we can view it as a mechanism created in order to enable various sides to invest capital, expertise and work, with maximum benefit for all the said sides.[11]

4. Research results

The research results show that certain changes have occurred within framework of the companies' research and development function. Graphic image 1 shows the percentage of corporations that possessed an organizational entity

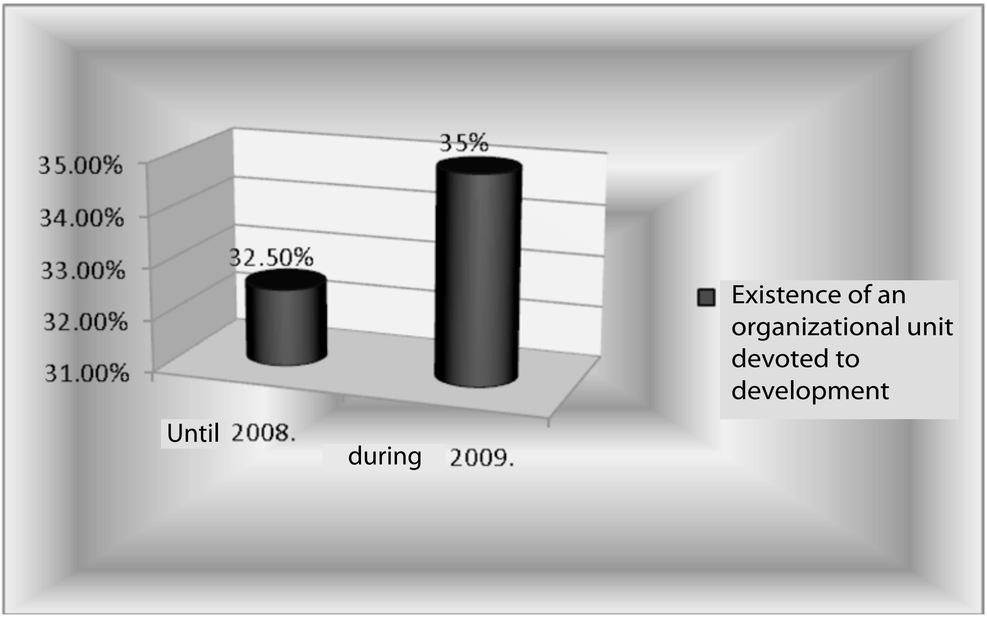
9 J. Wallace, P. C. Taylor: *Contemporary Qualitative Research, Exemplars for Science and Mathematics*, Springer, The Netherlands, 2007.

10 Definition according to Melvin Aron Eisenberg: *The Structure of Corporate Law.*

11 G. G. Dess, G. T. Lumpkin, A. Eisner: *Strategic management, text and cases*, The McGraw Hill, 2007.

devoted to development in the pre-crisis years, and the percentage of those that had such a function during the crisis years.

Graphic 1: *Percentage of corporations that had a separate organizational entity engaged in R&D*

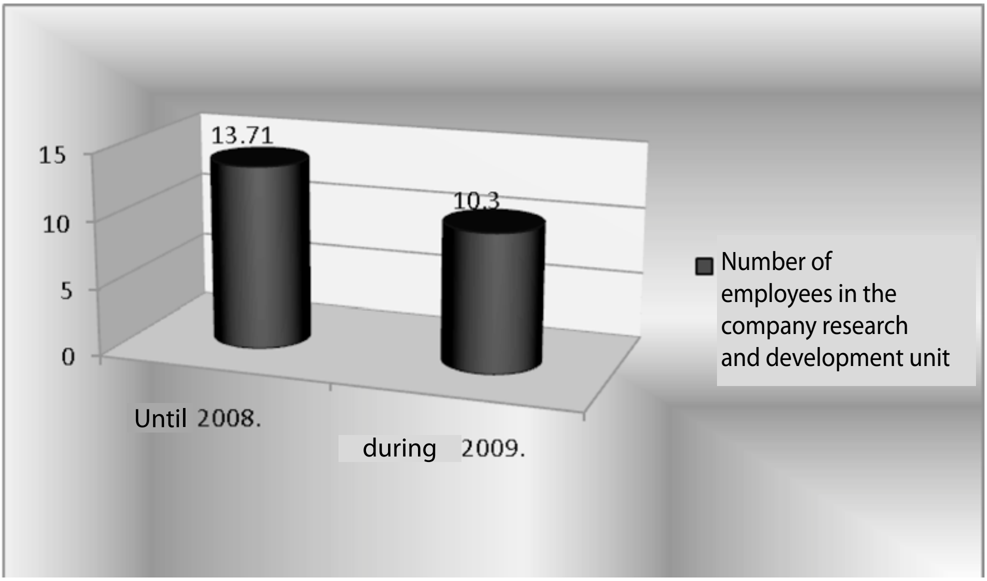


This graphic image shows that, in the period before the global economic crisis, only 32.50% of the surveyed companies had an organizational unit devoted to development. In the crisis years, the situation changed and the percentage of companies with their own research and development unit rose to 35%. The obtained result indicates positive company attitudes regarding the R&D function, and consciousness of the need to develop and apply in production innovations that are a direct result of new technologies. Technological innovations represent an important moving force that can resuscitate and stimulate companies.[12] Those new technologies and innovations are a result of numerous activities, among which research and development are the most important.

The next graphic image shows the average number of employees, by comparing the situation before and during the years of the global economic crisis.

[12] J. Tidd, J. Bessant: *Managing Inovation, Integrating Technological, Market and Organizational Change,* 4th edition, John Wiley&Sons, Ltd., 2009.

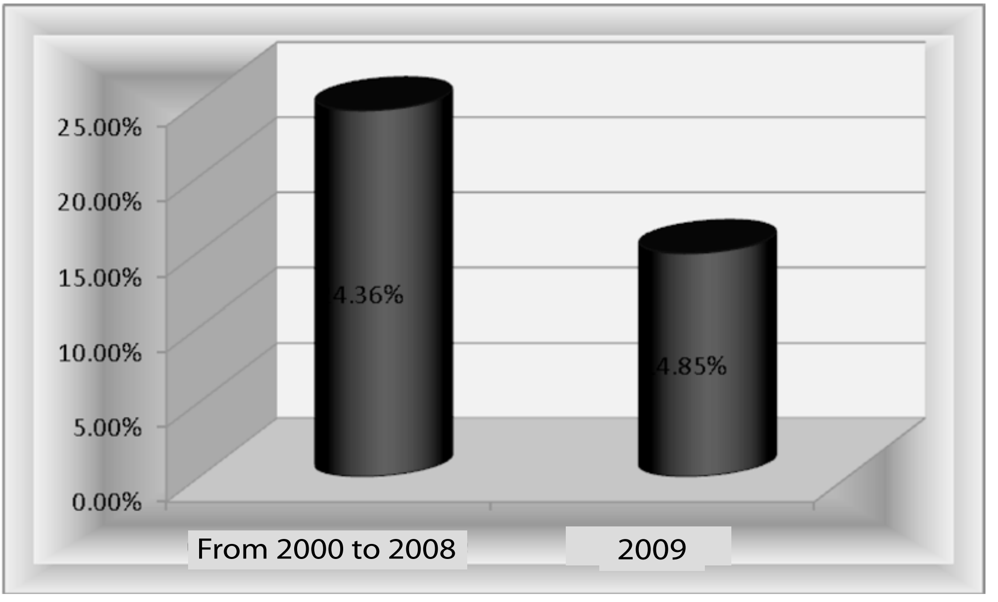
Graphic 2: *Average number of employees in R&D units in large corporations*



We can see that there was a reduction in the number of R&D unit employees. During the pre-crisis years, the average number of employees equaled 13.71%, while in the crisis years, that percentage fell to 10.3%.

The evident reduction in employee numbers, including those in the R&D sector, is a consequence of the crisis, which stands in accordance with the officially published results for the Serbian economy for 2009. The unemployment rate in the economy as a whole rose from 14% to 16.6%, while the number of employees fell by 60,000. According to the data of the Republic Development Office, in 2008, Serbia had the highest unemployment rate (14%) relative to the European Union, the euro-zone countries and neighboring countries. In the 27 EU countries, the average unemployment rate equaled 7.0%. The following countries registered above-average unemployment: Spain (11.3%), Slovakia (9.5%), Croatia (9.1%), Germany (7.5%), France (7.4%), Greece and Portugal (7.7%), Belgium (7.0%), Hungary (7.8%), Bulgaria (5.6%), and Romania (5.8%). The following countries had an unemployment rate below 5%: Norway (2.5%), Holland (2.8%), Denmark (3.3%), Cyprus (3.9%), Luxembourg (4.1%), Lithuania (4.3%), Austria (4.4%), Ireland (4.6%), Estonia (3.7%) and Slovenia (4.4%).

Graphic 3: *Average percentage of total profits allocated for development*



This graphic image shows the average percentage of total profits that corporations allocated for development. We can see that, during the pre-crisis period, 24.36% of profits was allocated for development, while only 14.58% was set aside during the crisis.

Unfortunately, it is clear that the funds set aside for research and development in Serbia are quite modest and insufficient. One of the main reasons for this lies in the lack of funds available to domestic companies, but also, quite certainly, in the lack of consciousness on the part of these companies' management regarding the significance of the effects that investment in research and development could bring to their companies. It is important for this consciousness to change, and that it be understood that research and development in today's world ensures continued, long-term survival on the market, through the creation of new products and services, i.e., through the creation of new added values.

5. Conclusion

The goal of this research was to gain understanding regarding research and development in Serbian companies before and during the global economic crisis. Also, we sought to determine the degree of significance given to this function within companies and whether there were significant differences in the behavior and the investment of large Serbian corporations during the said period.

The research used data collected through surveys and interviews conducted within large corporations from the list of the 300 best corporations in Serbia. Regardless of the limitations of the research method and the size of the sample, some important conclusions may be drawn.

We can conclude that only a small number of companies in Serbia have separate sectors devoted to research and development. What is positive is that the number of companies that formed such an entity has increased during the crisis years.

We also conclude that the number of employees in this organizational sector declined, which means that, during the crisis period, domestic companies oriented themselves towards internal operational factors. They improved their utilization of employee knowledge, and oriented themselves towards a more detailed knowledge of processes and operations in order to reduce costs, which allowed them to increase their innovative capabilities.

Another important conclusion is that only a very small number of companies set aside funds for research and development, and even those that do allocate only small amounts, far less than necessary and that would enable them to achieve certain market advantages.

After applying simple comparative analysis, the conclusion that can be drawn is that Serbian companies have invested relatively little in their existing research and development functions, but that they have maintained their levels of investment during the crisis. On the other hand, the significantly higher number of companies that have established R&D sectors during the crisis is encouraging, from which it can be concluded that, under crisis conditions, many Serbian corporations have come to realize the significance of this sector in the fight against the crisis.

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Paper received: February 1st, 2011
Approved for publication: March 1st, 2011

Original scientific paper UDC 31:338.45(497.11)

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THE INDEX OF INDUSTRIAL PRODUCTION – THE FIRST AMONG THE SERIES IN SERBIAN ECONOMIC STATISTICS

Abstract: *The paper presents the methodology, data collection, dissemination and uses of the Index of Industrial Production for Serbia. The Index of Industrial Production for the entire industry is used in the analysis of industrial and labor productivity, but also as an indicator of current economic trends and as an indicator of the long-term trend in the Serbian economy. There are some possibilities of using the Index of Industrial Production as a cyclical coincident indicator in cyclical analysis, which is demonstrated in the paper. The changes in methodology of compilation of the Index over the past few years, and their impact on the coverage of the Index will be discussed. The Index of Industrial Production for the entire industry cannot be treated separately from indices of industrial production at lower aggregation levels (groups, branches and sections of industry), considering that the procedure for its calculation is based on those indices; therefore, those indices, the methodology of their compilation and the uses of indices will also be discussed in the paper.*

Key words: *Index of Industrial Production, coincident indicator, cyclical analysis, Serbia*

JEL classification: C43, E37

1. Introduction

The Index of Industrial Production expresses changes in the volume of industrial production and is calculated as the ratio of the physical volume of an industrial group's industrial production over an observed period of time and the same industrial group's physical volume of production over a base period of time. In Serbia, the Republic of Serbia Statistical Office calculates the indices of industrial production for the following industrial groups: industry – total, sectors, subsectors, sections, branches and groups of the Classification of Activities, and for the

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main industrial groups by economic destination. However, when the "Index of Industrial Production" is mentioned in economic analysis and literature, unless otherwise noted, it refers to the Index of Industrial Production for industry as a whole. Actually, the "Index of Industrial Production" for industry as a whole is the "Industrial Production – Total" index series, as this series is referred to and followed in the Republic of Serbia Statistical Office's Industrial Statistics and Time Series Base. This index of the physical volume of industrial production expresses changes in the volume of overall industrial production, covering three economic sectors: Mining and Quarrying, Manufacturing, Electrical Energy, Gas and Water Production and Supply – and represents 18.9% of Serbia's economic activity, which was the share of industry in gross added value for 2009.

As it represents almost a fifth of total economic activity, the Index of Industrial Production is considered to be one of the most important and most reliable indices of economic activity in Serbia. All macroeconomic analyses and predictions begin and end with the Index of Industrial Production. The significance that is ascribed to this series is also reflected in its place in the Time Series Base of the RS Statistical Office. Namely, the Industrial Production – Total series leads off the Statistical Offices Time Series Base, its assigned code being 010000. It is followed by other industrial production series, which are followed in the Time Series Base down to the section level of the Classification of Activities.

2. Brief overview of industrial statistics and the calculation of indices of physical volumes of industrial production

2.1 Deffinitions and classifications

According to the definition of the RS Statistical Office,[1] **industry** is an activity that entails the production of various products and the processing of raw materials of mineral, plant, animal or artificial origin. Industry encompasses sectors V, G and D of the Classification of Activities:

- sector V – Mining and Quarrying,
- sector G – Manufacturing, and
- sector D – Electrical Energy, Gas and Water Production and Supply.

The **Classification of Activities** of the RS Statistical Office is a standard by which companies, cooperatives, institutions and other forms of organization are classified by activity, i.e., the kind of economic activity in which they are

[1] Republic of Serbia Statistical Office: *Industry of the Republic of Serbia 2008*, Belgrade, 2009, p. 7.

engaged.[2] According to the Classification of Activities, companies are divided into 17 sectors, from A to NJ (in Serbian, they are denoted by a single Cyrilic letter). Sectors branch off into subsectors (denoted by two Cyrilic letter, e.g., AA, AB, etc.). The subsectors are further divided into sections (denoted by double digits, e.g., 01, 02, 03, etc.), and the sections into branches, groups and subgroups (denoted by three, four and five-digit numbers). The Classification of Activities comprises 17 sectors, 19 subsectors, 61 sections, 223 branches, 510 groups and 613 subgroups. *Appendix 1* contains the sectors of Economic Activities, while industry is represented down to the section level. The entire classification can be found on the web site of the RS Statistical Office, under "Classifications."

The Classification of Activities has been used in the compilation, processing and publication of statistical data since 2001, and it is harmonized with the European Union's NACE – rev. 1) Classification of Activities. In addition to industry, this classification is also applied in the business register, national accounts, structural business statistics, external trade, domestic trade, and employment and salaries statistics.

Until 2001, the Serbian statistical system utilized the **Uniform Classification of Economic Activities** of the former SFRY Federal Statistical Office. The Uniform Classification of Economic Activities comprised 14 activities. Industry was a separate economic activity – "Industry and Mining" – and comprised 35 industrial branches. An overview of the branches of the Uniform Classification of Economic Activities is provided in *Appendix 2*. Once the Classification of Activities was introduced into Serbia's statistical system, the Uniform Classification of Economic Activities continued to be used for a period of time in industrial statistics – indices were calculated according to the Uniform Classification of Economic Activities, and represented by code according to the existing Classification of Activities, which has been used in the classification of companies and the compilation of industrial data since 2004. The latest activities regarding the Classification are related to the harmonization of the opinions of the Serbian governmental ministries regarding the proposed Directive on the Classification of Activities (the improvement of the translation and description of activities in accordance with ministries' proposals).

Industrial products are defined as the total finished production of products listed in the Nomenclature of Products, which is the permanent base for the representation of industrial production.[3] The **Nomenclature of Industrial Products and Services** of the RS Statistical Office contains 4420 positions representing products or industrial services, branches and sections of the Classification of Activities. Along with the Classification of Activities, the Nomenclature

[2] Federal Statistical Office: *Uniform Classification of Economic Activities*, SFRY, Belgrade, January 1991.

[3] Republic of Serbia Statistical Office: *Industry of the Republic of Serbia 2008*, Belgrade, 2009, p. 7.

is the basis for the compilation of industrial production data and record-keeping regarding industrial products. The Nomenclature classifies industrial products according to the Classification of Activities sections in which they were produced: sections 10-14 comprise products under sector V of the Classification of Activities – Mining and Quarrying, sections 15-37 comprise sector G, i.e., Manufacturing, while sections 40 and 41 belong to sector D – Electrical Energy, Gas and Water Production and Supply. Each section, branch and product in the Nomenclature has its own code, description and unit of measure. The Nomenclature of Industrial Products is harmonized with the EU Classification of Products by Activity (CPA). The Nomenclature has been applied in monthly compilations of industrial production data since 2004. *Appendix 3* provides an excerpt from the Nomenclature, while the entire list of sections, branches and products, with the appropriate codes and units of measure, can be found in the RS Statistical Bureau publication *Index of the Physical Volume of Industrial Production* from 2005[4] or in the Nomenclature, on the RS Statistical Office web site, under "Classifications."

In industrial statistics, industrial products are also grouped **by economic destination**. This grouping, in accordance with the EUROSTAT methodology, is performed at the level of sections and branches of the Classification of Activities. In accordance with economic destination, there are five main industrial groups: Energy, Intermediate Goods Except Energy, Capital Goods, Durable Consumer Goods and Nondurable Consumer Goods. The group contents are given in *Appendix 4*, and can also be found in the publication *Index of Physical Volume of Industrial Production*.[5]

The **Index of Physical Volume of Industrial Production** expresses changes in industrial production volume. The RS Statistical Office calculates indices of the physical volume of industrial production **for industry – total, for sectors, subectors, sections, branches and groups** of the Classification of Activities, and **by economic destination**. Before 2001, the Index of Industrial Production was also calculated by BEC – Broad Economic Category, but only the External Trade Statistics retained this kind of classification in its data processing. The BEC method of statistical calculation was definitely abandoned in 2004. BEC contained three processing: Equipment, Semi Products and Consumer Goods.

The Time Series Base of the RS Statistical Office follows 38 index series of industrial production: for industry – total, for sectors and sections of the Classification of Activities, and by economic destination (Serbia does not have the section: extraction of uranium and thorium ore). *Appendix 5* provides a list of industrial production series in the Time Series Base, along with the appropriate codes. The first two digits of the series code refer to the series group, the section

4 Republic of Serbia Statistical Office, *Index of Physical Volume of Industrial Production*, Methodologies and Standards, No. 10, 2005, p. 21.

5 Republic of Serbia Statistical Office, *Index of Physical Volume of Industrial Production*, Methodologies and Standards, No. 10, 2005, p. 14.

of the Classification of Activities is denoted in the fourth and fifth digit, while the sector is denoted in the third digit of the series code. If the sixth digit in the series code is “0”, this refers to an index series without its own aggregate, i.e., absolute datum.[6]

2.2 Method of data compilation and scope

Industrial statistics compiles industrial production data through monthly industrial company reports on the realized volume of physical production. Two questionnaires are used:

- the IND-1 monthly questionnaire, which compiles data on total volume of products produced, on realized volume, end of the month stocks and production employees, and
- the IND-sample questionnaire for small companies, i.e., the random sample-AIND survey, which compiles data on earnings from sales of products and services and on production employees in small companies, for the purposes of supplementing regular monthly research.

The **indices of the physical volume of production** are calculated on the basis of data on the physical volume of production and employees collected through these questionnaires. In addition, the **index of employees** and the **index of labor productivity in industry**are also calculated on the basis of collected data. Since 2004, in the footnote commentary, the “Indices of Industrial Production” \Statement (IN-10) has been providing indices of total industrial production when evaluations of small company industrial production from the sample are included.

In the process of compiling industrial production data, the reporting units are industrial companies registered in sectors V, G and D of the Classification of Activities, and portions of non-industrial companies engaged in industrial activity. The IND-1 questionnaire follows reporting units – companies with 20 or more employees, which together produce 80% of the gross added value in each section. Companies that are not covered by the IND-1 questionnaire and have less than 50 employees are followed by the sample method, on the basis of the IND-AIND questionnaires. On the basis of the sample, data on the econommic activities of these companies are compiled and the monthly index of production for this set of companies is evaluated, and then included in the calculation of the industrial production index for manufacturing and industry – total, with the results provided in the commentary of the monthly report “Indices of Industrial Production” (IN 10), in monthly periodical form.

[6] The list of time series of the Time Series Base can be found in: Republic of Serbia Statistical Office, *Trends – March 2010,* Belgrade, p. xiii.

2.3. Calculating the index of the physical volume of industrial production

In the process of compiling industrial production data, industrial companies deliver data on produced volume of industrial products to the RS Statistical Office, through monthly reports/questionnaires. On the basis of the compiled data on produced volumes and the appropriate weights, the indices of the physical volume of production are calculated for the following levels: industry – total, sectors, subsectors, sections, branches and groups of the Classification of Activities, as well as for the main industrial groupings according to economic destination.

The calculation of the index of physical volume of production is performed in two phases. **In the first phase**, indices for groups, branches and sections are calculated. The calculation is performed according to Lespeyre's formula, where product volumes of the current and base period are multiplied by the weights of these products from the base period, and then the results are divided:

$$IFO_0 = \frac{\sum q_1 k_0}{\sum q_0 k_0} * 100, \quad (1)$$

where:
IFO_0 – index of physical volume of industrial production for sections;
q_1 – quantity produced in the current period;
q_2 – quantity produced in the base period;
k_0 – weights for the product from the base period.

In the second phase, on the basis of the indices obtained for sections, and on the basis of the weights for sections, the indices of physical volume of industrial production for industry – total, sectors, subsectors and by destination are calculated, according to the following formula:

$$IFO = \frac{\sum I_i W_i}{\sum W_i}, \quad (2)$$

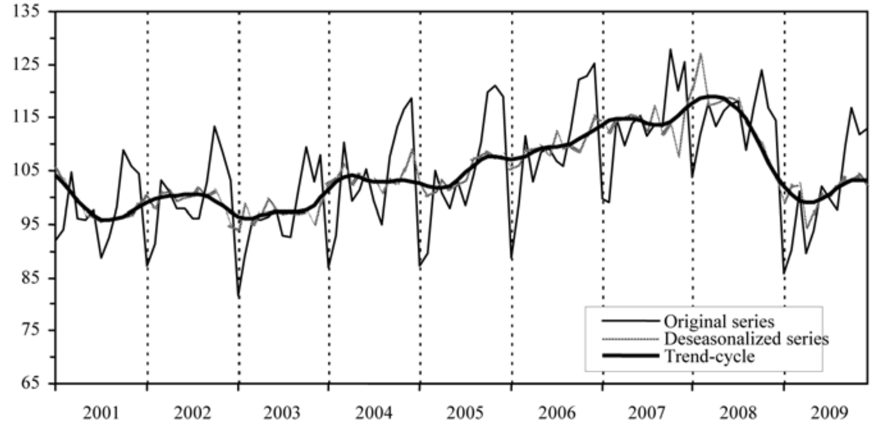
where:
IFO – index of physical volume of industrial production;
I_i – index of physical volume of industrial production of sections;
NJ_i – weight for the section for the base period.

Thus obtained, "monthly indices of industrial production express really achieved finished production in a given month from which the monthly and seasonal variations caused by different numbers of working days are not eliminated,"[7] and they are also followed, as undeseasonalized series, in the Time Series Base of the RS Statistical Office. The weights for products/services from (1) approximately represent added value per product/service unit of measure. The

7 RS Statistical Office: *Industry of the Republic of Serbia 2008*, Belgrade, 2009, p. 8.

weights for sections from (2) represent an approximate share of the added value of each section in the total added value of the industry. The data on added value are obtained from the statistics of national accounts.[8] The indices of the physical volume of industrial production are published monthly in the publications of the RS Statistical Office, in the monthly report "Indices of Industrial Production" (the report carries the designation IN10), in the monthly publication "Monthly Statistical Review," in the quarterly publication "Trends" (which always carry the date of the last month of the quarter of the said year) and annually, in the publications "The Industry of Serbia", (Bulletin), "Statistical Yearbook," "Serbia in Numbers," and "Socio-Economic Trends" (Municipalities).[9]

Graph 1 shows the series Industrial Production – Total, for the 2001–2010 period. The series was taken from the Time Series Base of the RS Statistical Office. The year 2002 was chosen as the base year. Since in the Time Series Base the previous year is always the base year (each year, the series are recalculated to the base of the preceeding year), additional index recalculations on the 2002 base were performed.



Graph 1: *Industrial Production – Total, by month, Republic of Serbia, 2001–2009 (average 2002=100)*

The first observation is for January 2001, while the last included observation is for December 2009. For deseasonalized series, the X11-ARIMA method was used, by which series in the Time Series Base are deseasonalized. The chosen

8 For more details on the way of determining weights, see: RS Statistical Office: "Index of Physical Volume of Industrial Production," *Methodologies and standards*, No. 10, Belgrade, 2005, p. 10. The details of the methodology and a list of all the methodological materials can also be found in the Statistical Yearbooks of the Republic of Serbia.

9 For more details on dissemination, see: RS Statistical Office: "Index of Physical Volume of Industrial Production," *Methodologies and standards*, No. 10, Belgrade, 2005, p. 13.

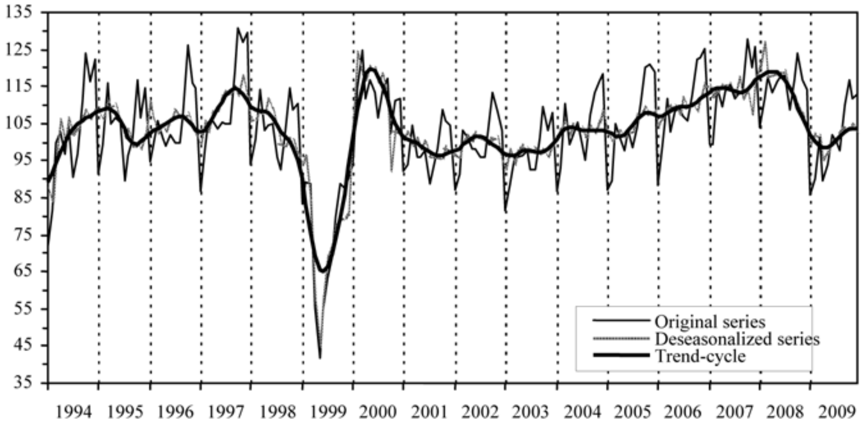
model is the seasonal ARIMA model (0,1,1)x(0,1,1)s. The average duration of the cyclical component is 6.29 months. The contribution of the cyclical component to the stationary portion of the variance is 29%. Deviations in industrial production are relatively short and frequent, and almost one third of industrial production variations are under the influence of the cyclical compoment.

3. Reconstruction of the Industrial Production – Total series for the 1994–2009 period

3.1. Industrial production in the 1994–2009 period

Industrial production data for the pre-2001 period can be found in the monthly reports of the former Federal Statistical Office, as well as in the monthly reports of the RS Statistical Office, which compiled industrial production data, processed them and sent the basic material to the Federal Statistical Office. The industrial production indices for Serbia that were published in the two offices' reports matched, since they used the same methodology in processing the data. In addition to the monthly reports, pre-2001 monthly industrial indices were also published in annual bulletins published by both the Federal and the Republic statistical offices, while annual data was published in Statistical Yearlbooks, municipal yearlbooks and other appropriate publications.

Pre-2001 industrial production data (total and by branches) represented, in the form of index time series, the contents of the FR Yugoslavia Index Base on Economic Trends for the level of FRY, in the Federal Statistical Office's ordered data base. Data from the Base were used in this paper with the goal of extending the series Industrial Production – Total to the period before 2001. The purpose of the reconstruction was to extend the Industrial Production – Total series as far back as possible, in order to secure continuity with the pre-2001 period, to obtain a series of useable data that could be of use in various analyses and to examine the possibilities of using thus extended series. The year 2002 was used as the base year for the recalculation of indices, since the currently used weighting system for the calculation of industrial production indices is from 2002. Thus the entire series was recalculated to the 2002 base. Used in the reconstruction of the series were the index corrections from the monthly Industrial Statistics Reports, which are customary at the end of each preceding year and at the beginning of each succeeding year. The series is shown in Graph 2.



Graph 2: *Industrial Production – Total by months, Republic of Serbia, 1994–2009 (2002 average = 100)*

In the process of extending the series back, the question of methodological compatibility was the most conspicuous, due to the existence of two classifications in the observed period (JKD and KD) and the "fateful" connection of the industry and the series itself with the formation of three different states (FRY, State Union of Serbia and Montenegro and the Republic of Serbia). The series was extended back to January 1994, when the Program of the Monetary Reconstruction and Economic Recovery of Yugoslavia began to be implemented. During the previous year (1993), industrial production in Serbia reached bottom. The fall in industrial production began in May 1992, due to the imposition of UN sanctions and the war on the territory of the former SFRY. The extreme fall of Serbia's industrial production in 1993, which is not shown here, was exceeded only by the fall in May 1999, during the NATO bombing. 1994 was a year of the recovery, and even "expansion," of industrial production. Industrial production rose during the 1990s, but was halted first by the sanctions, and then by the destruction of the economy and industry during the bombing. After 2001, industry began to gradually recover, with occasional slowdowns and deviations in rates of growth.

3.2. What should be born in mind?

The data from the *Industrial Production Indices* (IN10) report, which publishes indices of industrial production each month (by destination, sectors, sections and for total industry), represent previous results. Data correction is performed in the course of the year (estimated data is replaced by actual data, noted mistakes are corrected, etc.). These corrections are applied to previous months, for which data have already been published. The listing of all the preceding months is performed once a year, after the publishing of previous results for the month of December. Only then do the statistics have the final indices for all the months from January to December of the current year. Those are the indices that are published in the publications of the RS Statistical Office – *"Industry of Serbia" Bulletin*, *Yearbook*, etc. This paper utilized the final data as of December 2009.

The recalculation of indices to one base (always the preceding year) is performed through the continual division of monthly indices by the appropriate average annual index. This process starts anew each year, producing a series of comparable data that contain seasonal variations, the trend-cycle component and the irregular component. It make sense to perform further calculations of a mathematical, statistical and econometric nature on such a series of comparable data. This recalculation of indices to the previous year's average is regular practice in the RS Statistical Office, whose publications thus contain the following indices: ***current month against the previous year's average*** and ***current period against the previous year's average***. In addition to these indices, the publications also contain the following indices: ***current month in relation to the same month of the previous year*** and ***current period in relation to the same period of the previous year***. These indices are deseasonalized to a certain extent (by relating the observations for one month with those for the same month of the previous year, the seasonal influence is excluded), but are not "cleared" of chance and calendar components.

When observing and analyzing the Industrial Production Index series, what should also be born in mind is that, since 2004, industrial production in Serbia has been followed on the basis of the Nomenclature of Industrial Products and Services, new weights and a greater encompassing of economic actors on the basis of the new Classification of Activities. For the calculation of the index of the physical volume of industrial production until 2004, weights calculated on the basis of data on the industrial production of Serbia and Montenegro in 1995 were used. These weights came into use in 1997. From 1993 to 1997, weights calculated on the basis of data on the industrial production of Serbia and Montenegro in 1990 were used. Since 2004, the indices are calculated by applying weights calculated on the basis of the industrial production of the Republic of Serbia in 2002. In addition, after 2003, indices of industrial production were calculated according to the Uniform Classification of Economic Activities, according to which industry did not encompass the trades, gas fuels distribution, steam and hot water distribution, water collection, purification and distribution and publishing (see industrial branches in *Appendix 2*). As a result, the data on these activities was excluded from the calculation of indices. Since 2004, indices are calculated according to the new Classification of Activities and encompass changes in these activities, which means that industrial production is encompassed more fully.

Changes in methodology have ensured a fuller encompassing of industrial production but, at the same time, they affected the comparability of the data from the two periods. The delimitation between the two periods was performed in the

Statistical Yearbooks where it was stated, in the explanation of the methodology, which classification was used in which period and that, "until 2003, indices were calculated according to the Uniform Classification of Economic Activities, and then, through numerical code, represented in the current Classification of Activities."[10] The newer publications of the RS Statistical Office mainly present the Industrial Production Index beginning with 2004.[11]

Regarding the scope and representativity of the Industrial Production Indices, it should be pointed out that the industrial production data for the Republic of Serbia until 1998 contained data for Kosovo and Metohija. However, questions regarding the methodological compatibility, comparability and scope surpass the goal and the purpose of this paper – to present the methodology of calculating Industrial Production Indices, to extend the data series for industry – total to the pre-2001 period, to present the series graphically and present the possibilities of its use in analysis. At the same time, the available data was used, starting from the premise that the Industrial Production Index for industry – total encompassed industrial production in Serbia in accordance with the methodology, and that the Industrial Production Index for industry – total satisfactorily represents the changes and the dynamics of the entire industrial production.

4. The application of industrial production indices in macroeconomic analyses and predictions in Serbia

4.1. The Index of Employment and the Index of Labor Productivity in Industry. Application of the physical volume of industrial production in the statistics of national accounts

"The Index of Physical Volume of Industrial Production shows how much more or less, in percentages, in industrial products/services was produced in the current period on a given territory. Thus, the Index of Physical Volume of Industrial Production shows tendencies of change in the development of industry, and the dynamics of its production in shorter intervals."[12] This is the official interpretation of the Industrial Production Index when it is used in analyzing industrial production.

[10] Compare the Statistical Yearbooks of the Republic of Serbi for 2007, 2008, and 2009, pages 251, 243 and 255, respectively.

[11] For example in: RS Statistical Office: *Industry of the Republic of Serbia 2008*, Belgrade, 2009, p. 12. On the link between these two classifications, see: Federal Statistical Office: "Links of the Classification of Activities (KD) with the Uniform Classification of Economic Activities (JKD)", Version 1, *Methodological materials*, No. 379, Belgrade, 1997.

[12] RS Statistical Office: " Index of Physical Volume of Industrial Production," *Methodologies and Standards*, No. 10, Belgrade, 2005, p. 8.

In addition to the analysis of the dynamics of industrial production the industrial production index for industry – total is also used in the analysis of current economic trends and the long-term trend in the Serbian economy as a reliable and relevant indicator of economic activity as a whole. The Index of Physical Volume of Industrial Production for industry – total and the indices of physical volume of production at lower levels of aggregation are used for the calculation of indices of labor productivity in industry. Indices of Physical Volume of Industrial Production at sector level are used in the statistics of national accounts as indicators in the calculation of the gross national product.

Data on employees in industry are compiled in the process of compiling industrial production data on the basis of monthly reports. The **Index of Employment** encompasses employees in industrial activities, but not those employed in industrial enterprises who work in non-industrial activities. This is the so-called principle of pure activity in scope. For industry – total, an overview of indices of employment by year, beginning with 2004, can be found in the "Industry of Serbia" bulletin.[13]

The **Index of Labor Productivity in Industry** expresses the dynamic of labor productivity in industry; it is calculated as the ratio of the physical volume of production and the index of employees in industry. Thus, the industrial production indices are divided by the appropriate indices of employees in industry. Here the principle of pure activity in scope is also applied – the denominators are the indices of employment in industry according to their monthly reports, and not the employment data of the Employment Office, which would also encompass industrial enterprise employees that work in non-industrial activities. Indices of labor productivity can also be found in the "Industry of Serbia" bulletin.

The employee indices and the indices of labor productivity in industry are presented in the publications of the RS Statistical Office, which publish the industrial production indices. In addition, employee and labor productivity indices are published each month for industry – total and at section level in a separate publication, "Indices of numbers of employees and labor productivity in industry" (IN41).

The indices of physical volume of industrial production for sectors V – Mining and Quarrying, G – Manufacturing and D – Electrical Energy, Gas and Water Production and Supply, are used in the calculation of the gross domestic product as an indicator for the calculation of gross added value by sectors.[14] Gross domestic product is obtained as a sum of gross added value by sectors and the value of the tax on products and imports, minus the subsidies on products in constant prices.

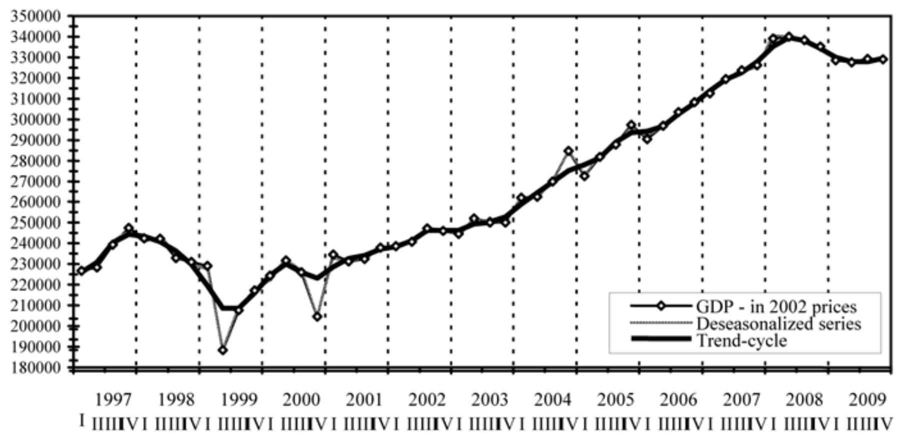
[13] RS Statistical Office: *Industry of the Republic of Serbia 2008*, Belgrade, 2009, p. 11.

[14] RS Statistical Office: Quarterly Calculation of the Gross Domestic Product of the Republic of Serbia 1999–2004, Belgrade, 2006, p. 32.

4.2. Indices of industrial production as a cyclical indicator

In addition to being applied in the analysis of industrial production dynamics and of economic trends, the index of industrial production is today used in most countries in the analysis of business cycles and a cyclical indicator and/or as a "reference series" – the series on which breakpoints in the cyclical movement of aggregate economic activity are officially dated, and on the basis of whose cyclical movements the cyclical movements of the economy as a whole are followed and analyzed. As a rule, the index of industrial production is a coincident indicator, which means that the breakpoints in the cyclical movements of the index coincide with the breakpoints of business cycles in aggregate economic activity, i.e., in the gross domestic product (they occur in the same month/quarter, eventually with a mimimal movement of plus/minus one period), and it is also pro-cyclical (the phases of expansion and contraction match). The correlation between the two series should be, and usually is, high and positive.

Until recently, the use of industrial production indices in cyclical analysis, like cyclical analysis itself, was not possible for Serbia, due to the small number of observations for the quarterly gross domestic product: from the beginning of 2009, only the data for the quarterly gross domestic product since 2001 were available. At the beginning of 2009, the RS Statistical Office published the results of the quarterly calculation of the gross domestic product, beginning with the first quarter of 1997. The increased number of data allowed the identification of business cycle breakpoints on a longer sample, as well as the first preliminary analyses of the cyclical movement of Serbia's economic activity.[15]



Graph 3: *Gross domestic product in mil. of dinars, in 2002 market prices, the Republic of Serbia by quarters, 1997–2009.*

[15] On the possibilities of cyclical analysis for Serbia before the extension of the gross domestic product series, see: RS Statistical Office: *Trends – March 2010*, Belgrade.

Graph 3 shows Serbia's gross domestic product by quarters, from the first quarter of 1997 to the fourth quarter of 2009.

In the 1997–2009 period, viewed from peak to peak, Serbia's economic activity went through an entire cycle. The cycle encompassed a phase of economic activity contraction at the end of the 1990s, as a result of international economic sanctions and the NATO intervention against Serbia, as well as a phase of expansion – the period of economic reforms, transition and the growth of the Serbian economy, which began after the political changes at the end of 2000. The first peak was recorded in the 4th quarter of 1997, while the bottom of the cycle dates to the 4th quarter of 2000 (the minimum in the 2nd quarter of 1999 represents a non-standard observation in both the statistical and the economic sense, due to wartime economic conditions). There ensued a multi-year phase of expansion in the Serbian economy, which was halted at the beginning of 2008, under the influence of the global economic crisis. The peak of the cycle was reached in the first quarter of 2008, after which came a fall in economic activity. Economic policy measures stopped this decline, and a possible bottom was manifested in the 2nd quarter of 2009.

Table 1 gives the breakpoints in the Gross Domestic Product series (by quarters) and in the Industrial Production Index series (by months). The breakpoints were determined on deseasonalized series, in the so-called *classical approach* to business cycles, which observes absolute changes, i.e., increases or decreases in the level of economic activity (real gross domestic product) and in economic time series.[16] The goal of the comparison was to determine whether the breakpoints of the Industrial Production Index by months match the breakpoints in the gross domestic product by quarter series. This is the so-called *peak-and-through* analysis, which encompasses analysis and comparison of cycle peaks/bottoms.

In dating the breakpoints in industrial production, the dilemma was how to observe the minimum in May 1999 (44.7) and the maximum in February 2000 (123.8), and whether these points should be treated as cycle breakpoints (see Graph 2). These extremes were primarily a consequence of the destruction, and then the rapid renewal of the country after the NATO intervention. Having in mind one of the rules for dating breakpoints: "Extreme values are ignored if their effect is short and reversible,"[17] these values were not considered. Instead, the breakpoints in the Industrial Production Index series were dated as in Table 1.

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16 On the classical approach to business cycles, see: V. Zarnowitz: *Business Cycles Theory, History, Indicators, and Forecasting*, The University Chicago Press, 1992.

17 The rules for the dating of breakpoints can be found in: OECD, *"Cyclical Indicators and Business Tendency Surveys,"* OECD, Paris, 1997, and in OECD, *"OECD System of Composite Leading Indicators,"* Methodology and Analyses, 2008.

Table 1: *Breakpoints in the Gross Domestic Product cycle and the Industrial Production Index cycle in the 1997–2009 period*

Breakpoints	Gross Domestic Product quarter	month	value	Industrial Production Index quarter	month	value
peak	1997:Q4	-	246229.4	1997:Q4	November	117.8
bottom	2000:Q4	-	204985.4	2000:Q4	October	92.3
peak	2008:Q1	-	340608.6	2008:Q1	February	126.5
bottom	2009:Q2	-	327551	2009:Q2	April	95.3

The breakpoints in the monthly series of the Industrial Production Index match the breakpoints in the series of the gross domestic product by quarters, while the movement of the series is pro-cyclical. However, the number of breakpoints is small, while the *peak-and-through* analysis is such that it is not possible to make statistically significant conclusions on its basis. Consequently, econometric analysis should eventually examine and confirm the coincident characteristics of the Industrial Production Index, and the possibilities of its use as a cyclical coincident indicator.

Strictly speaking, in order for econometric analysis to be valid, it should be performed on a series that would encompass data for industrial branches/sections that were not encompassed by the Uniform Classification of Economic Activities before 2004, and would not encompass data for AP Kosovo and Metohija. It might be asked how these changes would affect the values and the appearance of the series, and the dating of breakpoints. In any case, extending the series and the analysis over a longer period opens up the possibilities for examining the characteristics of the Industrial Production Index as a cyclical indicator and its use in cyclical analysis, which is the direction that should be taken in future research of the possibilities of applying the Industrial Production Index.

4.3 Analysis of current economic trends: the long-term trend in the economy of the Republic of Serbia

The Industrial Production Index is used as an indicator of current economic trends and of the long-term trend in Serbia's economy. The Index encompasses economic activity in three sectors of the economy and represents the largest aggregate of total supply. All significant events and phases in Serbia's economic life are recognized in the Industrial Production Index, which will be illustrated through the analysis of inter-year industrial production growth rates. The analysis was first performed on the original, undeseasonalized data, after which only the trend-cycle component was observed.

Table 2 presents the inter-year industrial production growth rates.

Table 2: *Inter-year industrial production growth rates in the Republic of Serbia for the 1997–2009 period (changes in %)*

Year	Months	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1998*/1997*	8.4	2.2	8.4	-2.5	0.7	-0.4	-8.2	-11.5	-13.4	-12.4	-14.4	-14.8	
1999/1998	-11.5	-11.4	-22.1	-46.3	-59.8	-47.6	-34.3	-25.6	-22.4	-22.6	-19.5	-18.4	
2000/1999	12.6	28.4	40.6	102.0	178.5	106.7	68.4	64.8	46.4	***15.3***	27.2	24.1	
2001/2000	-1.9	-17.9	-16.2	-14.2	-17.8	-13.9	-16.6	-18.6	-16.0	6.3	-4.9	-6.4	
2002/2001	-5.2	-2.7	-1.2	5.5	2.2	0.3	8.5	3.8	4.7	4.2	2.6	-1.1	
2003/2002	-6.5	-2.8	-7.0	-5.3	-1.7	-0.2	-3.5	-3.7	-1.6	-3.5	-5.0	4.4	
2004/2003	6.6	4.6	14.9	3.6	5.5	7.8	7.1	2.8	6.2	3.5	13.0	9.9	
2005/2004	0.3	-3.8	-5.0	1.6	-3.6	-2.0	-0.8	9.6	2.7	6.0	3.9	0.3	
2006/2005	1.6	10.5	6.4	1.9	10.8	5.8	8.4	1.6	2.0	1.9	1.6	5.3	
2007/2006	12.4	0.3	2.7	6.6	4.9	5.5	4.5	7.2	0.6	4.6	-2.2	0.2	
2008/2007	4.3	***12.8***	2.7	3.2	2.1	1.9	5.6	-4.1	3.1	-3.0	-2.8	-8.8	
2009/2008	-17.5	-19.5	-14.0	***-20.8***	-19.3	-13.2	-15.5	-10.3	-6.0	-5.9	-4.2	-1.2	
2010/2009**	3.2	4.7	3.8	9.0	5.5	0.6	0.3	1.4	-2.5	-1.1	0.2	0.0	

* With data for AP Kosovo and Metohija.

** Prediction.

The physical volume of total industrial production began to register an inter-year decline from mid 1998, reaching the minimum in June 1999. Negative growth rates remained until the end of the year, when industrial production began to recover and negative growth rates began to fall. In 2000, industrial production once again grew. To be sure, this growth was primarily a result of the low growth during the wartime year 1999, and the rapid renewal of the country in the aftermath of the wartime destruction. The inter-year fall in 2001 can be linked to the beginning of the transition, reforms and the adjustment of industry to new, changed business conditions. Inter-year industrial production rates remained positive in the entire remaining period, until just before the end of 2008 (except in 2003 and the first half of 2005), when the effects of the global financial crisis were reflected in the real sector of the Serbian economy. The inter-year growth rates also “caught” the breakpoints in aggregate economic activity, on the undeseasonalized data (see Table 2).

Table 3 presents the inter-year growth rates of the trend-cycle component of industrial production.

Table 3: *Inter-year growth rates of the trend-cycle component of industrial production in the Republic of Serbia in the 1997–2010 period (changes in %)*

Year	Months	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
1998*/1997*	10.0	5.9	2.9	0.6	-2.0	-4.4	-7.2	-9.7	-11.3	-12.0	-12.4	-13.7	
1999/1998	-17.1	-23.0	-30.1	-36.2	-39.6	-39.8	-37.3	-32.9	-27.2	-20.3	-11.6	-0.2	
2000/1999	15.0	33.8	54.4	72.6	83.5	84.4	77.2	65.6	51.2	35.9	21.2	8.4	
2001/2000	-2.0	-9.4	-14.2	-16.8	-17.9	-18.1	-17.4	-16.0	-13.8	-10.9	-7.8	-5.3	
2002/2001	-3.2	-1.9	-0.7	0.6	1.8	3.1	4.2	4.5	4.1	3.2	1.7	0.0	
2003/2002	-1.4	-2.4	-3.1	-3.5	-3.6	-3.6	-3.8	-3.8	-3.4	-2.3	-0.2	2.5	
2004/2003	5.0	6.8	7.6	7.4	6.6	5.8	5.6	6.1	6.5	6.5	5.6	4.0	
2005/2004	2.0	0.0	-1.5	-2.2	-1.7	-0.5	1.3	2.6	3.7	4.1	4.1	3.9	
2006/2005	4.1	4.8	5.8	6.7	7.0	6.3	4.9	3.7	3.0	3.2	4.1	5.2	
2007/2006	6.2	6.6	6.4	5.6	4.9	4.2	3.7	3.1	2.6	2.5	2.8	3.3	
2008/2007	3.5	3.7	3.8	3.8	3.7	3.3	2.6	1.4	-0.9	-4.1	-7.6	-10.9	
2009/2008	-13.4	-15.4	-16.6	-17.0	-16.7	-15.6	-13.9	-11.4	-8.5	-5.4	-2.6	-0.3	
2010/2009**	1.8	3.3	4.2	4.4	3.9	3.0	1.8	0.5	-0.4	-1.0	-1.0	-0.8	

* With data for AP Kosovo and Metohija.

** Prediction.

Until 2003, the phases of the positive and the negative trend in the industrial production series alternated. From the beginning of 2004, higher growth rates in the industrial production series were noticeable. At the same time, the gross domestic product series changed in the slope of the trend (probable above-average growth, while the contribution of industry to the growth of the gross domestic product increased). After a brief deviation in mid 2005, the trend in industrial production remained positive from July 2005 to August 2008. After reaching peaks in industrial production and economic activity in February 2008, the trend-cycle component in industrial production continued to grow for a time, but not for long (see Table 3). From May, the growth rates fell, reaching negative values near the end of the year. The inter-year rates for the period between October 2008 and December 2009 remained negative, with the deepest fall registered in April 2009. Recovery from this fall is slow, with insufficiently strong or stable production growth. From September 2009, the fall gradually slowed, to 0.3% in December. The ***prediction*** for the Industrial Production Index in 2010 indicates industrial production growth and a positive trend all the way until the last quarter of the year, which means a positive trend could be expected for the Serbian economy as a whole.

5. Conclusion

Except in analysis of industrial production, the Industrial Production Index is used in analysis of current economic trends, and as an indicator of the long-term trend in Serbia's economy. Indices of the physical volume of industrial production at lower aggregation levels are applied for calculating the index of labor productivity in industry and as indicators in the statistics of national accounts. For the purposes of examining other possibilities of using the Industrial Production Index in analyses, an extension of the Industrial Production Index series back to 1994 was performed in the paper. It turned out that the extenstion of the series opens up the possibilities of applying the Industrial Production Index in cyclical analysis, as a cyclical coincident indicator and, perhaps, one day, as an official reference series for Serbia.

When using the Industrial Production Index series in analyses, it should be born in mind that data on industrial production up to 2004 do not contain data on production in certain industrial branches that are not encompassed by the Uniform Classification of Economic Activities, while they contain data for AP Kosovo and Metohija up to 1998. Regardless of this, the extension of the series was performed in the paper on the basis of available statistical data. An official reconstruction and extension of the series would certainly be a substantially larger undertaking, which would include the recalculation of indices by including missing data on industrial production and for sections that were not encompassed by the Uniform Classification of Economic Activities, as well as other actions and procedures that would make the industrial production index even more precise. The effect of such a reconstruction on the appearance and the movement of the series will be seen once it is carried out.

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APPENDIX 1

CLASSIFICATION OF ACTIVITIES

– excerpt –

A Agriculture, Hunting and Forestry

B Fishing

V Mining and Quarrying

VA Mining of energy-producing raw materials

10 Mining of coal and lignite

11 Extraction of crude petroleum and natural gas; service activities

12 Mining of uranium and thorium ores

VB Other mining and quarrying

13 Mining of metal ores

14 Mining of other ores and stones

G Manufacturing

GA Manufacture of food products, beverages and tobacco

15 Manufacture of food products and beveages

16 Manufacture of tobacco products

GB Manufacture of textiles and textile products

17 Manufacture of textile yarns and textiles

18 Manufacture of wearing apparel and fur

GV Manufacture of leather and leather products

19 Manufacture of leather and leather prod ucts, footwear

GG Manufacture of wood and wood products

20 Manufacture of wood and of products of wood and cork

GD Manufacture of paper; publishing and printing

21 Manufacture of pulp, paper and paper products

22 Publishing, printing and reproduction

GĐ Manufacture of coke and refined petroleum products

23 Manufacture of coke and refined petro leum products

GE Manufacture of chemical products and man-made fibres

24 Manufacture of chemicals and chemical products

GŽ Manufacture of rubber and plastic products

25 Manufacture of rubber and plastic products

GZ Manufacture of other non-metallic mineral products

		26	Manufacture of other non-metallic mineral products
	GI	***Manufacture of metals and fabricated metal products***	
		27	Manufacture of basic metals
		28	Manufacture of fabricated metal products,Ž except machinery and equipment
	GJ	***Manufacture of other machinery and appliances***	
		29	Manufacture of other machinery and appliances
	GK	***Manufacture of electrical and optical equipment***	
		30	Manufacture of office machinery and computers
		31	Manufacture of other electrical machinery and apparatus
		32	Manufacture of radio, television and communication equipment and apparatus
		33	Manufacture of precision and optical instruments
	GL	***Manufacture of transport equipment***	
		34	Manufacture of motor vehicles, trailers and semi-trailers
		35	Manufacture of other transport equipment
	GLJ	***Manufacturing n.e.c.***	
		36	Manufacture of furniture and similar products
		37	Recycling
D	**Electricity, gas and water supply**		
		40	Electricity, gas and hot water supply
		41	Collection, purification and distribution of water
Đ	**Construction**		
E	**Wholesale and retail trade, repair**		
Ž	**Hotels and restaurants**		
Z	**Transport, storage and communication**		
I	**Financial intermediation**		
J	**Real estate, renting and business activities**		
K	**Public administration and compulsory social security**		
L	**Education**		
Lj	**Health and social work**		
M	**Other community, social and personal service activities**		
N	**Activities of households**		
NJ	**Extra-territorial organizations and bodies**		

APPENDIX 2

INDUSTRIAL BRANCHES
– according to the Uniform Classification of Economic Activities –

1) Production of electrical energy
2) Production of coal
3) Production of petroleum and gas
4) Production of petroleum derivatives
5) Production of iron ore
6) Metallurgy
7) Production of non-ferrous metal ores
8) Production of non-ferrous metals
9) Processing of non-ferrous metals
10) Production of nonmetals
11) Processing of nonmetals
12) Metal processing industry
13) Machine-building industry
14) Production of transport equipment
15) Shipbuilding
16) Production of electrical machines and appliances
17) Production of chemical products
18) Processing of chemical products
19) Production of stone and sand
20) Production of construction materials
21) Sawmilling and planning of wood and boards
22) Production of wood finished products
23) Production and processing of paper
24) Production of yarns and fabrics
25) Production of finished textile products
26) Production of leather and fur
27) Production of leather footware and accessories
28) Processing of rubber
29) Production of food products
30) Production of beverages
31) Production of animal feed
32) Production and processing of tobacco
33) Printing activity
34) Recycling of raw materials
35) Production of various products

APPENDIX 3

NOMENCLATURE OF INDUSTRIAL PRODUCTS
– excerpt –

10 Mining of coal
101 Mining and briquetting of hard coal
101001101 Hard coal, open pit t
101001102 Hard coal, piece t
101001103 Hard coal, powder t
101001201 Hard coal briquette t
101001202 Hard coal granulated (cube, nut and other) t
102 Mining and briquetting of brown coal and lignite
102011001 Brown coal, open pit t
102011002 Brown coal, piece t
102011003 Brown coal, powder t
102011004 Brown coal briquette t
102011005 Brown coal granulated (cube, nut and other) t
102021001 Lignite open pit t
102021002 Lignite piece t
102021003 Lignite powder t
102021004 Lignite briquette t
102021005 Lignite granulated t
102021006 Dry lignite, piece t
102021007 Dry lignite, powder t
102021008 Dry lignite, other assortments t
103 Mining and briquetting of peat
103001001 Peat t
103001002 Peat briquette t

11 Extraction of crude petroleum and gas, services
111 Extraction of crude petroleum and natural gas
111011001 Crude petroleum t
111011002 Oil from bituminous materials iz bitumenoznih materijala t
111011003 Natural gas condensate t
111014001 Bituminous and oil shale, and oil sands t
111022001 Natural gas from gas deposits, ths. m3
111022002 Natural gas from petroleum deposits (associated gas) ths. m3
111022003 Crude gasoline t
111022004 Methane ths. m3
111022005 Ethane ths. m3

111022006 Natural gas returned to wells for purposes of oil displacement, ths. m3
111022007 Loss of natural gas in production and transport, ths. m3
111023001 Liquefaction and natural gas regassification, for the purposes of facilitating transport t
112 Oil and gas production services
112001101 Drilling services in oil and gas production, ths. ef. hrs.
112001201 Setting up of drilling towers, repair and disassembling services, etc. Work in oil and gas production.

12 Mining of uranium and thorium
120 Mining of uranium and thorium ores
120001001 Uranium and thorium ores t
120001002 Uranium and thorium concentrates

APPENDIX 4

MAIN INDUSTRIAL GROUPINGS, ACCORDING TO ECONOMIC DESTINATION

Codes and designations, sections and branches of the Classification of Activities	
Energy	10 Mining of coal 11 Extraction of crude oil and gas, service activities 12 Mining of uranium and thorium ores 23 Manufacture of coke and oil derivatives 40 Supply of electrical energy, gas and hot water 41 Purification and distribution of water
Intermediate products, except energy	13 Mining of metal ores 14 Mining of other ores and stone 156 Manufacture of grain mill products and starches 157 Manufacture of prepared feeds for animals 171 Manufacture of textile yarns 172 Manufacture of textiles 173 Finishing of textiles 176 Manufacture of knitted and crocheted fabrics 20 Manufacture and product of wood and cork 21 Manufacture of pulp and paper 241 Manufacture of basic chemicals

	242 Manufacture of chemicals for agriculture 243 Manufacture of paints, varnishes, and similar 246 Manufacture of other chemical products 247 Manufacture of artificial and synthetic fibers 25 Manufacture of artificial and synthetic fibers 26 Manufacture of products from other minerals 27 Manufacture of basic metals 284 Forging of metals and powder metallurgy 285 Coating of metals and mechanical engineering 286 Manufacture of cutlery and similar general use goods 287 Manufacture of other metal products 312 Manufacture of electricity distribution equipment 313 Manufacture of insulated wire and cable 314 Manufacture of accumulators, cells and batteries 315 Manufacture of lighting equipment and electric lamps 316 Manufacture of other electrical equipment 321 Manufacture of electronic components 37 Recycling
Capital products	281 Manufacture of metal construction products 282 Manufacture of vessels, boilers and radiators 283 Manufacture of steam generators 291 Manufacture of energy-based machines, except motors 292 Manufacture of other general use machines 293 Manufacture of agricultural machines 294 Manufacture of portable hand held power tools 295 Manufacture of other special purpose machinery 296 Manufacture of weapons and ammunition 30 Manufacture of office machinery and computers 311 Manufacture of electric motors and generators 322 Manufacture of television and radio transmitters 331 Manufacture of medical and surgical equipment 332 Manufacture of instruments and appliances for measuring 333 Manufacture of industrial control euqipment 34 Manufacture of motor vehicles, trailers and semi-trailers 351 Building and repair of ships and boats 352 Manufacture of locomotives and rolling stock 353 Manufacture of air and space craft

Durable consumer goods	297 Manufacture of domestic appliances 323 Manufacture of television and radio receivers 334 Manufacture of optical instruments and photographic equipment 335 Manufacture of watches and clocks 354 Manufacture of motorcycles and bicycles 355 Manufacture of other vehicles 361 Manufacture of furniture 362 Manufacture of jewellery 363 Manufacture of musical instruments
Non-durable consumer goods	151 Production, processing and preserving of meat 152 Processing and preserving of fish 153 Processing and preserving of fruit and vegetables 154 Manufacture of crude oils and fats 155 Manufacture and preserving of milk 158 Manufacture of other food products 159 Manufacture of beverages 16 Manufacture of tobacco products 174 Manufacture of finished textile articles 175 Manufacture of other textile articles 177 Manufacture of knitted and crocheted fabrics 18 Manufacture of wearing apparel and fur 19 Manufacture of leather and leather articles, footware 22 Publishing, printing and reproduction 244 Manufacture of pharmaceutical products 245 Manufacture of soap and toilet preparations 364 Manufacture of sports goods 365 Manufacture of games and toys 366 Manufacture of other miscellaneous articles

APPENDIX 5

*INDUSTRIAL STATISTIC SERIES IN THE TIME SERIES BASE OF THE STATISTICAL OFFICE OF THE REPUBLIC OF SERBIA**

1. **010000 Industrial production - total**
2. 010010 Energy
3. 010020 Intermediate products, except energy
4. 010030 Capital products
5. 010040 Durable consumer goods
6. 010050 Non-durable consumer goods

7. **013000 Mining and quarrying**
8. 013100 Mining and briquetting of coal
9. 013110 Extraction of crude petroleum and gas, service activities
10. 013120 Extraction of uranium and thorium, (-)
11. 013130 Extraction of metal ores
12. 013140 Extraction of other ores and stone

13. **014000 Manufacturing**
14. 014150 Manufacture of food products and beverages
15. 014160 Manufacture of tobacco products
16. 014170 Manufacture of textile yarns and textiles
17. 014180 Manufacture of wearing apparel and fur
18. 014190 Manufacture of leather and leather articles, footware
19. 014200 Manufacture and products of wood and cork
20. 014210 Manufacture of pulp and paper
21. 014220 Publishing, printing and reproduction
22. 014230 Manufacture of coke and refined petroleum derivatives
23. 014240 Manufacture of chemicals and chemical products
24. 014250 Manufacture of rubber and plastic products
25. 014260 Manufacture of products from other minerals
26. 014270 Manufacture of basic metals
27. 014280 Manufacture of metal products, except machinery
28. 014290 Manufacture of other machines and appliances
29. 014300 Manufacture of office machinery and computers
30. 014310 Manufacture of other electric machines and apparatus
31. 014320 Manufacture of radio, television and communications equipment
32. 014330 Manufacture of precision and optical instruments
33. 014340 Manufacture of motor vehicles, trailers and semi-trailers
34. 014350 Manufacture of other transport equipment

35. 014360 Manufacture of furniture and related products
36. 014370 Recycling

37. 015000 Electricity, gas and water supply
38. 015400 Electricity, gas and hot water supply
39. 015410 Purification and distribution of water

* The first observation was for January 2001, except for the series 014300 Manufacture of office machinery and computers and 015400 Electricity, gas and hot water supply, where the first observation is for January 2004. All series are indexes and are followed on a monthly bases.

Paper received: January 25th, 2011
Approved for publication: February 8th, 2011

Original scientific paper UDC 330.322.14:005.336.1(497.11)"2006/2010"

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THE REALIZATION OF THE NATIONAL INVESTMENT PLAN OF THE REPUBLIC OF SERBIA IN THE 2006–2010 PERIOD[**]

Abstract: *The paper analyzes the dynamics of government investments in Serbia, from the enactment and the beginning of the implementation of the National Investment Plan in 2006. The realization of the National Investment Plan has been proclaimed as one of the key development priorities of the Republic of Serbia, and it primarily involves investments in strategic infrastructural projects that generate new job openings, poverty alleviation and the achievement of the wellbeing of all citizens. During the three short years of its implementation, this government project has been faced with major cuts in financial resources, changes in the structure of investments and drastic cuts in the number of projects.*

Key words: *government investments, National Investment Plan, Serbia*
JEL classification: H54, E62

1. Introduction

The role of state investment in the economy has long been a subject of disagreement in economic as well as public circles. On the one hand, there is the claim that an increased state role in the economy can discourage or even displace private sector investment. According to this co-called "crowding-out effect," a high level of public investment leads to a reduction in public investment. As the theory goes, state costs that are financed by debt or taxes will compete with the private sector for the use of limited physical and financial resources. In addition, increased state demand for goods and a service leads to higher interest rates, making capital more expensive for discouraged private investors.[1] In accordance

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[**] This paper is a part of the project of the Ministry of Science of the Republic of Serbia No. 47004: "Advancing Public Policies in Serbia in the Function of Improving Citizens' Social Security and Sustainable Economic Growth".

[1] M. Friedman, "The Role of Monetary Policy," *The American Economic Review*, Vol. 58, No. 1, 1968, pp. 1-17.

with the crowding-out effect hypothesis, it follows that reduced public investment can stimulate private investors.

However, over the years, thanks to extensive research, a new theory has been developed – that of the "crowd-in effect, of attracting private investment thanks to state investment.[2] According to this theory, with the aid of state investment, the government can pave the way for the private sector. In addition, state and private investment can be positively correlated should state capital be able to secure positive externalities for the private sector. The securing of the necessary infrastructure, health and education systems, as well as the protection of intellectual property can result in increased private capital efficiency.

There are many examples that can support such a hypothesis. The securing of an economic and social infrastructure can create favorable conditions for private sector decisions to invest in certain regions or states.

The investing of state capital into a quality road infrastructure significantly cuts transportation costs and risks, while access to electrical and gas energy can lower the costs of production itself. State investment in education and scientific research secure a highly educated domestic work force, while a good health system secures its long life and work span.[3]

2. State investment in the Republic of Serbia

At the beginning of the new millennium, the Republic of Serbia was faced with lagging economic activity and a low living standard level. Serbia began the transformation of its economy and society at the end of the 1980s, within the framework of the former SFRY, but it lost at least ten transitional years during the 1990s. This period was one of the hardest for the Serbian economy and its citizens. It culminated in a harsh economic crisis, which saw a fall in the economic standard of the populace amidst wars, international sanctions and a bad economic policy. The economy, and especially the infrastructure, was additionally weakened by the NATO military intervention of 1999. The biggest damage was suffered by the transportation infrastructure, i.e., the road and railroad network and, thus, the state-run companies in this sector. The bombing also caused great damage to the electronic systems on the power distribution grid, the thermo-electric power plants and oil refineries. A large number of public utilities, i.e., city and municipal infrastructures, were also destroyed.[4]

2 D. A. Ashauer, "Does Public Capital Crowd out Private Capital?", *Journal of Monetary Economics*, North-Holland, 1989, pp. 171-188.

3 L. Donat, M. Marijus: "Efikasnost javnog sektora prema COFOG klasifikaciji u Evropskoj uniji", *Megatrend revija*, Vol. 6, No. 2, 2009, pp. 75-93.

4 D. Gnjatović, *Ekonomija Srbije*, Megatrend univerzitet, Beograd, 2007.

By the end of this tragic decade, a very low level of economic performance characterized Serbia's economy. When it comes to investments, it should be born in mind that the disinvestment process in Serbia lasted for a decade and a half. Together with the effects of the economic sanctions and the destruction of production and transportation capacities and of the infrastructure caused by the NATO bombing led to a devastation of a portion of the economy, as well as a technical-technological lagging of at least three to four technological-investment cycles.[5] Serbia's transition process de facto began with the political changes that occurred after October 2000.

In the transition period between 2001 and 2008, Serbia brought the first phase of its economic transition, related to the creation of macroeconomic stability, to a close.[6] This led to the beginning of the second phase of transition, the resolution of large structural problems related to economic growth. Among other things, infrastructure construction and improvement was identified as one of the key tasks of this phase.

Infrastructure investment is essentially important for the promotion of further private investment and the stimulation of economic growth. Practically speaking, whenever the public sector can secure efficient infrastructure projects – private investment stimuli and possibilities increase. In fact, an adequate and developed infrastructure creates an environment that makes all other inputs (work force, private capital) more productive. Currently, Serbia's underdeveloped infrastructure has a negative effect on private investment and economic growth. Serbia's case is not unique in the region of Southeast Europe, where all the states are poor. Thus, it is not surprising that the infrastructure is in worse shape than in the developed EU countries. We are here primarily talking about the transportation infrastructure and telecommunications, which are at a significantly lower level than in developed countries. This, in turn, affects the state's economic activity.[7]

Since the private sector in Serbia has no interest in investing in infrastructure, it is the state that must satisfy investors' initial needs and secure all the necessary preconditions for further private investment. Precisely due to the need of improving existing and developing new infrastructure, it is necessary to set aside substantial state budget funds. It is important to improve the existing infrastructure, which has been neglected for decades, and build a new one, which will completely satisfy the standards of developed countries, whose capital it is necessary to attract. In addition to the said investments, state budget funds for the maintenance of the existing infrastructure must continue to be set aside, in order to secure positive effects for the economy.

5 M. Šojić, *Investiciona aktivnost u Republici Srbiji i NIP*, Ekonomski fakultet, Beograd, 2006, p. 90.

6 EBRD: *Growth in transition*, Transition report, 2008.

7 European Comission: *Transport and Energy Infrastructure in South East Europe*, Brusselss, 2001.

3. The strategic priorities of the National Investment Plan

As a result of intensive privatization and the selloff of state property, Serbia's budget was running a surplus in 2005 and 2006.[8] One of the most significant budget inflows came as a result of the sale of the Mobi 63 mobile operator (the former Mobtel) to the Norwegian Telenor Company, for 1.914 billion USD.[9] The creators of economic policy were aware that such a situation would not repeat itself, as the sale of state and social property is a one-time event, and that a large number of state and socially owned companies had already been privatized. They were also aware of the needs for infrastructure construction and improvement. As a result, the Serbian government decided to use the proceeds of the privatization for strategic investment projects that would be financed in accordance with the project principle, within the framework of the program named the National Investment Plan of the Republic of Serbia.

The Government of the Republic of Serbia in September 2006, with funding of 1.674 billion euros, adopted the National Investment Plan, as an instrument of public expenditure policy. The smaller part was allocated for the last quarter of 2006, while the larger part was reserved for 2007. The plan was financed from the Serbian budget, as well as with the help of international financial organizations and European institutions, which were expected to approve additional funds for development projects.[10] The idea and the essence of this plan was to renew old property and build new property from the proceeds of old state property sales, in order to spur investment, increase employment and improve the population's standard of living. In accordance with this idea, goals were set that would bring the biggest and the most important improvements for the population at large and the economy. The projects financed by funds from the National Investment Plan were to contribute to the realization of the following goals:[11]

- increased employment,
- sustainable economic growth,
- implementation of a strategy for a more balanced regional development,
- raising competitiveness,
- implementation of a poverty reduction strategy.

The investment plan was to be established by way of the project principle, meaning that ministries, the autonomous provinces and local government

8 Ministry of Finance of the RS: *Public Finance Bulletin for December 2006*, Belgrade, 2007.

9 "Maturity, momentum and mega-deals," *CEE M&A Surwey 2006,* Price Waterhouse Coopers, 2007.

10 Ministry for the National Investment Plan of the RS: *National Investment Plan 2009*, Belgrade, 2008.

11 Ministry of Finance of the RS: *National Investment Plan 2006/2007*, Belgrade, 2006.

authorities could apply for its funds, submitting concrete projects for consideration. Projects were classified into several sectors in which investments were to be made:[12]

1) Projects in the area of improving education
2) Projects for the modernization of the health system and for environmental protection
3) Projects for the construction of the transportation infrastructure
4) Projects that stimulate economic growth (stimulus measures for employment and entrepreneurship, investments in the fields of energy, agriculture, water supply, science, tourism)
5) Housing construction projects
6) Projects for raising the population standard (sports, culture, social protection, religious buildings)
7) Projects for the improvement of the state administration (judiciary, police, military, state administration).

Once the National Investment Plan was presented, along with its goals and project and sector criteria, expert opinion was divided regarding its effects on the economy. And these divisions sharpened once the Plan was adopted and implemented. There was no disagreement about the need for state investment, but about the choice of goals and priorities for investments drawn from public funds. Before programs of large public expenditure projects are adopted, it is customary to allow a public debate.[13] This was not done in the case of the Plan, which invited additional criticism.

In the first place, there was the fear that state investment would displace private investment. Namely, the state would not be only appearing as an investor in sectors that would improve the investment climate – such as infrastructure and the like – but also in sectors with different characteristics, especially those more suitable for private capital investment. The danger would be that, instead of serving as a stimulus, the National Investment Plan might actually serve to limit investment.[14]

It was feared that the Investment Plan and the state's considerable engagement in investment activity would substantially increase public spending. The Plan would be a major source of additional demand, and the expansionary effect would be manifested both in the short and in the long term.[15]

12 Ibid.

13 J. E. Stiglitz, *Ekonomija javnog sektora*, Ekonomski fakultet, Beograd, 1999, p. 252.

14 B. Cerović, "Nacionalni investicioni plan-razvojni podsticaji i ograničanja," *Zbog čega je potrebna rasprava o NIP-u?*, Ekonomski fakultet, Beograd, 2006.

15 Lj. Madžar, "Univerzalni um ponovo među Srbima," *Nacionalni investicioni plan*, Ekonomski fakultet, Beograd, 2006, p. 47.

Further criticism was aimed at the Plan's strategic priority of unemployment reduction. It was thought that employment might increase slightly, but only until the Plan was realized, and that the overall effect on employment would be quite modest. For example, once projects related to transportation infrastructure, health and ecology, education, science, housing construction and improved administration were completed, it was feared that there would no longer be any need or possibility for new employment. That was why it was justified to ask questions concerning the degree to which the Plan's realization would make a lasting contribution to the resolution of the Serbian economy's biggest problem – huge unemployment.[16]

The Plan was primarily criticized regarding the amount of funds allocated for projects. Most experts thought that the surplus could be spent in more efficient ways: tax reduction, public administration reform, debt repayment, privatization of mandatory retirement insurance or partial financing of denationalization costs.[17]

4. Implementation of the National Investment Plan

The Plan was adopted in 2006, for the 2006-2014 period, as proposed by the Ministry of Economy. The concept of the Plan was made according to the Irish model, whose first phases were carried out at the beginning of the 1990s, and brought outstanding results in a short period of time. Before all, the National Investment Plan of the Republic of Serbia provided for the establishment of a system that would adopt, implement, realize and evaluate large national, regional and local projects, geared towards the goal of economic development. Although certain projects have already been completed and certain results achieved, it is hard to make an overall analysis of such a complex and important project after only three years of implementation.

Table 1: *National Investment Plan implementation 2006–2009*

Year	**2007**	**2008**	**2009**
Number of projects	1 109	11 060	431
% of the NIP budget in the RS budget	8.23	5.27	2.74

Source: Ministry for the National Investment Plan of the Republic of Serbia, 2010

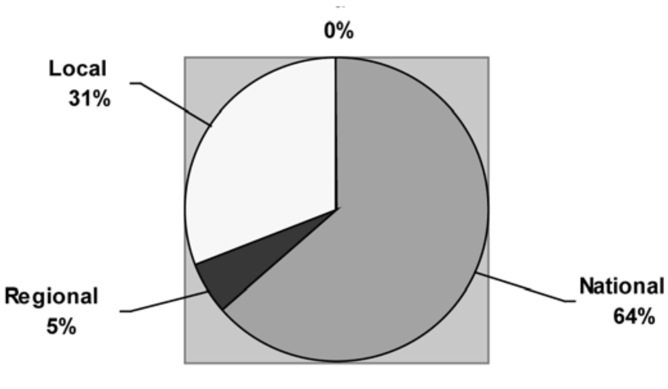
16 M. Kovačević, "Načelna i konkretna pitanja u vezi sa tzv. Nacionalnim investicionim planom," *Nacionalni investicioni plan – razvojni podsticaji i ograničanja*, Ekonomski fakultet, Beograd, 2006.

17 M. Prokopijević, "Nacionalni investicioni plan je ekonomski štetan," *Ekonomski anali,* Ekonomski fakultet, Beograd, 2007.

What is apparent at first sight, without a more detailed analysis, is that the number of projects declined each year (see Table 1). 1109 projects were approved in 2007 and 1060 in 2008 (49, or 4.5% fewer). The number of projects fell drastically in 2009, to 431 (629 or 59.3% fewer). In that year, the accent was placed on projects related to infrastructure construction and the raising of the population's standards of living. The reduction in the number of projects could be explained by the fact that the placing of focus on priority projects allowed increased efficiency as well as more intense monitoring of project realization and evaluation.

Significant change in the level of state investment was observed after the Government of the Republic of Serbia decided to unify state investments under the National Investment Plan. The share of capital investments in the state budget grew in 2007, due to the decision that funds generated through privatization were to be invested in infrastructure construction and recovery. However, the subsequent years of realization saw a reduction of investment funds for the Plan's projects. Funds for the financing of public needs were reduced even though the amount of needs did not fall. It was necessary to define priorities under the new circumstances and make the most efficient use of the reduced funds, which equaled 20,500,000,000 dinars for project realization in 2009.[18] The projects were first divided, according to the number of users and significance, into national, regional and local projects.

Graph 1: *The division of NIP projects according to number of users and significance*



Source: Ministry for the National Investment Plan: *National Investment Plan 2009*, Belgrade, 2008.

[18] Government of the Republic of Serbia: Law on Amendments to the Budget of the Republic of Serbia, "Official Gazette," No. 31/09, 2009.

Out of total funds, more than 60% was spent on the financing of national projects. National projects provide support for national and ministerial strategies, and also have the largest number of users. The realization of 73 national plans was planned for 2009, with three standing out as the most important: construction of Corridor 10, investment in the infrastructure of the 40 least developed municipalities and infrastructural support for the development of the automobile industry. These were to be financed with 40% of the National Investment Plan budget allocated for 2009.[19]

The goal of regional projects was to reduce regional differences and aid regional development, which would benefit citizens from multiple municipalities. 5% of the Plan's budget was set aside for these projects.

The effects of local projects were to be used by the residents of the most vulnerable municipalities in Serbia, which would also help fulfill one of the most significant tasks faced by the state – that of reducing regional disparities.

The new strategic priorities were determined and implemented in 2009:

- Infrastructure development
- Improving the population's living standard
- Improving the work of the public administration
- Raising human resource capacities

Investment in the raising of human resource capacities is necessary in order to place all scientific potentials, including intellectual capital, at the disposal of the economy and society. Technological progress, knowledge, education, and professional training are growth generators that produce constant changes on the road to development and the raising of national competitiveness.

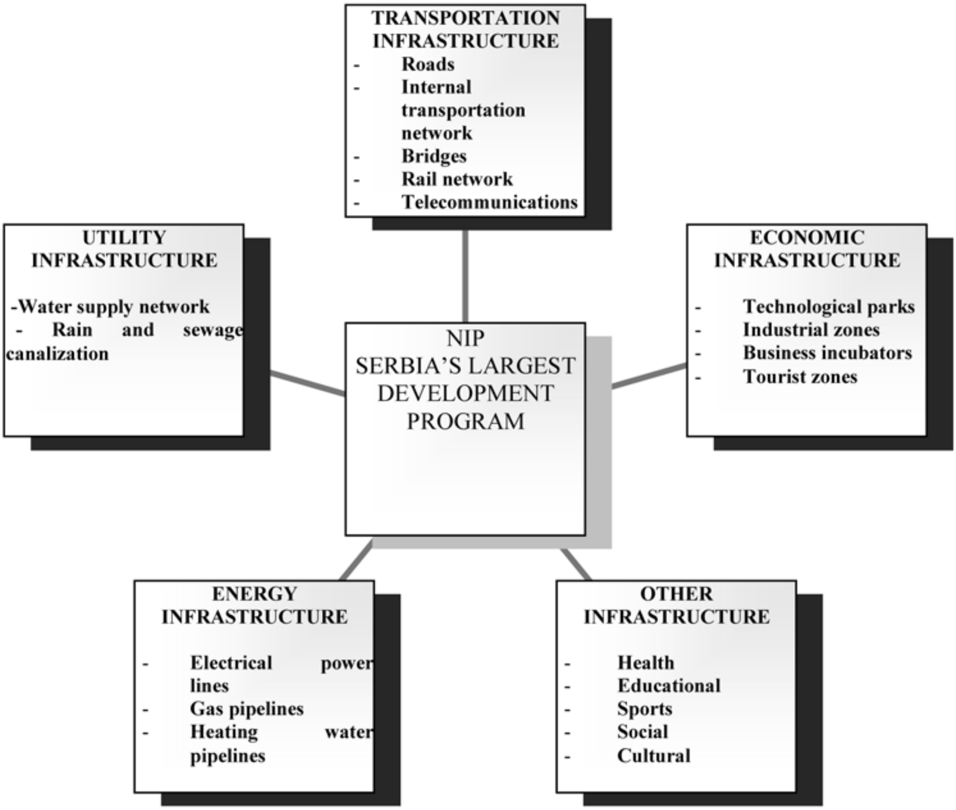
In order to improve the efficiency of the work of the public sector, it is important, in addition to educating cadres, to improve technology and invest in infrastructure. The sectors in which funds were invested within the framework of this priority were, before all, the military, followed by the Ministry of Internal Affairs, the judiciary, the state administration and local government, and foreign affairs.

The raising of the citizenry's living standards requires investment in the construction and reconstruction of buildings that serve the needs of the sectors of health, education, social security, sport, culture and religion.

Nevertheless, the sector into which the largest share of National Investment Plan funds was invested since the beginning of its realization remained unchanged: in 2009, more than 60% of the Plan's funds were invested in infrastructure construction: bridges, roads, industrial zones and incubators, and utility and energy networks.

19 Ministry for the National Investment Plan of the RS: *National Investment Plan 2009*, Belgrade, 2008.

Graph 2: *Infrastructure development via the National Investment Plan*



Source: Ministry for the National Investment Plan, Government of the Republic of Serbia, 2009.

5. Infrastructure investment via the NIP

The transportation infrastructure, for which the highest share of funds was allocated since the beginning of the Plan's realization, did not lose priority over the years. The goal was to attain a level comparable and compatible to that of EU member states, for the purposes of equalizing the characteristics of the transportation infrastructure and flows.[20] The reduction of funds resulted in a change in the structure of investments in infrastructure projects.

[20] Government of the Republic of Serbia: Strategy for the Development of Rail, Road, Water, Air and Intermodal Transportation in the Republic of Serbia from 2008 to 2015, "Official Gazette of the RS," No. 101/07.

Table 2: *Comparative review of financing by sector, from 2006 to 2010*

SECTOR OF FINANCING	REALIZATION 2006-2007	%	REALIZATION 2008	%	REALIZATION 2009	%	REALIZATION 2010	%
Transportation infrastructure	13,220,160,120	27,3	6,762,361,086	28.3	5,948,980,180	53.4	18,441,254,099	70.8
Economic infrastructure	5,810,257,869	12	1,579,733,712	6.6	573,496,950	5.1	1,328,358,309	5.1
Utilities infrastructure	3,190,299,221	6.6	1,282,527,875	5.4	976,323,013	8.8	1,757,860,010	6.7
Energy infrastructure	2,497,995,669	5.2	589,778,394	2.5	470,619,596	4.2	500,305,036	1.9
Telecommuni-cations and IT	213,470,673	0.4	166,707,462	0.7	379,907,826	3.4	209,070,629	0.8
Other	23,531,140,559	49	13,539,805,409	57	2,796,748,946	25	3,815,151,917	15
Total	48,463,324,111	100	23,920,913,938	100	11,146,076,510	100	26,052,000,000	100

Source: Ministry for the National Investment Plan RS, 2010.

National Investment Plan funds invested in roads, bridges, railways and telecommunications during the first two years equaled about a third of the approved funds. They then rose steeply to more than half of the total Plan budget funds in 2009 and to two thirds in 2010 (see Table 2). The growth of investments in the road infrastructure is not surprising bearing in mind Serbia's strategy joining the European Union, for which the full integration of the transportation network into the trans-European network is a direct condition. The Government of Serbia has marked the modernization and construction of roads and railways which, on their way through Serbia, represent some of the shortest connections between Europe and Asia, as a national priority.[21] The standards of transportation system construction and maintenance also come into play, as they need to be in accordance with the principles of sustainable development, environmental protection and social responsibility. Serbian roads have a high incidence of traffic accidents, partly because of the extremely poor road network, while some data show that the state of road traffic safety is five times worse than that of EU member countries.[22] Infrastructure construction has imposed itself as a priority that demands much work and funding.

In accordance with the set criteria, the Plan established the most important road modernization projects:

1) Completion of Corridor 10
2) Belgrade – South Adriatic highway – E 763
3) Kragujevac – Batočina road
4) Smederevo railway
5) Belgrade's bridges

[21] Ibidem

[22] B. Handjinski, "Investment matters," *World Bank Working Paper* No. 159, 2008.

Corridor 10 is a pan-European corridor that runs from Slovenia to Greece, including through Serbia. Although its importance is often underlined, during the last 3 years, since the Plan was inaugurated, 21 km has been built between Lesovoje and Preševo, 7.7 km on the detour around Belgrade and 20 km of the highway between Novi Sad and Horgoš. The construction of a 12.5 km portion of the Belgrade – South Adriatic highway, between Lajkovac and Ub, began at the end of 2010. In addition, 9 km has been built so far between Kragujevac and Batočina, while 15 km more are needed in order to link Kragujevac with Corridor 10, which would greatly contribute to the development of the automobile industry in Kragujevac.[23] Money has also been set aside for the construction of a rail line that would link the existing railway with the new port in Smederevo. The construction of this 5.3 km portion, slated to begin in 2011, will allow more efficient, rail transport of ore from the Smederevo port. Investment in the road infrastructure in the capital city of Belgrade primarily concerns the building of the bridge over Ada Ciganlija Island, which began in December 2008, and the Zemun-Borča bridge, slated to begin in 2011.

National Investment Plan funds are also being ambitiously invested into the economic infrastructure. Technological parks are being developed and built throughout Serbia – in Niš, Zrenjanin, Vranje, Kraljevo and Kragujevac. The construction of the infrastructure of a modern technological park that hosts significant scientific research activity and new technology development is very important for the linking of different Serbian regions, for economic development and for the opening of new jobs, mostly for a highly qualified work force. Technological parks are also incubators that allow the concentration of knowledge, high technology, education and links with national and international educational institutions. Economic infrastructure investment has been identified as one of the Plan's basic priorities, with 12% of its total budget being reserved for this purpose. However, together the entire NIP budget, the percentage of funds allotted for the economic infrastructure was halved in 2008, from 12% to 6.6%, and then even further – to 5.1% in 2009. Even with these substantially reduced funds, the National Investment Plan has continued to invest significantly in the economic infrastructure: the duty-free zones in Zrenjanin, Novi Sad, Subotica and Pirot, as well as the industrial zones in Šabac and Loznica. The realization of 27 projects was planned for 2010, including the new industrial zone in Kragujevac, for the needs of the "Fiat Automobiles" plant.

The level of investment in the public utility infrastructure grew from 5.4% to 8.8% of the NIP budget between 2007 and 2009. This increase in funds is partly a result of the NIP project *Infrastructure Development in the 40 the Least Developed Municipalities in the Republic of Serbia*. Once it was determined that the 40 least developed Serbian municipalities, with a total of 1288 settlements,

23 Ministry of infrastructure, Government of the Republic of Serbia: *Presentation of the Corridor X Project*, Belgrade, 2009.

have a population of 800,000, of which 47% have no water works and 85% no sewage system, while 70% of the roads in the said areas are unpaved, this project was identified as one of the three priorities for 2009.[24] Due to exceptionally large regional disparities in Serbia and the very bad living and working conditions in certain municipalities, the Ministry has funneled much of the project's funds into the development of the public utility infrastructure. As a certain number of projects continued into 2010, the percentage allotted for public utility infrastructure development has continued to be quite high, making up, together with the transportation infrastructure, almost 80% of the total budget of the Plan.

The percentage of the NIP budget funds invested in the energy and telecommunications infrastructure has also varied. Except for the important energy-related goal – the realization of the South Stream project – the plan is to also finance other projects whose goal is to strengthen energy supply security, the expansion of transportation-storage capacities and regional network connectedness.

6. Conclusion

In both academic and public circles, it is often pointed out that Serbia is a country of exceptional economic potential. Not less frequently, it is also stressed that Serbia must work on its economic development in order to assume the regional leadership role that rightly belongs to it. However, Serbia is also a country with a very heavy legacy from the previous period, characterized by years of disinvestment, the deterioration of the utility, road and other infrastructures, a falling standard of living and, perhaps most prominently, years of high unemployment. However, it is difficult to make up for these lost years in a short time period, without adequate resources. All the said obstacles need to be overcome and mended so that the Republic of Serbia might utilize its potential, develop its economy, return to the path of prosperity and assume the leadership role in the region. The idea of overcoming structural problems was embodied in the National Investment Plan, an ambitious and complex project that secured state investment into priority strategic projects.

Despite extensive criticism and disagreement on the part of the expert public from the beginning of its implementation, the National Investment Plan succeeded in unifying state investments, which are being carried out for the first time in accordance with the project principle. The goals were set and, after three years, noticeable and significant results have been achieved. The project structure was changed in accordance with the needs that arose in the process, and project selection became much stricter. The infrastructure that had been neglected for more than a decade is being renewed and built with the funds from the Plan,

[24] Ministry for the National Investment Plan, Government of the Republic of Serbia: *Presentation – the 40 Least Developed Municipalities in Serbia,* Belgrade, 2009.

in accordance with previously determined priorities. Numerous roads, bridges, health and educational-pedagogic institutions have been renewed and built thus far. Although this has had its cost in both money and time, it seems that we have finally established a clear direction, strategy and three priority projects that are truly directly and positively connected with the country's development. However, at this time, besides significant state investment, Serbia also needs additional measures, first of all in terms of reduced public spending, in order to create a favorable climate for the adoption of measures to improve the economy. In order to secure positive effects for our country's economy, continued infrastructure financing is important, along with work on a series of measures that would secure a favorable investment climate in Serbia.

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Paper received: January 20th, 2011
Approved for publication: January 30th, 2011

Original scientific paper UDC 336.71:330.322(497.1)"1918/1931" ; 338.45(497.1)

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THE INFLUENCE OF FOREIGN BANKS ON YUGOSLAV INDUSTRIAL DEVELOPMENT IN THE INTERWAR PERIOD**

Abstract: *The paper explains how the private banks in The Kingdom of Yugoslavia, in which foreign capital was dominant, had influenced not only financial market, but also the industry. The paper demonstrates how foreign financial capital reached Yugoslav industrial firms with the intermediation of the affiliations of foreign European banks.*

The first part of the paper analyzes the economic and financial situation in the State immediately after the First World War and the fate of foreign banks and their branch offices. Special attention is paid to new legal act passed in the Kingdom of Yugoslavia which referred both to the modes of establishing and functioning of foreign financial institutions as well as to the degree of the State control over them.

The second part of the paper analyzes the functioning of affiliates and branch offices of foreign financial institutions before the Great Depression in the Kingdom of Yugoslavia, that is to say before 1931. Special attention is paid to the role of political and financial elite in the activities of foreign banks in Serbia.

The third part of the paper focuses on the analysis of economic situation in Yugoslavia during and after the financial crisis caused by the Great Depression. The role that National Bank of the Kingdom of Yugoslavia played in surmounting the crisis also indicates to the methods the Bank used in an attempt to gain control over foreign capital in Yugoslavia up to the beginning of the Second World War.

Key words: *foreign financial capital, banking crisis, National Bank of Yugoslavia*
JEL classification: N24, E58

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** Paper is a part of research conducted for the preparation of the Project No. III 47004, financed by The Ministry of Science and Technological Development of Serbia. Paper presented at The XV World Economic History Congress in Utrecht (WEHC), The Netherlands, August, 3-7, 2009.

1. Introduction

As early as in 1880s, international and economic relations between European states, were characterized by the following phenomenon - economically developed countries started investing financial capital into economies of underdeveloped and developing countries. This was the consequence of the long-lasting banking transformation process, which, due to industrialization development, resulted in capability of banking capital to finance various enterprises in far apart geographic areas. Approximately eighty European banks, different in type, size and power, which, at the time constituted the elite of European, and hence world banking system, exhibited their interest in the Balkans. This phenomenon was of great importance for the emergence and further development of private banks not only in the newly established Balkan states that were just entering the European scene, but also in those areas of the Balkans that still belonged to great Austrian-Hungarian economic market.[1]

The economic situation in Serbia, which was struggling for national liberation from the Ottoman rule during the first decades of 19th century, was in such a condition that establishing a credit organization was not even a distant possibility even though shareholding type banks were necessary for financing infrastructural development, particularly the development of transportation system. The very fact that ideas concerning the establishment of such institutions existed was an evident proof that Serbia was turning towards the future, which was of immense importance for a small country undergoing difficult transition from an underdeveloped to a developing, that is to say from a non-industrial to industrial civilization. Yet, for a long period of time, the consolidation of the loan-oriented banks network was not possible (be it in the field of economy or communications). Up till the beginning of the 20th century, the entire Serbian banking system had been based on a large number of smaller banks and savings-banks that limited their business operations to giving loans to farmers and merchants. Their fragmentation and lack of organization, as well as extremely limited capital they exposed with, had prevented any serious action that might have lead to their faster and more powerful engagement in the country's economic life. In addition to the above mentioned, it is vital to further point out that another phenomenon had been characteristic of Serbian banking – namely, banks had been used as instruments in partisan struggles (especially in smaller towns where the number of banks had at times equaled the number of political parties, and instead of crediting economy, banks credited voters). Nonetheless, in 1882 *Oesterreichische Landerbank*, in cooperation with *Comptoir d' Escompte* from Paris,

[1] A. Mitrović, *Strane banke u Srbiji 1878–1914. politika, progres, evropski okviri*, Beograd, 2004, pp. 38-45; isti, Idem, "Mreža austrougarskih i nemačkih banaka na Balkanu pred Prvi svetski rat", *Jugoslovenski istorijski časopis*, No. 3-4, Beograd, 1988, pp. 51-55; D. Milić, "Pregled delatnosti stranog kapitala u Srbiji do Prvog svetskog rata", *Historiski pregled*, Zagreb, No. 2, 1964, pp. 94-111.

managed to establish the first "daughter bank" in Serbia - *Srpska kreditna banka* (*Serbian Credit Bank*). Soon, other Austrian-Hungarian, German and French banks established affiliations or branch offices on the territory of Serbian Kingdom. At the beginning of 20th century, there were 80 private shareholding type banks with their total capital volume of approximately 17 million dinars. By the year 1912, the number of banks increased to 187, and the sum total of the capital increased to over 51 million dinars. Up till the beginning of the First World War, Parisian banks were the most powerful on Serbian banking scene, since they were in control of state loans, which enabled them to ensure reciprocally significant Serbian orders from French heavy armament and railway material factories.[2] The domination of French financial capital continued even after the year 1918 and lasted till the beginning of the Second World War.

2. Economic and financial situation after the First World War

In 1918, the year when the Kingdom of Yugoslavia was founded, due to its geopolitical position, it represented a link, bridge between Europe and Asia, Central Europe, Asia Minor and Middle East; it was open towards Mediterranean and connected with Black Sea via Danube. Such location was of importance in Europe of the day not only in terms of foreign politics, but also in terms of economy. A completely new economic area was created, distinguished by its size and quality. This was an obvious change that is to say disintegration of old economic area, on one hand, and adaptation and gradual integration of the new one, on the other. The change was not apparent due to numerous political conflicts, and it was brought about by the war and inflation, which further implied, to say the least, that the change did not take place effortlessly or calmly.

At the same time, Serbia and countries founded on the territory of the former Monarchy regarded the changed scope of the market from different standpoints. While for the first the change implied quadruple increase of the market (from original 2.9 million inhabitants), for the latter it implied decrease of the market from 677 000 km2 to 248 000 km2. According to some historians, this created an atmosphere of pride in Serbian citizens since so much became available for them on domestic market, while, on the other hand, Slovenians, Croats and Vojvodinians were unpleasantly surprised by the newly limited scope of opportunities domestic market offered. "The self-complacency felt by one side and depreciation felt by the other would become the root of many subsequent tensions."[3] However, the following fact cannot be overlooked – while they were under the rule of former Monarchy, Slovenia, Croatia and Vojvodina were

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2 Ibid.

3 R. Bićanić, "Ekonomske promjene u Hrvatskoj izazvane stvaranjem Jugoslavije 1918", *Prilozi za ekonomsku povijest Hrvatske*, Zagreb, 1967, p. 83.

mainly agrarian countries, yet, in the newly created state, almost over night, they became the most developed areas in terms of economic growth. This particularly applied to Croatia, whose relative advantage was most apparent, especially in the field of financial capital. To exemplify, around the year 1912, there were 1039 credit institutions in Croatia (their funds amounting to 131 million golden crowns), whereas the capital of same institutions in Serbia amounted to 58 million golden dinars. Hence, it comes as no surprise that, during the first post-war years (before 1924), 50% of the entire banking capital in the Kingdom of Serbs, Croats and Slovenians (the Kingdom of SCS abbreviated) was concentrated in Croatia. That is why Zagreb became the center of economic power, i.e. the hub of capital concentration and the most important industrial and commercial center, while Belgrade was the center of political and legislative power.[4]

2.1. The fate of foreign banks and their affiliations

Immediately after the Kingdom of SCS had been founded, an atmosphere of great economic euphoria prevailed on the territory of the entire state, and especially in Serbia. The causes of this elation are to be considered inseparable from the general euphoria that sprung forth because of the war victory and creation of the new and grand Motherland. This also created an impression of unlimited possibilities in the field of economy. At first, the unlimited possibilities did exist in the capital market considering the enormous increase of construction industry, particularly in big cities, exploitation of country's natural resources, setting up new industrial enterprises, development of commerce and growing needs for loans both on the part of the state and private entrepreneurs. The opinion prevailed that anything that was to be built or produced in a country that had been impoverished and ravaged would generate profit. The purchasing power of the population was seldom taken into consideration. The chances for enormous and fast financial gain were further increased by progressive inflation that was brought about by sudden economical prosperity of the country. The value of the capital, which was, in the form of loans or credits, invested in setting up various industrial enterprises, constructing residential buildings (rent under lease) or renting entire complexes of construction sites, decreased rapidly due to the inflation. Simultaneously, former Austrian-Hungarian enterprises and banks were almost sweepingly nationalized. However, such unlimited optimism was not grounded since Yugoslav banks did not have sufficient funds at disposal.[5]

4 M. Mirković, *Ekonomska historija Jugoslavije*, Zagreb, 1957, pp. 312-320; D. Mišić, "Pregled jugoslovenskog novčarstva i bankarstva", in: *Nova Evropa,* Zagreb, 1923, p. 347.

5 D. Milić, "Privredni položaj Srbije po završetku ratnih operacija", in: *Srbija na kraju Prvog svetskog rata*, Istorijski institut SANU, Beograd, 1990, pp. 51-63; V. Bajkić, "Naše bankarstvo", in: *Letopis Matice srpske*, book 313, Novi Sad, 1927, p. 219-220; S. Deželić, "Novčani zavodi Kraljevine", in: *Kraljevina SHS, Almanah*, book I, part III, Zagreb, 1921/22, p. 122.

The inevitable decrease of mainly banking capital was caused by the total balance decrease by no less than three quarters that took place in the monetary institutions of Slovenia, Croatia and Vojvodina. The reason for the decrease was the transition from Austrian-Hungarian crown to Yugoslav dinar that was regulated by Monetary Unification Decree issued by the Kingdom's Government on January 20, 1920. At that point the withdrawal of Austrian-Hungarian crown stared, the exchange rate being 4 dinars for 1 crown.[6] There was still a deficit of domestic capital although foreign companies and banks were extensively nationalized. In the end, the inevitable happened; through well-known and well-developed Viennese channels, foreign capital, indispensable for initiation of country's economic development, once again started arriving to the country.

At the outset of the Kingdom's economic life, Serbian banking was in the state of negative balance when compared to Vojvodinian, Croatian and Slovenian banking. Serbia was worst hit in the First World War, and hence, the ratio of Serbian, on one hand, and Vojvodinian, Croatian and Slovenian banking, on the other, was 6.69% to 92.31%. Smaller local monetary institutions were numerous in Serbia mainly because the banking system was created in the setting of highly animated partisan political life. Partisan strongholds were being created all over, even in the field of credit banking. The numerous local banks were founded by merchants or money-changers, who saw in banking a great opportunity for making profit. Bank founders were mainly the creditors of small farmers, who, at the time, comprised the majority of population in Serbia, and that is precisely why the professionalism of small provincial banks was on such a low level.[7]

The prewar influence of Viennese and Budapest main offices on banks in the north-west parts of the Kingdom remained quite strong even after these territories became an integral part of the newly created national state. According to certain calculations, immediately after the war the share of Austrian and Hun-

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6 *Službene novine Kraljevine SHS*, II, 13, 18. 1. 1920. - In the explanatory statement of the Government ruling, among other, is stated: "By monetary unification further war between crown and dinar has been precluded, and it has been prevented that the value crown increases when the value of dinar is on the decrease, and vice versa; monetary unification has allowed parallel fluctuation of the two currencies. After this reform, and on condition of favorable economic circumstances in the Kingdom, the value of crown and dinar is to gradually, simultaneously and correspondently increase toward their prewar value."; Setting the dinar - crown ratio at 1:4 was a great problem for all monetary institutions on the territory of the former Monarchy and caused great dissatisfaction in Croatian and Slovenian financial circles who were of opinion that by such exchange rate the value of dinar had been overrated. (See: M. Ivezić, "Naše banke", in: *Domovina, Kalendar za 1925*, Beograd, 1924, p. 119; Rudolf Bićanić, ibid., 101)

7 A. Tasić, "Jugoslovensko bankarstvo između dva rata", in: *Glas CCCLXVI*, SANU, Beograd, book 26 (1992), pp. 147-208; D. Milić, *Privredni položaj Srbije po završetku ratnih operacija*, pp. 51-63.

garian banks in Yugoslav banks was as follows: 40% in Croatia and Slavonia, 20% in Slovenia, 43% in Vojvodina, and 35% in Bosnia and Herzegovina.[8]

2.2 Compliance with the law on establishment of foreign financial institutions

After the First World War had ended and the Kingdom of SCS had been founded, the problem of legal regulation of monetary and credit institutions presented itself. Up till then, these operationally diverse institutions, in terms of their operations on the monetary market, had been subjected to no legal regulations whatsoever. After 1922, only the concession system of establishment was applied, both for credit and joint stock institutions, while the freedom to do business remained. Such situation resulted in the collapse of a number of banking institutions (around the year of 1926), and it threatened to jeopardize the country's entire banking organization. In order to prevent that, the Kingdom's Ministry of Commerce and Industry, which had jurisdiction over banks' and credit institutions' business activities, attempted to take measures toward passing a special law on banks by which their operations would be legally regulated.[9]

Shareholder type banks were almost the sole form of Yugoslav private monetary institutions. When speaking of private banking in the Kingdom of Yugoslavia, it is always in reference to shareholder type banks since they represented the majority of country's credit apparatus, that is to say the exclusive direct creditor of economic entrepreneurship. In the Kingdom, for as long it had existed, a general law on joint stock companies had not been passed. On the territory of Serbia, the Kingdom of Serbia's Law on Joint Stock Associations passed in 1896, and amended in 1898, was in power. In 1922 this law was extended to the territory of Montenegro.[10] On the territories that were once under the rule of the Monarchy, commerce laws that also contained legal regulations that legislated the activities of joint stock associations were in power.[11] Considering the autonomy that such companies from the above mentioned territories had and in order to prevent the possible confusion that might have sprung out of simultaneous existence of various banking laws, in November 1919 Kingdom's Council of Ministers passed a ruling which stated that all joint stock associations that were being established or that were expanding their activities on the entire territory of the state needed to

8 Ibid.

9 The Archives of Yugoslavia (AJ), Kingdom of Yugoslavia's Ministry of Commerce and Industry (65), f. 997 – j.o. 1852.

10 *Službene novine Kraljevine SHS*, br. 105, 15/5/1922, Zakon o proširenju važnosti Zakona o akcionarskim društvima u Kraljevini Srbiji, na teritoriju Crne Gore.

11 M. Zebić, *Zakoni i raspisi o akcionarskim društvima s uputstvima i objašnjenjima: Trgovački i mjenbeni zakon o društvu dioničarskom i Trgovački zakon za Bosnu i Hercegovinu*, Beograd, 1925, pp. 73-124.

obtain the permission from the Ministry of Commerce and Industry.[12] The Ministry also issued special permissions in cases when joint stock associations that were being established were in fact affiliations of foreign companies or banks. In 1922, the concession system of establishing banks (and joint stock companies) which was functional in Serbia was extended to those Yugoslav territories which practiced normative system of company establishment while being a part of Austro-Hungary, and, consequently, shareholder type banks in Yugoslavia could be established only under the permission of authorities.[13] Even though the Ministry had all the preparatory actions in order to pass a special law on banks which would regulate their operations and at the same time guarantee solvency and liquidity, the law had in fact never been passed.

Thus, the newly founded Kingdom of SCS had in such manner inherited extensively diverse banking system from its constituents. The system was comprised of numerous, mainly smaller-size institutions. Immediately after it had been founded, namely, before 1927, the number of banks kept increasing. The process of establishing the new banks was in full swing during 1922, at the height of inflation period. From 1920 to 1923, due to the inflation, the stock exchange was characterized by an intensive stocks and bonds trade of economic, especially banking institutions. Profit outlook was great, and, hence, joint stock capital of the banks grew. From 1921 to 1924, it increased from 829.8 million dinars to one billion 919 million dinars. Such development was largely incited by the general tendency to industrialize the country. Not before the collapse of certain banks that occurred in 1926 did the further establishing of new banks cease. It is then that the number of banks in the Kingdom started decreasing.[14]

Decentralization of the banking system was one of the most significant factors that contributed to extremely high interest rate on Yugoslav market which presented a serious problem during the entire interwar period. In attempt to decrease the market interest rate (which was, for example, as high as 30% in 1922), the National Bank of the Kingdom of SCS took measures that implied merging of the smaller banks and determining the minimum net capital stock that monetary institutions were required to have in order to be granted loans from the National Bank. These measures could not have yielded significantly positive results, but, nonetheless, by 1930, certain centralization of the banking system took place (to exemplify, from 1927 to 1935 twenty cases of monetary institution merging were recorded). Furthermore, decentralization of the banking system was quite widespread in Serbia, even in Belgrade, while such process was not particularly present in former constituents of Austrian-Hungarian Monarchy, apart from Voivodina. Because Voivodinian banking system inher-

12 *Službene novine Kraljevine SHS*, No. 161, 13/12/1919.

13 A. Tasić, *Jugoslovensko bankarstvo između dva rata…*, pp. 147-208; F. Kohn, *Trgovački i pravni leksikon*, Osijek, 1937, p. 16.

14 Ibid.

ited certain negative features from Hungarian provincial banking, it suffered from hypertrophy of small and weak monetary institutions that prevented capital concentration. That was one of the key reasons why the emergence of unitary Yugoslav banking could not be traced before the late 1920s.[15]

3. Operations of foreign banking institutions' affiliations and branch offices in the Kingdom of Yugoslavia before the World economic crisis in 1931

In a state whose Parliament dealt more with politics than with social and economic development of the country, in which governments were prone to collapse and ministers to replacement, there was a great possibility for the foreign industrial and financial capital to intertwine and establish connections with state and party leaders, which enabled it to obtain control over Kingdom's economic life. Nevertheless, at the same time, during the 1920s, Yugoslav state and economic politics was putting in efforts to protect the economy of the newly founded state from the overpowering foreign influence. It was not the matter of situating the domestic capital in the position previously held by Viennese or Budapest capital (since domestic capital was not of such volume), but of gaining control over banking institutions, which, since their head offices were abroad, tended to evade the mentioned control. However, because the accumulation of domestic capital was insufficient and the ruling elite, due to mentioned political situation, did not put in more effort in economic politics, the head offices of foreign banks, in time, resorted to turning their branch offices into independent "Yugoslav" banks. Foreign citizens remained the owners of newly established banks, that is to say stocks and bonds.[16]

The Kingdom's Ministry of Commerce and Industry gave special permission in cases of establishing joint stock associations which were affiliations of foreign companies or banks, that is to say when foreign citizens were among the founders.[17] On the other hand, the Ministry of Finances neither had clearly defined fiscal policy when it came to foreign capital invested in Yugoslav economy, nor did it have one when it came to the capital which was present in the country

15 *Deset godina saveza novčanih i osiguravajućih zavoda Kraljevine SHS, 1919–1929*, Zagreb, 1929, p. 19; "Privredni život Kraljevine SHS" in: *Kraljevina SHS. Almanah*, Zagreb, 2, IV (1924–1925), p. 248.

16 S. Dimitrijević, *Vladavina stranog kapitala u bivšoj Jugoslaviji*, Beograd, 1958, pp. 2-11; S. Dimitrijević, *Privredni razvitak Jugoslavije 1918–1941*, Beograd, 1962, p. 42; *Elaborat o britanskom kapitalu u Jugoslaviji 1918–1941, njegova ekonomska, politička i obaveštajna uloga*, Institut za istorijska pitanja, Uprava za kordinaciju rada naučnih instituta, Beograd, 1951, pp. 1-18.

17 F. Kohn, ibid., p. 16.

in the form of affiliates or branch offices.[18] Laws on joint stock associations on the territory of the Kingdom included regulations referring to branch offices of foreign joint stock associations, while the participation of foreign capital in domestic associations, namely those founded under Yugoslav laws, was not even mentioned.[19]

3.1 Forming banking and industrial consortia

Considering the fact that capital market in Yugoslavia was underdeveloped, banks, shareholder type banks in the first place, were the most important channel for economy crediting. That is the main reason why the research of shareholder type banks in Yugoslav context should be looked into more attentively than in the case of countries with more developed capital market.

Before the First World War, industry in those parts of Yugoslavia that were formerly constituents of Austrian-Hungarian Monarchy had been more developed. However, the level of development was not nearly as high as to satisfy the needs of the entire newly created state for industrial products. Serbian industry was quite modestly developed, so, just after the Unification, it experienced great progress. New enterprises were being feverishly set up, and the old ones expanded. Necessary finances were being rapidly raised from all over. Nonetheless, funds adequate for long-term investment were insufficient. Banks, especially the larger ones, were thus forced to make long-term investments using not only their own relatively insignificant funds, but also the capital deposited by the citizens on the short-term bases. In addition to approving industrial loans, the banks directly took part in industrial production. Namely, a number of larger banks created an entire array of industrial enterprises. Even though they were custodian in terms of the passive side of their balance, when it came to their active operations, they functioned in a manner of exclusively commercial banks specialized in long-term economy financing.[20]

Despite the fact that, during the 1920s, former Austrian-Hungarian banks had lost their leading economic status, they soon managed to secure support in Western European banks, the capital of which, thus, became closely connected with Yugoslav banking. This was manifest in two ways: through setting up affiliations or partaking in net capital stock of domestic shareholder type banks.

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18 V. Rozenberg, *Inostrani kapital u jugoslovenskoj privredi. U bankarstvu, industriji, trgovini, transportu, osiguranju i ostalim granama privredne delatnosti,* Beograd, 1937, p. 29.

19 M. Zebić, ibid.; see article 91-97 of The Law on Shareholding Companies of The Kingdom of Serbia from 1896. with amendments from 1898, paragraph 210-217 of The Trade Law of Croatia and Slavonia, as well as paragraph 210-217 of The Trade Law of Voivodina.

20 V. Aleksić, "The History of the 'Allgemeiner jugoslawischer Bankverein AG' in Beograd in the context of Yugoslav Banking History after 1918", in: *150 Jahre oesterreichische Bankengeschichte im Zentrum Europas*, Bank Austria Creditanstalt, Oliver Rathkolb/ Theodor Venus/Ulrike Zimmerl (Hrsg.), Wien, 2005, pp. 226-238.

Table 1: *Affiliation and banks in the Kingdom of Yugoslavia in 1928*

	Number of Banks	Banks' Net Capital Stock (million dinars)	Foreign Capital Participation (million dinars)	Participation (percent)
Foreign Banks' Affiliations	4	45.8	45.8	100%
Shareholder type banks with Foreign Capital Participation	14	275.8	149.5	54.66%
TOTAL	18	321.6	195.3	60.72%

Source: A. Tasić, *Jugoslovensko bankarstvo između dva rata*, pp. 147-208.

In seven banks, out of 14 in which foreign capital participation was present, this participation represented less than 5% of banks' net capital stock (less then 25% in six banks), and in 7 of them it was in possession of majority block of shares (over 75%), with the exception of one bank. Foreign shareholders were in most of the cases foreign banks, then other joint stock companies, and seldom natural persons that were in fact representatives of foreign enterprises. Nearly ¾ of total foreign participation in Yugoslav banks was that of foreign banks, while little over 18% was that of joint stock companies.[21]

Table 2: *Foreign capital origin*

Capital Origin	The amount in which foreign capital participated in Yugoslav banking	
	million dinars	Percent
French	41.9	21.42%
Czechoslovakian	37.5	19.20%
Austrian (later German)	30.2	15.47%
Belgian	23.9	12.24%
Hungarian	16.7	8.53%
Swiss	10.6	5.36%
Monaco	10.4	5.33%
Italian	9.7	4.96%
English	8.9	4.56%
Dutch	5.1	2.61%
Swedish	0.5	0.32%
TOTAL	195.3	100%

Source: A. Tasić, *Jugoslovensko bankarstvo između dva rata*, pp. 147-208.

21 A. Tasić, *Jugoslovensko bankarstvo između dva rata*, pp. 147-208.

The presence of French capital in Serbia amounted to almost 90%, mostly through French-Serbian bank. Capital of French origin combined with the capital from other West European countries was rarely present in other shareholder type banks. This was not the case when it came to Czech financial capital which was often present in Yugoslav banks combined with Austrian, English or Belgian capital. In Serbia, its presence amounted to approximately 65%.[22]

Due to capital deficiency, the development of capital market in Yugoslavia was not possible. Hence, the sole creditors of country's economic activity were banks. Instead of obtaining necessary funds through stocks and bonds emission, the economy had to turn to draft loans which monetary institutions approved through checking accounts. This situation directly resulted from the country's capital deficiency. Up till 1925, the crediting of economy through checking accounts (generally speaking) was on the constant rise. During 1926 and 1927, certain decline was recorded, which can be explained by the fact that a number of banks, especially in Serbia, crashed due to their imprudent industry ventures. Checking accounts transactions peaked in 1930 when, compared to 1922, they nearly doubled.[23]

Apart from funds that were at disposal to companies through loans (1699.8 million dinars), shareholder type banks supported industry through running their own enterprises (166 million dinars), acquiring company stocks (624.8 million dinars) and participating in consortium ventures (209.2 million dinars). Thus, the total participation of shareholder type banks in county's economy amounted to 2 billion 699.8 million dinars. Taking in consideration that the loans worth 1699.8 million dinars were allocated to mainly industrial companies, 85.4% of which were joint stock companies, and that bank owned enterprises, as well as those with monetary institutions' participation, were in most cases industrial – it can be said that the banks' total industrial participation amounted to two and a half billion dinars.[24]

22 V. Rozenberg, J. Kostić, *Ko finansira jugoslovensku privredu? država - banke - inostrani i domaći kapital u službi privrede*, Beograd, 1940, pp. 23-27.

23 Ibid.

24 A. Tasić, *Jugoslovensko bankarstvo između dva rata…*, pp. 147-208.

Table 3: *Loan-based participation of banks in various industrial sectors*

Industry sector	Total credit value (million dinars)	Loans approved by private banks (million dinars)	Loans approved by private banks based on total credit value (percent)	Loans approved by foreign institutions (million dinars)
Wood industry:				
Companies with bank participation	453	220	48.1%	117.5
Other companies Mining and ironworks industry:	754.3	115.2	15.3%	411.1
Companies with bank participation	115.8	71.9	62.1%	22.4
Other companies Chemical industry:	620.9	145.3	23.4%	341.6
Companies with bank participation	61.1	26	42.5%	14.7
Other companies Food industry:	223.3	30	13.4%	47.7
Companies with bank participation	121.7	74.5	52.6%	15.3
Other companies Agro- industry:	447.2	92.2	20.6%	105.2
Companies with bank participation	32.5	10.6	32.6%	----
Other companies Textile industry:	447.2	35.7	31.4%	12.8
Companies with bank participation	174.3	22.8	13.1%	72.5
Other companies Metallurgy:	595.2	215.4	36.2%	184.6
Companies with bank participation	449.7	110.5	24.6%	170.1
Other companies Cement industry:	468.4	21.2	4.6%	86
Companies with bank participation	141.5	27.7	20.3%	76.9
Other companies	369	103.9	28.2%	137.1

Source: A. Tasić, *Jugoslovensko bankarstvo između dva rataa*, pp. 147-208.

Funds invested in wood industry through loans were most substantial (335.2 million dinars), but their overall participation, in total loan value approved to industrial companies, was the greatest in mining and ironworks industry. Bank loans approved to textile industry were quite substantial as well (238.2 million dinars). More often than not, banks tended to approve loans to those industrial companies in which they had capital investments. Cement and textile industry was the exception, however. In the case of cement industry, banks' participation in its total loan value was 20.3% - companies with bank participation, and 28.7% - other companies. In the case of textile industry, the ratio is even higher - 13.1% : 36.2%.[25]

The table shows that foreign capital displayed significant interest in Yugoslav industry. Loans approved by foreign institutions were quite substantial. Majority of industrial enterprises was more supported by foreign than domestic banks' financial funds. Such was the case of mining and ironworks industry, metallurgy and cement industry. When it came to crediting electrical power industry (which is not included in the table), there was an enormous disproportion of foreign capital and domestic banks' participation. Namely, out of 485.2 million dinar worth loans this industry had at disposal, only 24.3 million dinars came from domestic banks, while 408.5 million dinars came from foreign sources (remaining 10.4 million dinars came from public credit institutions). The participation of foreign institutions was smaller only in cases of food and agro-industry. The investments of public credit institutions (National Bank and two state monetary institutions) were more than two and a half times lesser than those of private banks (26.02% : 9.99%). Namely, in total value of loans approved to mainly industrial companies, private banks participated with one billion 699.8 million dinars, or 26.02%. Other creditors participated in the following manner: National Bank 5.68%, State Mortgage Bank 4.31%, foreign creditors 44.64%, and other creditors 19.35%.[26]

3.2 The role of Serbian political and financial elite in the activities of foreign banks in Serbia

As it has already been observed, laws on joint stock associations on the territory of the Kingdom of SCS, contained regulations that applied to branch offices of foreign joint stock associations, while domestic associations in which foreign capital was invested, that is to say those founded according to Yugoslav laws, were not even mentioned. Being aware of this fact, during 1920s foreign banks' management structures resorted to transforming their branch offices on the territory of Yugoslavia into domestic joint stock associations. It was necessary that a certain percentage of stocks were in the ownership of Yugoslav citizens (usually 50 to 55%) who, at the same time, were to comprise at least a half of board of managers. In such a way, apart from foreigners, who were the actual owners,

25 Ibid.

26 Ibid.

citizens of Yugoslavia, the so called "štomani" managed to enter boards of managers. These were well-connected people who were quite influential on public administration, and through them it was possible to achieve and maintain contact with the most important and influential state instances. In exchange for high profit-related management bonuses, and without actually participating in bank management, they provided support of the state, or at least the support of some members of ruling elite, in certain business or financial transactions banks conducted in the Kingdom. It is a known fact that foreign representatives carefully analyzed all those who had any influence on Serbian economic and political scene and who could, in the best way possible, serve their interests. In the years preceding the crisis, dividends paid to stockholders amounted to 8%, while in 1932 this percentage was as low as approximately 2%.[27]

Staff unity between banking and industrial capital was realized through the fact that, on one hand, managers of such banks were also members of boards of managers in numerous companies, and, on the other hand, the most prominent Serbian industrialists were members of boards of managers in monetary institutions with foreign capital participation. In such a way the immense concentration of power and control came in the hands of small number of economic and political state representatives and foreigners who gained significant financial, political and social influence in Yugoslavia. Being an integral part of Kingdom's urban social stratum, which represented a minority at the time, this banking class of economic elite, "merely a drop in the sea of uneducated masses", was closely linked to West European capital and their representatives. They played an important role in modernization of Yugoslav society, especially if one takes in consideration that bankers were those who were in possession of knowledge without which economic and financial development and overall progress of society would not have been possible.[28]

Affiliates and branch offices of foreign banks, that is to say modern, European mixed-capital type banks, were an important moving spirit of modernizing the economic and social life in Serbia, a country which was in between traditional and modern world in interwar period. Serbian society was also quite incongruous, economically disintegrated, nationally heterogeneous, religiously hermetic, and politically polarized. In such circumstances, these influential banks, being closely and extensively connected with the country's life, were in position to spread, in the first place, contemporary ideas concerning financial business practices and conducting financial transactions. The fact that people of enormous importance, both in context of European and world banking, were on their boards of managers, also facilitated rapid and successful gaining of respect

27 On methods of foreign branch offices' transformation into domestic bank see: AJ, General Yugoslav Banking Society, Joint-Stock Company Archival Holdings (151) f. 1- j.o. 2.

28 V. Aleksić, *Banka i moć, Socijalno-finansijska istorija Opšteg jugoslovenskog bankarskog društva A.D. 1928–1945*, Beograd, 2002, pp. 93-120.

from the part of prestigious international banks, which were almost unavoidable when it came to investing significant amounts of European capital in Yugoslav and Serbian economy.[29]

Foreign capital banks also had social importance of their own, since, in time, they created a specific bourgeois stratum of bankers and bank clerks, who held prominent positions on social ladder, and who were constituents of two, out of three social groups considered to be "promoters" of Yugoslav society's modernization in interwar period. In a country in which undereducated and unskilled bank clerks were a common occurrence, and in which political affiliation was a key element in social promotion, staffing of these banks was exemplary of an institution's concern with its own business ventures instead of politics. As such, they were in position to spread European entrepreneurial spirit and culture, but also to promote West European civilization standards in Yugoslavia (and within it, Serbia) - a mainly agrarian county at the time. Simultaneously, however, they were under political, economic and social influence of the environment in which they operated, especially through domestic clients, but also through domestic bank clerks.[30]

4. Economic situation in Serbia during and after the financial crisis

The Great Crisis of European banking was brought about by Great World Economic Crisis, caused by the stock market crash that occurred in America on October 29, 1929. Namely, since the value of more than 40 billion dollar worth of stocks declined, American, mostly short-term loans were recalled from Europe, which had catastrophic consequences on European economy. The inability of agricultural, mining, industrial and transportation companies to generate their standard profit lead to enormous unemployment and deterioration of disused production potentials. The price decline of numerous primary products (as high as 40 or 50%), stocks of leading industrial companies and co-operations, and stocks and bonds with fixed interest rate resulted in difficult banking crisis, whose onset in Europe was marked by the crash of "mammoth monetary institution" *Östereichseche Credit Anstalt fuer Hendel und Gewerbe* from Vienna.[31]

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29 Ibid.

30 Ibid.

31 H. Matis, "Oesterreichs Wirtschaft in der Zwischenkriegszeit: Desintegration, Neustrukturierung und Stagnation", in: *150 Jahre oesterreichische Bankengeschichte im Zentrum Europas*, Bank Austria Creditanstalt, Oliver Rathkolb/Theodor Venus/Ulrike Zimmerl (Hrsg.), Wien, 2005, pp. 124-147; Yugoslav press wrote extensively on *Östereichseche Credit Anstalt fuer Hendel und Gewerbe* bank collapse throughout 1931 and 1932; special attention is called to texts published in *Narodno blagostanje,* and particularly: V. Bajkić, *Kreditanštalt – Larma bez razloga*, III, 25, Beograd, 20/6/1931, p. 389.

After the First World War, this bank was the symbol of Austrian banking resilience, and through its loans it controlled 70 – 80% of Austrian industry and commerce, as well as a significant number of industrial companies and monetary institutions in the so called Austrian-Hungarian successor countries. Starting from the mid 1920s, half of the bank's stocks were in ownership of *Anglo-International Bank Ltd.* from London, *Schweizerischer Bankverein* from Basel and *Amstelbank* from Amsterdam. Already unstable due to the unsuccessful merger with *Bodencredit-Anstaltbank* from Vienna, that took place in September 1929, *Östereichseche Credit Anstalt fuer Hendel und Gewerbe* bank suffered further losses in May 1931 amounting to 140 million shillings or one billion and 200 million dinars, which, to give an example, equaled total bond portfolio of Kingdom of Yugoslavia's National Bank. In order to maintain the trust of foreign loan holders, whose loans were the basis of bank's business operations, but also to protect Austrian economy, Austrian government and National Bank assumed responsibility of the bank's financial recovery. The debt which reached one billion and 700 million shillings, or 13 600 million dinars, in August that year, put Austrian state in difficult position. Being a new stockholder of *Östereichseche Credit Anstalt fuer Hendel und Gewerbe* bank, Austrian government decided to withdraw the majority of bank's financial investments from other countries (Yugoslavia being one of them) in which this bank had a number of banking and industrial affiliations. Chain reaction that ensued put leading Yugoslav and Serbian private banks in a difficult position. This happened as a direct consequence of financial, industrial and commercial capital interconnectedness and was felt in a similar manner on the territory of the entire Europe in the period between 1931 and 1935.[32]

However, suspension of German reparation payments that occurred exactly at the time of Yugoslav currency legal stabilization (1931) prevented National Bank to support monetary institutions when investors came rushing to their counters. Thus, acute psychological crisis of banks could not have been neutralized, so it consequently turned into chronic, that is to say structural crisis, which in time affected almost every private bank in Yugoslavia. It might be said that, despite numerous state legislative interventions, this crisis lasted for the duration of the interwar period.[33] Namely, only in 1937 did a certain improvement occur, yet it was of such limited scope that it was difficult to claim that the decrease in volume of credits approved on the basis of checking-account finally stopped. Bearing in mind that many banks were extremely interested in the fate of their clients, that is to say industrial companies in which they had financial investments, it might be said without exaggeration that toward the end of the period, the credit operations of Yugoslav banks decreased in such a degree that they became barely existent. Of course, such conclusion is valid only if Yugoslav bank-

[32] Ibid.

[33] A. Tasić, "Kriza jugoslovenskog bankarstva (1931–1941)", in: *Glas CCCLXVI*, SANI, Beograd, book 27, 1995, pp. 141-167.

ing is regarded in its totality. In the case of 20 most important Yugoslav banks, in most of which foreign capital was present, the decrease had been stopped a year before: namely, as early as in 1936, these banks recorded increase in the volume of credits approved on the basis of checking-account, and in 1937 the volume reached the level recorded in the last quarter of 1934.[34]

4.1 Measures taken by National Bank and Yugoslav Government in order to establish firmer control over foreign capital

In Yugoslavia, a deeper, organic connection between National Bank, as a central monetary institution, and other credit institutions did not exist. Special situation in the country did not allow for the central banking institution to become the actual credit market regulator. One of the reasons why this organic connection was not established lay in the fact that National Bank's stand on crediting almost always depended on currency circumstances, that is to say, it was almost completely subordinated to currency objectives. [35]

For the duration of interwar period the following opinion was prevalent – private banks could have never relied on the support of National Bank in the case of unexpected wave of creditors' distrust. This thesis is further corroborated by the following – before the end of 1937, National Bank of the Kingdom of Yugoslavia was twice in the position to credit banks so as to stop the withdrawal of savings deposits; however, National Bank did not act upon either of the two occasions. In 1923 the banks, unaided, managed to overcome the surge of creditors, but not without significant difficulties.

However, in 1931 the distrust toward the banks grew to such an astounding extent so that the banks alone were completely unable to prevent the ensuing damage. Soon, the entire credit organization found itself in the state of utter turmoil, and National Bank could no longer avoid emergency bank crediting, but the volume of loans approved at that time was nowhere near sufficient for the banks to overcome the acute stage of crisis. That is why it was resorted to imposing the moratorium in the banks worst hit by the unexpected deposit withdrawal.[36] The emissive institution, hence, did not guarantee the so called indirect liquidity to credit institutions. What is more, by the ruling passed on August 8, 1931, the goal of which was to revoke the extremely high profit margin (of approximately

[34] Ibid.

[35] D. Gnjatović, "Foreign exchange policy in the Kingdom of Yugoslavia during and after Great Depression", *Megatrend Review,* Vol. 4, No. 1, pp. 31-49.

[36] I. Belin, "Kreditna politika Narodne banke i kriza kredita", in: *Nova Evropa*, Book VIII, No. 11, 12, 1923, Beograd, pp. 538-559; D. Plavšić, "O sanaciji našeg bankarstva", in: *XX vek*, Vol. I, February 1938, No. 2, Beograd, pp. 125-140.

866 million dinars) of approved yet unused loans, National Bank significantly worsened the already difficult situation Yugoslav banks were in.[37]

Once it became clear that it was highly unlikely the banks would be able to maintain liquidity during the crisis and continue to function normally, Yugoslav government took measures in order to revitalize country's credit organization. Therefore, on November 22, 1933, the Bank passed *The Ruling on the Protection of Banking Institutions and Their Creditors.* Other special rulings followed: on protection of credit cooperatives, on monitoring expense decrease in the banks under protection and on maximizing interest rates.[38]

According to *The Ruling on the Protection of Banking Institutions* which was amended on November 23, 1934, three different protective regime types were possible: payment delay, financial recovery and non-insolvent termination. Only active banks had the right to payment delay. Passive banks had to enter the state of non-insolvent termination; however, among passive banks were also those whose subsistence was in the country's economic interest. They were subject to financial recovery – under favorable and special conditions. Such legal regulation was of utmost importance. Its purpose was dual: in the first place, the regulation was to improve the state of banking system and monetary market in general by supporting banks that were not culpable for the problems that befell them, or that played an important role in country's economic life and, in the second, to eliminate from the banking system everything proven to be insolvent.[39]

Operations of protected banks were from that point on under strict government supervision. Minister of Commerce and Industry was entitled to order inspection so as to determine whether the bank was active, which was not only the case when protective measures were to be approved, but also while payment delay was under way. The Minster had the right to appoint a commissary to survey the operations of a protected bank, and in the case of financial recovery, a part of old financial claims, not exceeding 40%, was to be transformed into priority stocks and special reserve fund. In February 1938, the possibility to utilize the right of protection ceased to exist. Up till that point, over 360 banks were under protection. During the same year, ten or so banks voluntarily declined previously demanded and approved protection, which lead to conclusion that the period of stabilization set in, and so the state representatives once again set about establishing legal basis that would regulate the activities of credit institutions. In the period immediately preceding the Second World War, the issue of passing the law on banks (that is to say, legal regulation with legal power) once again

37 When in 1938 and 1939 savings depositors came into the state of perturbation caused by the world political situation, *National Bank* acted differently than in 1931 instructed by the experience gained during the 1931 crisis – it prevented the withdrawal of deposits by more extensive crediting of banks at the very sign of alarm, see A. Tasić, *Kriza jugoslovenskog bankarstva (1931–1941*), pp. 141-167.

38 Ibid.

39 Ibid.

came into focus. The instance of placing banks under state control, as specified by the project, was being justified by the errors that had previously occurred in banks' business operations, and due to which the country's economy and citizenry suffered.[40]

However, all these state interventions, be them emergency or systematic, mainly applied to private banks. State banks had never undergone such difficulties private banks had to endure – their business operations were even on the significant increase during periods of crisis. Besides, state banks were not numerous. Postal Saving Bank, which had specific objectives, and State Mortgage Bank, the largest and the sole institution specializing in approving mortgage loans, apart from Commerce Fund Mortgage Bank, were the only two state banks in Yugoslavia.

Thus, while the volume of savings deposits at Postal Saving Bank and State Mortgage Bank amounted to 738.5 million dinars at the end of 1930, it increased to 2 billion 632.9 million dinars before the end of 1937, that is to say, the total increase was one billion 894 million dinars or 356.52%. At the same time, the decrease of savings deposit volume at private banks was nearly 5 billion dinars (it dropped from 10 billion 294 million dinars to 5 billion 306 million dinars). Evidently, due to distrust that arose, a significant amount of money withdrawn from private banks was deposited in state banks. During the banking crisis, it was not resorted to establishing new state monetary institutions although in some countries the solution for banking crisis and credit crisis in general was found in establishing new credit institutions which were either state-owned or privileged. This gives room for conclusion that Yugoslav state did not intend, at least in due time, to conduct the nationalization of banking system. Throughout this period, domestic banks in which foreign capital was dominant continued to finance the functioning of industrial companies but in a significantly limited scope then it was the case in 1931. In addition to that, newly arisen political and economic situation, which was demonstrated in the form of aggressive influx of German financial capital that began in 1938, forever changed the power balance in Yugoslav, and consequently Serbian, private banking.[41]

5. Conclusion

Political changes induced by the events of 1918, in addition to their long-term economic causes, lead to sweeping process of economic disintegration and reintegration in Yugoslavia and Central Europe. At the same time, these changes were also qualitative in nature since they implied the transformation of liberal industrial capitalism into monopolistic capitalism whose main feature

[40] Ibid.

[41] Ibid.

was the merger of industrial and banking capital into financial capital. Due to the market vacuum created by the newly established political borders, industry developed more rapidly then its capital accumulation allowed, so, in order to satisfy the needs of existing consumers who, in the past, had been a part Austrian-Hungarian market, it had to resort to foreign capital. Private banks, in which foreign capital was dominant were those who provided Yugoslav industry with necessary funds, and simultaneously, they created banking and industrial consortiums which represented the typical form of capital concentration.

The paper demonstrated that the private banks in which foreign capital was dominant had influenced not only financial market, but also the industry The development of industry in all agrarian countries, Serbia being one of them, depended upon the import of machinery, technical equipment and raw materials, which necessitated substantial funds. Due to the lack of domestic capital, foreign investment was necessary. However, as a general rule, foreign capital prevented the accumulation of investment capital in the Kingdom by taking the profit (in the form of dividends, entrepreneurial profit and loan interests) out of the country. Industrial consortiums comprised of several industrial companies, through their joint stock capital and the use of loans were in fact dependent on banks, that is to say foreign capital that controlled them. In such a way, through economic, political influence was often practiced, and beginning with 1938, political influence turned into direct pressure.

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Paper received: February 1st, 2011
Approved for publication: March 30th, 2011

Original scientific paper UDC 336.71(497.4)|"19"

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BANKING TRANSITION IN SLOVENIA IN THE 1990s[**]

Abstract: *Banking transition in Slovenia started with the onset of Slovenian statehood in the beginning of the 1990s. The basic goal of the transition was to establish an internationally comparable and competitive banking system that would successfully cater to the needs of the business sector as well as general population. The Slovenian approach to transition was characterised as gradualist. Slovenia implemented a twofold banking system, with the central bank at the helm as well as with universal commercial banks. The rehabilitation of the banking system was an integral part of the banking transition or a condition for it. From 1993 to 1997 the rehabilitation of two of the largest banks, which represented over 50 % of total banking, took place. At the end of this process the banks were free of bad credits, their capital increased, and they were ready to take on their role. The rehabilitation carried out in the name of the state by the Bank Rehabilitation Agency had a price in the amount of 10 % of GDP. After the rehabilitation and institutional adaptation of banking to the regulatory framework of the European Union, it was ascertained that Slovenian banking was falling behind in the field of diversity of services as well as costs. This would supposedly be remedied with sales to strategic investors, while at the same time the proceeds would go towards reducing the public debt that arose from bank rehabilitation. Due to the public opposition to these procedures, the sales of Slovenian national banks to foreigners and their privatisation were aborted.*

Key words: *banking system, economic transition, Slovenia*
JEL classification: P34, G21

1. Introduction

For Slovenia, just like for the other countries of the former socialist bloc, the 1990s were the turning point. After half a century these societies and countries were facing another challenge of radical social and economic transformation – only this time in the opposite direction as in 1945. In Slovenia (and also

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[**] Paper is a part of research conducted for the preparation of the Project No. III 47004, financed by The Ministry of Science and Technological Development of Serbia.

other parts of the former Yugoslavia) the dynamics of these developments had additional dimensions with multiple connotations. This multi-layered character manifested itself in the simultaneousness of different yet interdependent processes. On one hand Slovenian statehood was being established, based on the expected successfulness of the political and economic transition. The effective adoption of the liberal democratic political model and principles of market economy under the watchful eye of the international community then allowed for the inclusion into the European integrations. Therefore a process was initiated, completed in 2004 with the accession of Slovenia to the European Union, together with nine other countries.

This discussion only presents a rough description of the thorough social and economic reorganisation of Slovenia in the end of the previous century. Its purpose is not to explore the extensive context of Slovenian transition, since that would by far exceed the available space and time. We shall limit ourselves and only focus on the banking transition as one of the very important processes within the transition complex. We will only touch upon the wider social and economic context of transition in case this is necessary to better understand the banking transition. The establishment of a functional and competitive banking system was at the core of the economic reforms in the 1990s. The process of transition will be presented in a few parts. In the first part we will explore the socialist banking system heritage. We will proceed to present the basic characteristics of the Slovenian transition, then the characteristics of the banking transition, the process and the results of bank rehabilitation, and finally the situation after the banking transition has been completed.

2. Socialist banking system

Yugoslav authorities had already abolished the mono-banking system in the 1950s, in the context of the gradual abandonment of centrally planned economic model. Besides the central bank, other banks were gradually established. The most important ones were the "municipal banks", which progressively took over an increasingly important role in crediting the economy and the population as well as collecting savings. Federal banks played the leading role, especially as far as conducting international business was concerned. The implementation of the new banking legislation in the 1960s represented a significant turning point. Besides municipal banks, the establishment of commercial banks in the individual republics was now possible. Slovenia quickly took advantage of this opportunity and established the Slovenian Commercial Bank as early as in December of 1961. Its basic purpose was to ensure the concentration of financial resources, targeted financing of important investments, as well as control of the republican authorities over capital flows in Slovenia.

In retrospect, the banking legislation of 1965 also has to be underlined. It was important because of a number of emphases. Commercial banks were freed of the restrictions of the republican borders. The banks could conduct their activities in the area of the whole state, if they could only ensure commercial interest. They were also allowed to carry out foreign payment transactions. Thus the monopoly of federal commercial banks was abolished. On the other hand, this legislation allowed the banks to shape their own policies in accordance with the principles of profitability, which was very important. Namely, the banks were assigned an important role in the Yugoslav socialist economic system. Since they had to take care of their own liquidity and profitability, they could also check whether the enterprise's investment plans were justified and the use of loans efficient. However, the decision to change the ownership of the banks was the most far-reaching by far. Namely, individual enterprises became the "owners" of the banks. It took at least 25 enterprises to establish a bank, and their obligations and rights depended on the amount of resources invested in the bank's credit fund. The redefinition of the banks resulted in the Yugoslav banks getting involved in "incestuous relationships" – ultimately the owners also became the biggest borrowers of their own banks, and the banks were thus managed by their debtors. This was reflected in an extraordinary increase of all bank placements, in terms of issuing as well as international borrowing. Uncontrolled investment spending took place. The liquidity of banks was frequently threatened. The financial discipline of borrowers (loan users!) diminished, the structure of the banks' deposit resources became unsatisfactory, the work technology and quality of banking services regressed and worsened. However, admittedly, we have to stress that exterior factors also influenced this situation: inflation and prescribed investment policy to "serve the needs of society".

From the viewpoint of banking, the 1970s were difficult. Based on the ideological suppositions extensive reorganisation of the economic life in the country took place then. At the level of central banking, a multi-central banking system was introduced. Besides the central National Bank of Yugoslavia, the republican central banks were also established, all of them laying out the principles of the joint monetary policy. The latitude of commercial banks became more restricted: they were to become the "financial services of enterprises", which had many consequences for the economic life. The aspiration for the transfer of resources to the socialist enterprises, especially their founders, had a greater priority than liquidity. Let us mention, just as an illustration, that the interest rates between 1976 and 1980 had a downward trend, for it was deemed that the enterprises costs for covering the interest rates were too steep. All of this took place in an atmosphere of relaxed monetary policy, uncontrolled borrowing at home and abroad, extraordinarily extensive investment activities, inefficient investments and significant problems with liquidity. The quality and structure of banks' balance sheets worsened considerably.

In 1980, with the onset of the debt crisis and general economic crisis, which only aggravated in time, the Yugoslav economic situation kept worsening. The International Monetary Fund (IMF) and foreign creditors got involved in the attempts to solve the deep Yugoslav economic crisis. The condition for the further assistance of IMF was a strict programme of saving, reduction of public and private spending, realistic dinar exchange rate and liberalisation of prices. Foreign creditors, on the other hand, managed to force Yugoslavia to socialise the debts: that is, to ensure solidarity in the repayment of debts. The federal government tried to pull the state out of the economic and political crisis. It managed to improve the balance of payments with the exchange rate and interest rate policy, centralisation of foreign exchange and the policy of reducing public and private spending. However, it was not so successful in the other fields.[1] Instead of expanding its exports, Yugoslavia resorted to a restrictive import policy in order to ensure international solvency. Since the Yugoslav economy largely depended on importation, such policy resulted in a relative and finally, towards the end of the 1980s, also absolute decrease of production volume. The circle was gradually complete, and shortly after that the state also fell apart due to profound political and economic crisis[2], as various stabilisation policy packages turned out to be unsuccessful.

The year 1980, which also brought a significant liquidity crisis in the Slovenian banking, represented a turning point. Interest rates started increasing. Debtors were no longer the central issue – the preservation of the realistic value of the loans was focused on instead. Interest rates would supposedly increase up to the point where they would completely compensate for or neutralise the rate of inflation. Interest rates started soaring especially in 1982 and 1983, when they even increased up to four times. Thus the interest rates on loans got close to and then exceeded 30 %, while the interest rates on deposits with maturity over three years increased from 10 % to 28 %.[3] Obviously such a policy of interest rates, exactly the opposite of the previous policy of relaxed interest rates, caused additional tension in the Slovenian/Yugoslav economy. Problems with liquidity and bad irrecoverable investments became far more pressing.

The intervention of federal authorities with the Act of 1985 did not change the foundations of the banking position. It focused on correcting the most critical problems with regard to the ways of ensuring banking liquidity, safety of investments and credit policy rather than attempting to carry out a structural reform. The structural reform, however, took place in the end of the 1980s. At that time Slovenia virtually only had a single bank (Ljubljanska banka – the united bank)

1 Ž. Lazarević, J. Prinčič: *Zgodovina slovenskega bančništva*, Ljubljana, 2000, pp. 269-438.

2 A. Vacić: *Jugoslavija i Europa. Uporedna analiza privrednog razvoja Jugoslavije 1971-1987*, Beograd, 1989, pp. 196-218.

3 D. Mramor: "Prikaz institucionalne ureditve bančno-kreditnega in nekaterih drugih delov ekonomskega sistema Jugoslavije 1945-1983" (2), *Bančni Vestnik*, mart 1985, p. 59 (2) [Outline of the Institutional Arrangements of the Banking and Credit Sector and Certain Other Parts of the Yugoslav Economic System 1945-1983]

due to the unification ordered by the politics. Altogether this bank represented 90 % of the Slovenian banks' total assets. Banks or its branches in other Yugoslav republics were also included in its group. Furthermore, this bank had over twenty representations abroad. A few small banks besides the Ljubljanska banka bank also operated. They were mostly a part of other banking groups, usually with head offices in Belgrade.[4]

In the end of the 1980s, the realisation about the exhaustion of the socialist model became final. This was also evident from the legislation. In February of 1989 the Banks and Other Financial Organisations Act was passed, bringing an end to the previous banking regime. The ideological, legal and economic constructs, which had turned out as unsuccessful in banking, were gradually abolished. This Act introduced the practice and principles of joint-stock companies, as far as organisation as well as business operations were concerned. Business permits were granted to the banks by the central bank. The conditions of the credit policy were now stricter: banks could only allocate loans or guarantees in the maximum amount of 15 % of the capital to a single borrower. On the basis of this Act, Slovenian banks transformed into joint-stock companies in the end of 1989.[5] As a curiosity, let us mention that in 1990 an audit of banking operations was carried out on the Yugoslav level according to the standards applied for the Western banks. It was established that the losses of the Yugoslav banking system exceeded the capital by 3,5 times. In the Yugoslav context, banks capable of operating could only be found in Slovenia and Croatia. However, this by no means meant that the Slovenian banking system was not in need of a thorough reorganisation, restructuring, rehabilitation and capital increase.[6]

3. Characteristics of transition in Slovenia

All of the above were the tasks of the independent state of Slovenia and its policy in the time of the transition. The Slovenian transition from the socialist into a market economy took place gradually, avoiding various shocks, in order to reduce the unavoidable social price of the change. Internationally this transition is deemed as an example of gradualism in the transition processes. Certain Slovenian authors criticise this approach, emphasising that in the case of "Slovenian gradualism" this is not a completely precise definition. They underline that gradualism in itself, as a concept of social change, is not disputable; but that in the Slovenian case the step-by-step transition/gradualism is often mistaken for slowness and delay in taking measures, which resulted in increased cost of transition at the level of the state, society and companies due to slow structural reforms.

4 M. Hein (Hrsg.): *Bankensysteme in Ostmitteleuropa*, 1995, p. 111.

5 Ž. Lazarević, J. Prinčič: *Zgodovina slovenskega bančništva*, pp. 425-438.

6 M. Hein (Hrsg.): ibid., p. 132.

The lengthy adoption of the Privatisation of Companies Act, which simultaneously also delayed the implementation of the rehabilitation of the banking system that had already been prepared, is presented as a typical example. This thesis is also supported by the references to the delayed and slow labour market reform. By all means, in this context we should underline that the fragmentation of the Slovenian political space also contributed significantly to the slow transition. Due to different interests in the government itself as well as in the parliament, the coalition governments were prevented from adopting quick decisions.[7]

However, there is no doubt among the Slovenian authors that gradualism (or slow implementation of transition reforms) was a "natural choice". "Historical heritage" is referred to as the reason for this. It is a fact that thanks to the 1960s reforms Yugoslavia was an open country that had to liberalise its foreign trade after it had joined the General Agreement on Tariffs and Trade in 1966, as the only socialist country. The mechanisms of controlling the citizens and companies through security services may have remained unchanged, but this nevertheless made it possible for Yugoslav companies to enter the international market. Slovenian companies were at the forefront of these developments. By means of international economic cooperation, Slovenian companies not only acquired the technology but also the knowledge in managing business, administrative and marketing processes. On the other hand many members of the Slovenian elites, especially in the field of economics and social sciences, were educated at Western universities in the 1970s and 1980s. By taking the positions in the administrative and educational structure of Slovenia, they disseminated the knowledge acquired at the Western universities throughout the Slovenian environment, as operators and opinion leaders.[8] In the beginning of the transition, coinciding with the attainment of the Slovenian independence, the Slovenian situation was quite specific. The Slovenian elites had not been completely discredited, and their social legitimacy was not questionable due to their merits with regard to the attainment of statehood. The theoretical proficiency of the academic elites, especially the economic profession that also had high-quality, extensive and up-to-date empirical databases about the state of the Slovenian economy at its disposal should also be taken into account. In such an atmosphere the Slovenian elites were not susceptible to the recipes for transition policies, prescribed by the international organisations and groups of foreign advisors. The Slovenian political elites decided for a gradual and controlled transition into market economy and for the reliance on their own capabilities. Long-term goals involving the stability of economy as a whole and paying the lowest possible social price were in the centre of their efforts.

[7] J. Šušteršič: *Political Economy of Slovenia's Transition. From Yugoslavia to the European Union*, World Bank, 2004, pp. 400-411.

[8] J. Mencinger: "Gospodarska politika prehoda", R. Ovin, N. Borak: *Prehod in prestrukturiranje slovenskega gospdoarstva*, Ljubljana, 1997, pp. 11-36. See also: Šušteršič, *Political Economy of Slovenia's Transition*.

4. Banking sector transition

The transition of the banking sector was a two-dimensional process. On one hand it involved a transformation of the socialist banking system into a new organisational form and role in the economic life. In this context we, of course, cannot avoid the regulation of the banking system, carried out by the central bank. On the other hand a thorough rehabilitation of the banking system, removal of losses and capital increase was required, in order for these banks to be capable of performing their role in the economic life at all. Both of these policies were co-dependent. Therefore the tasks of the Slovenian authorities in the field of banking were straightforward: rehabilitation of the existing banking system, establishment of the supervisory system, stricter criteria for the acquisition of licenses for banking operations, establishment of an independent central bank, and evaluation of the banks' costs during the rehabilitation of companies.[9]

As expected, the Slovenian authorities introduced a twofold banking system with the central bank at the helm and commercial banks based on the universal model.[10] In view of the fact that banks dominated the financial system, it is not surprising that the restructuring of the banking sector was one of the most important tasks of the transition reforms.[11] Transition started on 25 June 1991, when the Slovenian parliament, besides independence, also proclaimed a few important Acts drawn up in accordance with the models of the Western states' legislation. This included legislation on the independent central bank – the Bank of Slovenia. The main task of the Bank of Slovenia was to ensure the stability of the currency and general liquidity within the state and abroad. In order to carry out this tasks, the Bank of Slovenia controlled the amount of currency in circulation, ensured the general liquidity of banks and savings banks, the general liquidity of payments abroad, monitored banks and savings banks, issued banknotes and released banknotes and coins into circulation, and set out rules for the implementation of bank deposit guarantees. This Act stipulated expressly that the Bank of Slovenia could only grant a loan to the Republic of Slovenia in the amount of up to 5 % of the annual budget or one fifth of the expected budget deficit. The loans should be repaid until the end of the fiscal year, which meant that they could not be the source of financing the deficit.[12]

In this package the legislation on banks and savings banks was also passed, precisely defining the form and contents of the business operations of banks and

9 N. Borak: "Western Rules for Eastern Banking", D. Green, K. Petrick (eds.): *Banking and Financial Stability in Central Europe*, 2002, p. 177.

10 N. Borak, V. Lavrač: "An Outline of the Banking Regulatory and Supervisory System in Slovenia", D. Green, K. Petrick (eds.): *Banking and Financial Stability in Central Europe*, 2002, p. 109.

11 Ibidem, p. 106.

12 Bank of Slovenia, 1996 Annual Report.

savings banks as well as the conditions for the acquisition of the limited and unlimited business licence, dependent on the amount of own capital. Furthermore, the provisions on the liquidity and structure of investments in immovable property and capital shares in non-financial companies were also set out. Obviously with this Act the door opened for the entry of foreign banks into the Slovenian market. The Savings Deposit Guarantee Act defined the savings deposit guarantee scheme through a special Savings Deposit Insurance Agency, which was vital in order to ensure the trust in the banking system. At the same time legislation on foreign exchange, international credit operations and preliminary rehabilitation, rehabilitation, bankruptcy and liquidation of banks and savings banks was also adopted.[13]

This legislation established the systemic level and specified the competences of the Bank of Slovenia as the central bank, so that it could undertake the regulation and control with the intention of ensuring long-term stability and security of banking operations. The Bank of Slovenia as a regulator enforced the requirements of the standards of the Bank for International Settlements (BIS) with regard to capital adequacy and liquidity. By upgrading its regulatory and control mechanisms, the Bank of Slovenia followed the international control standards with the inspections of banks. The banks are required to submit all the necessary information to the control and inspection bodies. To this end the central bank carried out regular, detailed and in-depth inspections of the business operations of individual banks at least once every two years, as well as required regular reports from these banks. Until 1998 the monitoring system was divided into three administrative units: granting of licenses, analysis of banking operations and control of banking operations.

In the middle of the 1990s, the alignment of the Slovenian banking sector with the EU internal market business regulations began. This adjustment took place in accordance with the "White Paper", published by the EU, setting out a package of measures and reforms that the countries of Central and Eastern Europe had to carry out in order to join the EU. In this document, the well-developed and internationally competitive financial sector was defined as one of the basic goals of the transformation into a market economy. The recommendations involved the establishment of minimum standards in the financial sector. The association agreement between Slovenia and the EU was also important, and it set out the following obligations of Slovenia:

- to set up compatible accounting standards,
- to restructure banking, insurance business and other elements of the financial sector,
- to strengthen banking regulation and supervision,
- to establish an office for the supervision of insurance business,
- to ensure translation of the Slovenian and EU financial legislation,

13 M. Hein (Hrsg.): *Bankensysteme in Ostmitteleuropa*, pp. 112-125.

- to prepare a terminological dictionary,
- to establish the information exchange in the field of drafting the financial legislation,
- to organise an efficient audit system in accordance with the harmonised methods and procedures in the EU.

The association agreement came into force on 1 February 1999, and already three weeks later the new Banking Act also entered into force, implementing the essential points of the EU requirements and BIS standards, which were subsequently amended with new EU Directives.[14] Thus Slovenia completely transformed the banking sector and brought it in line with the recommendations and requirements of the EU as far as the normative aspects were concerned. During all this time Slovenia had a stable banking system. The only example of liquidity problem took place in 1996 in one of the smaller banks. The central bank intervened immediately, liquidated the bank and thus prevented any major damage. In order to avoid such potential threats to the stability of the banking system in the future, the Bank of Slovenia even intensified the banking supervision.

5. Bank rehabilitation

Rehabilitation of the banking system in the beginning of the transition was one of the integral parts of the aforementioned process of the legislative harmonisation of the Slovenian regulations with the EU acquis. At the outset of the Slovenian state in 1991, the proportion of toxic assets of the whole banking sector amounted to more than 10 %, while the percentage of bad credits in the banking portfolio was more than 30 %.[15] The rehabilitation of the banking system was therefore urgent to enable the majority of Slovenian banking to keep carrying out its role at all. The systemic foundations for the rehabilitation had already been set out with the aforementioned legislation on preliminary rehabilitation, rehabilitation, bankruptcy and liquidation of banks and savings banks. At the schematic level the rehabilitation processes may be divided into three groups. Within the banks the so-called “self-rehabilitation” took place, where the banks themselves implemented measures for the reduction of credit exposure. These measures were undertaken by the banks whose losses and irrecoverable credits were not so extensive as to threaten their existence, and also by the rehabilitated banks. Simultaneously the so-called “linear” rehabilitation measures took place, followed by the individual rehabilitation of certain banks.[16] The latter was

[14] N. Borak, V. Lavrač: *An Outline of the Banking Regulatory and Supervisory System in Slovenia*, pp. 113-121.

[15] F. Štiblar: “Sanacija bank v Sloveniji”, *Bančni vestnik*, 51, 7-8, 2002, p. 62.

[16] M. Hein (Hrsg.): *Bankensysteme in Ostmitteleuropa*, p. 132-133.

delayed the most; the slow adoption of the legislation on privatisation in the real sector is referred to as the reason for this. Namely, banking rehabilitation cannot be accomplished out of the context of the transition reforms, especially privatisation of the real sector. Due to various interests and conceptual disagreements it took two years (until 1993) for the necessary legislation to be adopted. Of course, the delay increased the costs of banks, companies and taxpayers.[17] As far as the "linear" rehabilitation measures are concerned, it has to be emphasised that by means of these measures the state took over irrecoverable claims from the banks in exchange for government bonds. All banks were entitled to these bonds. Thus, in January 1993, the government issued bonds for the population's frozen deposits in foreign currencies[18], bonds for the rehabilitation of the Slovenian ironworks (in November 1992) and bonds for the compensation of the companies' claims towards Irak, Cuba and Angola (January 1993).

All these measures, including the adopted legislation on the privatisation of companies, created the conditions for the rehabilitation of individual banks. The rehabilitation was carried out by the Bank Rehabilitation Agency (BRA), founded on the basis of the acts and regulations of the government of the Republic of Slovenia. On the basis of legislative provisions, the governor of the central bank was able to order a preliminary rehabilitation procedure for every bank in the state whose potential losses exceeded 30 % of their own capital. In case of those banks whose potential losses exceeded half of their capital, the governor ordered that the rehabilitation procedure be initiated. At this point the Agency got involved, and it had the right to take over the bank, relieve the bank's management of duties, set off the losses against the capital, take over the losses or irrecoverable claims, increase the capital, merge or privatise the bank in the process of rehabilitation. During the rehabilitation processes of individual banks, the Bank Rehabilitation Agency closely cooperated with the central bank and the Ministry of Finance. Indirectly, by taking over the claims, the Agency became the creditor of many companies in Slovenia.[19] The central bank initiated the process of rehabilitation in three banks. The first one was the largest Slovenian bank by far, the Ljubljanska banka bank – LB (January 1993), then the Kreditna banka

17 M. Voljč: "Bank Rehabilitation and Private Sector Development: Some Lessons from Slovenia", M. Simoneti, S. Kawalec (eds.): *Bank Rehabilitation and Enterprise Restructuring*, 1995, p. 110.

18 With the creation of the Slovenian state it turned out that Slovenian banks were unable to disburse the population their deposits in foreign currencies, most often in DEM and USD. Deposits in foreign currencies served as protection from inflation, since the economic life in the hyperinflation conditions became dependent on US dollars or mostly the German mark. The banks had to hand over the funds collected in this manner to the Yugoslav central bank (NBJ), therefore they were no longer accessible after the dissolution of Yugoslavia. The Slovenian state took over the guarantee for these deposits, which were then paid out gradually, in smaller amounts.

19 M. Voljč: *Sanacija banaka*, pp. 111-112.

Maribor credit bank – KBM (April 1993), and finally the Komercialna banka Nova Gorica commercial bank (February 1994), which merged with KBM. Altogether the banks in the process of rehabilitation represented more than 50 % of the banking sector.[20] The rehabilitation of KBM was less demanding, since due to the smaller scale of operations it was not involved in so many problematic investments, which reduced the time needed for the rehabilitation.

The purpose of rehabilitation was to achieve capital adequacy in accordance with international criteria, positive cash flow and profit, lower interest rates, credibility of Slovenian banks in the international money markets and the introduction of prudent management.[21] It has to be especially underlined that the Bank Rehabilitation Agency did not take over all the bad claims from the rehabilitated banks. The rehabilitated banks had to restructure approximately one third of bad claims themselves by refinancing, partial or total write-off or conversion of claims into equity.[22] This was done in order to strengthen the banks' own responsibility and prevent the possibility of high-risk business operations during the rehabilitation and after it. The exchange of bad claims in the rehabilitated banks was carried out by issuing the bonds of the Republic of Slovenia in the amount of DEM 2,2 billion. The Rehabilitation Agency then increased the capital of the rehabilitated banks by means of government bonds. In reality this increase of capital also meant that both of the rehabilitated banks were nationalised.

Some of the issues that emerged during the process of rehabilitation included the claims and obligations towards the countries of the former Yugoslavia, entered into the balance sheets of the rehabilitated banks, due to the possible solidarity responsibility. Therefore in July 1994 two new banks were established with a constitutional act: the Nova LB (NLB) and Nova KBM (NKBM) banks. The new banks took over 90 % of the assets, while the rest remained in the old banks.

Rehabilitation was concluded on June 1997, after four years. Both banks became liquid, promptly met the requirements of monetary policy, satisfied the criteria in connection to the guarantee capital in the amount of at least 8 % (of the total assets and active off-balance-sheet items), complied with the regulations on credit exposure with regard to a single client, and had enough reservations to be able to cover potential losses.[23] Due to the rehabilitation the public debt has increased; however, so did the value of the rehabilitated banks. Altogether the rehabilitation of banks cost Slovenia approximately 10 % of GDP. In the end of the rehabilitation, the value of capital adequacy of both banks was increased: 12 % in case of NLB and 16 % in case of NKBM. Between them, these banks repre-

20 F. Štiblar: *Sanacija bank v Sloveniji*, p. 62.

21 F. Štiblar, M. Voljč: *The Banking Sector. Slovenia. From Yugoslavia to the European Union*, World Bank, 2004, p. 265.

22 F. Štiblar: *Sanacija bank*, p. 64.

23 Bank of Slovenia, Report on Banking Supervision in 1996 and the First Half of 1997, Ljubljana, September 1997.

sented 40 % of the Slovenian banking sector, and the gradual decrease of interest rates was important for lowering the costs of financing the companies as well as the population. In the end of rehabilitation, the real interest rate fell below 10 %, which was a significant decrease if we take into account that it had amounted to over 13 % in the beginning of the rehabilitation. During this time the banks were reorganised in accordance with contemporary requirements, and their costs decreased significantly. Labour costs decreased considerably: NLB reduced the number of its employees by a third, and so did NKBM by a few percent.[24]

6. The end of transition

During transition, in Slovenian banking significant changes took place in the business operations structure of the Slovenian banks. The number of banks gradually decreased, from 30 in the beginning of the transition to 20 banks in 2004. The consolidation process was carried out by means of takeovers and mergers of smaller banks with larger ones. Because of this, NLB as a leading bank during the transition, for example, has even increased its market share, which in the year 2004 amounted to one third of the banking market in Slovenia, measured by means of the total assets. The level of concentration has always been high in the Slovenian banking, since the two largest (state-owned) banks have mostly had a share higher than 40 %, in the year 2004 even 43,1 %. This fact was not even changed by the entry of foreign banks into the Slovenian banking market. Foreign banks entered by taking over smaller Slovenian banks or opening their branches in the Slovenian market. In 2004, at the time of the Slovenian entry into the EU, the market share of foreign-owned banks or their branches in Slovenia amounted to 25 %. The indicator of the depth of financial intermediation (the banks' total assets to GDP ratio) has gradually increased as well. During the whole transition period it has increased by almost a third, from 61,3 % in 1992 to 86,7 % in 2004, which meant that the banking sector growth has also increased. There is still much room for potential growth of financial intermediation, since this rate is still lagging behind the situation in the developed economies notably, but it is approximately at the level of other countries in transition. The structure of investments has changed where the percentage of the population and the obligations towards the residents increased, which has attested to the orientation of the Slovenian banking sector towards the interior of the national borders. At the same time, the quality of credits has also changed.[25]

The basic goal of the transition was to ensure internationally competitive banking, capable of catering to the needs of economic operators as well as the gen-

24 Štiblar: *Sanacija bank*, p. 64

25 M. Košak, T. Košak: "Bančni sektor v Sloveniji", *Bančni vestnik*, 51, No. 7-8, 2002, pp. 51-59.

eral population under the same conditions. During the transition, the Slovenian banking sector became stable. However, the goals, especially in the field of international competitiveness, were not achieved completely. It turned out that during the transition the banking system had been protected from foreign competition, and that the restructuring had been dictated by the internal market incentives. Therefore Slovenian banks were supposedly not quite ready for the challenges presented by the international competition (also) in the EU and the liberalisation of financial services. Competition was insufficient regarding the scope and variety of services as well as in the field of expenses.[26] Privatisation, intended to play a twofold role, was seen as a solution to this problem. On one hand the proceeds from the sale of the banks would be used to decrease the public debt incurred by the resources invested in the rehabilitation of banking. On the other hand there was a similarly important goal: by means of bank privatisation, Slovenian banks would be strengthened in terms of capital, while the aforementioned shortcomings (the modest range of services) would be remedied, expenses reduced, and internationally comparable levels of bank profitability achieved.

According to the majority opinions of the Western institutions, greater efficiency of the banking system in Slovenia could only be achieved under the condition that foreign banks entered the ownership structure of Slovenian banks.[27] The entry of foreign banks into the Slovenian banking market was liberalised. However, after opening their branches or taking over very small banks, foreign (Austrian) banks had extremely modest market shares, from 1 % to 3 %. The circumstances changed in 2001. Namely, at that time two large European banks merged. The Italian bank SaoPaolo IMI took over the whole of the regional Banka Koper bank, whose market share amounted to approximately 5 %. In Ljubljana Societe Generale took over the SKB bank, whose market share was also around 5 %. Both of the banks that were taken over were privately-owned. It seemed that there were no more obstacles for the takeover of the state-owned Slovenian banks. Only both largest Slovenian banks, NLB and NKBM, still waited to be privatised. It was expected that strong foreign banks would enter into their ownership structure in the role of the so-called strategic investors. With privatisation – a partial sale of the ownership to foreign banks – both of these banks would acquire additional knowledge, improve the quality of their business operations and profitability, and, most importantly, start entering foreign markets. On the other hand, the state as an owner would acquire resources for the reduction of the public debt. By all means these were great expectations.

When the sale of a 34 % share of NLB and a larger controlling share of NKBM was released, privatisation of both state-owned banks became a political problem. This resulted in a heated debate about the Slovenian national inter-

26 N. Borak, V. Lavrač: *An Outline of the Banking Regulatory and Supervisory System in Slovenia*, p. 113.

27 Ibidem, p. 121.

est, the necessity of selling the banks to foreigners (and if they had to be sold to foreigners, which foreigners), the role of the state in banking or in the economy in general, the relation between national and foreign capital, and on the benefits and expenses of foreign investments. The question of the sensibility of selling successful national companies to foreigners was in the centre, while foreign investors did not show any enthusiasm for taking over less successful companies or even engage in the so-called greenfield investments. These dilemmas and self-examination of the public and the opinion leaders on the developmental strategy were not only limited to banking. The topic was principled, touching upon economy as a whole.

The takeover of the leading national pharmaceutical company for the production of generic drugs, commercially very successful and boasting an extensive production and sales network in Europe, by the affiliated group Novartis resulted in much agitation and exasperation. When the international affiliated group Interbrew attempted to take over the second largest brewery in Slovenia, the competitive national brewery, which also acquired political support, prevented it from doing so with another offer.

The public discussion of the good and bad points of foreign takeovers of successful Slovenian companies was concluded with a victory of those who argued for the Slovenian national interest. The Slovenian government found itself in an awkward situation. On one hand it was pressured by the international environment to proceed with the sales of successful Slovenian companies to foreigners, while on the other hand it was under pressure from the media to stop the sales to foreigners, especially in the banking sector. Since the procedures for the sale of NLB had already been underway, its 34 % share was then bought by the Belgian KBC bank, as a political consensus had been reached with regard to this. The further privatisation of NLB was then aborted, while the privatisation procedure of the NKBM bank was stopped before it even concluded with the selection of a potential investor.

Therefore the question, present throughout the transition, is still actual: will Slovenia, admittedly a decade later, follow the other countries in transition where the foreign banks took over the domestic banks, or will it preserve the majority ownership of the national banking system?

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Paper received: June 17th, 2010
Approved for publishing: January 18th, 2011

Scientific review paper UDC 336.77.067:658.14(450)"2006/2009" ; 338.124.4(100)

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TRADE CREDITS AND FINANCIAL CREDITS IN ITALY: WHAT IS THEIR RELATIONSHIP BEFORE AND AFTER THE FINANCIAL CRISIS?**

Abstract: *Italian firms rely heavily on self-financing and on bank loans, especially short term loans, offering large guarantees to support the credits. Trade credits, widely used by the firms to defer payments, represent an important guarantee in order to get bank loans.*

The aim of this study is to explore the dynamics of trade credit and of financial credit on a sample of Italian firms in the period 2006-2009, to support the thesis that resort to trade credit is motivated by financial reasons and to show the existence of an interchangeable and complementary condition between trade credit and bank loans, analyzing the changes due to the financial crisis.

From this analysis we can conclude that trade credit is a source of flexible way of financing available also in periods of crisis and that can be utilized as a source of alternative financing complementary to bank loans.

Key words: *trade credit, financial credits, financial crisis*
JEL classification: G21, G32

1. Introduction[1]

Italian firms are characterized by high self-financing, by bank loans, especially short term loans, and a wide use of multiple banking relationships offer-

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** The paper was presented at the VIII International Scientfic Conference of the Megatrend University: "Forces Driving the Revival of the Companies and Economy", Belgrade, December 3rd, 2010.

1 Paragraph 1 was edited by Claudio Giannotti, all other paragraphs by Candida Bussoli.

ing extensive use of guarantees in order to support bank loans.[2] There is also a wide use of loans between companies: the amount of debt owed to the suppliers exceeds the short-term debt owed to the banks; the ratio between the immediate payments and the deferred payments for the Italian companies is 14.5%.[3]

Trade credit is one of the main forms of guarantee used by the companies to get short- term bank credits and it is the object of factoring operations. Italian factoring market is one of the first in the world both for its total dimension and also in relation to the gross domestic product. There follows a strong relationship between credit intermediation and the resort to trade credit by the companies.

The present research follows the line of studies on the motivations, of real and financial character, to the use of trade credit. The study aims to highlight the dynamics underlying the financing of Italian companies, in the period preceding and following the outbreak of the recent world financial crisis, particularly focusing on trade credit and financial credit. In particular, the suggested thesis is that there are financial motivations to the use of trade credit and that there is a condition of complementarity and substitutability between trade credit and bank loans.

The empirical analysis has been conducted on a sample of Italian companies in the period immediately preceding the outbreak of the world financial crisis (2006–2007) and in the two following years (2008–2009). The results have confirmed the possibility to use trade credit as a form of alternative financing, or substitutive, to financial credit.

This work is organized as follows. The second paragraph shows a brief review of the literature on the reasons leading to the resort to trade credit for financial ends. The third paragraph describes the impact of the financial crisis on the relations of intercompany financing in the years under observation (par 3.1); the sample under observation (par 3.2); the methodologies implied in the research (par 3.3) and the discussion on the results obtained (par. 3.4). The last paragraph exposes a few brief conclusive observations and implications about the studied phenomenon.

2 Banca d'Italia: *Indagine sulle imprese industriali e dei servizi*, anni vari, Roma; S. Monferrà: *Il rapporto banca-impresa in Italia. Strategie, credito e strumenti innovativi*, Bancaria Editrice, Roma, 2007; A. M. Tarantola: *Banche e imprese: opportunità e sfide alla luce di Basilea II,* Seminario Cesifin "Banca e impresa. Nuovi scenari, nuove prospettive" Firenze, dicembre 2007.

3 A. Carretta: *Indagine sulla domanda di factoring. Conoscenza, modalità di utilizzo, valutazione della convenienza e prospettive del factoring nelle imprese italiane,* SDA Bocconi School of Management, Milano, 2009.

2. Literature review

Transactions among companies can either be settled in cash, through advance payment or through delayed payment. In the case of delayed payment the seller grants credit to the buyer.

Trade credit granted by the suppliers of goods and services differs from the credit granted by financial intermediaries for the instrumentality of the former for operations of deed of sale of goods and services.

The reasons leading to the use of trade credit can be manifold and they depend on the institutional, economic and social characteristics of the referring contexts. They can be brought back to functions of real and financial character.

Real functions refer to the offer of credit as an instrument of support to the policy of sales: in this sense, trade credit has the role of strengthening the relationship with clients, to guarantee the quality of products or to allow a differentiation of prices; in the end it is a possible answer to demand variability.

Through the grant of trade credit, the selling firm gives up to a flux of immediate liquidity with the aim of starting, expanding or consolidating the relationships with the clients.

From the point of view of the financial functions, trade credit allows the reduction the costs of transactions and can be considered an alternative to bank loan or to other forms of short term financing. Trade credit is a source of financing insofar as it reduces the financial demand which is linked to circulating capital.

The literature on the subject consider the relevance of financial motivations in the use of trade credit: on the one hand it verifies the existence and the relevance, on the other, the distinction of settlement and financial components in a strict sense.

The settlement component is referred to the offer of trade credit as an instrument for the synchronization of the takings and payments as an alternative to the use of cash, for better prevision of the cash flow and for planning the management of the treasury in the case of unexpected payments.[4]

The second aspect, with reference to the financial components, has been studied by P. Finaldi Russo[5], who point out that the influence of financial motivations affects the use of trade debt to a lesser extent if compared to the motivations of real nature. However, resort to supply credit is more intense for the firms that utilize it for financial reasons, instead of using it for real motivations of a productive-economic nature.

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4 J. S. Ferris: "A transactions theory of trade credit use", *Quarterly journal of Economics*, Vol. 56, No. 2, 1981; R. A. Schwartz: "An economic model of trade credit", *Journal of Financial and Quantitative Analysis*, Vol. 9, 1974.

5 P. Finaldi Russo, L. Leva: *Il debito commerciale in Italia: quanto contano le motivazioni finanziarie?*, Temi di discussione, Banca d'Italia, 2004.

Conditions of imperfect information of the financial system, the presence of scarcely developed institutions[6] and weak legal infrastructures[7] – incapable of assuring, in case of insolvency of the debtor, efficient mechanisms and procedures of protection of the creditor – determine a possible effect of substitution or of complementarity between trade credit and bank credit.

As a matter of fact, such conditions determine the rationing of bank credit,[8] that has a major effect on the financial events of the young and opaque companies[9] and it promotes the use of trade credit as a makeshift solution determined by the inadequacy and insufficiency of the sources of bank financing or from a third party.[10]

Conditions of complementarity and a greater use of trade credit can be identified in the case in which the non financial firms are able to monitor the credit capability of the firms that are to be entrusted and that are able to convey resources, taking loans from the intermediaries and granting trade credit to the firms otherwise rationed due to an imperfect informative efficiency.[11] In this case, trade credit can function as a signal: the information gained by the financial intermediaries, through the relationship with non–financial companies, that grant trade credit to their clients, can minimize the problems linked to an imperfect information that burdens the opaque companies and can reduce the conditions of credit rationing.

The opaque firms, especially the minor sized ones, can be subjected to credit rationing[12] and they can resort to trade credit as a source of alternative financing. Such trade credit, obtained through a consideration of merit, expressed by the supplier towards the firm that is to be financed, enhances the reputation of

6 R. Fisman, I. Love: *Trade credit, financial intermediary development and industry growth*, working paper, 2001.

7 A. Carmignani: "Funzionamento della giustizia civile e struttura finanziaria delle imprese: il ruolo del credito commerciale", *Temi di discussione*, N. 497, Banca d'Italia, 2004.

8 R. A. Schwartz: "An economic model of trade credit", *Journal of Financial and Quantitative Analysis*, Vol. 9, 1974.

9 N. Huyghebaert: "On the Determinants and Dynamics of Trade Credit Use: Empirical Evidence from Business Start-ups", *Journal of Business Finance & Accounting*, Jan–Mar, Vol. 33, 2006.

10 J. Duca: "Trade credit and credit rationing: a thoretical model", *Research Papers in Banking and Financial Economics*, Board of Governors of the Federal Reserve System, 94, 1986; D. M. Jaffe, J. E. Stiglitz: "Credit rationing", in: B. M. Friedman, F. H. Hahn: *Handbook of Monetary Economics*, Amsterdam, North Holland, 1990; M. A. Petersen, R. G. Rajan: "Trade credit: theories and evidence", *The Review of Financial Studies*, Vol. 10, 1997.

11 A. Demirguc-Kunt, V. Maksimovic: *Firms as Financial Intermediaries:evidence from trade credit data*, World Bank Policy Research Working Paper N. 2696, World Bank Development Research Group (DECRG) – University of Maryland, 2001.

12 J. E. Stiglitz, A. Weiss: "Credit Rationing in Markets with Imperfect Information", *American Economic Review*, 71, 1981.

the good quality creditors and allows to gain an easier access to bank credit. On such issue,[13] maintain that trade credit replace bank debt, but it can also be complementary to it.

The firms that have a limited access to bank debt are liable to use trade credit more frequently than the firms which are not subjected to credit rationing. Besides, access to trade credit enhances the visibility and the reputation of the fund taking firms, making banks more available to distribute funds to sound projects that otherwise they would not fund.

Therefore, there is a dynamic and complementary relationship between trade credit and bank credit, that is of partial replaceability. Companies use trade credit because they are liable to credit rationing – through this a substitution effect is carried out - and, at the same time, trade credit acts as a signal and reveals information to the banks about the reliability of the companies financed by their suppliers, facilitating the access to bank debt.

Replaceability and complementarity between trade credit and bank credit are hypotheses that do not exclude one another, but that can take place in the same economic-financial reality and cohabit with the prevailing motivations of real nature to resort to trade credit.

Murray and Maksimovic[14] describe conditions of double intermediation for which the purchases are frequently financed by investors who finance the seller who, in turn, offers commercial credit to the buyers.

The mechanism of double intermediation has two main advantages: the first advantage derives from the difficulty that the firms face in convincing the financial market about their real value, in presence of adverse selection; the second advantage concerns the power of enforcement and of the easy collection of credits.[15]

3. Empirical analysis

3.1. *Trade credit in the context of the economic and financial crisis*

The financial crisis that has broken out in 2007 in the USA, has rapidly gained an international relevance, it has generated serious effects on the real economy and has determined a sudden fall of the world production and trade.

[13] P. Alphonse, J. Ducret, E. Severin: "When trade credit facilitates access to bank finance: Evidence from US small business data", EFMA Base meetings Paper, 2004.

[14] Z. F. Murray, V. Maksimovic: *Trade credit, collateral, and adverse selection*, Working paper, University of Minnesota – University of Maryland, 2005.

[15] For a complete review on the literature about the motivations leading to trade credit resort see [7][8][16].

Like other countries, Italy has been deeply affected by the fall in world demand:[16] the effects of the economic crisis have taken away seven percentage points from the GDP in the period 2008–2009.[17]

For many firms the financial requirement linked to circulating capital has grown during the crisis. Longer payment periods in commercial transactions have generated great difficulty in arranging the balance of payments and earnings, especially for those small firms with less bargaining power.

The inquiries by the Bank of Italy[18] clearly show that, in recent years, the circulating capital requirement has been the main reason to resort to bank credit, together with debt restructuring.

Between 2008 and 2009 the trade credit for the Italian clients has gone from 20.1 to 22 per cent of the total sales.

The financial difficulties created by the crisis are also represented by the longer time for trade credits collection: duration of contract has increased from 86 days to 88 days, but more than that, there has been a rise in collection delays, bringing the real duration from 98 to 104 days. The delays in payment of large firms (500 employees or more) are higher than the smaller ones, but for those have been recorded major increases (See Tab. N. 1).

Table 1: *Payment delays of the italian clients according to firm's size 2008–2009 (number of days, percentage values)*

	2008	2009	Var. % 2009 su 2008
	Industrial firms and service		
Number of eployees			
20 -49	43	51	18,6
50 – 199	43	54	25,6
200 -499	34	38	11,8
500 e oltre	77	86	11,7
TOTAL	49	57	16,3

Source: Bank of Italy, Indagine sulle imprese industriali e dei servizi. Anno di riferimento 2009, Roma, 2010.

The financial difficulties generated by the crisis reassert the relevance of trade credit as an asset to obtain bank financing. The importance of the financial motivations in the resort to trade credit is clearly shown in the data concern-

16 M. Bugamelli, R. Cristadoro, G. Zevi: "La crisi internazionale e il sistema produttivo italiano: un'analisi su dati a livello di impresa", *Questioni di Economia e Finanza*, Banca d'Italia, Roma, 2009.

17 Banca d'Italia: *Relazione annuale,* anni vari, Roma.

18 Banca d'Italia: *Indagine sulle imprese industriali e dei servizi*, anni vari, Roma.

ing the evolution of factoring operations and of the self-liquidating operations, that imply the liquidation of trade credit and the relinquishing of the debtor (See Tab. N. 2).

Table 2: *Factoring and self liquidating operations*

	AGREED FACTORING	UTILIZED FACTORING	UTILIZED/ AGREED	SELF LIQUIDATING AGREED OPERATIONS	SELF-LIQUIDATING OPERATIONS	UTILIZED/ AGREED
2006	36543	23617	0,646	326475	167182	0,512
2007	42383	25567	0,603	352828	178131	0,505
2008	44024	28568	0,649	362899	188069	0,518
2009	41730	29091	0,697	346316	170820	0,493

Source: Online Public Informative Base, Bank of Italy

An expansion of the volume of factoring can be detected in the years 2006–2008 and a reduction in 2009; the utilized factoring instead has grown in the whole period and the ratio between the utilized and the granted has grown to reach the value of 70 per cent in 2009, compared to 60 per cent in 2007: in 2009 the granted decreases, but the firms utilize largely such source of financing, presumably as an answer to the growing difficulties in finding the resources through other channels.

Through the observation of the data concerning the self-liquidating operations emerges that the granted and the utilized increase in the years 2006–2008 only to decrease again in 2009, according to a dynamic that can be also detected in the ratio between the utilized and the granted.

The analysis of the volumes and of the variations of the factoring and self liquidating operations clearly shows that trade credit has represented an available and flexible channel of financing for the Italian firms through the years of the crisis.

3.2. *Sample*

The reference sample comprises 1502 firms and represents the population of the capital societies present in the data bank Aida Bureau Van Dijk until August 2010.

The firms show the following characteristics:

- legal form: S.p.A (Public Company), S.p.A. ad unico socio (one person Joint Stock Company), S.A.p.A. (Private Company Limited by Shares), S.r.l (Limited Liability Company), S.r.l. uni personali (one person Limited Liability Company);
- number of employees: one or more than one for all the years of the inquiry;

- legal form: active company;
- annual account availability: detailed account for the years 2006, 2007, 2008 and 2009.

The sample comprises firms localized throughout the national territory and is well diversified both in geographical an in sector terms, according to the ATECO 2007 classification[19].

The data is available for all firms for all the years we have considered: the size of the sample, therefore, does not vary in the years we have examined.

From a geographical point of view about 73.5 percent of the companies is localized in the North, 16.5 percent is localized in the Centre and about 10 percent is localized in the South: the sample reflects the Italian economic and productive system, characterized by a larger number of industries in the central-northern regions.

The sample has been segmented, from a dimensional point of view, according to the debt amount due to the banks, choosing as a limit value 1,000,000 euros, in line with the principles of Basilea 2, identifying two dimensional classes:

- retail: firms with a bank debt of less than 1,000,000 euros;
- corporate: firms with a bank debt of 1,000,000 euros or more.

The result of this segmentation shows a situation of absolute prevalence of the retail firms, that represent – constantly, in the four years considered for the research – about 65% of the sample, while the corporate firms represent 35% of the sample.

3.3. *Research hypotheses and methodology*

The reasons leading to the use of trade credit can be of a real or financial kind.[20] The reasons of real kind refer to the use of trade credit as an answer to the variability of demand, to guarantee the quality of products, to strengthen the relations with clients. The reasons of a financial kind are referred to the possibility of using of trade credit as a form of alternative financing or as a substitute to third party financing.

The aim of this study is to analyze the reasons and the modes leading to the use of trade credit by Italian companies and to identify the existence and the relevance of financial motivations for the use of supplier credit, even in a context of crisis. The object of the inquiry is the nature of the functional relationship between trade credit and external financing and the possible coexistence of

[19] For an in depth look on the ATECO 2007 classification please visit the Italian Institute of Statistics' website, www.istat.it

[20] P. Finaldi Russo, L. Leva: *Il debito commerciale in Italia: quanto contano le motivazioni finanziarie?*, Temi di discussione, Banca d'Italia, 2004.

the conditions of substitutability and complementarity between trade credit and bank financing. By external financing, or third party financing, we mean bank debts (short, medium and long term) and also financial debt with other parties (short, medium and long term).

The inquiry follows two guidelines.

The first guideline aims to provide an observation of the relevance of the impact of the crisis on intercompany financing. For this purpose it goes through the data and the balance sheet indexes that give evidence of the use of third party financing and the dimensions of the use of intercompany credit in the years preceding and following the outbreak of the crisis: the assessment is a temporal analysis of the period 2006–2009.

On the one hand, it considers the evolution of the relationship between the firms and the financial system, with special attention to the credit system in the years preceding the crisis (2006–2007) and in the years of the crisis (2008–2009); on the other hand, it considers the dynamics of the incidence of trade credits and debts and net mercantile credit compared to the balance sheet total in the two sub-periods considered.

One the first level of inquiry, great attention is devoted to the observation of the degree of dependence on third party financing. The assessment proceeds through the observation of two main indexes: the degree of total leverage and the degree of dependence on banks and other financing parties. In addition the assessment proceeds through the observation of the percentage of firms with bank debt equal to zero.

The second level of inquiry is about the dynamics of the ratio of both trade debt and credit and the balance sheet total active. The dynamics of the ratio between mercantile net credit and total asset is also investigated. Finally, the analysis proceeds through the dynamics of the average terms of income and expenditure.

Net mercantile credit is a significant quantity for the purpose of our analysis, since it represents the amount of circulating capital that has to find bank financial coverage: therefore, it is a quantity intrinsically linked to the financial motivations that lead to intercompany financing.

Also in the second level of our inquiry the analysis develops through a temporal comparison: the aim is to observe the different incidence of intercompany credit in the years of transition from a condition of stability to a condition of financial and economic crisis.

Table 3: *Financial indexes*

TOTAL LEVERAGE	FINANCIAL DEBTS AND NON-FINANCIAL DEBTS/ EQUITY CAPITAL
DEPENDENCE ON BANKS AND OTHER FINANCING BACKERS	DEBTS WITH BANKS AND OTHER FINANCIAL BACKERS/EQUITY CAPITAL
COMPANIES NOT USING BANK DEBT	NUMBER OF FIRMS WITH BANK DEBTS EQUAL TO ZERO / TOTAL NUMBER OF FIRMS
EFFECT OF TRADE DEBTS	ACCOUNTS PAYABLE /TOTAL ASSET
EFFECT OF TRADE CREDITS	ACCOUNTS RECEIVABLE/ TOTAL ASSET
NET MERCANTILE CREDIT	ACCOUNTS RECEIVABLE – ACCOUNTS PAYABLE
MEDIUM-TERM INCOME	ACCOUNTS RECEIVABLE+ MEDIUM-LONG ACCOUNTS RECEIVABLE, TERM/ NET REVENUE/360
MEDIUM -TERM EXPENDITURE	SHORT-TERM ACCOUNTS PAYABLE + MEDIUM/LONG -TERM ACCOUNTS PAYABLE / [(COSTS OF RAW MATERIALS +COSTS OF SERVICES)/360]

The indexes used (index, flux and ratio) are always represented in the median of values, for each year, in the temporal place, so that the median value cannot be influenced by extreme observations.

The second guideline indicates the following hypotheses of research.

HP1: companies rely on trade credit, not only for needs of real nature, but also for aims of financial character.

The hypothesis in question concerns the existence of a functional relationship between trade credit and other sources of external financing. The assessment leads us through two linear multiple regression analyses in which the dependent variables are, alternatively, trade accounts receivable (traccre) and trade accounts payable (traccpa). The five independent variables are: short-term bank borrowings (shtbanbo), long-term bank borrowings (mltbanbo), short-term other borrowings (shtothbo), medium/long-term other borrowings (mlothbo), total financial burden (totfinbu).

$$traccre = \beta o + shtbanbo + \beta_2\ mltbanbo + shtothbo + mlothbo + totfinbu + \varepsilon$$
$$traccpa = \beta o + shtbanbo + \beta_2\ mltbanbo + shtothbo + mlothbo + totfinbu + \varepsilon$$

The existence of a significant relationship of dependence of supplier credit or debt in relation to financial independent variables proves that the use of intercompany credit has an aim of financial kind.

Generally, companies adopt a combination of trade credits and debts that seems consistent both in terms of amount and in terms of duration. However, trade policy about credits towards clients and debts towards suppliers can be influenced by external factors of financial and economic nature, especially in times of crisis. Therefore, the analysis considers trade debts and trade credits separately to assess the existence of financial motivations in the choices of concession of deferred payments and/or in the choice to rely on trade credit.

HP2: the use of trade credit can be both substitutive and complementary to the use of bank credit.

The investigation goes through the same multiple linear regression analyses, tracing the nature of the dependence relationship of trade credit with bank financing.

The existence of a direct kind of dependence relationship of trade debt with bank financing shows the conditions of a system that allow a *complementary* use of intercompany financing and bank financing.

The existence of an inverse dependence relationship of trade credit with bank financing would prove a *substitutive* use of intercompany financing to bank financing.

The models of linear regression have an annual temporal horizon: the single period analysis of temporal horizons is repeated for the four years that are the object of the study, in order to identify the existence of a different relationship of dependence in the years preceding the crisis and in the years of the crisis. This way, it is possible to explore the motivations of financial kind for the use of trade credit and to confirm the nature of intercompany financing as a flexible source of financing in negative economic conditions.

3.4. *The results of the analysis*

The analysis of the results of the first guideline clearly shows, at first glance, that the degree of total leverage is higher for the corporate firms in respect to the retail firms. The dynamics of the index, in the years considered for the analysis, shows a progressive reduction both for the firms which make up the total of the sample (the value of the ratio goes from 0.78 to 0.72) and also for the corporate and retail companies alone.

The retail firms are little dependent on banks and other financial backers, while the corporate companies show a larger degree of dependence (see Tab. N.4).

Table 4: *Leverage condition of the firms*

TOTAL	TOTAL LEVERAGE	DEPENDENCE ON BANKS AND OTHER FINANCIAL BACKERS	FIRMS NOT USING BANK CREDIT
2006	0,776	0,339	0,382
2007	0,761	0,337	0,379
2008	0,742	0,264	0,367
2009	0,716	0,244	0,356
CORPORATE			
2006	0,828	1,909	0,020
2007	0,825	2,048	0,027
2008	0,826	1,913	0,007
2009	0,784	1,374	0,017
RETAIL			
2006	0,719	0,001	0,576
2007	0,701	0,001	0,564
2008	0,687	0,000	0,559
2009	0,663	0,000	0,537

Source: Edited by the author, re-elaboration of data from Aida Bureau Van Dijk data bank.

The situation between the corporate and retail firms and the percentage of firms which does not use short-term and long-term bank debt at all is very different: for the total of the sample that value goes from 36 to 38 percent; for the corporate firms it goes from 1 to 2 percent, while for the retail firms from 54 to 58 percent. Also in this case a decreasing dynamic can be seen in the years under observation.

The sample firms show a progressive reduction of the degree of debt ratio in the years preceding and following the outbreak of the economic-financial crisis, notwithstanding the growth of the percentage of companies that rely on the credit system.

In particular, there is a reduction of the percentage of companies that do not use bank debt, thus showing a growing need of bank financing, but at the same time it is much harder to get financing, as there is a progressive reduction of the degree of dependence on banks and other financial backers.

The restriction of the channels of financing due to the spreading of the crisis and the contraction of the economical activity have also affected intercompany credits.

In particular, the effects of trade accounts receivable (See Tab. N. 5), on the total asset of the firms that make up the sample, decreases from a value of about 30 percent in 2006 to a value only a little higher than 24 percent in 2009. The same dynamic can be seen with the accounts payable, where the incidence on the total active of balance decreases from a value of 18 percent in 2006 to a value of 14 percent in 2009. Both the corporate firms and the retail firms follow a decreasing dynamic.

The average terms of payment (ATP) drop; the average terms of income (ATI) follow the same decreasing dynamic, though it inverts in 2009.

Table 5: *Trade credits and trade debts*

TOTAL	ACCOUNTS RECEIVABLE/ TOTAL ASSET	ACCOUNTS PAYABLE / TOTAL ASSET	NET MERCANTILE CREDIT / TOTAL ASSET	ATI	ATP
2006	0,2979	0,1806	0,0427	97	99
2007	0,2845	0,1820	0,0424	94	96
2008	0,2741	0,1698	0,0404	90	94
2009	0,2425	0,1443	0,0436	95	93
CORPORATE					
2006	0,3289	0,2099	0,0724	107	99
2007	0,3337	0,2029	0,0809	104	92
2008	0,3033	0,1899	0,0628	95	91
2009	0,2736	0,1717	0,0556	102	92
RETAIL					
2006	0,2657	0,1637	0,0246	91	99
2007	0,2531	0,1652	0,0238	87	98
2008	0,2474	0,1550	0,0292	87	98
2009	0,2253	0,1299	0,0364	91	95

Source: Edited by the author, re-elaboration of data from Aida Bureau Van Dijk data bank.

The contraction of the incidence of intercompany credit might represent the difficulty of the productive sector and confirm that the reasons for the use of trade credit of real kind prevail over the reasons of financial kind: in conditions of economical-productive crisis trade credit contracts due to a condition of physiological reduction of the opportunities of its use for motivations of real kind.

As for the incidence of net mercantile credit, in a condition of reduced use of accounts receivable and payable, the incidence of net mercantile credit on the total active remains constant: the value remains 0.04 for all the years under observation. This result opens the possibility to further research on the importance of financial motivations to the use of trade credit.

Moving on to the second guideline, on tab. n. 6 are summarized the descriptive statistics of the variables used in the regressive analyses, calculated for the four temporal horizons.

Table 6: *Descriptive statistics of variables*

	2006							
		traccpa	traccre	shtbanbo	mltbanbo	shtothbo	mlothbo	totfinbu
Mean		6092,152	7569,711	3439,769	1891,515	672,9221	240,5632	606,9727
Median		972,5	1128,5	64,5	0	0	0	42
Std. Deviation		27538,35	33731,24	51305,85	16439,63	8200,98	2920,9	6268,856
	2007							
		traccpa	traccre	shtbanbo	mltbanbo	shtothbo	mlothbo	totfinbu
Mean		6246,589	7600,497	2466,927	3033,228	728,4021	270,6032	556,0959
Median		1016,5	1204,5	73,5	0	0	0	50
Std. Deviation		29105,14	31512,44	9439,879	46501,36	10110,86	3156,97	3232,106
	2008							
		traccpa	traccre	shtbanbo	mltbanbo	shtothbo	mlothbo	totfinbu
Mean		6270,947	7985,866	2801,851	2827,842	825,553	239,8488	638,9274
Median		962	1226,5	77	0	0	0	55
Std. Deviation		26637,97	32899,39	11599,42	41456,3	10653,62	2866,373	3275,881
	2009							
		traccpa	traccre –	shtbanbo	mltbanbo	shtothbo	mlothbo	totfinbu
Mean		5126,863	7106,009	2716,488	2615,723	631,7005	235,9913	472,0053
Median		836	1002	61	0	0	0	40
Std. Deviation		21615,69	31667,28	15295,32	34749,48	7580,043	2409,688	2291,408

Source: Edited by the author, re-elaboration of data from Aida Bureau Van Dijk data bank.

Tables n.7 and 8 show the results of the two regressive models.

Table 7: *Multiple linear regression*

DIPENDENT VARIABLE = TRADE ACCOUNTS RECEIVABLE				
	2006 (R^2 = 0,503)	2007 (R^2 = 0,457)	2008 (R^2 = 0,359)	2009 (R^2 = 0,328)
INDIPENDENT VARIABLE	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS
shtbanbo	-,035	,379*	,194*	,247*
mltbanbo	-,052	-,352*	-,373*	-,166*
shtothbo	,274*	,277*	,212*	,291*
mlothbo	,236*	,055**	,156*	,045**
totfinbu	,595*	,473*	,555*	,357*
*p<,01 **p<,05 Other parameters are not significant				

Table 8: *Multiple linear regression*

DIPENDENT VARIABLE = TRADE ACCOUNTS PAYABLE				
	2006 (R^2 = 0,347)	2007 (R^2 = 0,351)	2008 (R^2 = 0,526)	2009 (R^2 = 0,337)
INDIPENDENT VARIABLE	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS	STANDARD. COEFFICIENTS
shtbanbo	,098*	,234*	,118*	-,118*
mltbanbo	,003	-,396*	-,475*	-,263*
shtothbo	,156*	,137*	,283*	,135*
mlothbo	,062*	-,111*	-,104*	,024
totfinbu	,507*	,683*	,840*	,759*
*p<,01 **p<,05 Other parameters are not significant				

The results support the first hypothesis of the research, since for the four years considered for the inquiry the value of R^2 is statistically significant, thus pointing out the existence of a relationship of dependence of trade credit and trade debt in accordance with the financial variables considered.

In reference to account payables, the relationship with the variables observed seems to be more significant for the year 2008 (R2=0.526), the year in which there was a first strong impact of the financial crisis in Italy and in which the values of the system record an expansion of the self-liquidating operations and of factoring.

Particularly significant appears the relationship between account receivable and accounts payable with total financial burden. The financial burden influences positively the accounts receivable and the accounts payable according to a significant relationship in all the years that have been considered for the research. In particular, the regression coefficient is always higher in relation to the other independent variables, thus showing a high incidence of the cost of the sources of financing on the choice to use intercompany credit.

Moreover, the regressive coefficient of the total financial burden in the case of the dependent variable *accounts payable* grows in the years 2006, 2007 and reaches the highest value in 2008, showing, in this case too, a clear relationship between third party financing and use of intercompany financing, especially in the years of the crisis. The first hypothesis of this research is then proved, i.e., the use of suppliers credit has financial purposes.

Medium/long term bank financing affects account payable and account receivable according to a significant and inverse relationship starting from 2007: to the bank financing growth corresponds a decrease in accounts receivable and accounts payable. The years in which the value of the regressive coefficient is higher are 2007 and 2008. Even in this case there is a perfect coincidence with the impact of the financial crisis. This fact, on the one hand confirms the existence of financial reasons for trade credit, on the other hand it highlights a substitutability relationship and of non-complementarity between intercompany and medium/long-term bank financing.

The relationship with other sources of third party financing and short-term bank credit instead is a direct relationship. It follows that the use of intercompany financing has financial purposes and is complementary to these other sources.

In conclusion the results of the analysis seem to support the reasons of financial kind leading to the choice of trade credit, presenting the coexistence of complementarity and substitutability between bank financing and intercompany financing. Complementarity conditions are present for the case of short-term bank debt and short-term other suppliers debt.

As far as the relationship between trade credit and financial credit is concerned, before and after the crisis, the incidence of financial burden and of medium/long-term bank financing in the years 2007 and 2008 is higher, thus indicating the financial purpose of trade credit as a substitutive resort to bank credit, especially in the years where the impact of the crisis was higher.

In order to assess the soundness of the results some inferential tests have been carried out. In the first place, verifying that the two models do not suffer from problems of multicollinearity, through the calculation of the variance inflation factor (VIF) and the condition indices. In both models the highest value of VIF is 4.147, while the highest condition index is 4.131. The values obtained, therefore, are inferior to the values suggested by the literature [17] and indicate that there are not problems of multicollinearity.

In the second place, the existence of conditions of homoskedasticity has been investigated. For such purpose the standardized residuals have been calculated and the graphs of the standardized residuals have been observed: the results do not allow to be sure of the existence of conditions of homoskedasticity and suggest to proceed, in the next steps, to the White Test, to ascertain or exclude the existence of conditions of heteroskedaticity.

4. Conclusions

This work is consistent with the literature concerning the possible conditions of substitutability[21] or of complementarity[22] between trade credit and third party financing. In particular, it aims to analyze the possible coexistence of the two conditions.[23] Compared to previous works this study considers the relationship between trade credit and financial credit in Italy, both in conditions of stability and of economic-financial crisis.

This research has considered the Italian companies in the period 2006–2009. It shows a reduction in the degree of leverage for the companies and a reduction in the effect of supplier credit compared to the total assets; the reasons of real nature for the use of trade credit are confirmed. Moreover, it has been observed that the effect of net mercantile credit, intrinsically connected to financial dynamics has remained constant through the years, thus leading to the hypothesis of the existence of financial reasons for the use of supplier credit.

The relevance of financial motivations has been confirmed by the intensity of relationship between intercompany credits and financial credits.

In accordance to what is said in the literature the results show the coexistence of conditions of sustitutability and complementarity between trade credit and bank credit. The relationship between trade credits and medium/long-term bank financing is in fact significant and inverse, indicating a condition of substitutability between the two sources of financing; the relationship between trade credit and short-term bank financing and other financial backers is direct, indicating a relationship of complementarity.

The relationship of dependence of the trade accounts payable compared to medium/long term bank financing is particularly significant in the years where the crisis had its greatest impact; even the effect of the financial burden is more intense in the years 2007 and 2008. Therefore, the results support the relevance of financial reasons especially in conditions of unfavourable trend.

The financial motivations according to which operations of intercompany financing are justified by: greater availability of trade debt compared to other sources of financing; the advantage determined by lower charges compared to the sources of alternative financing; greater flexibility of the instrument that is external to complex contract formulae; the presence of an informative advantage

[21] J. F. Jr. Hair, W. C. Black, B. Babin, R. E. Anderson, R. L. Tatham: *Multivariate Data Analysis*, 6th ed., Upper Saddle River, Prentice Hall, NJ, 2005.

[22] M. A. Petersen, R. G. Rajan: "Trade credit: theories and evidence", *The Review of Financial Studies*, Vol. 10, 1997.

[23] B. Biais, C. Gollier: "Trade Credit and Credit Rationing", *Review of Financial Studies*, Vol. 10, No. 4, 1997.

of the supplier firms towards the banks about the reliability of the client and the quality of the products.[24]

Therefore, trade credit can fit in effectively in the countries that have advanced financial systems, as an instrument with the purpose of reducing information asymmetries; that emphasize the importance of transparency of the system, and of the correct determination of credit risk, in accordance with the rules (Basel 2); in which prevails the small size of the firms, the relationships with the banks are not exclusive and the financial market has a reduced function of spreading the information.[25]

Finally, trade credit, for the same reasons, can fit in, effectively, in contexts characterized by a short term or systemic crisis, as it represents a flexible and solid channel of financing, to overcome and ease the problems of opacity between the suppliers and the customers working in contexts of diffused diffidence. That has been the role of trade credit in Italy in the years of the crisis, in which there has been an increase of the relevance of financial motivations for the use of trade credit, a more extended use of agreed factoring and an intense use of bank credits guaranteed by trade credit.

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24 P. Finaldi Russo, L. Leva: *Il debito commerciale in Italia: quanto contano le motivazioni finanziarie?*, Temi di discussione, Banca d'Italia, 2004; M. Omiccioli: *Il credito commerciale: problemi aperti e teorie*, Temi di discussione No. 494, Banca d'Italia, 2004.

25 P. Finaldi Russo, L. Leva: *Il debito commerciale in Italia: quanto contano le motivazioni finanziarie?*, Temi di discussione, Banca d'Italia, 2004.

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Paper received: January 21st, 2011
Approved for publication: April 1st, 2011

Scientific review paper UDC 005.334:336.71

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STRESS TESTING AS AN INSTRUMENT OF RISK CONTROL IN BANKS

Abstract: *Stress testing is the main instrument of risk management in banks during periods of expansion, when innovation leads to new products that are rapidly evolving and for which there is either limited or no information at all regarding potential losses. Stress tests are one of the most current preventive techniques used by supervisors and central banks. The aim of conducting this type of testing is to assess the sensitivity of banks to perceived external factors, i.e., the impact of macroeconomic scenarios on the financial condition and stability of the banking sector and banks individually. Stress testing is an important instrument of risk management which banks use as part of internal risk management within the framework of Basel II.*

Key words: *stress tests, risk management, prudential control, credit risk, liquidity risk*
JEL classification: G21, D81

1. Introduction

Stress tests are one of the most current preventive techniques – we may say instruments – used by supervisors and central banks. The goal of performing this kind of testing is to evaluate the sensitivity of banks to perceived external factors, i.e., the impact of macroeconomic scenarios on the financial condition and stability of the banking sector and banks individually. Stress testing is an important instrument of risk management which banks use as part of internal risk management within the framework of Basel II.[1] Stress testing should include the identification of possible cases or future changes in market conditions that might have an unfavorable effect on the bank's credit exposure and assessments of the bank's ability to withstand such changes. Examples of scenarios that might be used are:

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1 For more on this, see: Basel Committee on Banking Supervision: Basel II, International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version, June 2006.

- economic and industrial recession,
- cases of market risk and
- state of liquidity.[2]

In addition to the above scenarios, i.e., general bank tests, where a bank's credit risk exposure is stress tested in order to evaluate the effect of certain specific conditions on the IRB (Internal Ratings-Based Approach) requirements for regulatory capital. The chosen test will be applied, depending on the needs and requirements of the bank, together with a supervisor's review. In any case, the test that will be chosen and used must first be purposeful and reasonably conservative. Banks may individually develop different approaches for applying these stress test requirements, depending on their specific circumstances. Consequently, the stress testing of a bank should take into account a mild recession scenario. In that case, one example would be the use of two successive quarters of zero growth in order to evaluate its effects on the bank's PD (Probability of Default), LGD (Loss Given Default) and EAD (Exposure at Default), taking into account – on a conservative basis – the bank's international diversification.[3] If banks use the double non-performance framework, the first thing to review is a portion of their own stress testing framework, the influence of the protection provider's worsening credit quality; this refers to the effects of the decline outside the criterion of the protection provider's suitability due to a change in its rating. It is necessary for banks to evaluate the effects of a single resulting risk increase – but not concomitantly that of the debtor and the protection provider – and capital demands at the time of the non-performance. Regardless of which method the bank chooses, it should include the evaluation of the following sources of information:

- the bank's data, which should allow an evaluation of the rating migration of at least some of its exposures;
- banks should evaluate information on the influence of a smaller worsening in the credit environment on its ratings, while providing some information about the probable influence of several stress circumstances;
- banks should evaluate proof of ratings change in extreme conditions.

All the above should, in fact, include a broader harmonization of the bank's baskets with ratings categories. As a rule, supervisors provide banks with guidelines regarding how stress tests should be projected. If a bank is operating in several different markets, it should not test the conditions in all of them, but should perform stress tests on portfolios that contain a majority of its total risk exposures.

[2] Basel Committee on Banking Supervision: Basel II, International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version, June 2006, p. 96.

[3] Basel Committee on Banking Supervision: Basel II, International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version, June 2006, p. 97.

Stress testing serves to warn the bank's management about negative, unexpected outcomes tied to a series of risks; it allows a review of the amount of capital necessary to absorb losses in case of large shocks. Although stress testing indicates the level of capital adequacy necessary to survive ever-worsening economic conditions, the bank can also apply some other measures in order to effect a reduction or an increase of risk level.

Stress testing is an instrument that aids other risk-management approaches and measures. It plays a particularly important role in cases of:

- providing pre-oriented risk evaluations;
- overcoming the limitations of models and essential data;
- providing support to internal and external communications;
- entry of data for processes of capital and liquidity planning;
- providing information on banks' resistance to risk, and
- stimulation of the development of plans for risk reduction and action in crisis situations, for a series of different crisis situations.[4]

Stress testing is especially important after long periods of favorable economic and financial conditions. Stress testing is also the main risk management instrument in times of expansion, when innovations lead to new products that are rapidly developing and for which there are either limited or no accessible data on possible losses.

Risk management is an attempt to identify, measure and control uncertainties, as well as to manage them efficiently.[5]

Risk management comprises several phases: (1) risk identification, (2) risk analysis, (3) risk measurement, (4) risk monitoring and (5) risk control.

For the purposes of this paper, we will study credit risk and liquidity risk in banks in Serbia during recent years.

2. Stress testing

Stress tests represent one of the most current preventive techniques for evaluating the banks' sensitivity to changes in macroeconomic factors, in order to determine whether a negative outcome of a financial crisis can endanger bank stability and, thus, the security of citizen savings accounts. The first stress tests at the beginning of this year were performed by the FED (Federal Reserve Bank) in the US banking sector, when 19 banks with two thirds of the total banking

4 Basel Committee on Banking Supervision: Principles for sound stress testing practices and supervision, 2009, p. 7.

5 For more on this, see: M. Ljubić: "Ispitivanje, percepcija i menadžment rizikom u bankarstvu," Proceedings from SYM-OP-IS 2008, Faculty of Transportation, Belgrade, Soko Banja, 14-17 September 2008, p. 676.

sector capital were tested. As a result of these tests, banks that performed poorly in the simulated scenario were ordered to increase their own capital by a total of 75 billion dollars.[6] Stress tests represent one of the most current preventive techniques – we might say instruments – used by supervisors and central banks. The goal of carrying out this kind of testing is to estimate bank sensitivity to assumed external factors, i.e., the influence of a macroeconomic scenario on the financial condition and stability of the banking sector and of individual banks. Stress testing is an important instrument of risk management used by banks as a part of internal risk management within the Basel II framework. In general, stress testing gives the choice of scenario that will be used and that places all the obtained data in the value model. In this case, the value model is one that allows the bank to measure capital. Another important point in Basel II is the reference to multiple scenarios. In fact, literature talks of multiple scenarios, with various probabilities, which should represent efficient stress testing, where these tests and scenarios must be restarted and revalued on a regular basis, so that they can adjust to changes in banks as well as to future expectations.

It is interesting that some authors suggest that testing should not only be done with expected scenarios; rather, unusual or unexpected scenarios should also be tested and their probabilities and effects should be evaluated as well. This would assume the existence of four possibilities:

1) Simulation of shocks that have a greater probability of occurring than the historical data suggest;
2) Simulation of shocks that have never happened;
3) Simulation of shocks that reflect the possibility that statistical forms might break under certain circumstances;
4) Simulation of shocks that reflect some types of structural breakdowns that might occur in the future.

Stress test results show the sensitivity of portfolios to certain shocks. Stress tests may be useful, because for most markets the repeating of historical assumptions does not provide sufficient information on market behavior during extreme events.[7]

In some financial institutions, stress tests have become broadly useful both as risk management and as tools for the evaluation of different risks, including: market risk, credit risk and liquidity risk.

Gradually, the techniques became applied in a broader context, with the goal of measuring the sensitivity of a group of institutions (such as commercial banks), or even the entire financial system. However, most stress tests are applied at system level, often overlooking important individual institutions. Thus, it might be

[6] Fond za razvoj ekonomske nauke (FREN): "Kvartalni monitor ekonomskih trendova i politika u Srbiji," no. 18, July–September 2009, p. 48.

[7] M. T. Jones, P. Hilbers: *Stress Testing of Financial Systems*, International Monetary Fond, 2004, pp. 1-15.

more appropriate to describe financial system stress tests as "system focused" stress tests, and to recognize some of their limitations.

System focused stress tests, as the name implies, highlight several important differences between portfolios at the level of stress tests used by individual companies. The ultimate intention of a system focused on the individual approach is to identify common weaknesses through institutions that might endanger the overall stability of the financial system. The focus is more of a macroeconomic nature, because analysts are often interested in understanding great changes in the economic environment that might affect the financial system. The current privatization model neglects the importance of rehabilitation, i.e., the fixing of a company's financial situation; in fact, in certain situations, it leads to a worsening of the company's financial situation. Also ignored is the frequent situation where the company is not able to do normal business even under current capacities, due to over-indebtedness or a deteriorated financial situation.[8] Thus, it can be seen that changes in certain companies affect the condition of the financial system as a whole.

The difference between system focused and portfolio focused stress tests lies in the complexity and the degree of aggregation. A system focused stress test can include aggregations or the comparison of several heterogeneous portfolios, often based on different assumptions and calculation methods. This requires the addition or comparison of different subjects ("apples and oranges") to a much greater extent than in the case of a single institution's portfolio. An added value of a system focused stress test comes from the consultative process that integrates farsighted macroeconomic perspectives, a focus on the financial system as a whole, as well as a uniform approach to evaluating the risk exposure of all institutions. The system focused tests can supplement stress tests conducted by individual institutions, and can also act as a cross check for other types of analysis, such as information that can help identify weaknesses in data gathering, system reporting and risk management. The process can help in the acquiring of additional risk evaluation experience by supervisors and institutions included in the project, as well as in the promotion of cooperation and a broader understanding of risks on the part of various regulatory institutions. In return, this can contribute to a better understanding of the connections between the financial sector and macroeconomics.[9]

Stress tests are not intended to replace regular stress examinations performed by individual financial institutions. Instead, they are designed to contribute to a broader understanding of the sensitivity of the overall system to various shocks,

8 For more on this, see: V. Pavlović, "Značaj procene vrednosti kapitala u privatizaciji srpskih preduzeća sa posebnim osvrtom na iskustva Francuske," *Megatrend revija*, vol. 5 (1), Megatrend univerzitet, Beograd, 2008, p. 56.

9 H. Andersen, T. O. Berge, E. Bernhardsen, "A suite-of-models approach to stress-testing," *Financial stability*, II Expert Forum on Advanced Techniques on Stress Testing: Applications for Supervisors, Amsterdam, The Netherlands, October 23–24, 2007, pp. 11-50.

as well as to use the existing expertise that can be found in different institutions. Most stress test focused systems apply common scenarios for different situations. This approach has an advantage in obtaining information on the overall effect of shocks, as well as their distribution throughout the system, which can be useful for understanding potential effect on stability.

Activities in the area of banking sector supervision and regulation in 2009 and the first half of 2010 were primarily oriented towards softening the negative effects of the global economic crisis on the stability and the security of the banking sector in Serbia. The said activities were realized through an intensification of supervisory activity, with a special focus on banks of systemic significance and the creation of prudential measures of a contra-cyclical character and solutions through which the capacities of the National Bank of Serbia would be harmonized with international standards in this area.

Bank monitoring in Serbia has been realized through a continual process of direct and indirect supervisions and direct communication with bank management, in order to harmonize and coordinate activities that would affect the stabilization of the banking sector. During the period of the escalation of the liquidity crisis, the parent banks gave a significant contribution and support to their subsidiaries in Serbia.

During 2009 and 2010, temporary contra-cyclical prudential measures were also created, whose application would allow more favorable conditions for credit restructuring, asset classification and a lower calculation of credit loss reserves. This ensured the stability of Serbia's banking sector.

3. Control of banking sector risk exposure in Serbia

In 2009 and 2010, control of the banking sector was intensified through continual monitoring of the operations of all the banks in the system, faced with the effects of the global economic crisis. Through a process of indirect control, weaknesses in bank operations were noted and numerous targeted direct controls initiated, focusing on credit risk, liquidity risk and capital adequacy. From May to December 2009, the National Bank of Serbia carried out diagnostic analyses and stress tests of 31 commercial banks in Serbia.

The goal of these controls was to evaluate the banks' ability to manage the key risks in their business and the harmonization of their operations with the law and with National Bank regulations. Special attention was paid to banks for which the National Bank of Serbia had prescribed certain measures, while evaluations regarding compliance with the prescribed measures were accomplished through the control process or through the direct monitoring of the implementation of the prescribed measures on the part of authorized National Bank of Serbia personnel. Priority in direct control was given to banks of systemic importance.

Banks with a small market share and a lower risk profile degree were monitored through indirect controls, through submitted reports on operations.

In the second half of 2009, due to a constant worsening of the macroeconomic environment and negative predictions for the national economy, it was necessary to diagnose the state of the banking sector, in order to evaluate the key risks and bank sensitivity to negative events that could or did have a larger effect on capital position, solvency and liquidity, as well as evaluate banks' ability to service their obligations on time.

Towards the goal of effectively carrying out the National Bank of Serbia's control function and responsibility for financial stability, separate direct controls, i.e., diagnostic controls for a smaller number of banks in the system were carried out between September and December 2009, while the control of a bank of systemic significance was assigned to an external auditor, and was not completed until the end of 2009. For the remaining banks in the system, the control cycle was planned for 2010.

Briefly, the specificity of diagnostic control lies in the fact that it represents a combination of direct control and stress tests conducted both by the bank itself and the National Bank of Serbia, on the basis of a single projection of key macroeconomic variables within two scenarios: real and worst-case.[10] The diagnostic control produced an evaluation of the bank's financial state and a quantification of the bank's sensitivity to events that significantly affected the position of capital, earnings and liquidity.

The results of the diagnostic control and projection of key macroeconomic variables represented the basic inputs for the stress testing of banks carried out by the National Bank of Serbia, in order to evaluate the sustainability of the banking sector and define capital needs at the level of each bank as well as of the banking system as a whole. Also, banks were obliged to perform internal stress tests based on projections of key macroeconomic variables (inputs), according to the methodology submitted by the National Bank of Serbia. The adequacy of the performed internal bank stress tests was the subject of a separate analysis carried out by authorized National Bank of Serbia controllers.

On the basis of reports on diagnostic control and reports on bank stress tests performed in 2009, the National Bank of Serbia created a supervisory strategy for banks, defining the level of necessary capital and the deadline for securing it, as well as requiring the creation of a strategic plan for capital renewal and the bank's strategy in the coming period.

[10] The realistic scenario represents the current situation of the microeconomic system, i.e., the real value of the macroeconomic variables in the financial system, while the worst-case scenario represents a simulated situation, where variables with the lowest possible values are shown.

The comprehensive control of a systemic bank, initiated in the previous year, was concluded in 2009, and a number of targeted controls were carried out, focusing on credit risk, liquidity risk and capital adequacy.

The supervisory strategies for banks that were the result of the implemented control activities represent a basis for supervisory activity in the coming period, with the goal of maintaining a stable and secure bank system and securing the conditions for the protection of bank depositors and creditors in Serbia.

3.1 Credit risk

The credit boom in Serbia stimulated banks to conquer the largest portion of the market, which was the main stimulus for the development of banking and the entire financial sector during the past several years.[11]

Credit risk is the dominant risk in Serbia's banking system. Negative macroeconomic trends, a slowdown in economic activity and the worsening living standard of the population in 2009 have led to a worsening of the quality of banks' credit portfolios. In addition, the fall in credit activity has made the process of this worsening seem even more rapid.

The identification and evaluation of credit risk is, in fact, the first step in effectively dealing with it.

What is necessary is a system of credit risk management that provides an accurate and timely risk rating and an accurate classification of credits among the priorities over which the highest supervision should be performed.[12]

With its Decision on the Classification of Balance Sheet Assets and Off-Balance Sheet Items, the National Bank of Serbia has prescribed that, for the purpose of adequately and efficiently managing the risks to which they are exposed, banks are to classify their total claims, which represent a credit risk, depending on their degree of collectability and the evaluation of the debtors' financial state, into five categories:[13] A,B,V,G and D and, on the basis of that classification, set aside a reserve for estimated losses they might incur on the basis of balance sheet assets and off-balance sheet items. That means that banks classify a portion of the claims that represent so-called risky balance sheet and off-balance sheet assets, i.e., not only credits but other balance sheet assets, as well as certain off-balance sheet items defined by the said Decision. As the new Decision on the classification of banks' balance sheet assets and off-balance sheet items has

[11] For more on this, see: P. Kapor, "Banking in Serbia: the long read to the European Union," *Megatrend Review*, Megatrend University, Belgrade, vol.4 (2), 2007, pp: 141-160.

[12] Comptroller's Handbook, Rating Credit Risk, Comptroller of the Currency Administrator of National Banks, April 2001, p. 1.

[13] Decision on the classification of banks' balance sheet assets and off-balance sheet items, "Official Gazette of the RS," 129/2007 and 63/2008.

changed the criteria for classifying claims, claims classified in categories D and G are considered to be the worst-classified assets.

An overview of the classified balance sheet and off-balance sheet assets is presented in the table below.

Table 1: *Overview of classified balance sheet and off-balance sheet assets (in bil. dinars)*

Overview of classified balance sheet and off-balance sheet assets (in bil. dinars)		**Classified assets A+B+V**	**G+D**	**Total classified assets**	**G+D Total classified assets (%)**
December 2009	Balance sheet assets	1,051	299	1351	22.2
	Balance sheet items	512	73	585	12.5
	TOTAL	1,563	373	1,936	19.3

Source: Report for the fourth quarter, 2009, Bank Supervision Sector, National Bank of Serbia, p. 16.

The capital demand for credit risk represents at least 12% of the credit risk weighted assets.

The indicators of asset quality in 2009 were stable. At the end of the fourth quarter of 2009, classified assets equaled 1,936 billion dinars, as compared to 1,873 bil. dinars at the end of the third quarter of that year, or 41,7% of gross balance sheet assets and off-balance sheet items. At the end of the fourth quarter, classified assets had increased by 63 billion dinars, or 3.4% relative to the previous quarter of 2009. Further growth in classified assets and stagnation in the movement of the worst claims in 2009 resulted in a reduction of the share of categories classified G and D in total classified assets, reaching a level of 19.3%. Total calculated special reserves for estimated losses on the basis of classified balance sheet assets and off-balance sheet items fell by 1%, equaling 339.0 billion dinars at the end of the fourth quarter of 2009. Value corrections of of balance sheet assets and reserves for off-balance sheet items continued their growth and equaled 143.8 billion dinars at the end of the third quarter, as compared to 141.5 bil. dinars at the end of the third quarter of the same year, which represented growth of almost 1.6%.

It is necessary to closely monitor the asset quality indicators in the coming period. In the previous period, with minor exceptions, they did not display major negative deviations and where, thus, generally speaking, satisfactory.

It can be said that quality indicators under conditions of sharp credit growth have a limited value, since they use the state of gross placements with a sharp absolute yearly growth as the numerator. In other words, fast credit expansions create artificially satisfying quality indicators. Also, newly approved credits are mostly classified into better risk classification categories, because credit servicing problems, as a rule, appear only in later phases of repayment.

3.2 Liquidity risk

The liquidity of the banking sector was seriously imperiled after the initial powerful shock of the global economic crisis, especially in October 2008 and February 2009. Table 2 presents banking sector liquidity indicators from the third quarter of 2009 to the first quarter of 2010. Serbia's banking sector can be considered to be exceptionally liquid. The average regulatory liquidity indicator at the end of the first quarter of 2010 equaled 2.13, which was a 27 percentage point improvement over the fourth quarter of 2009. This points to the fact that the so-called core liquid assets are more than double the obligations without a due date and 30-day obligations. The sharp growth of the liquidity indicators can primarily be explained by an increase in liquid assets greater than the increase in "liquid" obligations. At the same time, the indicator of the ratio of credits and deposits for Serbia's banking sector is at a very conservative level, as each dinar of credit is completely financed from deposits. At the end of March 2009, this ratio equaled 100%, while at the end of the year it was even more favorable, equaling 92%.

Table 2: *Sector liquidity indicator (in %)*

Banks	**3/2009**	**6/2009**	**9/2009**	**12/2009**	**3/2010**
Liquidity indicator minimum 1.00	1.86	1.9	1.78	2.86	2.13
Credits/Deposits	106	100	97	92	100

Source: Table created by the author, on the basis of the Report for the first quarter of 2010, Bank Supervision Sector, National Bank of Serbia, graph 9, p. 22.

Table 3 shows the banking sector's monthly liquidity indicator for the period of 2003 to 2009.

Table 3: *Average banking sector monthly liquidity indicator*

Period	**Indicator**
2003	3.5
2004	2.2
2005	2.1
2006	2.4
2007	2.1
2008	1.8
3/2009	1.9

Source: Table created by the author, on the basis of the Report on the Financial System for 2009, Bank Supervision Sector, National Bank of Serbia, 2010, p. 46.

As can be seen in Table, 3, during the observed months, the liquidity indicator of individual banks was within the prescribed limits.

Total classified assets at the end of the first quarter of 2010 equaled 2.016 billion dinars (December 2009: 1.936 billion RSD), making up 40% of gross balance sheet and off-balance sheet assets (December 2009: 42%).[14]

Table 4: *Movements in the liquidity of banking sector assets (in bil. dinars and %)*

Period	Total classified assets
3/2009	1,926
6/2009	1,888
9/2009	1,873
12/2009	1,936
3/2010	2,016

Source: Table created by the author, on the basis of the Report for the first quarter of 2010, Bank Supervision Sector, National Bank of Serbia, graph 8, p. 21.

4. Analyses of stress tests in Serbia

Stress test results allow the identification of the most sensitive area of bank operations and, eventually, the taking of preventive action. In order to obtain the necessary data, the National Bank of Serbia has used the internal stress test model in its supervision since 2007. Figure 1 shows the functioning of the stress test internal model employed by the National Bank of Serbia.

Figure 1: *Functioning of the stress test internal model*

Source: R. Jelašić, M. Erić Jović, *Aktuelna monetarna i makroekonomska kretanja – rezultati stres testova bankarskog sistema Srbije*, National Bank of Serbia, Belgrade, October 8, 2009, p. 16.

14 On the basis of the Decision on the classification of banks' balance sheet assets and off-balance sheet items (Decision), banks are obliged to classify all claims (except those representing exceptions in accordance with the Decision – par. 2, items 4 and 5) into categories A, B, V, G and D, based on the evaluation of the debtor's financial state and credit ability, his timeliness in paying off his debts to the bank and the quality of the collateral.

The National Bank of Serbia performs banking sector stress tests as an integral part of the Vienna Initiative, i.e., the Financial Sector Support Program (FSSP), which began in March 2009, with 10 banks, and now encompasses 27 banks.

Banks' obligations regarding the Financial Sector Support Program are, before all:

1) Sustaining the group's level of exposure to Serbia (direct channel, cross-border credits + indirect channel, placements via affiliate banks), with constant maintenance of the level of regulatory indicators (capital adequacy, liquidity coefficient...) above the prescribed minimum.
2) Defining a methodology and participating in stress tests in coordination with the IMF.
3) Considering the preventive capital increase option should stress tests demonstrate the need.

On the other hand, banks' obligations vis-à-vis the Financial Sector Support Program are:

1) Performance of stress tests at the level of the entire banking sector by the end of the year (on the basis of a diagnostic analysis) for the 16 largest banks, which make up 83% of the total balance sheet sum of the banking sector in Serbia.[15]
2) Securing dinar (short-term liquidity credits) and foreign currency liquidity (EUR/RSD swap transactions between the NBS and commercial banks).[16]
3) Loosening non-performance criteria in case of restructuring of credit obligations approved before April 2009.[17]

Also used in the banking sector stress test was the regression model, which uses production gap, depreciation and interest rate changes as independent variables, and their effect on the deterioration of the credit portfolio and losses on the basis of a two year NPL growth. For this purpose, the National Bank of Serbia uses the IMF's standardized bottom-up credit risk testing approach – in accordance with experience and predominant influence. The tests performed by the NBS in 2009 were performed on the basis of collected information on the adequacy of reserves that banks pay and report from the position of balance sheet assets and off-balance sheet items. After completing the data, the NBS carried out a simulation with two possible scenarios. The first scenario assumes the continuation of the current events until the end of 2010. The second scenario assumes a substantial worsening of the economic environment until the end of 2010. This "crisis" scenario assumes a GDP fall of 6% by the end of 2009, along

15 Performed for 2009.

16 Performed for 2009.

17 Performed for 2009 and 2010.

with a 12% nominal depreciation of the dinar and interest rate growth of 0.1%. In 2010, the GDP would decline by an additional 3.5%, and depreciation would equal 10%, while the expected rise in interest rates in 2010 would be 2% relative to the current rate. On the basis of the collected data, the NBS analyzed the direct effects of the simulated scenario: (a) on growth of uncollectable credits, which would cause a rise in bank expenditures and a fall in bank capital; (b) the direct effect on the rise of exchange rate on revalorization, i.e., on the growth of banks' net risk assets (NRA). This growth appears as a consequence of the bank asset elements that are denominated or indexed in foreign currency.

Table 5 shows the assumptions of the pessimistic scenarios (the so-called downside) that were used:

Table 5: *Assumptions of the pessimistic scenario (downside)*

		ASSUMPTIONS	
Year	2008	2009	2010
Changes in GDP	5.4	-6	-3.5
Production gap	0.7	-5.8	-8.5
Depreciation	11.8	12	10
Interest rate changes	-	0.1	2

Source: R. Jelašić, M. Erić Jović, *Aktuelna monetarna i makroekonomska kretanja – rezultati stres testova bankarskog sistema Srbije*, National Bank of Serbia, Belgrade, October 8, 2009, p. 18.

With most banks, these are mostly credits and, to a lesser extent, placements. After the simulated changes, results on NRA values are obtained, by which the bank capital is then divided in order to obtain the capital adequacy ratio. The lawful minimum capital adequacy in Serbia is higher than in other countries – 12% (8% is the Basel II standard[18]). On the basis of the "crisis" scenario, capital adequacy in 2009 would fall from 19% to 18%, and down to 16.42% by the end of 2010. The test results showed that the greatest effect on growth in non-performing credits – and, thus, on NRA growth – would be caused by a fall in economic activity. NRA elasticity vis-à-vis production gap growth had a value of 0.7, while elasticity to depreciation equaled 0.3 and 0.4 to interest rate change. The dominant influence of economic activity on NRA value could be a good argument for a continued relaxation of monetary policy in the function of faster economic growth. The results obtained on the basis of stress tests reveal that Serbian banks are much better capitalized than it would have been expected for a transition country, and that even a prolonged recession would not imperil the bank system, as was the case in many previous crises in transition and develop-

[18] For more, see: Basel Committee on Banking Supervision: Basel II, International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version, June 2006.

ing countries. In most banks in developed countries, capital adequacy is on the edge or even below the lawful minimum, thanks to the low levels of own capital, which is hard to replace under current conditions on the global capital market. Differently from them, banks in Serbia do not have such a problem and can continue to issue credits unhindered, in accordance, first, with current demand and, second, with the real sector's capacity to take on debt. Unfortunately, as interest rates are still high, partly because of the country risk and partly because of the monetary policy, credit demand is modest. An added depreciation at the end of last year and the beginning of this year resulted in a situation in which a good part of the real sector has significantly higher obligations tied to the exchange rate, which has reduced its capacity for new borrowing. In addition, companies' ability to service existing obligations is endangered, which could be seen in the growth in the share of uncollectable credits since the beginning of the year.

The results of the stress tests performed as part of the Financial Sector Support Program, which were published at the beginning of October 2009, showed that, in case the assumed pessimistic macroeconomic scenario for 2009 and 2010 came into play, banks in Serbia would not need extra, preventive capital increases, as they are highly capitalized.

Before we present the stress test results, it is necessary to review the history of Serbian banks' capital adequacy in recent years. The 52% rise in capital in 2007 was accompanied by appropriate credit growth. It turned out that the 23.4% growth in 2008 was, before all, important for the creation of safety reserves for the shocks of 2008. In the first six months of 2008 alone, capital increases came to more than 60 billion dinars. They were to a good extent conditioned upon the banks' continued harmonization with the indicator of the ratio between gross placements to the populace at large and bank capital, which, according to existing regulations, could not be over 150%. As a result, capital makes up 23.4% of the banking sector's balance sheet sum, which is more than a good indicator of the banking sector's resilience.

The growth trend of capital adequacy indicators continued during the first half of 2008, but then fell at the end of the third quarter, due to stricter regulations: the capital adequacy indicator fell by 4.5 p.p. for the first nine months. Still, its level of 23.4% at the end of 2008 is still more than double the prescribed minimum (12%), or 15 p.p. higher than the minimum required by most European countries' regulations (8%).[19] In 2009, the capital adequacy indicator dropped to 21.44%. However, 13 banks operated in the Serbian banking sector at the end of the fourth quarter of 2009 with adequate capital indicators of up to 20%, 13 with a capital adequacy indicator between 20 and 30%, and 8 with a capital adequacy indicator of over 30%.[20]

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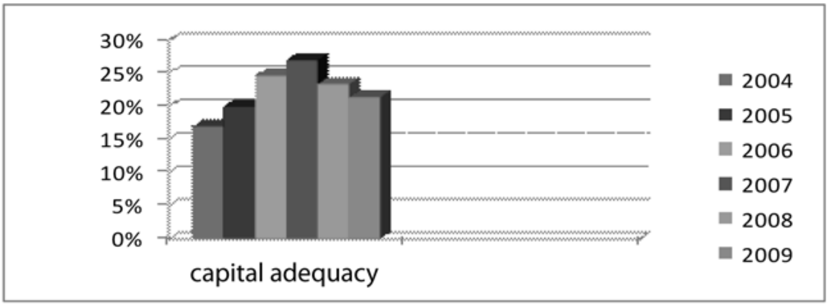
19 According to the standards of the Basel Bank Supervision Commitee, the minimum prescribed bank capital equals 8%.

20 For more, see: K. Sovtić, M. Ljubić: "Global Economic Crisis and its Impact on the Serbian Banks Capital Adequacy," *Proceedings*, 7th International Scientific Coference, Dealing

Graph 1: *Capital adequacy of banks in Serbia 2004-2009*



Source: Graph produced by the author on the basis of the Report for the Fourth Quarter of 2005 (2006), p. 11; the Report for the Fourth Quarter of 2006 (2007), p. 10; the Report for the Fourth Quarter of 2007 (2008), p. 10; the Report for the Fourth Quarter of 2008 (2009), p. 12. and the Report for the Fourth Quarter of 2009 (2010), p. 22, Bank Supervision Sector, National Bank of Serbia.

The banking sector capital adequacy indicator grew from 2004, only to, as seen in Graph 1, begin declining in 2007, under the influence of the global economic crisis. It fell from 27% in 2007 to 23.4%, and then to 21.44% in 2009. The decline in the indicator was the result of the growth in total risky assets, from 1,486.2 billion dinars to 1,662.3 billion dinars, before all on the basis of an increase in credit risk weighted assets from 1,455.0 to 1,633.8 billion dinars. Foreign exchange exposure risk equaled 25.9 bil. dinars, and exposure to other market risks 2.7 billion dinars. Banks' regulatory capital grew during the fourth quarter of 2008 by 17.6 billion dinars, or 5.1%. For the most part, the growth was conditioned upon base capital growth (by 15.1 billion or 4.1%), on the basis of a portion of non-allocated bank profits from earlier years and the current year, for which it was decided that it would be allocated within the base capital (by 13.2 billion). In accordance with regulations, banks are obliged to maintain the capital adequacy indicator so that it doesn't drop below 12% relative to risk weighted assets.

Worldwide, under the influence of the global economic crisis, banks' capital adequacy is substantially decreasing, so the recommendations of the Basel Committee on Banking Supervision serve as a welcome aid in maintaining it at the necessary level.[21]

As part of the regular monitoring of banks' financial state and the stability of the banking sector in Serbia, the National Bank of Serbia updated the mac-

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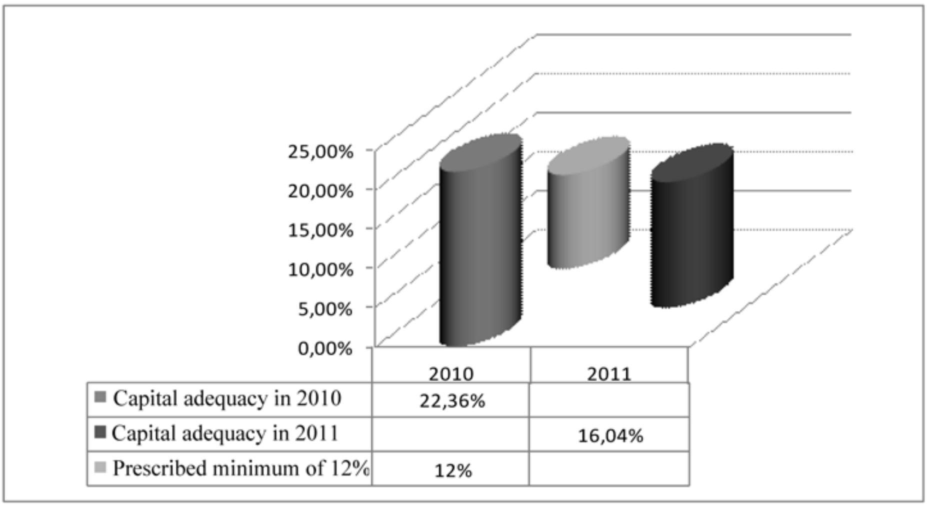
with the Global Economic Crisis by Companies and Economies, Megatrend University, Belgrade, November 27, 2009, pp. 367-376.

[21] For more on this, see: M. Ljubić: "Uticaj svetske ekonomske krize na Bazel II," *Računovodstvo: časopis za računovodstvo, reviziju i poslovne finansije*, vol. 53, no. 11-12/09, Association of Accountants and Auditors of Serbia, December 2009, pp. 94-108.

roeconomic assumptions and credit risk stress tests for the banking sector for 2010 and 2011, on a sample of 16 banks that make up more than 80% of the Serbian banking sector's balance sheet sum. The obtained results indicate that the banking sector is highly capitalized and resistant to macroeconomic shocks, i.e., that, with existing capital and reserves, it can absorb all projected losses and still remain above the regulated minimum thereafter.

Even if the assumed pessimistic scenario were to be realized, the capital adequacy indicator would still remain above the prescribed minimum of 12%, i.e., it would fall from the initial[22].36% in 2010 to 16.04%, and to 15.16% in 2011. Graph 2 shows the assumed capital adequacy indicators for 2010 and 2011, where we can see that, even if the assumed pessimistic scenario were to be realized, the capital adequacy indicator would still remain above the prescribed minimum of 12%. We may conclude that the banking sector in Serbia is highly capitalized and resistant to macroeconomic influences.

Graph 2: *Assumed capital adequacy indicators for 2010 and 2011*



Source: Graph produced by the author on the basis of the table; R. Jelašić, M. Erić Jović: *Aktuelna monetarna i makroekonomska kretanja – rezultati stres testova bankarskog sistema Srbije*, National Bank of Serbia, Belgrade, October 8, 2009, p. 19, and Deci sions on Bank Capital Adequacy "Official Gazette of the RS" 129/2007 and 63/2008.

In addition to determining the stability of the banking sector, which was the basic goal of the stress tests, we may conclude that, under the present circumstances and on the basis of previous indicators and predictions for 2010 (which are substantially better than those in simulated scenarios) – banks can increase their credit placements to the economy without fear, which is additionally stimulated by the relatively rapid relaxation of monetary policy and the reduction of the interest rate on dinar loans. From the beginning of the year, by additionally increasing the dinar liquidity of the bank system through a reduction of the dinar portion of mandated foreign currency reserves held by banks at the National Bank of Serbia, and by maintaining the high regulatory reserves on foreign currency deposits that maintain a high interest rate on the indexed credit market – the National Bank of Serbia is gradually opening the way to the de-euroization of the domestic economy. It is assumed that this will serve to increase the share of dinar credits without a foreign currency clause, which would neutralize possible negative effects from future dinar depreciation. Finally, it remains for us to wait for the real sector to show its results at the end of the year and analyze the total effects of the crisis in the previous year, when we will know whether, along with the obvious possibility of supply side credit growth, there is also a demand that will be able to enter new credit arrangements.

5. Conclusion

Stress testing serves to warn bank management against negative, unexpected outcomes related to a series of risks that allow a review of the quantity of capital necessary to absorb losses in case of major shocks. Although stress testing serves to indicate the adequate level of capital necessary to overcome ever-worsening economic conditions, a bank may also employ other moves in order to effect a reduction or increase in risk.

The purpose of carrying out this kind of testing is to evaluate banks' sensitivity to assumed external factors, i.e., the influence of the macroeconomic scenario on the financial state and stability of the banking sector as a whole and of individual banks.

It is important to emphasize that, since stress testing allows the simulation of unprecedented shocks, it is necessary to use it in order to evaluate the model's resistance to eventual changes in the bank and financial sectors.

Adequate stress testing should examine the possible risks of new products in situations where only limited data, which were not exposed to periods of stress situations, are available. Users should frequently simulate stress situation scenarios. The comparison of different stress tests should help reveal vulnerabilities, such as unrecognized risk concentrations or potential interactions between types of risks that might endanger bank stability but might remain hidden if the bank relies exclusively on statistical tools of risk management, founded on superficial data.

Stress testing should represent an integral part of the Internal Capital Adequacy Process (ICAAP), which requires banks to perform strict, pre-oriented stress testing that recognizes negative events or changes in market conditions that may negatively affect the bank. Also, stress testing should be a tool for recognizing, measuring and controlling financing liquidity risk, especially for evaluating banks' liquidity profiles and the adequacy of liquidity safety pillows in case of stressful situations specific to an individual bank, as well as of stressful situations at the level of the entire market.[22]

Stress testing should play an important role in intra-bank communications. Differently from strictly statistical models, it is easier to comprehend pre-oriented scenarios, which makes them helpful in evaluating the vulnerability and the evaluation of the feasibility and usefulness of potential reactive measures. Tests of resistance to risk should play an important role in external communication with supervisory bodies, towards the goal of providing support in capital adequacy evaluations.

A bank can voluntarily publish the results of its stress tests in order to provide the market with a better understanding of its risk profile and management. If a bank voluntarily publishes the results of its stress testing, it can also offer additional relevant data, in order to enable third parties to make decisions based on available data. Additional data can include all the more important limitations of stress tests, related assumptions, applied methodologies and an evaluation of the effects of stress testing.

Banks should also use stress tests for the recognition, monitoring and control of risk concentrations. These can have various dimensions:

- concentrations tied to a single name;
- concentrations tied to certain regions or industries;
- concentrations tied to individual risk factors;
- concentrations founded on correlated risk factors that reflect more refined factors or those that are more specific to a given situation, such as previously undiscovered correlations between market and credit risks, as well as between those risks and liquidity risk;
- concentrations of exposure through presented collateral or protection positions;
- concentrations of off-balance sheet exposures, potential exposures and non-contractual obligations, which stem from reputation-related reasons.[23]

Towards the goal of adequately resolving risk concentration, scenarios should relate to the bank as a whole, encompassing balance sheet and off-balance sheet assets, potential and non-potential risks, independently of their contractual nature.

We can also emphasize that stress tests should recognize and respond to potential changes in market conditions that might negatively affect banks' exposure to risk concentrations.

[22] For more on this, see: Basel Committee on Banking Supervision: Principles for Sound Liquidity Risk Management and Supervision, 2008.

[23] Basel Committee on Banking Supervision: Principles for sound stress testing practices and supervision, 2009, pp. 13-23.

The results of stress tests are evaluated in relation to one or more measures. As to what measures will be used will also depend on the specific purpose of the stress test, the risks and portfolios that are analyzed and the specific topic of examination.

The growing development of superfluous scenarios of stress tests represents a difficult task, as risk factors significantly differ and the length of periods changes. It is necessary to cooperate with other supervisors, who should possess adequate knowledge and be able to evaluate the levels and seriousness of stress scenarios.

Stress testing in practice is increasingly frequent, and banks are obliged to perform it three times a year in order to undertake the necessary measures and avoid the realization of negative scenarios.

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Paper received: June 30th, 2010
Amended, upon request of the reviewer: May 4th, 2010
Approved for publication: January 24th, 2011

Expert article UDC 005.591.6

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INNOVATIVE ENTERPRISE – CONDITION OF SURVIVAL ON THE MARKET

Abstract: *An innovative climate in society and the innovative enterprise as a part of the economic system can, to a great extent, help overcome the negative influences of the current global economic crisis. On the subject of innovations, the following questions are now being opened: when, where and how to search for more favorable conditions for innovation and how to reach conclusions concerning prospects of success or risks of failure. Successful entrepreneurs do not wait for the arrival of a clever idea or inspiration but constantly search for them, work on them, gather ideas and proposals – even those that point to only slight changes. Thus the search for changes and the analysis of favorable conditions for technical, social and economic innovations that can be manifested precisely through these changes. In the process, it must not be forgotten that just as, by themselves, innovations signal important changes, most successful innovations make use of the changes that have taken place.*

Key words: *innovation, company, crisis*
JEL classification: L20, M20

1. Introduction

We are living in a time of fast, radical and fundamental changes, which are affecting all spheres and areas of activity and life: technique and technology, economic and non-economic activities, science and education, the market, organization and other social structures. In their (economic) development, all countries are facing **new** challenges of technological change and innovation and **new** stimuli for a qualitatively **new** philosophy of development. How, then, to receive what is **new** and how to manage these new technologies and innovations?

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In that sense, it is necessary to resolve several important questions, i.e., problems:

- openness to the new and resistance to innovation;
- changes and reactions to changes that are a result of the necessity of introducing new technologies;
- how to overcome resistance to innovations;
- deciphering contrasting forms of human behavior from a technical and social aspect in relation to new technologies and innovations;
- identify possible resistance to technological changes and innovations with expected losses and benefits;
- It is very important to have three theses in mind:
- resistance to change does not appear so much due to the introduction of new technologies, but is related to the new organization and new interpersonal relations that ensue under the influence of technology;
- peoples' resistance and reactions cannot be predicted; thus, science can offer a program to help employees become accustomed to changes;
- fears are related to economic concerns, personal discomfort, and the social base and security.

2. Basic principles of innovative behavior

Although insufficiently explicitly, the gist of the text thus far has been the idea that innovativeness, especially technological, must be basically situated in the enterprise[1] (large, small, state-owned, private, etc.) as the still most important form of organization of economic life throughout the world. We now put forward this claim as the **first principle** of successful innovativeness, adding immediately that state measures can only be understood as being secondary, either as catalysts that stimulate innovativeness, or as blockers that interfere with or even totally prevent innovativeness.

This is directly tied to the **second principle**: companies are forced to be innovators because market competition, as a mechanism of economic compulsion, compels them. "Everyone can be an innovator," is the content of the

[1] The guru of modern literature on innovation management, P. Drucker, speaks of seven sources of innovative possibilities, listing them in the falling order of dependability and predictability. The first four such sources are found within the company itself: **the unexpected** – unexpected success, unexpected failure, unexpected external event; **non-coincidence** – between present reality and what might be or "should be"; **innovation** – based on the need of some process (e.g., production); **changes in economic or market structure**, which surprise everyone. The second set of innovative possibilities encompasses changes outside the company, i.e., outside the economy, and refer to: **demographic changes; changes in observations, moods and meanings; new scientific and non-scientific knowledge**. See: P. F. Drucker, *Inovacije i preduzetništvo, praksa i principi*, Privredni pregled, Beograd, 1991, p. 62.

third principle, to which we immediately add that everyone should be allowed to develop their innovative abilities. The **fourth principle** says: innovativeness and tendency to innovation are a specific state of the human spirit. It is a type of mental resistance to the existing state, with the goal of improving it, advancing it, perfecting it, ennobling it – in a word, making it better, more beautiful and more useful for people. That innovativeness integrates a number of goals, of which the most important are utilitarian, aesthetical and ethical – is the content of the **fifth principle**. Innovativeness does not always stem from creativity, which is always characterized by originality. Innovation does not always have to be an original creation, says the **sixth principle**. Innovativeness requires constant searching, work, knowledge and persistence, while talent or, eventually, genius, are always welcome, but not essential. Each innovation is by nature risky, but this does not mean that an innovator is just anyone who is merely ready and able to undertake risk. A successful innovator is actually not prone to risk: he is more concentrated on possibilities than risk. This is the **seventh principle** of innovativeness, but not the last, as it is possible to present many more general views (principles)[2] that can serve as guideposts in the difficult, complex, usually long, expensive and, above all, hard to predict search for something new.

3. Elements of a new innovative strategy

As already emphasized, the goal of an innovational strategy should be to create a general innovational climate, which is a prerequisite for creation and a faster diffusion of innovations in a more mass form. The prerequisite for achieving such managerial maneuvers within a company is the existence of a so-called **promotional organizational climate**, which can be described in 9 points:[3]

- growth and innovation are institutionalized goals;
- organs of management impatiently await new products;
- the company is oriented toward growth and program diversification;
- the company strives to be the leader in production and the latest technology;
- financial management is highly decentralized;
- no unit strives for the leading position within the company;

[2] In the already cited book, P. Drucker also lists several select innovation principles, dividing them into "things that should be done": 1) analysis of possibilities as the beginning of systematic innovation; 2) "to venture outside, to search, to ask, to listen"; 3) in order to be efficient, innovation must be simple and must enter the public eye; 4) efficient innovations start small. Among things that should not be done, which Drucker considers to be of essential importance, are the following: 1) do not try to be smart; 2) do not overdiversify, i.e., overcompartmentalize; 3) do not make things for the future, but for the present. P. Drucker, ibid., p. 178.

[3] Compare: W. Souder: *Managing New Product Innovations*, Lexington Books, 1987, p. 105.

- employees recognize that, instead of a threatening climate, there is a feeling of urgency to create something new;
- decisions are made democratically, together with management;
- there is significant cooperation between groups at all tasks connected with the achievement of the common goal.

The above underlines the leading, homogenizing and mobilizing **role of company management** at all levels. The significance of its choice logically stems from that fact. It is wrong to conclude in advance that it is optimal if the manager is also the owner of the company, which would lead to the giving of a priori advantage to small firms, where the ownership and management functions are usually not split between different people.

Emphasis of the significance of the management function equally comes into play in capitalist (private) companies in which managers govern in the name of the owner (one or more shareholders) as well as state (socially) owned firms, if both are operating under conditions of market valorization of all inputs (factors of production) and outputs (business results) and if their target function is **company growth**.

We say growth rather than profit or some other kind of financial result, because we view these as "intermediate goals" in the sense that profit is ultimately just a means that also allows the satisfaction of the owner's (entrepreneur's) personal needs, as well as the more important point: **company growth** as a stake in the future and a means of survival in an increasingly competitive environment.

Thus, in every society, an innovative climate must primarily flow from the logic of the reproduction of its base cells of production (enterprises), which can ensure their survival and prosperity only if they are able to offer new production programs, new techniques and technologies, a new organization of labor and business, new methods of efficient management in the new time – in other words, new knowledge that allows the attainment of something new. After all, the **new** is so called precisely because it is **different** from the previous, and not because it follows it in time. That is certainly the *punctum saliens* when the question that is inevitably posed is: who are these "new people" that so strive for the new?[4]

Here we primarily refer to personnel as the true carriers and actors of the entire manifestation of the development substrate that we can call brainware, meaning **knowledge** in the first place, but also **will** and **honesty**. There are documented findings of numerous personnel studies that argumentedly prove that, under conditions of the general technologization of work and management, the role and significance of human resources are constantly broadening – before all their cognitive and intellectual components. Consequently, the "feeding" of all

[4] For more, see: V. Stefanović, M. Simić: *Inovativno preduzeće u funkciji razvoja ekonomskog sistema*, Ekonomski fakultet, Priština, 2001, pp. 180-190.

the parts of the organization with personnel is increasingly becoming a basic precondition of the success of each phase of the work process and each segment of the organization – especially innovation processes. When it comes to the successful management of technology and technological innovations for the establishment of a new innovation strategy, the following personnel categories are especially important:[5]

1) **idea generators**, who creatively contribute to the solution of problems through technological projects, and who draw their ideas either from customer needs and demands or new technical discoveries, new technological processes, new organizational solutions, new forms of market approaches, etc.;
2) **entrepreneurs (champions)**, who are ready to take risk and accept any idea and innovation in which they sense profitable application;
3) **sponsors (trainers or mentors)**, who, on the basis of their experiences, give stimuli, support and encouragement to younger personnel to persevere in the adventure of seeking new and better solutions;
4) **"gatekeepers" (communications personnel)**, who connect all information, channel it toward potential users, and bridge technical, market and management sources of information, creating an information-communications network as a basis of the company's managerial infrastructure;
5) **program managers**, who secure, coordinate and integrate the functions of planning, managing and control.

To this typology of personnel profiles that came about in an era of omnipresent technology as a specific **metafactor**, on the one hand, and relatively free initiative and institutions through which the possible can become real, should be added several new facts that are increasingly affirmed as unavoidable guideposts of contemporary management. These are the following principles: a) small is better than big; b) lesser diversification is better than greater; c) competition must be replaced with cooperation; d) formal authority must be decreased; e) time cycles must be shortened.[6]

[5] According to: E. B. Roberts, *Generating Technological Innovation*, Oxford, U. P., New York, Oxford, 1987, p. 60.

[6] In the book: R.G. Eccles, N. Nohrio, J. D. Berkley: *Beyond the Hype*, Harvard Business School Press, 1992, pp. 18-19, the authors refer to these principles as the "New Gospel," which is today preached by contemporary managers throughout the world.

4. Are small and medium firms becoming victims of modernization?[7]

The past few years have seen a dearth of big and important technological innovations that could cause tectonic economic changes (such as the microchip, which experienced extremely rapid diffusion and contributed to deep structural changes in production and on the market) on a global plane, which puts into question the formerly quite popular doctrine according to which, in principle, it is better to have many small innovations that few big ones. We are seeing a return of the relevancy of the thesis put down by Schmookler,8 who wrote back in 1966 that "a high tide of smaller inventions in a certain field leads to a low tide of the most important inventions in the same field, and vice versa." At the same time, it is increasingly frequently said that small companies are becoming less and less attractive for employment, as salaries in them are almost 30% lower than those in big firms and, in addition, offer more modest conditions for work and, especially, for personnel, i.e., career development.[9]

The latest study by the well known Institute of Work and Technology[10] in Gelsenkirchen (Germany) gives the following typology of small and middle enterprises, which can be useful in identifying companies' structure, technological orientation, desire and possibilities even under our own conditions.

1) **Market localists**

- micro-size firms, active in the local or regional environment;
- orientation towards the tastes and demand of local consumers;
- no contractual, fusion or acquisitional arrangements with other firms;
- modest access to financial capital and consultations;
- high rate of fluctuation, low entry and exit barriers;
- often a family type of ownership, low employee salaries;
- individually unstable, but stable within the community.

2) **Craft-based work**

- specialized in the production of custom-made, high quality products;
- highly trained workers, horizontal hierarchy, low level of labor division;
- absence of closer cooperative relations with others;

7 Slobodan Pokrajac gives a vehement reply to this question in his book *Tehnologija i društvene promene*, IBN centar, Beograd, 1994, pp. 73-80, and continues further in his capital work, *Tehnologija – tranzicija – globalizacija*, Grafikon, Beograd, 2002, pp. 91-115.

8 See, e.g., his well known work: J. Schmookler: *Invention and Economic Growth*, Harvard U. P., Cambridge, Mass., 1966.

9 For more details, see the article: R. Howard: "Can Small Business Help Countries Compete," *Harvard Business Review*, Nov-Dec, 1999.

10 "The Future of Industry in Europe", Vol. I, Institute of Work and Technology, Gelsenkirchen, 1993, p. 127. This work was published for the needs of the FAST (Forecasting and Assessment in Science and Technology) program of the EEC under the designation FOP 365, which we will also use for easier reference.

- limited access to financial capital, R&D and distribution channels;
- problems with the increasing tempo of innovation;
- exposure to threats of takeover by large firms.

3) **Small and middle enterprises inside regional networks (industrial district)**

- craft-based small and middle enterprises within networks of suppliers, buyers and competitors;
- regional inclusion in support infrastructure;
- export orientation;
- high degree of production innovation;
- lack of marketing and research capacities;
- insufficient capital supply;
- their market niches are not threatened by larger competitors.

4) **High-tech small and middle enterprises (technological district)**

- frequency of small firms with technologically advanced, special purpose products;
- highly trained work force (often with university degrees);
- often come about as a result of spin-offs from larger firms, universities or public research institutions;
- high dependence on large organizations.

5) **Small and medium enterprises in the new division of labor**

- subcontractors or suppliers of large assembly firms;
- first group: system of supply with cooperative ties;
- second group: production of standardized products as protection from risk and high costs.

The conclusion that may be drawn from this overview of various forms of small and middle enterprises is that their only future is in cooperation with large firms that, precisely thanks to the size of their capacities and the concentration of all their resources, can achieve various development strategies and, at the same time, realize the effects of synergy. Small firms only have the freedom to choose a **strategy of collaboration with large firms**, wherein they have at least three possibilities:[11] a) find shelter in large groups when they renounce their autonomy, partially or wholly, in order to gain access to the resources and capacities of large firms; b) strategy of cooperation in a “kingdom,” meaning that small and middle enterprises work in close connection with one large firm, which secures them market access and determines all the other strategic solutions; c) cooperation in a “republic,” where firms cooperate on an equal basis, contributing equally to the common success.

[11] See: V. Stefanović, S. Pokrajac: *Nauka – tehnologija – razvoj*, Ekonomski fakultet, Priština, 2002, p. 204.

5. Instead of a conclusion

In order to be able to lead successful innovational activity, both in small and in large firms, it is necessary to make a clear and precise division of roles among the people included in the innovation process. This is especially important from the standpoint of communications[12] within the innovation team directly working on new technologies and new products, where small firms have an undoubted advantage. However, even at the level of forming innovation teams, small enterprises cannot always secure separate carriers for all the important roles that individual team members should perform, which is why they sometimes cannot be differentiated from those roles, which may have a harmful effect on the innovation team's work efficiency and, thus, the efficiency of the entire innovation process. In that sense, large firms have an obvious advantage. One way of dividing jobs within an innovation team in a capitalist firm is shown in the table below.

Table 1: *Roster of an innovation team in a capitalist firm*[13]

Role	**Role description**
Leader	Coordinates the work of technical specialists, their tasks and activities.
Capitalist	Finds various sources of funding within the organization for project realization and, in times of financial shortage, on the capital market.
Instigator	Stimulates and inspires colleagues and generates enthusiasm
Integrator	Supervises the entire project and coordinates its different components.
Scout	Follows new development trends outside the organization and directs information that is related to it to the organization.
"Linchpin"	Secures links between sectors and stimulates inter-sectoral interaction.
Champion	Promotes new ideas and promotes their support within the organization.
Mentor	Teaches junior members and facilitates their learning.
"Translator"	Presents new technologies to potential users and relates their views to the development sector.
"Spot remover"	Identifies technical problems and obstacles that were not clearly visible.

[12] Literature usually has it that the average size of a development team in small Western firms numbers between 6 and 8 key people. This number is especially suitable from the standpoint of communication between members, as the number of communication channels more than doubles whenever the team is increased by an additional member. The American Victor McGee formed a mathematical relation between team size and the number of communication channels with the expression $n(2^{n-1} - 1)$. Thus, e.g., we obtain: number of team members 2 3 4 5 6 7 8 9 10 - number of channels 2 9 28 75 186 441 1016 2295 5110. – According to: J.B. Wuinn, "Managing innovation: controlled chaos," *The McKinsey Quarterly*, Spring, 1968, p. 10.

[13] W. Souder, ibid., p. 6.

To the conclusion should also be added that small (and middle) firms make a significant contribution to overall innovation, especially in certain market niches, but that they chronically suffer from a lack of qualified research personnel and financial resources, which makes them overly introverted, closed and self-oriented, which is a handicap that seriously jeopardizes their long-term competitive prospects. The best proof of this lies the fact that small firms quite frequently have the initiative at the initial phase of innovation (they quickly identify the possibility, formulate an idea and even begin development) but, later on, their large competitors take over the initiative in development and commercialization. Still, statistical research in many market and technologically developed countries (e.g., the US, Great Britain) show that the tempo of large company growth (fusion, concentration, mergers, alliances, etc.) is higher than the growth rate of the innovations within them, which confirms in a new way that the company size variable is not decisive for the innovation dynamic and, as such, cannot always be an efficient and irreplaceable means of raising the firm's innovation potentials. In fact, various forms of oligopolies and industrial structure changes and, before all, unequal levels of technological maturity are decisive in explaining the difference between the innovation performance of large and small companies.

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Paper received: April 29th, 2010
Amended, upon request of the reviewer: November 4th, 2010
Approved for publication: February 10th, 2011

Expert article UDC 005.35:338.246.025.88(497.11)

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THE NON/EXISTENCE OF SOCIAL RESPONSIBILITY IN THE SERBIAN ECONOMY IN THE TRANSITION PROCESS

Abstract: *The establishment of economic system solutions and macroeconomic policies by the informal "Washington Consensus" institution has placed transition economies and developing countries in an unenviable position. Privatization, liberalization and macroeconomic stability in Serbia should have created growth and economic development, attracted foreign investments, increased employment, export orientation, etc. Modern corporations should have played the key role in creating wealth for the owners and stakeholders, but in a socially responsible way, respecting the principles of OECD corporate governance. However, the effects were not as expected, because personal interest in Serbia is stronger than the interests of the state or companies. On the other hand, the unfavorable situation in the country is also a result of the speed and method of implementation of reforms under the "Washington consensus," carried out without a well-prepared foundation.*

Key words: *privatization, corporate social responsibility, the Washington Consensus reforms, exports*

JEL classification: P31, O19

1. Introduction

For countries with a socialist social order and developing countries, the 1980s and 1990s marked a passage through certain processes of transition. In that sense, the creators of the ideological solution in the function of establishing economic-systemic solutions and macroeconomic policy were institutionalized within the International Monetary Fund, the World Bank and the US Treasury Department. The dominant consensus of these actors was reflected in the informal institution referred to as the Washington Consensus.

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According to the Washington Consensus, growth is achieved through liberalization, i.e., through the freeing of the market.[1] Privatization, liberalization and macroeconomic stability were supposed to create a climate for attracting investments, economic growth and development, creating employment opportunities, and a better standard of living.[2] Contrary to this claim, when evaluating the first ten years of initiated transition processes in developing and transition countries, we can testify to the fact that these expected effects did not come about. The results of the applied recommendations in the ten years since reforms began in 2000 have been disappointing, with only several countries having a negligibly higher GDP than in 1990.

It has become clear to the proponents of the Washington Consensus over this period that the standard reforms did not yield lasting results if deeper institutional factors were unfavorable. That is why the original Washington Consensus was supplemented by a second list of so-called second generation reforms, which are of a primarily institutional character. The first recommendation on this new list was the improvement of corporate management in transition countries.[3]

2. Modern corporations as the echelon of today's marketplace

As an organizational form of enterprise, modern corporations are the echelon of contemporary business. Terminologically, they represent a form of enterprise in which the ownership function is separated from the company resource management function. The basic demand, predicated upon the modern corporation's efficient functioning, is to create wealth for the owners and other stakeholders in a socially responsible way. In the context of this demand and the complexity of the said actors, i.e., the stakeholders within the corporation, success is a product of a process of harmonization of various interests, which is structured through the principles of corporate management.

The basic principles of corporate management are based on two key words: responsibility and transparency. These have been recently joined by morality and ethics, especially in the wake of the great stock market scandals that have been shaking the American corporate world. Thus, being ethical, responsible and profitable is the imperative of today's corporation.

1 John Williamson has referred to the Washington Consensus as a list of recommended so-called reforms that "problem countries" should adopt if they wish to reform their economies.

2 I. Stojanović, *Međunarodni ekonomski odnosi*, Megatrend univerzitet, Beograd, 2005, p. 179.

3 The web site of the Serbian Economic Forum was used: http://www.sef.rs; access date: December 6, 2010.

From the aspect of national prosperity, corporate success[4] encompasses the possibility of securing additional capital, new technologies and innovative products and services, leading to the development of the market, stimulation of exports relative to imports, the attraction of foreign investment, etc. Thus are created prerequisites for strengthening the profitability and competitive ability of both the company and the national economy as a whole, leading to growth in GDP. The creation of efficient companies makes a national economy wealthier and opens the way to social prosperity. It can thus be said that corporate management represents a basic instrument for the improvement of economic efficiency and market-based enterprise.

Our domestic businessmen are not sufficiently acquainted with the concept of corporate management, which is something that the International Finance Corporation has pointed out as well. A significant number of private and legal entities are not aware of the OECD's corporate management principles.[5] The situation is substantially different in the case of banks, which can be explained by the fact that foreign employees are present in most of them. Also disappointing is the fact that company managements do not make a distinction between internal and external auditors, or between internal auditing and internal control.[6] Board members are mostly focused on shareholders only, and serve as representatives of their interests, while company strategy takes second – or even the last – place on their list of activities. This indicates that personal interests are stronger than social or company interests. In analyzing the above data, the inevitable conclusion is that, generally speaking, those that hold power dominate, as do their interests within the management process. These are driven by personal profit and, as a result, the basic instruments of management are often neglected.

Historically speaking, the internal logic of capital has remained unchanged: profit maximization as the main interest, and a striving of the wealthier and the stronger to increase their wealth by exploiting the weaker. This last postulate applies to all economic actors: the state, companies, employees. Capital desires its domination! For the "large hegemons," this represents a continuum of the struggle for survival, which brings scientific and human progress, but also the hegemony and the rule of power and force.[7]

The manifestation of this power on the part of the great powers is also evident in Serbia, through the implementation of the Washington Consensus Reforms.

4 M. Živković, T. Dragičević: "Motivi u započinjanju preduzetničkog poduhvata," *Megatrend revija*, Vol. 2 (2), 2005, p.190.

5 Globally accepted standards of quality corporate management, adopted and approved by OECD ministers in 1999; published in: OECD Principles of Corporate Governance - 2004 Edition Principes de gouvernement d'enterprise de l'OCDE - Édition 2004© 2004. OECD, pp. 12-22.

6 The E-kapija web site was used: http://www.ekapija.com/website/sr/page/195813, access date: December 5, 2010.

7 M. Jakšić: "Globalizacija i povlačenje države," in: *Vreme globalizacije* (Miloš Knežević, ed.), Dom kulture "Studentski grad," Beograd, 2003, p. 98.

This is the generally known transition process, which has brought rapid changes, for which, however, there was no prepared foundation. There was no harmonization of macroeconomic and microeconomic indicators, while political and economic risks were pronounced. Also, most of the shareholding companies were thus constituted because that was the prerequisite for privatization, which means that their institutions did come about naturally but were imported overnight.

Nevertheless, one of the basic problems of corporate management in Serbia and throughout the world is that of business transparency. Here it should be added that our legal system does not contain the necessary sanctions that would regulate the newly established situation. Legal regulations have mostly covered the field of corporate management, but their dispositiveness and implementation have taken on negative effects. In that sense, we may speak about the non-existence of corporate principles in the Republic of Serbia.

3. Privatization processes – the cause and the effect of the (in)efficiency of corporate management

The position of Serbia's economy does not lie outside the context of current global economic trends: we are aware that the globalization process has greatly influenced the SFRY, the FRY and now the Republic of Serbia.

The neoliberal package of measures for the transformation of the economic system that is chiefly being implemented in the Serbian economy traditionally comprises the following: macroeconomic stabilization, privatization, external and internal price liberalization, and a radical transformation of the banking system.

The success of this standard model of transition to a market economy has varied in different transition countries. Some transition economies have successfully implemented the "transition orthodoxy" and stand on the threshold of the European Union, while a larger number of countries (the CIS and the Southeast European countries) are faced with retrograde trends, and are far removed from the realization of the goals of transition. The basic problem in these countries lies in an insufficiently market and enterprise-oriented mentality of the economic actors, which stands as obvious evidence that a market economy institutional infrastructure has not yet come to life.

Similar problems have also been observed in the domestic economy, leading to observations such as the following: "In spite of loud pronouncements and big words about the market system, the absence of competitive relations remains a firm constant; there is not even a tendency towards the establishment of a true market situation."[8] It can be observed that there is an institutional vacuum that contributes to the maintenance of a non-market or even a chaotic system that,

[8] S. Radmilović, "Tranzicija u tržišnu privredu je nešto mnogo više i teže od 'kreativne destrukcije netržišnog sistema," *Ekonomist*, Vol. 35, No. 3, 2001, p. 28.

despite the relative macroeconomic stability that has been established, is pushing the economy into an even deeper transitional recession.

Corporate management in Serbia is not demonstrating a state of positive implementation, which partly represents a logical consequence of the results of privatization – which, according to many economists, was not carried out in an optimal way, as it deepened the gap between stakeholders, without creating a synergic effect on the side of increasing individual and social wealth.

The privatization process in Serbia took place in two waves: in 1993 and in 2000. During both of these periods, the following privatization methods[9] were used in Serbia: internal privatization, external privatization and free distribution of shares to the populace;[10] however, in the history of privatization in Serbia, primacy has been held by models of free distribution of capital to employees, retirees and citizens, which not only brings low budget proceeds but is also indicative of the fact that the privatization process in Serbia has been a prolonged one. In addition to these difficulties, privatization in Serbia has also encountered resistance due to the domestic companies' low earning power and profitability, employee resistance and many other factors.

However, it should be noted that the privatization processes have also been shaped by the IMF's and the World Bank's somewhat narrow ideological outlook, which was manifested in the rapidity of these processes.

Still, it is necessary to emphasize that the success of privatization is predicated upon a true commitment on the part of the government and a clearly established plan. The latter refers to a framework plan containing the basic goals, principles, methods and necessary institutions of privatization. Institutions are important for the implementation of this reform and, in fact, Serbia has formed three such institutions, charged exclusively with the process of privatization. Problematic within this institutionalization is the view of the IMF, which champions the necessity of rapid privatization, followed by the building of market institutions. Having in mind the IMF's powerful influence on the processes of economic restructuring in transition countries, its role is clear. Also, it is necessary to point out an illogical moment, which is founded precisely in the agreed privatization formula and the rigid procedure called for by the IMF: namely, each developing and transition country is always "offered" the same economic-systemic solution and macroeconomic policy, regardless of the economic and essential differences between them.

9 D. Kragulj: *Ekonomija: Osnovi mikroekonomske i makroekonomske analize*, Kragulj, Beograd, 2009, p. 98; according to: B. Milanović: *Privatizacija – nužnost ili sloboda izbora*, Jugoslovenska knjiga, Ekonomski institut, Beograd, 1994, pp. 38-51.

10 There are only four types (models) of privatization: **internal privatization** – the sale (at very low prices) or free distribution of company shares to currently employed or retired workers; **external privatization** – the sale of shares at public auctions open to all domestic and foreign citizens, to the highest bidder; **distribution of shares to all citizens** is carried out by selling company shares at very low prices or distributing them free of charge to all citizens above 18 years of age.

Thus, the privatization process demands maximum flexibility, which differs from country to country. Important, on the one hand, are individual actors within companies and the harmonization of their interests and, on the other, the role of the state as the catalyst of changes. As an authentic protector of the wider social interest, the state is expected to secure the framework for the increased efficiency of the privatized enterprises, production growth, employment growth, export growth and growth in the overall standard of living. Added to these privatization goals are the so-called secondary goals of privatization, such as the securing of budget inflows, helping local communities, etc.

However, the political factor should also be added to the above economic factors. Although the dimension of privatization as a political process is not visible, it is nonetheless always present. Carriers of political functions always strive to use this process for their own political promotion. At the same time, those that make the key privatization decisions are also the ones responsible for them – but they are truly so only to the extent that their survival depends on the success of privatization, wherein we can see the presence of personal interest. This situation actually switches the topic of discourse; neglecting the point that privatization is a means to an end, not an end in itself.

4. Legal regulations in Serbia – freedom of contract or abstractionism

Within the context of all the said negative connotations – the profile of the corporate environment and the regulatory environment, with its broad dispositive framework – are, to an extent, emitting negative stimuli. Thus, for example, with its flexible options, the Serbian Law on Companies, adopted near the end of 2004, offers potential company founders a broad array of choices. To be sure, it regulates corporate management in a modern way, and the principle of freedom of contract is the paramount principle.[11] Nevertheless, some of its positive legal provisions cannot change the corporate management system in Serbia in a short period of time. Simply, a longer period is needed.

Three privatization laws have been adopted in Serbia during the past fifteen years. The first Law on Privatization was brought in 1991 (during the Ante Marković government), and the second in 1997 (Law on Worker Shareholding). The third, current Law on Privatization was brought in July 2001. However, through numerous decrees and amendments, it has since undergone substantial changes. Regardless of the frequent regulatory changes designed to improve it, business circles have constantly objected to the fact that the domestic business-related laws are overly abstract and inapplicable in concrete economic life.

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11 M. S. Vasiljević: *Korporativno upravljanje – pravni aspekt*, Pravni fakultet Beogradskog univerziteta – Profinvest d.o.o., Beograd, 2007, pp. 24-26.

The primary task during the preparation of the Law on Privatization of 2004 was, based on transition countries' and Serbia's own experiences with privatization, to establish a legal basis and institutional support that would allow and facilitate the implementation of the privatization process in Serbia. The priority was the creation of an open economic and ownership structure, followed by increased investments in the real sector, and the maximization of social and political acceptability (the position of employees in privatized companies must not be worse after privatization). It is very important for companies that a clear ownership structure is established, along with the corporate management mechanisms that are founded upon it. Thus, the transparency and public openness of the entire privatization process are extremely important for establishing and maintaining the credibility of the institutions that are implementing privatization.

In regard to most of the already completed privatization processes, there is a dilemma as to the extent to which the regulatory mechanisms were reflected in practice, having in mind the principles of privatization:[12]

- creating conditions for economic development and social stability;
- securing public openness;
- flexibility;
- sales price formation in accordance with market conditions.

There is also the dilemma as to whether we can say that our reforms have born fruit, i.e., whether economic growth and development have in fact occurred. In other words, further regulatory improvement is necessary, in the direction of creating mechanisms and instruments of its implementation, with positive effects on the side of corporate management improvement. This would create preconditions for the creation of a prosperous marketplace, the development of a capital market and the creation of competitive advantage – for individual companies and for the economy as a whole.

5. The development model of the privatization process in Serbia – a "constructional error"

The domestic economy cannot boast positive results from the implemented privatization process. The radical economic-systemic changes have brought increased net losses, which is not an enviable position in the least. According to data for 2009,[13] 89,115 enterprises were operating in Serbia, including:

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[12] Securities and Exchange Commission: Law on Privatization, "Official Gazette of the RS" No. 38/2001, 18/2003 and 45/2005; http://www.sec.gov.rs/index.php, access date: December 8, 2010.

[13] Statistical Office of the Republic of Serbia: http://webrzs.stat.gov.rs, access date: January 24, 2011.

- 529 (0.5%) large companies,
- 2,470 (2.8%) middle companies,
- 9,873 (11.1%) small companies and
- 76,243 (85.6%) micro-companies.

According to income statements processed by the Business Registers Agency,[14] Serbia's economy's net losses for 2009 equaled about 373.9 billion dinars, or 30.4 billion (8.9%) more than all the recorded losses for 2008. The largest portion of this large deficit was made by the large companies.[15] Their negative net financial result equaled 74.529 million dinars, which is more than two thirds of the negative net financial result of the entire economy of the Republic of Serbia.[16]

Most of the socially owned enterprises have been privatized. The dominant ownership problem that has appeared here (the owner-owner relation), in place of the classical owner-manager relation, is how to protect minority shareholders from the abuses of the majority owners.

What is discouraging is the fact that Serbia's economic growth since 2000 has been characterized by a lower growth rate relative to the rate of incoming funds from abroad and the rate of increase of the country's indebtedness. Foreign funds have not been adequately allocated into production in companies that can secure economic growth. The situation inside companies is in many ways a result of the quality of the human factor and its social irresponsibility, which is an obstacle to creating competitive advantage. Another indicator of non-competitiveness is the external debt, which grew between 2000 and 2007 at an average annual rate of 6.2% (denominated in euros). The debt is a result of Serbia's commodity trade deficit, current accounts deficit, various kinds of medium and long-term credits, and the unfavorable structure of private sector debt, of which the majority is related to leasing. If we add to this the fact that services make up the majority of the economic growth rate structure, and that there is practically no industry to speak of, it is clear that borrowed funds were handled in a totally irresponsible, incompetent way. Thus, it can be concluded that personal interest, materialized in profit, with an explicit doze of non-harmonization and social irresponsibility, is predominant in the Serbian economy.

The above-said shows that the development model applied in the privatization processes is not sustainable, i.e., that it has a "constructional error," which came about due to an inadequate implementation of the said market reform measures, i.e., the so-called transitional changes:

[14] Business Registers Agency: http://www.apr.gov.rs/, access date: January 19, 2011.

[15] "Iz gubitka u gubitak do stečaja," *Politika*, 5/8/2010; http://www.politika.rs, access date: January 25, 2011.

[16] Statistical Office of the Republic of Serbia: http://webrzs.stat.gov.rs, access date: January 24, 2011.

- rapid liberalization of prices and foreign economic relations;
- rapid privatization;
- implementation of deregulation processes;
- foreign trade liberalization and a free-forming national currency exchange rate;
- establishing a market for labor, goods and capital, and the free formation of prices of factors of production.

The Washington Consensus, or what is popularly referred to as “shock therapy,” represents a model according to which all economic-systemic changes are carried out radically, promptly and concomitantly. All previous institutions are abolished at an intense pace, and a time-limited and obligatory privatization is carried out. This is the so-called great rupture. According the International Monetary Fund’s concept of stabilization, all changes are carried out radically, promptly and concomitantly. Still, the question remains – is that always possible to achieve in each economy? The answer – that it is not – is self-evident, as the proof is visible in Serbia itself. Quite frequently, companies were purchased at minimal prices and, instead of expanding their operations, introducing new technologies, improving management, etc. – they were liquidated.

It is not disputable that some new jobs were created, but in sectors of non-tradable goods, i.e., sectors that are incapable of exporting. We are witnessing the opening of banks, shopping malls, betting parlors and the construction of luxurious commercial and residential buildings, and businesses such as financial intermediation, commerce, real estate, rentals and other services. It is the service sector that has been activated, and it essentially makes up the GDP, not the industrial sector.

If we look at the employment structure in Serbia, we can see that the total number of employees in commerce, financial intermediation and real estate is equal to the number of employees in manufacturing.

The disbalance to the detriment of manufacturing employees, which should represent the dominant employment category in the development of Serbia and similar countries, is also evident when the situation in Serbia is compared to that of other countries.

Table: Percent *of total population employed in manufacturing in 2006*

Country	Serbia	Romania	Bulgaria	Slovenia	Czech Republic	Germany	Italy
Percent of population employed in manufacturing	6.98	9.15	9.62	13.31	13.36	9.87	8.22

Source: Statistical Yearbook of Serbia, 2008.

If we compare the percentages of those employed in manufacturing, we see that Serbia trails Romania and Bulgaria, i.e., countries at the same development level. Such an economic structure, i.e., the overrepresentation of non-tradable sectors (services), can cause constant inflationary pressures in the national economy,[17] which is in fact one of our chronic economic problems.

The simple conclusion is that Serbia has a chronic economic problem – that it is not capable of:

- self-reproduction;
- developing without foreign capital;
- productively increasing employment;
- reducing debt and maintaining macroeconomic stability.

Industry has been reduced to a minimum, which has naturally led to imports outstripping exports and the flooding of the domestic market with foreign products. In other words, the country is not sufficiently export-oriented, which has resulted in a trade deficit.

It is important to achieve a certain level of production and product export, on the level of the economy as a whole and the GDP, as well as on the level of individual economic factors, i.e., companies. As gross domestic product represents the final result of economic activity on a country's territory, and since final production in Serbia, expressed in GDP, is at an unenviable level, it is clear that it is necessary to improve corporate management, from the aspect of strengthening regulatory mechanisms as well as the aspect of strengthening the control elements of internal mechanisms, such as reducing managers' opportunistic behavior, adequate resource allocation, professional improvement, and stimulating shareholding among employees. This would increase the possibilities of harmonization of interests, which would certainly contribute to business efficiency and the economy as a whole.

[17] The well known theoretical Balassa-Samuelson Effect, when the share of services in the GDP stimulates general price growth in the national economy. See: P. Samuelson: "Theoretical Notes on Trade Problems," *Review of Economics and Statistics*, vol. 23, 1964, pp. 145-154. and B. Ballasa: "The Purchasing Power Parity Doctrine: A Reappraisal," *Journal of Political Economy*, vol. 72, 1964, pp. 584-596.

6. Prospects of the domestic economy – concluding thoughts

The model of the implemented privatizations, as well as the foreign trade liberalization that was carried out without a clear strategic orientation, have substantially decimated Serbia's economy. The inflow of variously earmarked foreign funds (from 2001 to 2008, the inflow equaled roughly 62 billion USD) has not been used for productive investment while, on the other hand, the loan repayment period has become actualized. Since privatization is mainly finished – in a non-quality way, in the opinion of many experts, to which the state of the economy bears witness – the question is where to find a real source of economic resources for maintaining macroeconomic stability, financing the sovereign debt and stimulating the real sector.

Thus, when defining the real framework of economic development, creators of economic policy should be aware of several factors. The amount of funds that can be secured through privatization is to a great extent limited. It is also necessary to bear in mind that the entities that are still open to privatization mostly represent a natural (strategic) monopoly, and are not subject to privatization in developed market economies. Real inflationary trends and an unstable macroeconomic policy, as well as the negative trade balance, affect the availability of funds from the real sector. Excessive public spending results in new borrowing, as well as increased risk vis-à-vis foreign investors. Due to the domestic and global economic crisis, real values are falling. Also, it is necessary to improve the system of financing enterprises, in Serbia and the region as a whole, as it currently represents a body of expensive bank credits, of which about 80% are foreign currency-indexed – which increases company risk of financial loss in case of the depreciation of the domestic currency.

However, one of the basic preconditions for achieving the above is to improve the corporate management of companies that are or will be listed on the stock exchange.

It is, thus, necessary to define the parameters of the limitations and potentials of corporate management, in accordance with an analysis of the current state of affairs, which would require the creation of an optimal long-term strategy. In that sense, the various views regarding the effects of the previous models should be assimilated, and other views considered as well, such as those of Nobel Prize winner Edward Prescott: "The IMF and the World Bank do more harm than good to the global economy, and should be abolished, since the policy of these institutions, which consists of approving ever-larger loans to countries in crisis is the same as giving drugs to a cocaine addict."

It would, thus, be desirable to abandon the standard reform model, i.e., the previous paradigm according to which a country can develop on the basis of a stable exchange rate, restrictive monetary policy, and liberalization of import of goods and services, and introduce a new system of reforms based on the institutionalization of the factor of good corporate management. It is necessary to create macroeconomic institutional conditions, but along with the development of the generators of economic flows, which will transform one-time inflows of financial funds into long-term economic flows, which will positively reflect on the economy as a whole. There should be a decisive turn towards the development of export sectors (before all industry) and state investment in infrastructure, new technologies and new competitive export products.

It can be gathered from the above that the improvement of corporate management in transition countries should pass from recommendations to the institutional framework, on the basis of the experiences of neighboring countries that have successfully implemented a certain model.

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Paper received: February 1st, 2011
Approved for publication: March 3rd, 2011

Expert article UDC 005.8 ; 005.8:330.322.14

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PROJECT REALIZATION PLANNING IN THE PUBLIC SECTOR

Abstract: *The primary research question in this work relates to how a public sector project is linked to society's developmental goals. Viewed within such a context, time and expenses are the key resources, but also grounds for measuring the validity of projected and achieved results. It is necessary to plan the progress of a project as a whole, through global phases and individual activities, until its completion.*

Key words: *project planning, project management, strategy, public sector*
JEL classification: H34, L32

1. Introduction

Viewed in a broader sense, it can be concluded that the planning process phenomenon consists of three connected plans: the strategic plan, functional plans and project plans. Project plans are a reflection of the strategic plan, while functional plans represent a detailed guide to using resources to achieve a set purpose. Project realization planning represents a rational determination of how to initiate, sustain and complete a project. The elements of strategic planning can be presented as in Figure 1.[1]

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1 D.I. Cleland: *Project management: Strategic Design and Implementation*, McGraw-Hill, 1999.

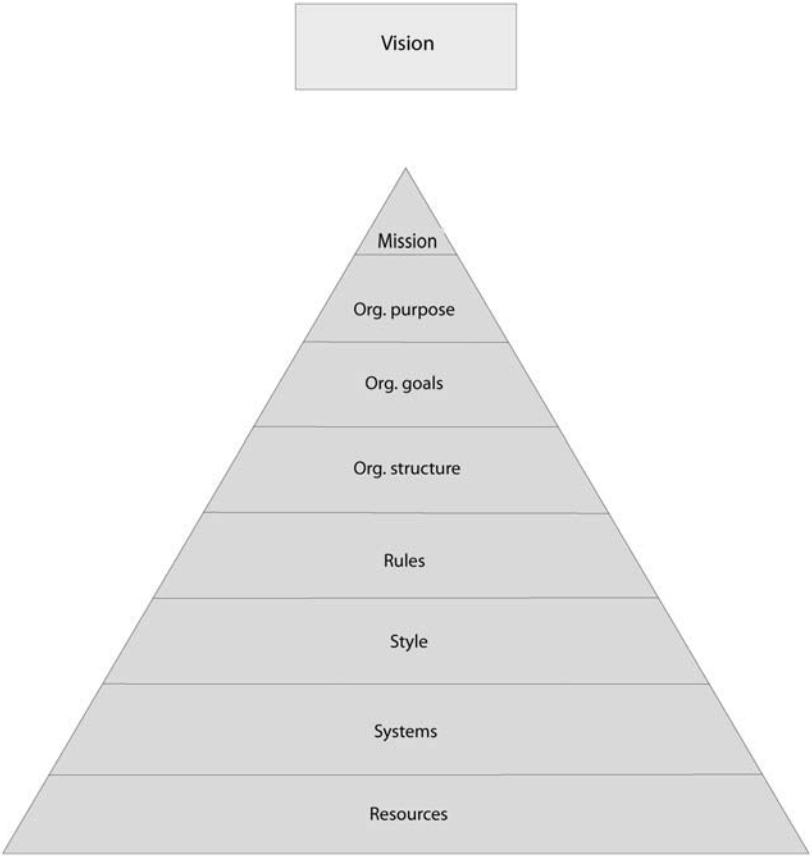


Figure 1: *The strategic context of organizational planning*

Planning begins with a vision. This is the ability to see something that is invisible to others. It is said that a manager with an intelligent ability to predict, unusual competence and sharp powers of observation has vision.

The organizational mission is the highest strategic point of all organizational activities and it is the organizational managers that must make the most important general strategic choice.

Defined quantitatively and qualitatively, organizational purpose represents the progress and the achievement of goals over the long term. One such example is an ambition to be a leader in supplying scientific and educational laboratories with products and services created through integration technology and commitment to top results.

Organizational goals are key events, such as, for example, a 15% rate of return on invested funds over a certain time period. The completion of project costs, time plan and technical performances means that the organizational goals have been completed like a bridge construction.

Organizational strategy is the way in which resources are used in the achievement of a purpose. Strategies are at the same time action plans for laying down instructions for the coordination of resource use through an employment program, projects, policies, procedures and organizational design, as well as the definition of execution standards.

Organizational structure is the placing of human resources in the function of the organization.

When speaking about project planning, it can be said that plans represent merely good intentions, until they degenerate at the moment they are transformed into hard work.[2] This transformation from the determinedly desired into reality is a very difficult task. Practitioners and theoreticians are split regarding the question of the importance of planning. Project managers think that this activity takes up too much time. On the other hand, theoreticians and those with consulting experience claim that, the greater the effort expended in planning activities, including time and cost, the less time will be needed for implementation. Careful planning, supported by research activities, is in a directly positive and firm correlation with a project's success.

The primary purpose of the planning process is to define a set of instructions, sufficiently detailed, that define to the project team what must be done, how it must be done and with what resources, with the goal of successfully achieving the project's goals. The fact that the plan only gives an estimate regarding what needs to be done, with what, how, when and who should do it, inevitably leads to an encounter with uncertainty.

Therefore, a plan must also include risks, as well as characteristics that allow it to be adapted to newly occurring future events. Finally, a plan must contain methods that will maintain its integrity, i.e., it must contain ways of controlling the prescribed job.

The purpose of planning is to facilitate subsequent project realization. Developed planning techniques are designed to facilitate the path from idea to realization.

Project management is a complicated process and plans appear as maps of these processes. These maps must set down what must be done in sufficient detail but, at the same time, they must be sufficiently simple to prevent the implementers from being lost in a forest of small details.

Almost all project planning techniques lead to plans that contain certain basic elements, being distinct only in the ways in which they approach the planning process. Planning is an iterative process, which leads to better plans in the next iteration, from lesser quality plans in the previous iteration, ultimately winding up in a stage where a project is ready for realization. Thus, portions of the plan that were developed by individuals at group meetings or by formally organized planning teams, are subsequently further improved by individuals, groups or teams. With time, plans and planning processes become increasingly complex.

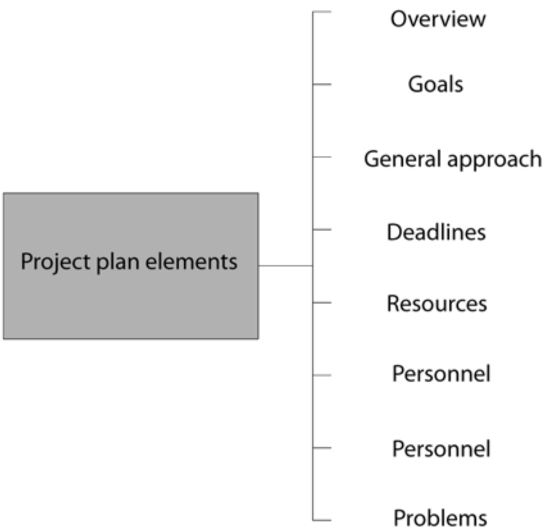
2 P. Drucker: "The New Organization," *Harvard Business Review*, 1991.

2. Project plan elements

Two things are inevitably tied to planning activities: scheduling the realization of project activities and project budgeting.

The result of project planning is a project plan with the elements shown in Figure 2.

Figure 2: *Project plan elements*



The overview is a short summery of project goals and scope, also containing a description of the managerial structure that will be engaged on the project and a list of key events in the schedule of project activities.

Goals are the part of the project plan that contains more detailed views regarding the general goals.

The general approach is the part that describes the managerial and technical approach to the job. The project is described with available technologies.

The contractual aspect of the plan includes the complete list and registration of all the requests for reporting, user-supplier resources, the procedure of project review and interruption, each specific managerial arrangement, all technical corrections and their specifications, time of delivery and specific procedures for changing any of the above-listed. This segment necessitates complexity.

Scheduling is the part of the plan that highlights the existence of different time schedules and key events. The list contains each task, along with the estimated time necessary to complete each required task. The responsible person should sign the final version of the project schedule.

Resources are a part of the plan that contains two primary aspects. The first is the budget, where capital and cost requirements are elaborated in detail, down to the work tasks. One-time costs are separated from periodic cost projections. Second, a procedure of cost monitoring and control must be prescribed. There are also the usual routine elements, as well as the need for the procedure of cost control and monitoring to be developed so that it also encompasses special project requirements, such as special machines, testing equipment, logistics, etc.

Personnel is the part that contains a list of expected demands for personnel that will be engaged in the project. The list should include special skills, necessary forms of training, possible problems in finding personnel and any other special requirement. This is especially important for projects that require various types of participants, in different numbers. These projections are an important part of the budget. Thus, the parts dealing with personnel, scheduling and resources should be maximally cross-checked, in order to ensure consistency.

Evaluation methods contain a brief description of the subsequent procedure of monitoring, compiling, preserving and evaluating the project history. Each project should be valued according to standards.

Potential problems are an important element of the project plan. It is very important that planners make a serious effort to anticipate potential difficulties and problems that can be encountered during the realization of the project. Difficulties may originate from various sources, such as: technical errors, subcontractors, weather conditions, suddenly imposed changes, critical portions of the task, short deadlines, limited resources, complex coordination requirements, etc. Due to uncertainty regarding which problems will appear and when, it is necessary to make contingency plans in case of appearance of unfavorable events in the early phases of the project life cycle.

The elements that make up the project plan form the basis for a much more detailed planning of the budget, schedule, work plan and general project management. When the basic plan is totally developed and approved, it is forwarded to all interested parties. This document, the project contract, is generated through negotiations and the involvement of many participants.

The above outlined planning process is characteristic for large public sector projects; otherwise, the costs, time and effort necessary to produce such a plan would not be justified.

3. Project elaboration

Project realization planning in the public sector can be global and detailed. Global planning encompasses a rough elaboration of the project's realization, while detailed planning precisely defines all the elements of project realization.

Project elaboration is a segment in which, together with the portions related to budgeting and scheduling plan realization, the details of the project are more deeply considered. It is precisely determined what should be done, who should do it and when. All project activities should be precisely described and coordinated. The necessary resources should be accessible when and where they are needed, in appropriate quantities. Some activities are conducted sequentially, which means that some activities need to be completed as a precondition to others. On the other hand, other activities can be done simultaneously.

Identifying the nature of these activities is important for an earlier production of the network plan by way of iteration. In order to bring a large public sector to completion within the cost and time frame planned for its realization, many things need to be done. Significant aid in planning all the project details is provided by a conceptually simple method, that of the hierarchical planning system.

The realization of the investment plan assumes the necessity of undertaking and realizing a multitude of important activities, and making up a list of those activities according to their schedule of appearance represents the first level. Literature suggests that a reasonable number of such activities is between 2 and 20. It is thought that two activities represent a minimum project structure (WBS), and 20 the maximum number of interlinked activities that can be sorted in a quality way, whose time length can be determined at this level of project aggregation.

The second level represents an elaboration of activities according to the structure from the first level. More precisely, each activity from the first level is further elaborated analytically into 2 to 20 tasks.

This procedure is repeated at the third level, with each task being further elaborated into 2 to 20 sub-tasks. The final result are tasks that are sufficiently detailed to be understood, without need of further analysis.

It is recommended that all the items on the list should be at a similar level, on the initial general list. Further elaboration down to the fine details may show that some tasks are more important than others, but it is important for project preparation that the possibility of analyzing each of them is ensured at the start. This will allow the maintenance of focus on the planned project results, rather than on the work to be done at lower levels.

In a hierarchical planning system, the goals are taken over from the main project plan – the master plan. This helps the planner identify a set of necessary activities for the goals that need to be realized, and helps him in making the project action plan. Each activity is a result, an event connected with some other activity, all of which are subsequently broken down into sub-activities, sub-events, and so on.

One of the possible action plan forms is presented in the table below, but this is not strict, and does not even have to contain all the given elements in all cases. Various forms of action plans are possible, but it is their contents that are important. In some plans, activities are identified numerically, in others they are given descriptively, and it is also possible to combine the two.

Table 1: *Action plan*

Submitted:___________________________________ Implementation measures: ___________________________ Key limitations and conditions: _________________________				
Tasks	Anticipated resources	Immediately preceding task	Planned time	Submitted

The responsibility for executing the first task level is delegated to project team members, who are required to make their own action plans for each task at the first level of activity. These then become second level action plans. Individual second level tasks are then further divided to the third action plan level, with a detailed description of how each second level task will be executed. The process continues until the lower task level is understood as a working task.

In practice, this process is iterative. The project team members tasked with responsibility for works on the second, third or lower action plan levels create trial task lists, resource request lists, in-progress task lists, lists of previous tasks that must be realized and of conditions for the realization of concrete tasks, and submit them to the person that delegated them for discussion, eventual correction and approval.

4. Planning methods

In the process of project realization planning, various planning methods can be used. Gantt charts and network planning methods are most often used in practice. The sequence and time of execution of project activities are determined with the aid of these methods.

One of the tools recommended for planning is the organizational-technological project structuring technique better known as WBS (Work Breakdown Structure). This technique defines and groups the project elements that make up and define the total work scope of the project. The project components can be either products or services.[3]

This technique can be accommodated for use in a large number of different cases. It can illustrate the contribution of each individual part of the project

[3] Project Management Body of Knowledge, PMBOK, 2000 Project Management Institute, Upper Darby, USA.

to the total project in terms of performance, responsibility, budget and planned schedule. The document that is produced can contain a detailed specification of work activities, an identification of necessary hardware and software to be used, an identification of total resources, and it can also be used as a base for preparing a cost estimate or a time estimate of individual activities.

The organizational-technical structure of the project is produced in several steps, some of which may be left out, combined, expanded and formally elaborated, depending on the complexity of the project and the purpose for which the structure is being produced.

The first step is the use of information from the project action plan for the list of tasks that have been successively elaborated down to details. The procedure continues until all the important work activity tasks have been identified and when each task can be individually planned, budgeted, scheduled, monitored and controlled.

The second step in the production of the organizational-technical structure is to identify the data relevant for the WBS (suppliers, duration, equipment, materials, etc.), as well as to make lists of personnel and of organizational responsibility for each task. In that sense, it is advisable to make a linear responsibility chart, sometimes also referred to as a responsibility matrix. This chart shows who is responsible for what, as well as the critical links between units that might require special managerial coordination. This chart can help monitor who needs to approve what, and who needs to report to whom. The size of this document depends on the complexity and size of the project.

The linear responsibility chart shows who participates at what level, and when the activity should be completed or the decision made. It also shows the type or scope of authority in each item of activity implementation in which two or more positions overlap. The working elements of the organizational-technical structure are task sets, and they are used to identify and control the work process. They have the following characteristics:

- Task sets represent independent work units at a certain organizational level to which the work is assigned.
- Each task set clearly differs from other task sets.
- The primary responsibility for the completion of a task set in a certain time period and within a given budget must always be assigned to an organizational unit, but not more than one.
- A task set can be integrated with other task sets at the same organizational-technical structure (WBS) level, as support for a task set at a higher hierarchical level.

Task sets are determined by the organizational level. The degree of their generality grows as the level gets higher, and vice versa: more and more concrete at lower organizational levels. The development of a project's linear responsibility charts is an inherently group activity that is carried out with persons that have an interest in the work that needs to be done. Table 2 shows a linear responsibility chart.[4]

Table 2: *Project linear responsibilities*

Activities	Head manager	Project manager	Program manager	Functional manager
Establishing organizational unit goals and policy	1	3	3	3
Project integration	2	1	3	3
Project directions	4	2	1	3
Project contract	6	2	1	5
Project planning	4	2	1	3
Solving a project-functional conflict	1	3	3	3
Functional planning	2	4	3	1
Functional management	2	4	5	1
Project budget	4	6	1	3
Project WBS	4	6	1	3
Project control	4	2	1	3
Functional control	2	3	3	1
General management	2	4	3	1
Strategic programs	6	3	4	1

Meaning:
1) Real responsibility
2) General monitoring and auditing
3) Must be consulted
4) May be consulted
5) Must be informed
6) Approves authorization

The process of producing a linear responsibility chart requires time but, upon completion, people are much more and better aware of what is demanded and expected of them. A large part of the project's success depends on the effectiveness of people in the domain of joint work towards the goal of achieving the project's goals.

The third step is to verify the accuracy of the WBS, which means that all the work activities should be reviewed with individuals or organizations that have responsibility or that should provide support.

4 D. Bobera, *Projektni menadžment*, 2nd ed., Ekonomski fakultet, Subotica, 2007.

The fourth step is budgeting. The overall project budget should consist of direct budget costs for each task and indirect project costs (administrative and unexpected costs, marketing costs and project reserves in case of unplanned events).

The fifth step is to produce the main schedule, where information about the time schedule and key events are aggregated. It integrates various timeframes relevant for various parts of the project. It is succinct and may contain contractual obligations, key connections, key events and progress reports.

The sixth step consists of a continued monitoring of resources according to work elements, scheduled activities, tasks, down to the complete project level. In that way, by comparing planned and actual resource use, the project manager can identify problems, affirm final cost estimates and soundly conceive eventual corrective action, if necessary. The control chart shows the realized value of the project, i.e., the extent of the project's progress, often linked with realized tasks and realized key events.

Finally, the seventh step is to make an estimate of the duration of certain activities and their schedule, freed of subjectivism. True progress is compared with the progress envisioned by the project schedule, according to work activities and tasks and the complete project, with the goal of identifying problems and taking corrective action. Additional resources, if necessary, can be directed to problem tasks even after their scheduled time. These additional resources can come from the budget reserve or from some other tasks.

5. Project performance planning and measurement

Research has shown[5] that the key aspect of the project planning process is defining the way in which project implementation will be supervised and monitored. In addition, it is necessary to measure critical success factors during the entire project life cycle. The detail of the measuring ranges from periodical checks of the entire project to the daily monitoring and measuring of daily accomplishments.

The measuring standards used by state administration actors must be simple, easy to understand, interpret and compile. These standards should have characteristics that allow comparison with similar information from other projects in the portfolio or, more broadly, with data from the branches and areas to which the project belongs.

A measurement that yields positive results encourages behavior leading to the continuation of the project. It is a reflection of the corporate strategy, identifies the path of problem causes, possible proposed solutions and inspires continued improvement.

[5] J. Pennypacker: *The Superior Project Organization, Global Competency Standards and Best Practices*, Center for Business Practices, Marcel Dekker, New York, 2002.

The application of the measuring process, as well as the categorization of measures for public sector projects, should not be expensive when it comes to collection of data, their interpretation and conservation. Measures should be simple to calculate and easy to understand. Measuring standards lead to graphic presentations and should be clear for communication and interpretation. They should be reliable and the measuring of the current implementation of a concrete project and portfolio should be verifiable. In addition, they must be a reliable measure for what they are measuring, must be independent and insensitive to external variables and influences.

A possible metric and categorization of possible measurements can serve as an example of a process of measuring the implementation of a public sector project:

- implementation measures that measure the delivery of public sector services, comparing them with the needs of the users of these services in terms of quality and delivery time;
- stability factors that measure development and improve services as a reflection of the strategic plan;
- measurements that allow the following of project management best practices;
- measurements of capabilities whose goal is to set the degree of satisfying stakeholder and organizational needs;
- improving measurements with the goal of improving the entire execution of the project management process.

A larger number of measurements of the quality of a project's execution can be roughly divided into:

- time-based descriptive measurements,
- quantitative measurements and
- financial measurements.

A **descriptive** approach to measuring a project's execution is based on time of execution and encompasses non-financial, non-quantitative measurements. Some of these measurements are:

- Stakeholder satisfaction is, essentially, the ultimate performance measurement of a project. However, this is not at all an easy and clear job, because stakeholder expectations and their view of the project's quality very much differ. That is why it is possible to identify factors that stakeholders consider critical in early communication. It would be ideal if that was defined in the project agreement. During the planning phase, priority should be placed on determining the project's progress toward defined stakeholder needs and goals.
- Key events are a widely accepted method for monitoring the execution of the entire project. These are specific, scheduled dates of delivery of cer-

tain project phases and such. They represent appropriate points in time for evaluating the project and its execution before it passes to the next phase, in which new costs will be incurred. When finding a key event it is necessary to consider whether project realization is ahead of or behind schedule. Many project organizations use this method as a way of reporting on the state of the project. In this way, both stakeholders and project teams are focused on project deliveries. The method allows the portfolio manager to quickly review the status of each team. A larger number of key events increases the speed of the project, because teams are focused on short-term mini-goals. If need for certain corrections arises, they are done in earlier phases of the life cycle. Possible acceleration can be realized by rewarding the project team for reaching certain key events.
- Modules and corrections represent a concept of measuring the process of achieving project goals, which makes it possible for project users and stakeholders to observe the progress of the project. This concept is tied to key events and, as a method of project planning through a series of deliveries, it stimulates the fragmentation of a big and complex project into a series of sub-projects. This makes measuring and project management easier. Risk is reduced, because the problem can be isolated within the framework of a single module.

Quantitative methods of measuring project execution:
- Resources spent, number of executed work activities, percent of completion, realized value, etc., represent standards that are used with projects in which it is difficult to measure execution by using time-based measures. In case of projects with multi-functional teams, the use of the key events method is limited. Such projects are characterized by an overall project execution scheduling plan that is too complex to be linked to a single, time-based execution measurement such as key events.
- A frequently used, easy to calculate and understand model is the percentage-of-completion model, which compares the number of completed work activities with the total number of planned activities for the project. Costs can also be used in place of activities. The simplest model is the so-called controlled budget book, in which the total project budget is entered, while each expenditure is entered as a deduction item.

In the course of planning and execution, state administration actors are barred from:
- excessive spending of the approved budget without additional spending authorization;
- spending funds for anything other than what the budget is allocated, and

  - fraud, waste and abuse of program funds.[6]
- Realized value is a form of measurement consisting of two basic components. The first represents a set of formulas that are used for time estimates, while the second group of formulas determines execution costs. The basic shortcoming of this method is the complicated calculation and difficulty of understanding, since money is used to measure time. For time execution, realized value compares executed budget costs up to a certain point, with costs budgeted according to the planned schedule. The cost part of calculating realized value consists of relating estimated total work activity costs to current work activity costs.
- Use of personnel is a significant indicator, as personnel are a resource that is used in every project. Number of people, structure of qualifications, necessary skills and salaries are categories that must be evaluated during the project planning phase. During the execution phase, personnel engagement can be compared with what was planned.
- Measuring prediction accuracy represents project evaluation on the basis of accuracy of goal achievement. A project may be below or above the scheduled plan. The project result is evaluated as positive or negative depending on the percentage of deviation.

Financial measurements are most often used for evaluating project performance. They are simple to use, apply and understand. The most important among them are:

- realization of strategic goals;
- budget and execution costs – the main resource with which a project manager is charged in the case of a single project, or a program manager, in case of several projects, is money.

When in the course of the process of project initiation and selection funds are allocated to a project, the project manager governs and supervises the budget and the spending of budget funds. Experience shows that, during the life span of the project, the process of its budgeting, supervision and control is very complex. The reason for this is that the accounting system is very rarely compatible with the cash flow and the reporting connected with one project, and even less so with multifunctional projects.

Budgeting, cost monitoring and the reporting system in functional organizations are typically structured for a given period, while project budgeting is focused on groups of activities and project phases. For example, the budget of a project whose execution lasts three years includes the entire project as a single

[6] Government Extension to a Guide to the Project Management Body of Knowledge, Third Edition, PMI, 2006.

interval, while incompatibility occurs because it is realized in an organization that views things at an annual level. The largest portion of accounting systems is prepared so that it "closes each year." Inefficiency and the spending of limited management time appears when functionally oriented accounting departments seek to represent costs and the process of reporting deviations as annual and periodic reviews.

A solution that has shown itself successful is to place the entire budgeting process under the responsibility of project management. The benefit in this is that an independent accounting system can be developed, managed and integrated with the main budget of the organization and with the accounting-reporting process. However, many organizations use conventional budget and cost accounting measures during the planning process. In fact, their application is a simple estimate or budgeting for each group of activities. When project realization is undertaken, the total budget is compared with funds that were actually spent. The results are differences that can be manifested as a level of any used resource or a difference in the unit costs of each resource.

Activities based on budgeting and costs – The costs of the entire activity are measured during the period that the activity is taking place. This is especially appropriate if the project is composed of a larger number of short accounting periods. The traditional accounting system is oriented toward the closing of the books at the end of a specified period or year, but with cost-based activities, where costs and earnings are registered during the entire life cycle of the project.

Life cycle budgeting and costs – The entire life of the project is the standard measure for the cost monitoring life cycle. The cost monitoring life cycle differs from other cost monitoring methods in that it generally includes earnings and costs of labor and materials.

Budgeting and calculation of costs by job – Determining costs according to work orders in cases when the job has a precisely defined beginning and end, with a clearly defined product unit. In a project management environment, this refers to activities that may take place between key events, individual work tasks, or perhaps to the entire project.

Standard costs and deviation analysis – During the project planning process, costs are estimated for each of the tasks that make up the group of the entire project's work activities. After being defined, the thus estimated costs become the project's "standard costs." The basic reason for their use is that it is easier to use estimated costs than to calculate current costs. When the project enters realization, actual costs will begin to accumulate. The comparison of actual costs with estimated or standard costs yields a difference, whose size and cause must be determined.

When the planning process ends, signatures are necessary in order to authorize the passage from the planning to the execution phase of the project life cycle.

The signature collection process is an important element of the project planning phase. With portfolio management, when there are multiple projects, it allows stakeholders to show their readiness by formally accepting the plan. The people whose signature is needed often devote substantial attention to examining the document contents. This careful study is necessary for the purpose of improvement and changes, as well as of reducing subsequent changes. The end result is greater understanding of the plan and the acceptance of the obligations that stem from it.

For a public sector project, it is important for the stakeholders, i.e., the ordering party and the user, to harmonize the project goals in the planning phase, in order to avoid problems. Many risks are encountered in the practice of public sector project implementation. Risk number one within state administration is the fall of the government or the minister as the key decision-maker in the domain of project implementation. By placing professional personnel into high state administration positions, it is possible to strengthen the position of the project in the area of institutional development, but the strategic decisions are in the hands of political leaders.

♦ **Project manager**

The role of the project manager in public administration requires certain specificities in relation to a different project-matrix environment. These are, before all, maximal devotion, flexibility accompanied by maximal tolerance, patience and compromise solutions. The project manager in public administration does not make decisions, except for the project documentation and the steps of the team under his charge, but gives the main recommendations, with alternatives, to the decision-maker. That is why the term "project coordinator" or even "project expeditor" is used more frequently under conditions of implementation at the top.

The basic task of the project manager is to bring the project to conclusion, while directing the project team, the group of people engaged in the management of the project.

He has two roles at the start – project management and project development. In these two roles, he must realize jobs from the group of project definition, planning, control and results monitoring. Each of these job groups represents a project management phase:

- definition – project plan,
- planning – operational plan,
- control – project realization and control,
- results monitoring – project completion and evaluation.

A successful project manager is not just a manager, but also a good leader. This means that he inspires and leads his associates, that he is flexible in applying various management styles, depending on the composition of the team and external circumstances.

The basic task of the project team is to, together with the project manager, bring the project to completion in the best way. To estimate the personnel needed is to determine the necessary professional profile for each team member in each activity, followed by the choosing of concrete people that satisfy the criteria of the given profile and determining the time that the chosen team members need to devote to project realization. It is necessary to choose the right people for all the defined jobs. It is important that the team members are prepared to be devoted to the project. In addition to taking care of individual team members, it is necessary to take care of the team as a whole. A brilliant team is better than a team of brilliant individuals. If everyone knows what everyone else is supposed to do and who is responsible for what, then there is no reason for conflict and misunderstanding.

- **Project teams in public administration projects**

Several large projects within the Ministry of Health can be used as examples of teamwork and of project teams with different structures and different project stakeholders. In the first instance, as far as project financing is concerned, they can be wholly financed from the outside. These are, before all, projects of the European Agency for Reconstruction (EAR), where the entire budget, including the personnel working on the project, is covered. Financing can also include the partial participation of the user, i.e., the ministry. Thus, in the World Bank project "Reorganization of the Work of 4 Serbian Hospitals," 20% of the funds were covered by the user, in the form of non-monetary contributions. The people working on the project were paid by the bank and were not state employees. The project manager was, on the one hand, responsible to the World Bank board and, on the other, to the health minister, who monitored the effectiveness of the work. A similar example is that of the project "Urgent Reconstruction of 20 Serbian Hospitals," in which the funds were secured from a European Investment Bank credit. In order to carry out the job, the ministry formed a project implementation unit. The project manager was chosen via a competitive application process, and he formed the team. The ministry pays the members of the team, which is under the authority of the ministry, under a work contract (they are not state employees). The investment portion is realized through the Ministry of Finance. All design and execution works are subject to public tenders, in accordance with the Law on Public Procurement. As for the planning and realization monitoring tools, the Project Implementation Plan (PIP) is used, in the form of Gantt charts. All the team members answer directly to the manager of the unit, i.e., project.

Attached to this program is the program of technical aid for the implementation of the European Investment Bank credit and for strengthening the capacities of the Ministry of Health, supported by the EAR. The UNDP–CBF[7] project had to include a project team made up of ministry employees, for the purpose of successfully implementing small changes within the sector, e.g., improving internal communications, as done by the DFID[8] human resource project. There are, thus, a number of ways to approach the task of forming a project team within public administration. The team of people that will work on the project's realization is chosen depending on the public administration sector in which the project is being implemented and its goal.

This determines the necessary project manager profile, i.e., characteristics, abilities and knowledge, as well as his authority within the public administration project. Depending on the type of project and the environment, he can be viewed as a project manager, but also as a project coordinator or project expeditor.

6. Project documentation

6.1 Project proposal

The project proposal is a document that makes up an integral and key part of the project documentation, as it contains all the necessary elements, i.e., pictures of the existing state in and around the area where the project will take place, various analyses, proposals, work plans, and the budget, and is based on the following documents:

1) Project Initiation Document PID
2) Terms of Reference TOR

There is no single project proposal form. Those that write project proposals must adapt to the form used by the ordering party.

As for the contents of the project proposal, the introduction consists of a description of the current situation and the problems to which the project relates. In addition to presenting the problem that was identified and that needs to be solved, the project proposal should also explain why the project should be initiated in the first place. This part presents facts – data regarding why the project is needed, as well as the benefits it will bring and to whom.

Another important part of the project is the description of the goals that will be achieved through the realization of the project.

7 UNDP – UN Evelopment Program; CBF – Capacity Building Fund of the Development Program.

8 DFID – Department for International Development.

The goals are divided into general and specific goals. Multiple goals and the results that will be achieved in each case are defined, as well as the activities through which these goals will be achieved.

In addition to goals, results and activities, it is also necessary to define the inputs needed for project realization. These can be, for example, procurements, paying the work of experts, travel, etc. For the ordering party it is very important how the project will be followed, when and to whom reports will be submitted, and in what form. All that should be anticipated within the project proposal.

The project cannot begin without an analysis regarding what needs to take place before the project can be carried out. Thus, in connection with that, potential risks and related actions are a required part of the project. Addenda to the project proposal are the work plan, the reference project framework on the basis of which the project proposal was written, and the proposed budget.

In projects of strengthening state administration and public sector capacities, the definition of project development programs, goals and priorities is achieved through the direct communication of the stakeholders. In order for public sector projects to be feasible, development programs must be harmonized and coordinated. As a service of the European Commission, EAR has clearly defined program teams, and procedures of the project approach provided through the PRAG (Practical Guide) document. Once the purpose of the project and the users and goals have been defined, what comes next is the project analysis – assessment. The agency announces a tender for the contractor who will carry out the analysis. After analysis is completed, the initial project document is produced, and then the stakeholders put together a Purpose and Terms of Reference (TOR) with a Log Frame, after which the project is ready for realization, i.e., implementation. The Agency organizes a new tender for the main contractor. These are various European consulting firms who provide the project leaders and foreign experts, and engage domestic personnel and experts in the realization of the project.

6.2 Budget

The budget is an important part of project documentation, which should clearly and precisely express the total costs for all the planned project activities. The budget has a multiple role. The planning of the costs of all activities is another opportunity to note what is missing, or which activities should be reduced in scope. In addition, the budget also serves as a guide and control mechanism during project realization itself.

The budget elements may vary, and it is necessary to adapt to the requirements of the ordering party, i.e., to the budgetary forms used by it, and define the costs accordingly. Thus, the budget is made on the basis of previously defined plans, activity lists, results and goals, i.e., after all the fields of the project log frame are carefully rechecked. Once project realization begins, money is spent in the way and over the time anticipated by the budget and the project proposal. The ordering party must be informed in due time in case of changes.

In any case, attention must be paid to the budget lines. The ordering parties (financiers) of the project are very sensitive to that, and each change of budget line, i.e., purpose of using funds, requires a strong reason with a firm explanation in order to get approval. A domestic example of rigid financing with a clearly defined purpose in allocating funds is the RZZO (the Republic Health Insurance Office), where some health institutions have been only recently allowed to use savings from a budget line (e.g., medicines) for another purpose (certainly not for salaries). In EAR projects as well, the budget is firmly defined by budget lines. Changes during realization are hardly possible, and require adherence to set procedures, with strong arguments.

Once the budget, possible risks and the project plan are checked, the plan may be finalized, i.e., the basic plan can be produced. The basic plan is the measure of future work on the project. Everything that is done on the project is measured through comparison with what was anticipated in the basic plan.

Before the project can start being realized, it is also necessary to gain final approval from the ordering party and the project financier.

The prepared documentation includes:

- a list of key activities and a logical diagram of the project,
- division of responsibilities between team members for all key activities in the project,
- a Gantt diagram to show all the key activities,
- proposed project budget.

7. Conclusion

Public sector project realization planning represents a project management phase that encompasses goal definition and the determination of ways and measures for achieving the set goals, i.e., that the project is realized in the planned time, at the planned cost.

The determination of realization plans encompasses activities necessary for the definition, integration and coordination of all auxiliary plans within the framework of the project management plan.

Time planning encompasses the definition of the schedule of project activities, an estimate of the time of completion of the entire project. In the management of public sector projects, time plans are produced by way of Gantt diagrams.

Resource planning encompasses the planning of materials, equipment, work force and other elements necessary for project realization.

Project planning encompasses the cost estimates of individual activities and the definition of the costs of the entire project.

Before beginning work on a public sector project, it is necessary to study the resource and budget needs. If the necessary resources are carefully determined, that will reduce problems during project realization. Project planning is a process that results in the production of a basic plan, which allows successful management and completion of the project. Everything that is done on the project is measured by comparing it with what was anticipated in the basic plan.

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Paper received: January 25th, 2011
Approved for publication: February 1st, 2011

Expert article UDC 004.738.5:339 ; 007:681.32

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IMPLEMENTING INFORMATION TECHNOLOGIES IN MODERN BUSINESS IN ORDER TO IMPROVE COMPANIES' MARKET POSITIONING

Abstract: *The implementation of new technologies in business allows companies to significantly increase their ability to achieve favorable positions in both national and global markets. In addition to influencing the development of the company itself, technological changes affect the development of the home country's national economy. As a global network of computers, that communicate and exchange data by using a common set of communication protocols, the Internet has allowed the transfer of many classical activities in traditional business to the sphere of electronic business, for the sake of saving both time in accomplishing various tasks and substantial financial resources. Internet commerce has driven the development of Internet payment, exploiting the advantages of this global network to the fullest possible extent. Traditional payment methods have been substituted with digitalized ones, including electronic cash, electronic checks and credit cards.*

Key words: *new technologies, communication protocols, e-business*
JEL classification: O32, L24

1. Introduction

Companies with a more developed retail sector introduce innovations in order to meet consumer demands, i.e., in order to follow the efficiency of distribution, sales system flows and promotional innovations. Companies that fail to modernize their operations, financial systems, payment systems and marketing achieve increasingly weaker business results, and often disappear from the business scene. On the other hand, the introduction of high, information technologies brings advantages to companies that sell a wide array of products and operate specialized stores. It was precisely this model of business that brought on the

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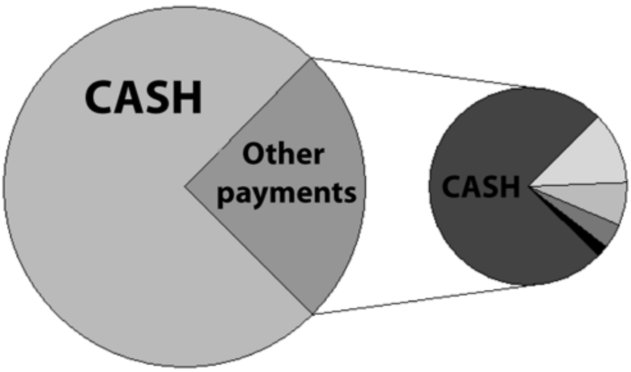
expansion of the home banking system, to the mutual interest of both customers and sellers.

2. The concept and appearance of the check

The notion of the check dates back to antiquity when, due to the lack of secure communications, merchants sought to avoid the risks tied to the transfer of cash. In Egypt, Babylon, Ancient Greece and Rome, special money orders were used, written on parchment, leather or canvas. The appearance of the check as a document is closely linked to the development of commerce and banking.

Figure 1: *Participation of checks in payment transfers*[1]



The etymological origin of the word *check* is interpreted in various ways. According to some authors, this word originated from the English term *to check*: to inspect, verify, halt, block, control, as the issuer had to make sure, when issuing the check, that the drawer could cover the document. Others think that the term draws its origins from the French word *e-chec*, which, besides standing for chess or a chessboard, denotes a state treasury, from which banks subsequently originated.

There is still no clear, unified and legal definition of a check. However, we can say that a check is a security that allows one to dispose of money held by a specific actor, bank or financial institution.

As a commercial instrument, the check is closely related to the bill of exchange. By its legal nature, as a unilateral document intended for rapid circulation, the check is quite close to the bill of exchange, which is precisely why their respective principles match so closely. Checking principles include: legibil-

1 Source: http//Internet.fon.bg.ac.yu.download/predmet.php.ind.

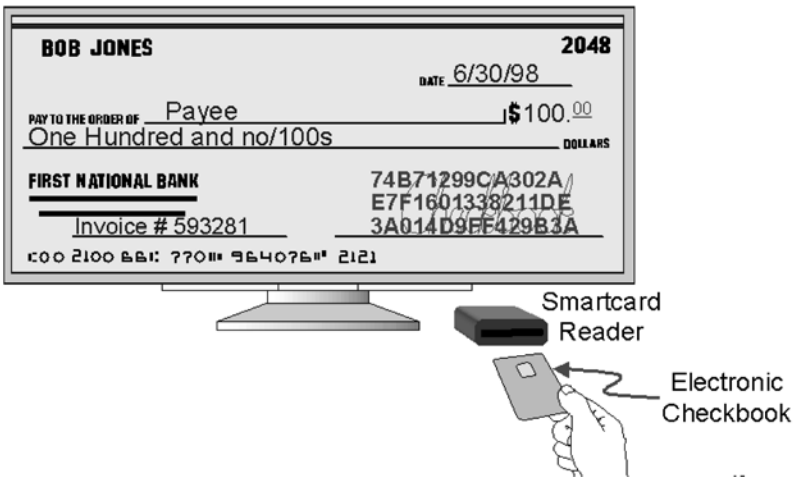
ity, incorporation, fixed obligation, strictness, solidarity, autonomy, directness and efficacy.

In order to more easily grasp the concept of the check, we also need to point to the division of checks into two different criteria: according to the way of determining the user, i.e., according to the manner of issuance, and according to the form and purpose of the check.

In accordance with the way of determining the user, the check can be divided into three types: in favor of a person, payable to order, and to the bearer. Depending on its purpose and form, we have the following types of checks: paycheck, crossed check, uncashable check, certified check, travelers check, circular check, visa check, letter of credit, commission check and postal check.

Since a check is a security, it must possess security elements: records are kept on every issued check; the print quality is very high; they have a hologram as a counterfeit protection system; they are used together with a personal ID document; they are signed; and the signature on it is compared with the signature on the ID.

Figure 2: *Forming a digital signature*[2]



2.1 Electronic checks

An electronic check or an e-check is based on the idea that an electronic document can replace a paper document, and that a cryptographic signature can replace a hand signature. The common features of the paper and the electronic check are: the authorization of the check itself, strict adherence to the check instructions and the fact that they are issued by the same financial institution.

2 Source: http//Internet.fon.bg.ac.yu.download/predmet.php.ind.

The differences between the paper and the e-check lie in the fact that the electronic check has authentification by way of the digital signature and certificate, the e-check's transaction can be automatically processed, and each part can be worked independently.

With the e-check, all the copies are perfect, and duplication is allowed; the bank of payment will pay out only one copy of the e-check. There is duplicate detection, and all the sides in the transaction can check the digital signature on the check and detect changes or fraud. The electronic check can be sent and received like any e-mail message, while the electronic format allows alternative ways of processing.

In order to completely grasp the difference between the paper and e-check, we will list some additional advantages of the electronic check in comparison to the paper check. The advantage of the e-check is reflected in the fact that the use of the e-check has reduced the number of paper checks, thus reducing the equipment and the manual work needed to service paper checks. Check manipulation is reduced, due to the increased control of the e-checks, and the issuing bank or financial institution gains additional savings by reducing the costs of check printing.

The electronic check has its own basic principles that are more advanced than those of the paper check. It is used in a wide array of payments in business transactions. The electronic check coexists with the paper check and other means of payment and is independent of the communication medium.

The basic method of using checking technology instead of credit cards is referred to as Secure Pay. It was created by "Ready-Check" in Salt Lake City, USA. In order to be able to use e-checks according to the Secure Pay method, one must have a user account at a bank that accepts checks payable exclusively in US dollars. Before use, the user needs to enter data about his bank account into Secure Pay, and to choose a user name and password. The Secure Pay method does not use the Internet to transfer financial data, but connections specialized for that purpose.

Figure 3: *The appearance of the electronic check*[3]

[3] Source: http//Internet.fon.bg.ac.yu.download/predmet.php.ind.

When transactions are conducted by this method, the customer first chooses the product he wants to buy, and enters his user name and passport. The information is sent to Ready-Check, which checks the transaction, and subsequently returns a confirmation and prints a check with the customer's data and amount of spent money, sending it on to the seller's address through regular mail. The money will be available to the money 24 hours after the sale of the product.

In order for a store to become a seller through the Secure Pay system, it is necessary to fill out a form on the web page, and pay a 250 USD charge, plus 2% of each transaction.

3. Home banking

The ever more rapid development of the Internet directly influences the development of new technologies in the creation of modern business systems. Making services more accessible to the end user is the tendency of all companies at the global level. The global Internet network already allows people to order and pay for goods, execute limited banking and financing transactions and use bankcards. The development of security tools for the coding, decoding and encryption of data has led to a faster development of home banking, before all telephone banking, as well as interactive television, for the purposes of facilitating, offering and selling services to the end user.

3.1 Telephone banking

Telephone banking is being used increasingly in electronic payment. Telephone integration is the main achievement in this area. The use of telephone banking shows that clients do not demand personal contact with bank employees as a form. At the beginning of this millennium, surveys conducted in Great Britain show that, in the field of basic transactions, one half of the client base is satisfied with doing business over the phone, while 25% of clients want to be able to conduct even more complex transactions over the phone.[4]

Telephone banking is considered to be an important channel for the delivery of bank services to the population. There are various ways to offer telephone banking services, e.g., constructing a questionnaire system that allows clients to get their account balance information by mobile telephone, or to conduct certain financial transactions, etc. The basic technologies used in telephone banking operations are:

- ACD – automatic call distributor; an advanced phone device that monitors incoming calls, and then distributes them, marked by various numbers, to different operators and allows the management of call center replies;
- CTI – computer telephony integration, which links business applications in the telephone system, usually with the ACD.

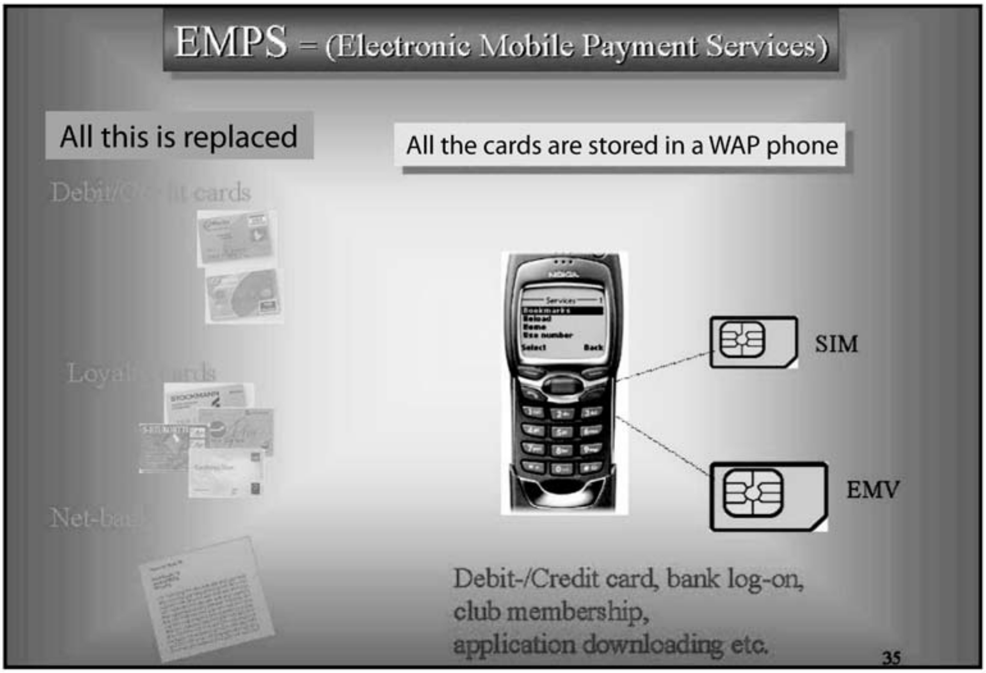
[4] P. Bjelić: *Elektronska trgovina*, Institut za međunarodnu politiku, Beograd, 2000.

3.2 Bill payment by telephone

The development of electronic payment during the past ten years has stimulated banks to develop various forms of offering their services, directly, in users' homes.

Bill payment by telephone is basically a service that allows clients to place orders for payments from their accounts to accounts of their own choice, from their homes or offices. The user is able to conduct a number of transactions in a single phone call, instead of having to go to the bank and directly give payment orders or write checks and send them for realization.

Figure 4: *Payment by telephone service*[5]



The Seattle First National Bank in Minneapolis, USA, introduced the first services of this kind in 1974, under the name "pay by phone." The service developed slowly until 1982, when rapid development began and more than 400 financial institutions came aboard. All smaller banks and other financial institutions accepted the joint provision of such services, as it allowed the provision of services without large investments in hardware, software and employees. However, 38% of the banks, with assets over 500 million USD, offer telephone bill payment directly through their own telephone services (without intermediaries). Regard-

5 Source: http//Internet.fon.bg.ac.rs.download/predmet.php.ind.

less of the approach that is used, the bank is responsible for the processing of transactions after the telephone call, according to the user's instructions.

Figure 5: *Devices used for telephone banking*[6]

This means that the bank must have software that is capable of separating and monitoring information in the user's account at the beginning, during and after the phone call, as well as hardware on the front end of the computer that holds information on users, their accounts and account history.

Payment upon the user's instructions is usually transmitted through automatized accounting stations to the financial institution determined by the receiver, which ultimately approves the receiver's account and informs him of changes on it.

In addition to payment services, the user is also able to check his account balance, transfer funds between accounts, etc.

In Europe, Barclays Bank has significantly developed telephone banking. Even more impressive are the results of Japanese banking institutions such as Sumitomo, Mitsubishi, Fuji, and Dai-Ichi Kangyo, which created a base of several million home banking users through their specialized Anser Service.

At this year's Infofest in Belgrade, the joint solution developed by two domestic companies, TeleGroup from Belgrade and DunavNet from Novi Sad, were presented. These two companies work complementarily on mobile network technologies and applicable software solutions created for mHealth, mPlayment and M2M platforms. All the platforms are based on innovative software solutions and work independently of the telephone models used, at the same time being based on the latest security systems. It was precisely this aspect of security

6 Source: http//Internet.fon.bg.ac.rs.download/predmet.php.ind

that stimulated significant growth in the use of mobile phones for the execution of financial transactions, which is confirmed by significant data on the growth of global mPlayment transactions. From 2008 until today, our region has registered growth of nearly 80%, while growth in Western Europe over the same period equaled 85%. Here we must also emphasize the fact that, until 2008, the number of the said services in Serbia was exceptionally low.7 The largest growth by type of service was registered by mCommerce – 146% - while payment of utility bills grew by 40%. The solution presented at Infofest 2010 is initially intended primarily for the payment of utility bills. The basic idea in the realization of the project was to allow public utilities to issue electronic bills, as well as to collect payments electronically, which would bring savings both to the companies (as the issuers of the bills) and the public itself.

4. Interactive television

Teleshopping has been enjoying great expansion of late. This is virtual commerce organized by retail firms, which offer various products to consumers and homes by way of television programs. The consumers can view the products over the TV from their homes, and see their prices as well as demonstrations of their main characteristics and performances. If advanced interactive television is used, based on optic cables that allow the use of advanced multimedia presentations at great speeds – the consumers can "walk" between various windows, obtain the necessary information and carry out transactions. The limiting factor for a broader use of interactive multimedia services lies in the necessity of large investments in the optic cable network and the accompanying electronic equipment.

Also being developed is the possibility of buying special TV entertainment or sports programs by way of interactive television. In Britain, an interactive program with 600 hours of TV programming has been created, offering 400 hours of film programs and 200 hours of music video programs.

The programs for this were provided by some of the leading British and global media companies: BBC, Carlton, Granada, Kingfisher and Pearson offer television programs, leading Hollywood studios offer films, while musical companies such as EMI, Sony and Warner offer music video spots, and BSkyB offers sports programming. These services are key for attracting computer uneducated consumers to other kinds of services, as they encompass 350 hours of educational TV programs, along with information on a spectrum of system banking services. In the near future, companies such as Dixons, Great Universal Stores, Kingfisher and Sainsbury's will offer additional system shopping possibilities.

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[7] Ref: "Global trends in M-payment – Challenges and opportunities,"Arthur D. Little Consulting, Tunis Feb. 23rd 2010.

The Westminster National Bank offers system services; encompassing account balance information, transfer between accounts and information on banking service products. This bank is also planning to become a seller of financial services, once it begins to offer shopping services. The technology that is used is substantially linked with the concept of the network computer environment. "Set Top Best" contains enormous power and memory, along with an advanced graphic user interface that is easy to use. They are linked by high-speed optical cables connecting STB with servers for the filling of media services. Slower, ordinary telephone cables, used to send instructions from the household to the server, achieve interactivity.

Although interactive television is still being developed, for most households that do not own a computer this medium for offering services can provide everything that is needed. It is easier to use than a personal computer and allows a system approach to information and system control of financial services.

5. Video-banking business

Television programs that present various products and telephone numbers for ordering are a traditional way of offering products in commerce. This type of TV program can be found on both cable and commercial television. The leading market for this type of sales is the US, where the market share for this type of commerce is a modest 0.05% of total retail trade.

Video banking produced by Videotex is an interactive system that experimentally offers a qualitatively new and total transformation of banking services. However, not all the conditions for its implementation have been created. Interactive TV sets used to cost about 15,000 USD. Despite expectations that interactive television would become significantly cheaper, it is difficult to imagine that it will be able to approach the prices of personal computers (about 400 USD) or laptops (about 800 USD).

This is one reason why the chances of mass use of interactive television are small. The second is tied to the still undeveloped network infrastructure of optic cables that link users with TV centers and banks.

At present, most video-banking systems offer a number of base services for bill payment, checking account balances, transfers between accounts, etc. These systems aim to encompass the entire spectrum of services and allow access to additional ones, such as home shopping, entertainment, games, sports news, public transportation information, competitions, auctions, theatre and cinema schedules, weather forecasts, etc.

The selection of mixed services significantly affects the design of the service itself, while full openness in the provision of services attracts users. Access to banking networks and services is made possible by the use of users' PIN codes through various options, allowing them to choose between options. Once the user exits the home banking category, he can choose another service (news, games, etc.).

The functioning of the video-banking service of Berlin-based Deutsche Bank is an example of how operative functions work in the use of banking services. In order to gain access to the bank's database, the user achieves interaction with the bank by entering a 7-digit PIN code and an 8-digit number for authentification. The text represents the array of services from which the user can choose, such as general or individual information, consumer credits, automobile credits, housing credits, credits for durable consumer goods, earmarked credits, and other types of credit. The user can get a visual display of his account balance. The bank's database retains all data on user transactions for up to three months, and the computer can, according to the user's wishes, compute any transfer from his account in real time.

6. Conclusion

To conclude, the success of home banking is directly linked to the liberalization of communication services, their restructuring and competitiveness. It is impossible to expect home banking to achieve greater success so long as the rates remain high, as a result of obsolete equipment and bloated employee numbers. Finally, the main obstacle for the expansion of home banking is lack of consumer education. It is not enough for the user to have the equipment and the software, if he has not been educated to use them. The more complex the service that is offered, the more needed and complex is the appropriate educational process. Thus, unless adequate user education can be provided, it is better not to offer home-banking services at all. The level of home-banking use in Serbia continues to be low, which supports the view that we are still lagging behind the developed countries, both in terms of liberalization of communication services and in the level of consumer education.

Still, it should be added that there is a growing interest in our country, both on the part of companies that offer these types of services and on the part of potential customers, whom such services will help to make better use of their precious time. We should point out that, in the last two years, a number of companies have began to offer such services: Telekom, Telenor, Banca Intesa, Komercijalna banka, Parking servis, Infostan, etc.

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Paper received: December 2nd, 2010
Approved for publication: December 18th, 2010

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THE GREAT DEPRESSION: THE MODEL OF RISK SOCIETY

An essay on the book
"The United States of America and the Great Depression 1929–1939: The Model of a Society in Crisis," by Assistant Professor Vesna S. Aleksić, PhD, Stubovi kulture, Belgrade, 2010

Following a vacuum of more than half a century, thanks to the efforts of Assistant Professor Vesna S. Aleksić, Serbian historiography has been enriched by a monograph dedicated to a historical-economic analysis of the Great Depression in the United States.

In her work, Dr. Aleksić vividly revives the past, seeking to explain the causes and the consequences, as well as the unusual length of the Great Depression, from an economic, historical and sociological aspect. The monograph also reveals the causes that led to a situation in which the state became the chief guarantor of an efficient and humane functioning of the economy and society.

In the introductory chapter, entitled "A portrait of America in the 19th century," Dr. Aleksić leads us, step by step, through the America of the nineteenth and the first two decades of the twentieth century. We see how the US population primarily thanks to mass immigration, rapidly expanded, how the unpopulated western regions were settled, and the landscape became changed by the sprouting of new industrial plants and new urban centers. As the author emphasizes, the geo-economic and geopolitical characteristics of the country, whose state foundations were impregnated with economic motives, and in which individual initiative was an economic imperative, represented fertile grounds for an industrial revolution. And it was precisely rapid industrialization that made the United States into an economic giant even before the Civil War of 1861.

As we learn, with the victory of the North, private enterprise and industry gained a powerful ally in the federal government and the Supreme Court. The process of capital concentration for the sake of building large industrial plants after the war intensified, primarily driven by technical and technological changes: the introduction of machines powered by electricity and oil. The

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monopolization of the American economy had begun. As Dr. Aleksić points out, it was precisely these two factors, the concentration and centralization of the greater part of social capital, production and labor in the hands of large corporations, on the one hand, and the monopolization of the economy, on the other, that resulted in a series of essential changes in the ways in which the American economy functioned. The author goes on to describe how the needs of large corporations imposed themselves not only in the economic field, but also in politics and society: "Differently from Europe, where the emphasis lay more on spiritual and political, rather than economic values, in the United States everything – habits, customs and even folklore – was much more influenced by economics than by politics, religion or philosophy."[1]

The last part of the chapter describes the efforts of numerous social, political and economic actors to restrain the "anti-social excesses of capitalism." It was only during the Progressive Age, with the coming of the reformist presidents of the beginning of the 20th century, that the first efforts of the federal government to limit the power of big business began. However, these efforts were rejected with the US entry into World War I in 1917.

The second chapter, "The economic boom of the 1920s," treats the period of the "roaring twenties" – a time of unprecedented economic prosperity in the US.

At the beginning of the chapter, Dr. Aleksić acquaints us with the significance of World War I for the American economy. The United States came out of the war as the world's greatest economic power, the greatest industrial and food producer, and the world's largest creditor – i.e., a powerful force that shaped the global monetary structure. After the war, the American economy entered a period of unprecedented prosperity: during the following decade, production grew uninterruptedly, due to the application of new scientific discoveries, new sources of energy and new methods of increasing productivity while, at the same time, the standard of living improved. However, as the author observes, America's political influence did not correspond to its economic power, since the American political establishment had adopted the fatal policy of isolationism.

Dr. Aleksić then proceeds to focus on the transformation of American society during the 1920s. A significant advance in the fields of culture and education marked the golden '20s. New mass media also developed, in the form of the film industry and, before all, radio, which rapidly gained popularity after the first broadcast in 1920. It was a time when a large number of people began to listen to classical music and jazz, and musical education began to be introduced in schools. Women finally gained the franchise in the last state of the union in 1920. Non-disposable consumer goods became accessible to the average American citizen, while their use changed the previous way of life. Stimulated by the enormous expansion of the new style of commercial advertising, mesmerized by

1 V. Aleksić: *Sjedinjene Američke Države i Velika svetska ekonomska kriza 1929–1939: model društva u krizi*, Stubovi kulture, Beograd, p. 6.

cars, electrical appliances, Hollywood and sports, American society was transformed, as Dr. Aleksić writes, into the world's first consumer society, while mass consumption became a "philosophy of life." Most people believed that a period of permanent plenty had arrived, and that mass production would end poverty and secure prosperity and a high living standard for all. The author devotes a great deal of attention to the key role of psychological factors in the economy and in finance. According to her, one of the main drivers of economic growth in the decade immediately preceding the beginning of the crisis was the people's trust in economic growth in and of itself, i.e., "an unprecedented rise in optimism in the American collective way of thinking and feeling."[2] The author also directs the reader's attention to the social flip-side of this period: the increased xenophobia stimulated by the self-sufficient policy of isolationism, and the strengthening of organized crime during the Prohibition era.

The chapter concludes with an analysis of the causes of the Great Depression. As the author underlines, the mechanism of the American market of the time contained serious weaknesses, which ultimately opened the way for the financial crisis and allowed the resulting depression to last unusually long and gain in intensity. The incredible economic prosperity, writes Dr. Aleksić, affected the US political and legal elite which, guided by a *laissez-fair* economic philosophy all the way to the beginning of the 1930s, sharply opposed all forms of state regulation and limitation of free enterprise. The lack of regulation in the economy led to the formation of oligopolies and price freezes, in which the author sees the greatest weakness of the American economic system. The separation of management from ownership among the big corporations and the "managerial revolution" made the economy less elastic, leading to a situation in which profit was accumulated instead of invested. In addition to capital accumulation, Dr. Aleksić cites uneven economic growth as another cause of the Great Depression. The failure to pass the fruits of growth onto consumers began to take its toll at the end of the 1920s, as purchasing power began to fall. The federal government managed to temporarily halt this through credit inflation, which made the last phase of the economic boom extremely speculative. However, this inflationary policy did not yield lasting results: the bursting of the balloon inflated by hyper-speculation represented an overture to a dark period in American history.

The chapter entitled "The economic crash of the 1930s" begins with a detailed analysis of the continued fall of US economic activity that preceded the Great Depression, and of the efforts of the Republican federal government and the Herbert Hoover administration to come to terms with the crisis.

The financial crisis caused by the crash of the New York Stock Exchange in October of 1929 led to a fall in investment, production and sales, as well as to growing unemployment and, thus, a fall in purchasing power. The erosion of confidence was leading toward a crash of the entire banking system. The crisis

2 L. c., p. 8.

definitely arrived in 1930, with the collapse of the export industry, which was a result of the American policy of economic nationalism. According to Dr. Aleksić, Hoover's economic nationalism pushed the crisis to global proportions, while his conservative economic policy and interventionist moves, such as the stoppage of public works and the introduction of tax increases in order to sustain an unbalanced budget, as well as his insistence on the maintenance of the gold standard and refusal to directly aid those in need, contributed to a lengthening of the crisis.

Workday shortenings, wage reductions and layoffs already began to occur in 1930. In spite of this, as the author stresses, a crisis atmosphere did not develop in the US until the last months of 1931, and she cites examples that illustrate the measure to which the leading people in society did not understand the economic system in which they were living. Quite simply, the majority of the intellectual, economic and political elite thought that the economy was healthy: "It was not until the concept of American free enterprise totally collapsed and President Hoover's economic recovery program failed that an enormous fear of uncertainty began to spread throughout the nation, especially during the winter of 1932/33."[3] Fear, despair and panic were leading to social unrest. It seemed that the framework of the old liberal economy could no longer offer a way to exit the vicious circle of continual disaster. The only salvation was offered by interventionism, which most Americans had vehemently resisted in the previous century.

The central part of the chapter is devoted to an analysis of the salvational interventionist policy embodied in President Franklin Delano Roosevelt's New Deal program and the birth of a new macroeconomic policy. The New Deal, writes the author, paved the way to a reform of the capitalist system, in which the state represented the guarantee of economic security. The passage of a series of laws and the foundation of numerous federal institutions contributed to the stabilization and the recovery of the economy. After almost two decades, agricultural hyper-production was ended, while, at the same time, the conservation of natural resources was advanced. Trust in the banking and the financial system was restored. Numerous measures that represented a break with the policy of the previous administration contributed to the stabilization of the economy and the financial market. Among these the author cites the abandonment of economic isolationism and of the gold standard, and the adoption of a gold-bullion and gold-exchange standard.

In the fourth chapter, entitled "American society battles the depression," the author examines the social consequences of the Great Depression.

After seven decades of rapid economic expansion, which made the US into the world's richest and most powerful country, the rapid Depression era rise in unemployment and substantial fall in living standards reduced one half of the American populace to poverty within a strikingly short period of time. The employment increase program in the form of extensive public works, as we learn, restored a

[3] L. c., p. 9.

measure of self-confidence to an impoverished nation. The author considers one of the most important features of the New Deal to be the change in the understanding of the obligation to help the needy: while the previous administration considered that it was the local community that should aid them, care for those living on the edge of existence had now become the obligation of the federal government. Mandatory social security was introduced, although its system did not encompass the entire population. Worker and labor union rights were also advanced. As the author emphasizes, the government assumed a new role in people's daily lives: the crisis and, above all, its handling on the part of the federal organs and officials, made ordinary people become more interested in state policy and matters of national interest. Dr. Aleksić also cites the change in the thinking of the American middle class and the turning of the cultural and intellectual elites to the ideals of justice and equality among the long-term consequences of the Great Depression. The New Deal program supported the development of struggling culture and art in the time of crisis. Engaged art began to adopt motifs from American everyday life, while culture became more popularized and mass-oriented, which was, as the author stresses, another lasting legacy of the Great Depression.

This monograph depicts a model by which an exceptionally prosperous society can very quickly fall into a crisis of catastrophic proportions, and by which, in such a situation, state interventionism can, at an almost equal pace, restore confidence in financial and economic institutions and, with the aid of social programs, provide new social, political and economic stability.

At a time when the global economic crisis is still ongoing and when each of us is feeling its effects, Dr. Aleksić's monograph represents a work of immeasurable significance for Serbian economic scholarship. Amply supported by exhaustive data, this monograph, based upon numerous works, through which, with the growing aid of applied statistical research, certain empirical laws are sought to be defined inductively, will be doubtlessly very useful to every economic historian. The author's great consideration for the reader in her approach to this complex multi-disciplinary topic will also make her work accessible to a broader scholarly audience.

Above all, Dr. Aleksić's monograph is characterized by a high degree of empathy; she sincerely sympathizes with each ordinary person that was negatively affected by the Great Depression. As a result, she makes a special effort to point to the basic shortcomings of American liberal capitalism and to highlight the personal responsibility of certain representatives of the financial and political elites for their manipulation of the socio-economic system of the time. Dr. Aleksić provides an excellent example of how contemporary scholarship can be placed in the service of humaneness.

Paper received: March 7th, 2011
Approved for publication: March 15th, 2011