

МЕЂУНАРОДНИ ЧАСОПИС
ЗА ЕКОНОМСКУ ТЕОРИЈУ И ПРАКСУ И ДРУШТВЕНА ПИТАЊА



ЕКОНОМИКА

Часопис излази четири пута годишње

Година LIX, I-III 2013, број 1

ИЗДАВАЧ: Друштво економиста "Економика" Ниш

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1. Часопис “Економика” покренут је јула 1954. године и под називом “ Нишки привредни гласник” излазио је до јуна 1957. године, а као “Привредни гласник” до краја 1969. године. Назив “Наука и пракса” носио је закључно са бројем 1/1973. год. када добија назив “Економика” који и данас има.

2. Часопис су покренули Друштво економиста Ниша и Друштво инжењера и техничара Ниша (остало као издавач до краја 1964. године). Удружење књиговођа постаје издавач почев од броја 6-7/1958. године. Економски факултет у Нишу на основу своје одлуке броја 04-2021 од 26.12.1991. године постао је суиздавач “Економике”. Такође и Економски факултет у Приштини постао је суиздавач од 1992. године. Почев од 1992. године суиздавач “Економике” је и Друштво за маркетинг региона Ниш. Као суиздавач “Економике” фигурирали су у току 1990-1996. године и Фонд за научни рад општине Ниш, Завод за просторно и урбанистичко планирање Ниш и Корпорација Винер Брокер Ниш.

3. Републички секретариат за информације СР Србије својим Решењем бр. 651-126/73-02 од 27. новембра 1974. године усвојио је захтев “Економике” за упис у Регистар новина. Скупштина Друштва економиста Ниша на седници од 24. априла 1990. године статутарном одлуком потврдила је да “Економика” има статус правног лица. На седници Скупштине Друштва економиста Ниш од 11. новембра 1999. године донета је одлука да “Економика” отвори посебан жиро-рачун.

4. Према Мишљењу Републичког секретариата за културу СР Србије бр. 413-516/73-02 од 10. јула 1973. године и Министарства за науку и технологију Републике Србије бр. 541-03-363/94-02 од 30. јуна 1994. године “Економика” има статус научног и ранг националног часописа “Економика” је поћев од 1995. добила статус међународног економског часописа.

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1. The journal EKONOMIKA was initiated in July 1954. It was published as "Nis Economic Messenger" till June, 1957 and as "The Economic Messenger" till the end of 1969. The title "Science and Practice" it had till the issue 1/1973 when it changed its name into EKONOMIKA as it entitled today.

2. The Journal was initiated by the Society of Economists of Nis and the Society of Engineers and Technicians of Nis (the latter remained as the publisher till the end of 1964). The Society of Accountants became its publisher starting from the issue no. 6-7/1958. The Faculty of Economics, Nis, on the basis of its Resolution No. 04-2021 from December 26, 1991, became the co-publisher of EKONOMIKA. Likewise, the Faculty of Economics of Pristina became the co-publisher since in 1992. Starting from 1992, the co-publisher of EKONOMIKA has been the Society for Marketing of the Region of Nis. Other co-publishers of EKONOMIKA included, in the period 1990-1996, the Foundation for Scientific Work of the Municipality of Nis, the Institute for Spatial and Urban Planning of Nis and the Corporation Winner Broker, Nis.

3. The Republic Secretariat for Information of the Socialist Republic of Serbia, by its Resolution No. 651-126/73-02 from November, 27, 1974, approved of EKONOMIKA's requirement to be introduced into the Press Register. The Assembly of the Society of Economists of Nis, at its session on April 24, 1990, by its statutory resolution, confirmed the legal status of EKONOMIKA. At the session of the Assembly of the Society of Economists, Nis, on November 11, 1999, the resolution was adopted the EKONOMIKA was to open its own bank account.

4. According to the Opinion of the Republic Secretariat for Culture of the Socialist Republic of Serbia No. 413-516/73-02 from July 10, 1973 and the Ministry for Science and Technology of the Republic of Serbia No. 541-03-363/94-02 from June 30, 1994, EKONOMIKA has the status of a scientific and national journal. Starting from 1995, EKONOMIKA has been having the status of international economic journal.

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1. Журнал „Экономика” начал издаваться с июля 1954 года и под названием „Нишский хозяйственный вестник” выходил до июня 1957 года, а как „Хозяйственный вестник” - до конца 1969 года. Название „Наука и практика” носил заключительно с № 1/1973 г., когда и получил название „Экономика”, которое имеет и сейчас.

2. Журнал основали Общество экономистов Ниша и Общество инженеров и техников Ниша (оставались издателями до конца 1964 года). Объединение бухгалтеров становится издателем начиная с № 6 - 7 / 1958 года. Экономический факультет в Нише на основании своего Решения № 04 - 2021 от 26.12.1991 года стал соиздателем „Экономики”. Также и Экономический факультет в Приштине стал соиздателем с 1992 года. Начиная с 1992 года соиздателем „Экономики” становится Общество маркетинга региона г. Ниша. Как соиздатели „Экономики” в течении 1990 - 1996 года фигурировали Фонд по научным работам, общины Ниш, Институт урбанистического планирования Ниша и Корпорация Winner Broker Ниш.

3. Республиканский секретариат по информации СР Сербии своим Решением №651-126/73-02 от 27 ноября 1974 года принял заявление „Экономики” о входе в состав Регистра газет. Собрание Общества экономистов г. Ниша на заседании от 24 апреля 1990 г. Уставным решением подтвердил, что „Экономика” имеет статус правового лица. На заседании Собрания Общества экономистов г.Ниша от 11 ноября 1999 г. принято решение об открытии „Экономикой,” отдельного расчетного счета.

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CREATIVITY OF STRATEGIC ALLIANCES AND JOINT VENTURES

Abstract

Any company that aspires to industry leadership in 21st century must think in terms of global, not domestic market leadership. The world economy is globalizing at an accelerating pace as countries previously closed to foreign companies open up their markets, as the Internet shrinks the importance of geographic distance, and as ambitious growth - minded companies race to build stronger competitive positions in the markets of more and more countries.

This paper focuses on strategy options for expanding beyond domestic boundaries and competing in the market of either a few or a great many countries.

In the process of exploring these issues, we will introduce a number of correct concepts - multi country competition, global competition, profit sanctuaries, and cross - market subsidization. The paper includes section of market conditions; strategy options for entering and competing in foreign markets, the importance of locating operations in the most advantageous countries and so on.

Key words: *Consumer; organizations having, creativity, strategic alliances, joint ventures.*

JEL Classification: L16, L26, F 23, F60

КРЕАТИВНОСТ СТРАТЕШКИХ АЛИЈАНСИ И ЗАЈЕДНИЧКИХ УЛАГАЊА

Апстракт

Свака компанија која тежи ка индустријском вођству у 21. веку мора да размишља глобално, а не као национални тржишни лидер. Светска економија се глобализује убрзаним темпом, обухватајући и земље које су претходно биле затворене за стране компаније, упркос њиховом залагању за отвореним тржиштем. Јурећи изградњу снажније конкурентске позиције на тржиштима многих земаља, компаније су охрабрене могућностима Интернета у прикупљању информација и првазилажењу географске удаљености, као и бројним развојним алтернативама.

Рад се фокусира на стратешким опцијама за ширење ван националних линија разграничења и такмичења на тржишту већине других и далеко већих земаља. У процесу истраживања ових навода, фокус ће бити на упознавању са бројним коректним мултинационалним компанијама, глобалном конкуренцијом, профитним уточиштима и тржишним субвенцијама.

Рад инкорпорира део тржишних прилика; стратешких опција за улазак и такмичење на страним тржиштима, као и важност локализовања операција у најповољнијим земљама итд.

Кључне речии: Потрошач, организација, креативност, стратешки савези, заједничка улагања.

Introduction

Strategic alliances, joint ventures, and other cooperative agreements with foreign companies are a favorite and potentially fruitful means for entering a foreign market or strengthening a firm's competitiveness in world markets.¹

Cross-border alliances have proved to be popular and viable vehicles for companies to edge their way into the markets of foreign countries.

Historically, export-minded firms in industrialized nations sought alliances with firms in less developed countries to import and market their products locally - such arrangements were often necessary to win approval for entry from the host country's government. Both Japanese and American companies are actively forming alliances with European companies to strengthen their ability to compete in the 25-nation European Union (and the five countries that are seeking to become EU members) and to capitalize on the opening up of Eastern European markets. Many U.S. and European companies are allying with Asian companies in their efforts to enter markets in China, India, Malaysia, Thailand, and other Asian countries. Companies in Europe, Latin America, and Asia are using alliances and joint ventures as a means of strengthening their mutual ability to compete across a wider geographical area - for instance, all the countries in the European Union, or whole continents, or most all country markets where there is significant demand for the industry's product. Many foreign companies, of course, are particularly interested in strategic partnerships that will strengthen their ability to gain a foothold in U.S. market.

However, cooperative arrangements between domestic and foreign companies have strategic appeal for reasons besides gaining better access to attractive country markets.² A second big appeal of cross-border alliances is to capture economies of scale in production and/or marketing - cost reduction can be the difference that allows a company to be cost-competitive. By joining forces in producing components, assembling models, and marketing their products, companies can realize cost savings not achievable with their own small volumes. A third motivation for entering into a cross-border alliance is to fill gaps in technical expertise and/or knowledge of local markets (buying habits and product preferences of consumers, local customs, and so on). Allies learn much from one another in performing joint research, sharing technological know-how, studying one another's manufacturing methods, and understanding how to tailor sales and marketing approaches to fit local cultures and traditions. Indeed, one of the winwin benefits of an

¹ Joel Bleeke and David Ernst, *The Way to Win in Cross-Border Alliances*, Harvard Business Review 69, No. 8. (November-December 1991), pp. 127-35, and Gary Hamel, Yves L. Doz., and C.K. Prahalad, *Collaborative with Your Competitors - and Win*, Harvard Business Review 67, no. 1 (January-February 1989), pp. 133-39.

² See L. Doz and Gary Hamel, *Alliance Advantage* (Boston, MA: Harvard Business School Press, 1998), especially Chapters 2-4; Bleeke and Ernst, *The Way to Win*, pp. 127-33; Hamel, Doz, and Prahalad, *Collaborative with Your Competitors*, pp. 134-35; and Porter, *Competitive Advantage*, p. 66,

alliances is to learn from the skills, technological know-how, and capabilities of alliance partners and implant the knowledge and know-how of these partners in personnel throughout the company.

A fourth motivation for cross-border alliances is to share distribution facilities and dealer networks, thus mutually strengthening their access to buyers. A fifth benefit is that cross-border allies can direct their competitive energies more toward mutual rivals and less toward one another; teaming up may help them close the gap on leading companies. A sixth driver of cross-border alliances comes into play when companies are an effective way to tap into a partner's local market knowledge and help it establish working relationships with key officials in the host-country government.³ And, finally, alliances can be a particularly useful way for companies across the world to gain agreement on important technical standards - they have been used to arrive at standards for DVD players, assorted PC devices, Internet-related technologies, high-definition televisions, and mobile phones.

Cross-border alliances enable a growth-minded company to widen its geographic coverage and strengthen its competitiveness in foreign markets while, at the same time, offering flexibility and allowing company to retain some degree of autonomy and operating control.

What makes cross-border alliances an attractive strategic means of gaining the above types of benefits (as compared to acquiring or merging with foreign-based companies to gain much the same benefits) is that entering into alliances and strategic partnerships to gain market access and/or expertise of one kind or another allows a company to preserve its independence (which is not the case with a merger), retain veto power over how the alliance operates, and avoid using perhaps scarce financial resources to fund acquisitions. Furthermore, an alliance offers the flexibility to readily disengage once its purpose has been served or if the benefits prove elusive, whereas an acquisition is more permanent sort of arrangement (although the acquired company can, of course, be divested).⁴

The Risks of Strategic Alliances with Foreign Partners

Alliances and joint ventures with foreign partners have their pitfalls, however. Cross-border allies typically have to overcome language and cultural barriers and figure out how to deal with diverse (or perhaps conflicting) operating practices. The communication, trust-building, and coordination costs are high in terms of management time.⁵ It is not unusual for there to be little personnel chemistry among some of the key people on whom success or failure of the alliance depends - the rapport such personnel need to work well together may never emerge. And even if allies are able to develop productive personnel relationships, they can still have trouble reaching mutually agreeable ways to deal with key issues or resolve differences. There is a natural tendency

³ Christensen, *Corporate Strategy*, p. 43.

⁴ For an excellent presentation on the pros and cons of alliances versus acquisitions, see: Jeffrey H. Dyer, Prashant Kale, and Harbir Singh, *When to Ally and When to Acquire*, Harvard Business Review 82, No. 7/8 (July-August 2004), pp. 109-15.

⁵ Doz and Hamel, *Alliance Advantage*, Chapters 2-7, and Rosabeth Moss Kanter, *Collaborative Advantage: The Art of the Alliance*, Harvard Business Review 72, No. 4 (July-August 1994), pp. 96-108.

for allies to struggle to collaborate effectively in competitively sensitive areas, thus spawning suspicions on both sides about forthright exchanges of information and expertise. Occasionally, the egos of corporate executives can clash - an alliance between Northwest Airlines and KLM Royal Dutch Airlines resulted in a bitter feud among both companies' top official (who, according to some reports, refused to speak to each other).⁶ In addition, there is the thorny problem of getting alliance partners to sort through issues and reach decision fast enough to stay abreast of rapid advances in technology or fast-changing market conditions.

It requires many meetings of many people working in good faith over time to iron out what is to be shared, what is to remain proprietary, and how the cooperative arrangements will work. Often, once the bloom is off the rose, partners discover they have conflicting objectives and strategies, deep differences of opinion about how to proceed, or important differences in corporate values and ethical standards. Tensions build up, working relationships cool, and the hoped-for benefits never materialize.⁷

Even if the alliance becomes a win-win proposition for both parties, there is the danger of becoming overly dependent on foreign partners for essential expertise and competitive capabilities of its own, then at some juncture cross-border merger or acquisition may have to be substituted for cross-border alliances and joint ventures.

Strategic alliances are more effective in helping establish a beachhead of new opportunity in world markets than in achieving and sustaining global leadership.

One of the lessons about cross-border alliances is that they are more effective in helping a company establish a beachhead of new opportunity in world markets than they are in enabling a company to achieve and sustain global market leadership. Global market leaders, while benefiting from alliances, usually must guard against becoming overly dependent on the assistance they get from alliance partners-otherwise, they are not masters of their own destiny.

When a Cross-Border Alliance May Be Unnecessary

Experienced multinational companies that market in 50 to 100 or more countries across the world find less need for entering into cross-border alliances than do companies in the early stages of globalizing their operations.⁸ Multinational companies make it a point to develop senior managers who understand how "the system" works in different countries; these companies can also avail themselves of local managerial talent and know-how by simply hiring experienced local managers and thereby detour the hazards of collaborative alliances with local managers and thereby detouring the hazards of collaborative alliances with local companies. If a multinational enterprise with considerable experience in entering the markets of different countries wants to detour the hazards and hassles of allying with local business, it can simply assemble a capable management team consisting of both senior managers with considerable international experience and local managers. The responsibilities of its own in-house managers with international business savvy are (1) to transfer technology, business practices, and the corporate culture into the company's operations in the new country market, and (2) to serve as conduits for the flow of information between the corporate office and local operations.

⁶ Shawn Tully, *The Alliances from Hell*, Fortune, June 24, 1996, pp. 64-72.

⁷ Jeremy Main, *Making Global Alliances Work*, Fortune, December 19, 1990, p. 125.

⁸ Prahalad and Lieberthal, *The End of Corporate Imperialism*, p. 77.

The responsibilities of local managers are (1) to contribute needed understanding of the local markets conditions, local buying habits, and local ways of doing business, and (2) in many cases, to head up local operations.

Hence, one cannot automatically presume that a company needs the wisdom and resources of a local partner to guide it through the process of successfully entering the markets of foreign countries. Indeed, experienced multinationals often discover that local partners do not always have adequate local market knowledge - much of the so-called experience of local partners can predate the emergence of current market trends and conditions, and sometimes their operating practices can be archaic.⁹

Strategy knowledge gap

In the knowledge economy, successful strategic management is critically dependent on managing knowledge affectively in socio-cultural business systems. Knowledge is now recognized by business practitioners and academics as one of the most important sources of innovation and new customer value propositions. While most extant knowledge management theory and application focus on the organization, and improving its competitive advantages, there is an increasing need to shift this focus to the socio-cultural business system, i.e. understanding and effectively enabling knowledge generation and utilization to enhance the dynamic capabilities of particular socio-cultural business systems.

The purpose of this section is to present three practical frameworks as a basis for understanding systemic strategy-knowledge links. The reader is encouraged to explore the various theories underlying systemic knowledge creation and utilization, e.g. complex adaptive systems theory,¹⁰ and theories of how organizations can become “poised” in their knowledge landscapes by co-evolving with other stakeholders in their business system.¹¹

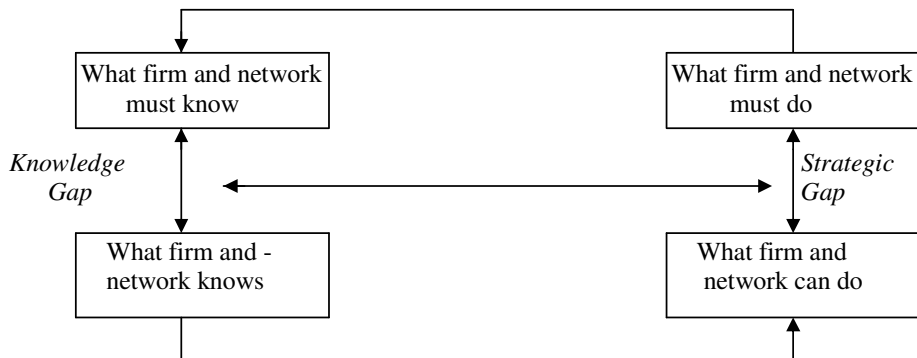


Figure 1. Identifying the systemic strategy-knowledge gap
(Source: Adopted from Zack, M.H. (1999), *Developing a Knowledge Strategy*, California Management Review; 41, 136)

⁹ Ibid.

¹⁰ Oliver, D. and Roos, J. (2000), *Striking a Balance: Complexity and Knowledge Landscapes*, New York: McGraw-Hil Publishing Company.

¹¹ Lissack, M. and Roos, J. (1999) *The Next Common Sense*, London: Nicholac Brealey Publishing.

The Knowledge Creating Process in a Business System

The “raison d’etre” of an organization and the socio-cultural business system of which in forms part is to continuously create knowledge and convert this knowledge into socio-cultural value. Knowledge and the capability to create and utilize such knowledge are the most important source of a business network’s existence and its sustainability. Various authors, such as Nonaka, Teece, Drucker, Probst, Von Krogh and Stewart consider knowledge as the most important resource in today’s economy.¹² Nonaka and Takeuchi propose a knowledge-creating model (the SECI model) for a firm that can also be applied to a business network.

In the above knowledge-creating system, knowledge is created through the SECI spiral (see Figure 2.), that proceeds through four models of conversion between tacit and explicit knowledge:

1. socialization (from tacit knowledge to tacit knowledge);
2. externalization (from tacit knowledge to explicit knowledge);
3. combination (from explicit knowledge to explicit knowledge); and
4. internalization (from explicit knowledge to tacit knowledge).

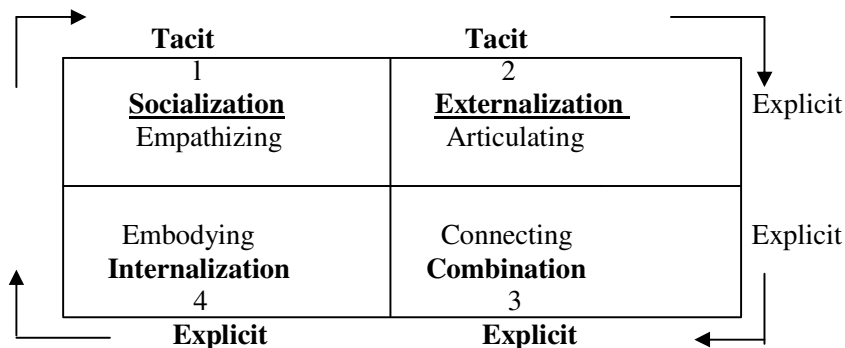


Figure 3. The SECI model of knowledge creation in a business system
(Source: Adopted from Nonaka, I. and Takeuchi, H. (1995). *The Knowledge-Creating Company*, New York: Oxford University Press).

A number of authors e.g. Beinhocker, Govindarajan and Gupta, Hamel, and Kim and Mauborgne, have suggested approaches for “changing the rules of the game”¹³

¹² Nonaka, I. (1991), *The Knowledge Creating Company*, *Harvard Business Review*, November-December 96-104; Teece, D.J. (2000), *Strategies for Managing Knowledge Assets: The Role of Firm Structure and Industrial Context*, *Long Range Planning*, 33, 35-54; Drucker P. (1993), *Post-Capitalist Society*, Butterworth-Heinemann: London; Devenport, T.H. and Probst, G.J.B. (2002), *Knowledge Management Case Book*, Erlangen: Publicis/Wiley; Devenport, T.H. and Prusak. L., (1998), *Working Knowledge*, Boston: Harvard Business School Press; Von Krogh, G. (1997), *Intellectual Capital*, London: Nicholas Brealey Publishing.

¹³ Beinhocker, E.D. (1999), *Robust Adaptive Strategies*, *Sloan Management Review*, Spring, 95-106; Govindarajan, V. and Gupta, A. (2001), *Strategic Innovation: A Conceptual Road Map*, *Business Horizons*, July-August, 3-12; Hamel, G. (2000), *Leading the Revolution*, Boston: Harvard Business School Press; Kim, C., and Mauborgne, R. (1999), *Strategy, Value, Innovation and the Knowledge Economy*, *Sloan Management Review*, Spring, 41-54.

Most of these approaches (or frameworks) consider business models from an individual organization perspective. A framework for shaping the development of new business models for an organization in systemic context is presented in Figure 4. which effectively encapsulates the previous framework discussed in this chapter.

Figure 4. indicates that a new business model arises not only from reconfiguring an organization’s core business strategy and dynamic capabilities, but also from making sense of socio-cultural dynamics and gaps, reinventing of customer value proposition(s), and reconfiguring the business network and its value chain. A reconfigured core business strategy should be *results* of systemic insight, foresight and sense making.

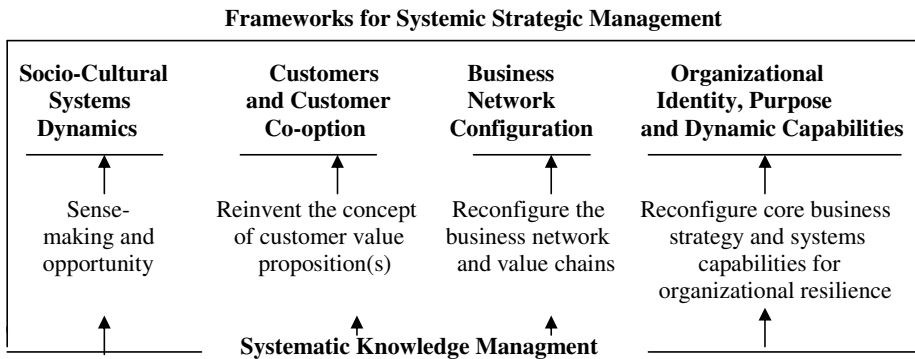


Figure 4. A systemic perspective of developing new business models

Strategic that fit the markets of emerging countries

Companies racing for global leadership have to consider competing in emerging markets like China, India, Brazil, Indonesia and Mexico – countries where the business risks are considerable but where the opportunities for growth are huge, especially as their economies develop and living standards climb towards levels in the industrialized world.¹⁴ With the world now comprising more than 6 billion people - fully one-third of whom are in India and China, and hundreds of millions more in order less-developed countries of Asia and Latin America - a company that aspires to world market leadership (or to sustained rapid growth) cannot ignore the market opportunities or the base of technical and managerial talent such countries offer. For example, in 2003 China’s population of 1,3 billion people consumed nearly 33 percent of the world’s annual cotton production, 51 percent of the world’s pork, 35 percent of all the cigarettes, 31 percent of worldwide coal production, 27 percent of of the world’s steel production, 19 percent of the aluminium, 23 percent of the TVs, 20 percent of the cell phones, and 18 percent of the washing machines.¹⁵ China is the world’s largest consumer of copper, aluminium, and cement and the second biggest for PCs, and it is on track to become the second largest market for motor vehicle by 2010.

Tailoring products to fit conditions in an emerging-country market, however, often involves more than making minor product changes and becoming more familiar with

¹⁴ Prahalad and Lieberthal, *“The End of Corporate Imperialism”*, pp. 68-79, also see David J. Arnold and Hohn A. Quelch, *“New Strategies in Emerging Markets”*, Sloan Management Review 40, no.1 Fall 1998), pp. 7-20.

¹⁵ Brenda Cherry, *“What China East (and Drinks and....)”* Fortune, October 4, 2004., pp. 152-53.

local cultures.¹⁶ Ford's attempt to sell a Ford Escort in India at a price of \$ 21.000 - a luxury-car price, given that India's best-selling Maruti-Suzuki model sold at the time for \$10.000 or less, and that fewer than 10 percent of Indian households have annual purchasing power greater than \$20.000 – met with a less-than-enthusiastic market response. McDonald's has to offer vegetable burgers in parts of Asia and to rethink its prices, which are often high by local standards and affordable only by the well-to-do. Kellogg has struggled to introduce its cereals successfully because consumers in many less-developed countries do not eat cereal for breakfast – changing habits is difficult and expensive. In several emerging countries, Coca-Cola has found that advertising its world image does not strike a chord with the local populace in a number of emerging-country markets.

Single-serving packages of detergents, shampoos, pickles, cough syrup, and cooking oils are very popular in India because they allow buyers to conserve cash by purchasing only what they need immediately. Thus, many of developed companies find that trying to employ a strategy akin to that used in the market of developed countries is hazardous.¹⁷ Experimenting with some, perhaps many, local twists is usually necessary to find a strategy combination that works.

Strategy Options

Several strategy options for tailoring a company's strategy to fit the sometimes unusual or challenging circumstances presented in emerging-country markets:

- Prepare to compete the basis of low price. Consumers in emerging markets are often highly focused on prices, which can give low-cost local competitors the edge unless a company can find ways to attract buyers with bargaining prices as well as better products.¹⁸ For example, when Unilever entered the market for laundry detergents in India, it realized that 80 percent of population could not afford the brands it was selling to affluent consumers there. To compete against a low-priced detergent made by a local company, Unilever came up with a low-cost formula that was not harsh to the skin, constructed new low-cost production facilities, packaged the detergent (named Wheel) in single-use amounts so that it could be sold very cheaply, distributed the product to local merchants by handcarts, and crafted an economical marketing campaign that included painted signs on buildings and demonstrations near stores – the new brand quickly captured \$ 100 million in sale and was the number one detergent brand in India in 2004 based on dollar sales. Unilever later replicated the strategy with low-priced packets of shampoos and deodorants in India and in South America with a detergent brand named Ala.
- Be prepared to modify aspects of the company's business to accommodate local circumstances (but not to much that the company loses the advantage of global scale and global branding).¹⁹ For instance, when Dell entered China,

¹⁶ Prahalad and Lieberthal, *"The End of Corporate Imperialism"*, pp. 72-73.

¹⁷ Tarun Khanna, Krishina G. Palepu, and Jauant Sinha, *"Strategies That Fit Emerging Markets"*, Harvard Business Review 83, no. 6 (June 2005), p. 63.

¹⁸ Prahalad and Lieberthal, *"The End of Corporate Imperialism"*, p. 72.

¹⁹ Khanna, Oalepu, and Sinha, *"Strategies That Fit Emerging Markets"*, pp. 73-74.

it discovered that individuals and business were not accustomed to placing orders through the Internet (in North America, over 50 percent of Dell's sales in 2002-2005 were online). To adopt, Dell modified its direct sales model to rely more heavily on phone and fax-order and decided to be patient in getting Chinese customer to place Internet orders. Further, because numerous Chinese government departments and state owned enterprises insisted that hardware vendors make their bids through distributors and systems integrators (as opposed to dealing directly with Dell salespeople as did large enterprise in other countries), Dell opted to use third parties in marketing its products to this buyer segment (although it did sell through its own sales force where it could).

- Try to change the local market to better match the way the company does business elsewhere.²⁰ A multinational company often has enough market clout to drive major changes in the way a local country market operates. When Hong Kong - based STAR launched its first satellite TV channel in 1991, it profoundly impacted the TV marketplace in India: TV Indian government lost its monopoly on TV broadcasts, several other satellite TV channels aimed at Indian audiences quickly emerged, and the excitement of additional channels triggered a boom in TV manufacturing in India. When Japan's Suzuki entered India in 1981, it triggered a quality revolution among Indian auto parts manufactures. Local parts and components suppliers teamed up Suzuki's vendors in Japan and worked with Japanese experts to produce higher-quality products. Over the next two decades, Indian companies became very proficient in making top-notch parts and country other than Japan, and broke into the global market as suppliers to many automakers in Asia and other parts of the world.
- Stay away from those emerging markets where it is impractical or uneconomic to modify the company's business model to accommodate local circumstances.²¹ Home Depot has avoided entry into most Latin American countries because its value proposition of good quality, low prices, and attentive customer service relies on (1) good highway and logistical systems to minimize store inventory costs, (2) employee stock ownership to help motivate store personnel to provide good customer service, and (3) high labor cost for housing construction and home repairs to encourage homeowners to engage in do it – your self projects.

Company experiences in entering developing markets like China, India, Russia, and Brazil indicate that profitability seldom comes quickly or easily. Building a market for the company's products can often turn into a long - term process that involves reduction of consumers, sizable investments in advertising and promotion to alter tastes and buying habits, and upgrades of the local infrastructure (the supplier base, transportation systems, distribution channel, labor markets, and capital markets). In such cases, a company must be system to improve the infrastructure, and lay the foundation for generating sizeable revenues and profits once conditions are ripe for market takeoff.

Profitability in emerging markets rarely comes quickly or easily - new entrants have to adopt their business models and strategies to local conditions and be patient in earning a profit.

²⁰ Ibid, p. 74.

²¹ Ibid, p. 76.

<i>Industry Pressures to Globalize</i>	High	Dodge rivals by shifting to a new business model or market niche	Contend on a global level
	Low	Defend by using home-field advantage	Transfer company expertise to cross-border markets
		Tailored for Home Market	Transferable to Other Countries
<i>Resources and Competitive Capabilities</i>			

Figure 1. Strategy Option for Local Companies in Competing Against Global Companies
Source: Adopting from N. Dawar and Tony Frost, *Competing with Giants Survival Strategies for Local Companies in Emerging Markets*, *Harvard Business Review* 77, no. 1 (January-February 1999), p. 122.

Conclusion

Strategic alliances with foreign partners have appeal from several angles: gaining wider access to attractive country markets, allowing capture of economies of scale in production and/or marketing, filling gaps in technical expertise and/or knowledge of local markets, saving on costs by sharing distribution facilities and dealer networks, helping gain agreement on important technical standards and helping combat the impact of alliances that rivals have formed. Cross-border strategies alliances are fast reshaping competition in world markets, pitting one group of allied global companies against other group of allied global companies.

There are three ways in which a firm can gain competitive advantage (or offset domestic disadvantages) in global markets. One way involves locating various value chain activities among nations in a manner that lowers costs or achieves greater product differentiation. A second way involves efficient and effective transfer of competitively valuable competencies and capabilities from its domestic markets to foreign markets. A third way draws on a multinational or global competitor's ability to deepen or broaden its resource strengths and capabilities and to coordinate its dispersed activities in ways that a domestic-only competitor cannot.

Endnotes

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2. See L. Doz, and G. Hamel, *Alliance Advantage* (Boston, MA: Harvard Business School Press, 1998), Especially Chapters 2-4; Bleeke and Ernst, *The Way to Win*, pp. 127-33; Hamel, Doz, and Prahalad, *Collaborative with Your Competitors*, pp. 134-35; and Porter, *Competitive Advantage*, p. 66,
3. Christensen, *Corporate Strategy*, pp. 43.
4. For an Excellent Presentation on the pros and cons of alliances versus acquisitions, see: Jeffrey H. Dyer, Prashant Kale, and Harbir Singh, *When to Ally and When to Acquire*, Harvard Business Review 82, no. 7/8 (July August 2004), pp. 109-15.
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STRATEGIES TO IMPROVE THE ACCURACY OF SPF INFLATION RATE FORECASTS OF USA

Abstract

In this study, some strategies of improving the forecasts accuracy were tested for the USA quarterly inflation rate. The classical filters and Holt Winters technique were applied for one-step-ahead forecasts on a horizon of four quarters from 1975 to 2011. Combined forecasts were made using the original SPF values and the new predictions based on filters and Holt Winters method. Some conclusions are valid for all the years for which forecasts are provided: combined predictions based on classical schemes (optimal, inverse weighted and equally weighted scheme) and the smoothed SPF forecasts using Holt Winters technique are two strategies of improving the accuracy of SPF expectations. However, the last one is the best, one reason being that the future evolution of inflation in USA is determined by recent values.

Key words: forecasts, accuracy, combined forecasts, combining schemes, Holt Winters technique, Hodrick-Prescott filter, Band-Pass filter, Christiano-Fitzgerald filter

JEL Classification: E21, E27, C51, C53

СТРАТЕГИЈЕ ЗА ПОБОЉШАЊЕ ТАЧНОСТИ СПФ ПРОГНОЗА СТОПЕ ИНФЛАЦИЈЕ У САД

Апстракт

У овом истраживању, неке стратегије за побољшање прогнозе тачности су тестиране у САД за кварталне стопе инфлације. Класични филтери и Холт Винтер технике примењене су испред прогноза на примеру четири квартала од 1975. до 2011. године. Комбиноване прогнозе су направљене користећи оригиналне СПФ вредности и нова предвиђања на основу филтера и Холт Винтер методе. Неки закључци важе за све године за које се дају прогнозе: комбиноване прогнозе засноване су на класичним програмима (оптимална, инверзна пондерисана и једнако пондерисана шема) и прогнозе СПФ поравнана коришћењем технике две стратегије Холт Винтер и унапређења тачности СПФ очекивања. Међутим, последња стратегија је најбоља, из разлога што је будућност еволуције инфлације у САД је одређен недавним вредностима.

Кључне речи: предвиђање, тачност, комбиноване прогнозе, комбинујући шеме, Холт Винтер техника, Ходрик-Прескот филтер, Банд-Пас филтер, Кристиано-Фитцџералд филтер

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(Christiano & Fitzgerald, 2003, p. 435) explained that Band-Pass filter is used to determine that component of the chronological series that is situated within a specific band of frequencies. (Baxter & King, 1995, p. 38) built a bandpass filter of order K, where K-finite. If the analyzed time series is a random walk, its spectrum of a Band-Pass filter is:

$$f(\omega) = |\alpha^{I(1)}(\omega)|^2 \cdot \frac{\sigma^2}{2\pi}, \text{ where } \omega \in [-\pi; \pi]$$

$$|\alpha^{I(1)}(\omega)|^2 = \left(2 \cdot \sin\left(\frac{\omega}{2}\right) \cdot \sum_{j=1}^K a_j \cdot \sum_{h=-(j-1)}^{j-1} (j - |h|) \cdot \cos(\omega h) \right)^2$$

The peak that shows a spurious cycle is smaller in case of a Band Pass filter in comparison with the Hodrick-Prescott one.

$|\alpha^{I(1)}(\omega)|^2$ is the ptf of the filter.

Christiano-Fitzgerald filter (CF filter) is an asymmetric one and it converges on long run to an optimal filter. It has a steep frequency response function at the limits of the band. The CF filter is computed, according to (Christiano & Fitzgerald, 2003, p. 465), as:

$$c_t = B_0 \cdot inf_t + B_1 \cdot inf_{t+1} + \dots + B_{T-t} \cdot inf_{T-1} + B_1 \cdot inf_{t-1} + \dots + B_{t-2} \cdot inf_2 + B_{t-1} \cdot inf_1$$

$$B_0 = \frac{b-a}{\pi}, a = \frac{2\pi}{p_u}, b = \frac{2\pi}{p_l}$$

p_u, p_l - parameters that are cut-off cycle length in month
c- cycle term

$$B_j = \sin(jb) - \sin(ja), j \geq 1$$

$$B_k = -\frac{1}{2} \cdot B_0 - \sum_{j=1}^{k-1} B_j$$

Holt-Winters Simple exponential smoothing method is recommended for data series with linear trend and without seasonal variations, the forecast being determined

as: $inf_{n+k} = a + b \times k$.

$$a_n = \alpha \times inf_n + (1 - \alpha) \times (a_{n-1} + b_{n-1})$$

$$b_n = \beta \cdot (a_n - a_{n-1}) + (1 - \beta) \cdot b_{n-1}$$

Finally, the prediction value on horizon k is:

$$\hat{inf}_{n+k} = \hat{a}_n + \hat{b}_n \times k$$

Combined forecasts are an important technique used to improve the forecasts accuracy. Therefore, we try to check this hypothesis for the three forecasts based on the mentioned strategies. We refer to the most used combination approaches:

- optimal combination (OPT), with weak results according to (Timmermann, 2006, p. 9);
- equal-weights-scheme (EW);
- inverse MSE weighting scheme (INV).

(Bates *et al.*, 1969, p. 17) considered two predictions $p1;t$ and $p2;t$, for the same variable X_t , derived h periods ago. If the forecasts are unbiased, the error is calculated as:

$e_{i,t} = X_{i,t} - p_{i,t}$. The errors follow a normal distribution of parameters 0 and σ_i^2 . If ρ is the correlation between the errors, then their covariance is $\sigma_{12} = \rho \cdot \sigma_1 \cdot \sigma_2$. The linear combination of the two predictions is a weighted average: $c_t = m \cdot p_{1t} + (1-m) \cdot p_{2t}$. The error of the combined forecast is: $e_{c,t} = m \cdot e_{1t} + (1-m) \cdot e_{2t}$. The mean of the combined forecast is zero and the variance is:

$$\sigma_c^2 = m^2 \cdot \sigma_1^2 + (1-m)^2 \cdot \sigma_2^2 + 2 \cdot m \cdot (1-m) \cdot \sigma_{12}$$

By minimizing the error

variance, the optimal value for m is determined (m_{opt}): $m_{opt} = \frac{\sigma_2^2 - \sigma_{12}}{\sigma_1^2 + \sigma_2^2 - 2 \cdot \sigma_{12}}$.

The individual forecasts are inversely weighted to their relative mean squared forecast

error (MSE) resulting INV. In this case, the inverse weight (m_{inv}) is: $m_{inv} = \frac{\sigma_2^2}{\sigma_1^2 + \sigma_2^2}$.

Equally weighted combined forecasts (EW) are gotten when the same weights are given to all models.

The assessment of forecasts accuracy

The most utilized measures of forecasts accuracy, recalled by (Fildes & Steckler, 2000, p. 8), are:

- Mean error (ME)

$$ME = \frac{1}{n} \sum_{j=1}^n e_X(T_0 + j, k)$$

- Mean absolute error (MAE)

$$MAE = \frac{1}{n} \sum_{j=1}^n | e_X(T_0 + j, k) |$$

- Root Mean Squared Error (RMSE)

$$RMSE = \sqrt{\frac{1}{n} \sum_{j=1}^n e_X^2(T_0 + j, k)}$$

U Theil's statistic is calculated as U1 and U2 and it is used to make comparisons between forecasts.

Notations used:

r- the registered results

f- the forecasted results

t- reference time

e- the error (e=r-f)

n- number of time periods

$$U_1 = \frac{\sqrt{\sum_{t=1}^n (r_t - f_t)^2}}{\sqrt{\sum_{t=1}^n r_t^2 + \sum_{t=1}^n f_t^2}}$$

A value of U_1 closer to zero implies a higher accuracy.

$$U_2 = \sqrt{\frac{\sum_{t=1}^{n-1} \left(\frac{f_{t+1} - r_{t+1}}{a_t} \right)^2}{\sum_{t=1}^{n-1} \left(\frac{r_{t+1} - r_t}{r_t} \right)^2}}$$

If $U_2 = 1 \Rightarrow$ the same accuracy for the two predictions

If $U_2 < 1 \Rightarrow$ the prediction to compare more accurate than the naive one

If $U_2 > 1 \Rightarrow$ the prediction to compare more accurate than the naive one .

One-year-ahead quarterly forecasts of the inflation rate made by the Survey of Professional Forecasters are utilized in this study, the predictions horizon being 1975 Q1-2012 Q3.

The main accuracy indicators were computed and the results are presented in **Appendices**. In most cases the simple SPF forecasts for a horizon of one year are more accurate than those based on econometric filters, according to U1 statistic. Full sample asymmetric (Christiano-Fitzgerald) smoothed values are more accurate for some forecast horizons. Only few values based on Band-Pass filter gave the better forecasts than the original ones. The application of a filter could give better results only in some cases. All the Holt Winters smoothed values are the most accurate ones for each forecast horizon. So, this exponential smoothing technique is the best strategy to be applied. Most of the SPF forecasts are better than the naïve ones.

The results for the last five years are presented in the following tables. The mean errors presented in **Table 1** show that full sample asymmetric values provided the most accurate predictions. These forecasts are overestimated for the entire horizon while all the other forecasts are underestimated.

Table 1 The values of mean errors for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon Q1:Q4 2007- Q1:Q4 2011)

Forecast horizon	Mean Errors (ME) of:					Holt Winters smoothed values
	SPF forecasts	Hodrick-Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano-Fitzgerald) smoothed values	
Q1:Q4 2007	1.0217	1.2561	1.0218	1.0222	-0.8514	1.00561
Q1:Q4 2008	0.8550	0.8837	0.8546	0.8526	-0.3657	0.78837
Q1:Q4 2009	-1.2351	-1.5658	-1.2346	-1.2319	-0.4238	-1.15658
Q1:Q4 2010	0.0291	-0.1697	0.0284	0.0241	-0.3241	-0.01697
Q1:Q4 2011	1.6476	1.7961	1.6505	1.6680	-0.3700	1.37961

Source: own calculations using EViews and Excel

The values of U1 Theil's statistic from **Table 2** show that the predictions smoothed by Holt Winters technique are the most accurate. This conclusion implies the fact that USA inflation rate forecasts depend mostly on recent values of the indicator and less on the inflation registered in the far past.

Table 2 The values of U1 for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon Q1:Q4 2007- Q1:Q4 2011)

Forecast horizon	U1 Theil's statistic of:					Holt Winters smoothed values
	SPF forecasts	Hodrick-Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano-Fitzgerald) smoothed values	
Q1:Q4 2007	0.9231	1.2304	1.0511	1.0472	1.1394	0.341019
Q1:Q4 2008	0.9129	1.5169	1.3397	1.3455	1.4665	0.079623
Q1:Q4 2009	0.8555	2.7806	2.4199	2.3954	2.8334	0.016668
Q1:Q4 2010	1.0307	0.8615	0.8288	0.8269	0.8045	0.059355
Q1:Q4 2011	0.9246	1.2148	1.2157	1.2138	1.3154	0.018942

Source: own calculations using EViews and Excel

In **Table 3** the values of U2 are displayed in order to compare the mentioned predictions with the naïve ones. Excepting 2010, all the predictions based on Holt Winters technique are better than the naïve ones while the SPF forecasts are better than those based on random walk model.

Table 3 The values of U2 for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon Q1:Q4 2007- Q1:Q4 2011)

Forecast horizon	U2 Theil's statistic of:					Holt Winters smoothed values
	SPF forecasts	Hodrick-Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano-Fitzgerald) smoothed values	
Q1:Q4 2007	0.9231	1.2304	1.0511	1.0472	1.1394	1.0943
Q1:Q4 2008	0.9129	1.5169	1.3397	1.3455	1.4665	1.3659
Q1:Q4 2009	0.8555	2.7806	2.4199	2.3954	2.8334	2.1695
Q1:Q4 2010	1.0307	0.8615	0.8288	0.8269	0.8045	0.9278
Q1:Q4 2011	0.9246	1.2148	1.2157	1.2138	1.3154	1.3811

Source: own calculations using EViews and Excel

The predictions based on Holt Winters smoothing technique are recommended for the USA inflation rate. A good strategy of improving the SPF forecasts is to smooth the original predictions using this method that gives a higher weight to recent values than to the older ones.

The combined forecasts are utilized as a technique of improving the accuracy of predictions. Using the three mentioned schemes, combined forecasts were made and comparisons with previous predictions were done. In **Appendix 2**, the values of U1 are presented in order to observe the differences in accuracy for all the forecasts. All the one-step-ahead combined forecasts for 1976-2011 on a horizon of 4 quarters are better than SPF ones. The transformed forecasts using filter are less accurate than all the combined predictions. Holt Winters technique remains the best method to improve the inflation rate forecasts accuracy in USA. In **Table 4** the results for the last years are presented.

Table 4 The values of U1 for the combined quarterly inflation rate forecasts of USA (forecasts horizon Q1:Q4 2007- Q1:Q4 2011)

Forecast horizon	U1 Theil's statistic of:					
	SPF forecasts+ Hodrick-Prescott smoothed values- OPT scheme (C1-OPT)	SPF forecasts+ Hodrick-Prescott smoothed values- INV scheme (C1- INV)	SPF forecasts+ Hodrick-Prescott smoothed values- EQ scheme (C1- EQ)	SPF forecasts+ Holt Winters smoothed values- OPT scheme (C2-OPT)	SPF forecasts+ Holt Winters smoothed values- INV scheme (C2- INV)	SPF forecasts+ Holt Winters smoothed values- EQ scheme (C2- EQ)
Q1:Q4 2007	0.103837	0.119924	0.135442	0.118546	0.12329	0.128687
Q1:Q4 2008	0.08472	0.070149	0.069211	0.082549	0.07485	0.071004
Q1:Q4 2009	0.070155	0.069307	0.075774	0.080856	0.076214	0.07496
Q1:Q4 2010	0.080118	0.058709	0.046177	0.08569	0.070227	0.058334
Q1:Q4 2011	0.085425	0.055618	0.036774	0.062155	0.052156	0.044527

	SPF forecasts+ Baxter-King smoothed values- OPT scheme (C3-OPT)	SPF forecasts+ Baxter-King smoothed values- INV scheme (C3- INV)	SPF forecasts+ Baxter-King smoothed values- EQ scheme (C3- EQ)	SPF forecasts+ Full sample asymmetric smoothed values- OPT scheme (C4-OPT)	SPF forecasts+ Full sample asymmetric smoothed values- INV scheme (C4- INV)	SPF forecasts+ Full sample asymmetric smoothed values- EQ scheme (C4- EQ)
Q1:Q4 2007	0.132711	0.132671	0.132687	0.126463	0.168253	0.150304
Q1:Q4 2008	0.091893	0.091559	0.0917	0.088433	0.116577	0.1032
Q1:Q4 2009	0.102689	0.102223	0.102419	0.100012	0.121043	0.111077
Q1:Q4 2010	0.119062	0.118419	0.11869	0.117337	0.129209	0.123814
Q1:Q4 2011	0.148907	0.147778	0.148256	0.148335	0.150888	0.149811

In Q1:Q4 2007- Q1:Q4 2011, the combined forecasts between SPF predictions and Hodrick-Prescott smoothed values are the best in this category. For Q1:Q4 2008, Q1:Q4 2010 and Q1:Q4 2011, the equally weighted scheme gave the best results, while for Q1:Q4 2007 the optimal one and for Q1:Q4 2009 the inverse weighted scheme.

Therefore, we can recommend as strategies of improving the SPF accuracy two elements: the smoothed predictions using Holt Winters technique and the combined forecasts of filtered and smoothed values and SPF forecasts.

Conclusions

The results of this empirical research highlight that for the USA quarterly inflation rate predictions made by SPF for a horizon of one year in 1975-2011 a good strategy of improving the forecasts accuracy is the smoothing of the values using Holt Winters technique, an exponential smoothing method that considers exponentially decreasing weights over time.

Applying a certain filter to the initial predictions of SPF is not always the best method of improving the accuracy. Starting from the results of this study we recommend the use of exponential techniques to smooth the SPF predictions in order to improve the forecasts accuracy of USA inflation rate.

The combined forecasts using SPF predictions and the filtered and smoothed values starting from the same SPF estimations proved to be another good strategy of getting better forecasts. The values based on Hodrick-Prescott filter in combination with SPF forecasts using the three schemes gave the best results in the category of combined predictions.

It is important to choose the best prediction in order to improve the decision process or to establish a better government policy. Choosing the best inflation rate will improve the monetary policy and the best solutions to control the inflation will be taken in time.

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Appendices

APPENDIX 1

The values of mean errors for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon= 4 quarters)

Forecast horizon	Mean Errors (ME) of:					Holt Winters smoothed values
	SPF forecasts	Hodrick-Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano-Fitzgerald) smoothed values	
Q1:Q4 1976	-0.2002	-0.5362	-0.1999	-0.1981	-0.4344	-0.2613
Q1:Q4 1977	0.5501	-0.2068	0.5499	0.5489	-0.5440	0.6655
Q1:Q4 1978	0.9995	0.4768	0.9982	0.9899	-0.5833	1.3425
Q1:Q4 1979	3.3751	3.7658	3.3738	3.3658	-0.3979	3.7075
Q1:Q4 1980	4.6141	6.0347	4.6180	4.6418	-0.1716	4.9692
Q1:Q4 1981	2.0928	3.1570	2.0937	2.0992	-0.0858	1.6881
Q1:Q4 1982	-0.0220	-0.3686	-0.0215	-0.0189	-0.1241	-0.4454
Q1:Q4 1983	-1.8434	-2.4956	-1.8436	-1.8445	-0.0108	-1.7989
Q1:Q4 1984	-0.5711	-0.6771	-0.5717	-0.5756	0.3961	-0.6972
Q1:Q4 1985	-0.5857	-0.8526	-0.5847	-0.5782	1.0064	-0.8526
Q1:Q4 1986	-1.1282	-2.0933	-1.1341	-1.1699	1.8265	-2.0933

Q1:Q4 1987	-0.1792	-0.1942	-0.1771	-0.1639	2.7248	-0.1942
Q1:Q4 1988	-0.0060	0.2303	-0.0062	-0.0075	3.5724	0.2303
Q1:Q4 1989	0.4736	1.0373	0.4743	0.4787	4.5271	1.0373
Q1:Q4 1990	1.3539	1.7185	1.3551	1.3620	5.4132	1.7185
Q1:Q4 1991	0.3555	0.2208	0.3549	0.3515	5.6893	0.2208
Q1:Q4 1992	0.2621	-0.0857	0.2615	0.2581	5.6312	-0.0857
Q1:Q4 1993	-0.0677	-0.1963	-0.0685	-0.0729	4.9484	-0.1963
Q1:Q4 1994	-0.2766	-0.0798	-0.2762	-0.2737	3.8215	-0.0798
Q1:Q4 1995	0.2208	0.1717	0.2204	0.2176	3.4084	0.1717
Q1:Q4 1996	0.4540	0.5669	0.4555	0.4640	2.7510	0.5669
Q1:Q4 1997	-0.3855	-0.2906	-0.3854	-0.3845	1.9616	-0.2906
Q1:Q4 1998	-0.2700	-0.5147	-0.2718	-0.2829	1.4594	-0.5147
Q1:Q4 1999	0.7311	0.5639	0.7309	0.7300	0.3703	0.5639
Q1:Q4 2000	1.1657	1.4409	1.1670	1.1751	-0.6647	1.4409
Q1:Q4 2001	0.3634	0.3455	0.3625	0.3568	-1.3820	0.3455
Q1:Q4 2002	0.0969	0.0586	0.0979	0.1038	-2.0159	0.0586
Q1:Q4 2003	0.2947	0.0387	0.2932	0.2838	-2.5156	0.0387
Q1:Q4 2004	1.0093	0.9827	1.0094	1.0097	-2.5483	0.9827
Q1:Q4 2005	1.3279	1.4724	1.3288	1.3341	-1.9404	1.4724
Q1:Q4 2006	0.6616	0.8460	0.6612	0.6585	-1.4885	0.8460
Q1:Q4 2007	1.0217	1.2561	1.0218	1.0222	-0.8514	1.2561
Q1:Q4 2008	0.8550	0.8837	0.8546	0.8526	-0.3657	0.8837
Q1:Q4 2009	-1.2351	-1.5658	-1.2346	-1.2319	-0.4238	-1.5658
Q1:Q4 2010	0.0291	-0.1697	0.0284	0.0241	-0.3241	-0.1697
Q1:Q4 2011	1.6476	1.7961	1.6505	1.6680	-0.3700	1.7961

Source: own calculations using EViews and Excel

APPENDIX 2

The values of U1 for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon= 4 quarters)

Forecast horizon	U1 Theil's statistic of:					
	SPF forecasts	Hodrick- Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano- Fitzgerald) smoothed values	Holt Winters smoothed values
Q1:Q4 1976	0.6544	1.6041	0.8413	0.8337	1.2885	0.000898
Q1:Q4 1977	2.1219	0.6492	0.8014	0.8310	0.3761	8.23E-05
Q1:Q4 1978	1.4810	1.2315	1.5413	1.5319	1.0419	0.002578

Q1:Q4 1979	0.9432	3.9720	3.5510	3.5420	3.7664	0.026233
Q1:Q4 1980	0.8341	5.2174	4.0563	4.0781	4.8589	0.001023
Q1:Q4 1981	0.7985	2.4827	1.7571	1.7459	2.2030	0.048258
Q1:Q4 1982	0.5407	0.9317	0.5980	0.5799	1.1116	0.004442
Q1:Q4 1983	0.7916	3.8381	3.0869	3.0412	3.9097	0.012992
Q1:Q4 1984	1.5657	0.9287	0.8149	0.8175	0.5213	0.011349
Q1:Q4 1985	1.6837	2.4449	1.7492	1.7106	1.0434	0.028849
Q1:Q4 1986	0.7306	4.2584	2.4947	2.5617	3.4001	0.043886
Q1:Q4 1987	1.0205	1.2985	1.1562	1.1209	1.1386	0.069176
Q1:Q4 1988	0.3788	0.9997	0.3794	0.3695	1.0060	0.09358
Q1:Q4 1989	0.5943	2.3639	1.1045	1.1093	1.8576	0.128365
Q1:Q4 1990	0.9678	2.3975	1.7661	1.8131	1.8172	0.131054
Q1:Q4 1991	1.1128	1.1456	1.1540	1.1362	1.0397	0.159573
Q1:Q4 1992	0.6287	1.8868	2.0084	1.8748	3.2302	0.237398
Q1:Q4 1993	1.7591	0.8861	1.5568	1.4805	0.8931	0.168107
Q1:Q4 1994	1.8883	0.9941	1.1253	1.1150	0.5970	0.079322
Q1:Q4 1995	0.3911	0.8593	0.6623	0.6715	1.6953	0.085313
Q1:Q4 1996	0.8073	3.4008	3.1215	3.1229	3.8666	0.023088
Q1:Q4 1997	0.8242	0.9054	0.9217	0.9359	1.1158	0.005032
Q1:Q4 1998	0.6387	3.0903	2.5880	2.5616	4.0595	0.052562
Q1:Q4 1999	1.2172	1.2149	1.4439	1.4274	1.1893	0.027111
Q1:Q4 2000	0.8645	3.6724	3.1361	3.1548	3.6242	0.000216
Q1:Q4 2001	0.8086	1.7281	1.5348	1.5331	1.8988	0.000653
Q1:Q4 2002	1.1341	1.2574	1.1678	1.1579	1.0312	0.003713
Q1:Q4 2003	0.9858	1.0542	1.2825	1.2777	1.3018	0.052012
Q1:Q4 2004	1.0912	1.1006	1.1809	1.1750	1.0833	0.184135
Q1:Q4 2005	1.0067	2.6362	2.4210	2.4210	2.4049	0.199776
Q1:Q4 2006	0.9814	1.6117	1.4492	1.4491	1.4767	0.396261
Q1:Q4 2007	0.9231	1.2304	1.0511	1.0472	1.1394	0.341019
Q1:Q4 2008	0.9129	1.5169	1.3397	1.3455	1.4665	0.079623
Q1:Q4 2009	0.8555	2.7806	2.4199	2.3954	2.8334	0.016668
Q1:Q4 2010	1.0307	0.8615	0.8288	0.8269	0.8045	0.059355
Q1:Q4 2011	0.9246	1.2148	1.2157	1.2138	1.3154	0.018942

Source: own calculations using EViews and Excel

Forecast horizon	U1 Theil's statistic of:					
	SPF forecasts+ Hodrick-Prescott smoothed values- OPT scheme (C1- OPT)	SPF forecasts+ Hodrick-Prescott smoothed values- INV scheme (C1- INV)	SPF forecasts+ Hodrick-Prescott smoothed values- EQ scheme (C1- EQ)	SPF forecasts+ Holt Winters smoothed values- OPT scheme (C2- OPT)	SPF forecasts+ Holt Winters smoothed values- INV scheme (C2- INV)	SPF forecasts+ Holt Winters smoothed values- EQ scheme (C2- EQ)
Q1:Q4 1976	0.044982	0.038012	0.036315	0.03997	0.037885	0.03685
Q1:Q4 1977	0.045361	0.038665	0.037249	0.040498	0.03855	0.037641
Q1:Q4 1978	0.080933	0.055844	0.043675	0.064253	0.055212	0.049065
Q1:Q4 1979	0.078648	0.057418	0.04875	0.06424	0.056925	0.052336
Q1:Q4 1980	0.072975	0.054369	0.047507	0.060175	0.053959	0.050236

Q1:Q4 1981	0.076719	0.059698	0.053537	0.06495	0.059329	0.055989
Q1:Q4 1982	0.071188	0.055417	0.050627	0.060097	0.055101	0.052363
Q1:Q4 1983	0.092999	0.06768	0.054695	0.07623	0.067029	0.060607
Q1:Q4 1984	0.114109	0.09098	0.079165	0.098746	0.09039	0.084564
Q1:Q4 1985	0.140932	0.117659	0.105404	0.125529	0.117057	0.111065
Q1:Q4 1986	0.168991	0.143167	0.128396	0.152143	0.142466	0.135367
Q1:Q4 1987	0.187065	0.167263	0.155955	0.174144	0.166727	0.161289
Q1:Q4 1988	0.208748	0.191013	0.180883	0.197176	0.190533	0.185662
Q1:Q4 1989	0.241045	0.219789	0.207559	0.227194	0.219211	0.213339
Q1:Q4 1990	0.250628	0.235383	0.22645	0.240731	0.234964	0.230688
Q1:Q4 1991	0.246677	0.23192	0.223268	0.237098	0.231514	0.227373
Q1:Q4 1992	0.236826	0.219641	0.209656	0.22565	0.219171	0.214385
Q1:Q4 1993	0.194824	0.185921	0.180846	0.189013	0.18568	0.183239
Q1:Q4 1994	0.146245	0.139948	0.136704	0.142056	0.139788	0.138198
Q1:Q4 1995	0.118784	0.123279	0.127916	0.121211	0.123463	0.125532
Q1:Q4 1996	0.083327	0.104507	0.117999	0.096804	0.105123	0.111502
Q1:Q4 1997	0.073636	0.096851	0.112072	0.088285	0.097541	0.104713
Q1:Q4 1998	0.077561	0.100174	0.117122	0.091238	0.100915	0.108786
Q1:Q4 1999	0.062272	0.067478	0.07602	0.064248	0.067794	0.071505
Q1:Q4 2000	0.060576	0.050978	0.054029	0.052551	0.050957	0.051662
Q1:Q4 2001	0.114745	0.093205	0.0844	0.100124	0.092705	0.088051
Q1:Q4 2002	0.152696	0.131445	0.119074	0.13892	0.130859	0.124911
Q1:Q4 2003	0.204894	0.19292	0.187277	0.196831	0.192629	0.189802
Q1:Q4 2004	0.218655	0.2209	0.226293	0.21911	0.221086	0.223364
Q1:Q4 2005	0.183397	0.194616	0.205049	0.189683	0.195047	0.199774
Q1:Q4 2006	0.153805	0.17204	0.186912	0.16447	0.17268	0.179546
Q1:Q4 2007	0.103837	0.119924	0.135442	0.118546	0.12329	0.128687
Q1:Q4 2008	0.08472	0.070149	0.069211	0.082549	0.07485	0.071004
Q1:Q4 2009	0.070155	0.069307	0.075774	0.080856	0.076214	0.07496
Q1:Q4 2010	0.080118	0.058709	0.046177	0.08569	0.070227	0.058334
Q1:Q4 2011	0.085425	0.055618	0.036774	0.062155	0.052156	0.044527

Forecast horizon	U1 Theil's statistic of:					
	SPF forecasts+ Baxter-King smoothed values- OPT scheme (C3- OPT)	SPF forecasts+ Baxter-King smoothed values- INV scheme (C3- INV)	SPF forecasts+ Baxter-King smoothed values- EQ scheme (C3- EQ)	SPF forecasts+ Full sample asymmetric smoothed values- OPT scheme (C4- OPT)	SPF forecasts+ Full sample asymmetric smoothed values- INV scheme (C4- INV)	SPF forecasts+ Full sample asymmetric smoothed values- EQ scheme (C4- EQ)
Q1:Q4 1976	0.067516	0.053487	0.056709	0.064266	0.064083	0.063836
Q1:Q4 1977	0.056895	0.056373	0.056592	0.055729	0.06273	0.059769
Q1:Q4 1978	0.065713	0.065456	0.065565	0.065298	0.068017	0.066784
Q1:Q4 1979	0.066619	0.066477	0.066537	0.066703	0.066509	0.066449
Q1:Q4 1980	0.059336	0.059207	0.059261	0.060854	0.051529	0.05529
Q1:Q4 1981	0.069003	0.068727	0.068843	0.071697	0.05475	0.061697
Q1:Q4 1982	0.062982	0.06302	0.063003	0.066822	0.0432	0.052835
Q1:Q4 1983	0.097046	0.096858	0.096937	0.101723	0.072708	0.084567
Q1:Q4 1984	0.139477	0.139422	0.139445	0.144578	0.113114	0.125973

Q1:Q4 1985	0.184154	0.183976	0.184051	0.189396	0.156738	0.170155
Q1:Q4 1986	0.218632	0.218493	0.218552	0.223912	0.190694	0.204455
Q1:Q4 1987	0.242001	0.241985	0.241991	0.246712	0.217042	0.229373
Q1:Q4 1988	0.261094	0.261055	0.261071	0.264814	0.241289	0.251086
Q1:Q4 1989	0.283619	0.283597	0.283606	0.285949	0.271196	0.277345
Q1:Q4 1990	0.292662	0.292705	0.292687	0.293692	0.28721	0.289915
Q1:Q4 1991	0.285154	0.28516	0.285157	0.285121	0.285393	0.285263
Q1:Q4 1992	0.270581	0.270547	0.270562	0.269653	0.275673	0.27311
Q1:Q4 1993	0.22859	0.22867	0.228636	0.226954	0.237756	0.233141
Q1:Q4 1994	0.176527	0.176494	0.176508	0.174328	0.189026	0.182657
Q1:Q4 1995	0.139954	0.139885	0.139914	0.136807	0.158266	0.148848
Q1:Q4 1996	0.086171	0.086218	0.086198	0.082403	0.109702	0.097369
Q1:Q4 1997	0.070279	0.070216	0.070242	0.06867	0.08689	0.077038
Q1:Q4 1998	0.086584	0.086436	0.086498	0.087117	0.09139	0.087272
Q1:Q4 1999	0.096864	0.096909	0.09689	0.100186	0.08297	0.088887
Q1:Q4 2000	0.149946	0.14991	0.149925	0.152568	0.137263	0.143218
Q1:Q4 2001	0.204543	0.204453	0.204491	0.205221	0.201726	0.202918
Q1:Q4 2002	0.249636	0.249673	0.249658	0.248729	0.255013	0.252244
Q1:Q4 2003	0.305817	0.305811	0.305814	0.303373	0.319119	0.31247
Q1:Q4 2004	0.315113	0.315104	0.315107	0.311176	0.336247	0.325746
Q1:Q4 2005	0.265694	0.265767	0.265736	0.261125	0.291149	0.27836
Q1:Q4 2006	0.217893	0.217851	0.217868	0.212811	0.246997	0.23222
Q1:Q4 2007	0.132711	0.132671	0.132687	0.126463	0.168253	0.150304
Q1:Q4 2008	0.091893	0.091559	0.0917	0.088433	0.116577	0.1032
Q1:Q4 2009	0.102689	0.102223	0.102419	0.100012	0.121043	0.111077
Q1:Q4 2010	0.119062	0.118419	0.11869	0.117337	0.129209	0.123814
Q1:Q4 2011	0.148907	0.147778	0.148256	0.148335	0.150888	0.149811

APPENDIX 3

The values of U2 for the SPF quarterly inflation rate forecasts and the SPF smoothed predictions (forecasts horizon= 4 quarters)

Forecast horizon	U2 Theil's statistic of:					
	SPF forecasts	Hodrick- Prescott smoothed values	Baxter-King smoothed values	Band-Pass smoothed values	Full sample asymmetric (Christiano-Fitzgerald) smoothed values	Holt Winters smoothed values
Q1:Q4 1976	0.6544	1.6041	0.8413	0.8337	1.2885	0.9893
Q1:Q4 1977	2.1219	0.6492	0.8014	0.8310	0.3761	1.1219
Q1:Q4 1978	1.4810	1.2315	1.5413	1.5319	1.0419	2.0023
Q1:Q4 1979	0.9432	3.9720	3.5510	3.5420	3.7664	3.9022
Q1:Q4 1980	0.8341	5.2174	4.0563	4.0781	4.8589	4.3711
Q1:Q4 1981	0.7985	2.4827	1.7571	1.7459	2.2030	1.3941
Q1:Q4 1982	0.5407	0.9317	0.5980	0.5799	1.1116	0.6777
Q1:Q4 1983	0.7916	3.8381	3.0869	3.0412	3.9097	2.7
Q1:Q4 1984	1.5657	0.9287	0.8149	0.8175	0.5213	1.1444

Q1:Q4 1985	1.6837	2.4449	1.7492	1.7106	1.0434	1.9742
Q1:Q4 1986	0.7306	4.2584	2.4947	2.5617	3.4001	2.4150
Q1:Q4 1987	1.0205	1.2985	1.1562	1.1209	1.1386	0.6643
Q1:Q4 1988	0.3788	0.9997	0.3794	0.3695	1.0060	0.9081
Q1:Q4 1989	0.5943	2.3639	1.1045	1.1093	1.8576	1.1024
Q1:Q4 1990	0.9678	2.3975	1.7661	1.8131	1.8172	2.0011
Q1:Q4 1991	1.1128	1.1456	1.1540	1.1362	1.0397	0.9407
Q1:Q4 1992	0.6287	1.8868	2.0084	1.8748	3.2302	1.4357
Q1:Q4 1993	1.7591	0.8861	1.5568	1.4805	0.8931	1.8478
Q1:Q4 1994	1.8883	0.9941	1.1253	1.1150	0.5970	0.8075
Q1:Q4 1995	0.3911	0.8593	0.6623	0.6715	1.6953	0.7841
Q1:Q4 1996	0.8073	3.4008	3.1215	3.1229	3.8666	3.8737
Q1:Q4 1997	0.8242	0.9054	0.9217	0.9359	1.1158	1.0629
Q1:Q4 1998	0.6387	3.0903	2.5880	2.5616	4.0595	2.8688
Q1:Q4 1999	1.2172	1.2149	1.4439	1.4274	1.1893	1.8382
Q1:Q4 2000	0.8645	3.6724	3.1361	3.1548	3.6242	3.6443
Q1:Q4 2001	0.8086	1.7281	1.5348	1.5331	1.8988	1.5230
Q1:Q4 2002	1.1341	1.2574	1.1678	1.1579	1.0312	0.9311
Q1:Q4 2003	0.9858	1.0542	1.2825	1.2777	1.3018	1.2705
Q1:Q4 2004	1.0912	1.1006	1.1809	1.1750	1.0833	1.4139
Q1:Q4 2005	1.0067	2.6362	2.4210	2.4210	2.4049	2.5995
Q1:Q4 2006	0.9814	1.6117	1.4492	1.4491	1.4767	1.5687
Q1:Q4 2007	0.9231	1.2304	1.0511	1.0472	1.1394	1.0943
Q1:Q4 2008	0.9129	1.5169	1.3397	1.3455	1.4665	1.3659
Q1:Q4 2009	0.8555	2.7806	2.4199	2.3954	2.8334	2.1695
Q1:Q4 2010	1.0307	0.8615	0.8288	0.8269	0.8045	0.9278
Q1:Q4 2011	0.9246	1.2148	1.2157	1.2138	1.3154	1.3811

Source: own calculations using EViews and Excel

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IDENTITY, IMAGE AND REPUTATION AS DETERMINANTS OF ENTERPRISE COMPETITIVENESS⁴

Abstract

Competitiveness of enterprises in modern business conditions is based on intellectual resources. Therefore, a key challenge of knowledge economy is management, measurement and improvement of intellectual capital. Bearing in mind that it is a complex categorz, that it consists of several intangible components and values, the aim of this paper is to reveal the importance which segments of intellectual capital – identity, image and reputation have in building up, maintaining and increasing enterprise competitiveness.

Keywords: corporate identity, image, reputation, competitiveness.

JEL Classification: M21

ИДЕНТИТЕТ, ИМИЦ И РЕПУТАЦИЈА - ДЕТЕРМИНАНТЕ КОНКУРЕНТНОСТИ ПРЕДУЗЕЋА

Апстракт

Конкурентност предузећа у савременим условима заснована је на интелектуалним ресурсима. Стога је кључни изазов економије знања управљање, мерење и унапређење интелектуалног капитала. Имајући у виду да је он сложена категорија, односно да се састоји из више нематеријалних компоненти и вредности, циљ овог рада је да расветли значај који сегменти интелектуалног капитала – идентитет, имици и репутација имају у изграђивању, одржању и увећању конкурентности предузећа.

Кључне речи: идентитет, имици, репутација, конкурентност.

INTRODUCTION

Not so long time ago, identity, image and reputation were rather vague concepts. In the best case, they were assessed as a peripheral concern of higher managers. Typically, they saw them as a part of public relations area. Nowadays, increasing number of the most discerning managers is treating them as a key business assets, directly connected to the market success and to the determinant of competitive position. *Van Reil (1995, cmp.*

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26) i Fombrun (1996) remind us that these factors have always been connected to the strategic positioning. Overcoming the barriers between enterprises and their stakeholders in modern business world, emphasises the necessity for strategic management of identity, image and reputation. Apart from that, processes, such as globalization, mergers, deregulation and privatization, as well as the shortening of the product life cycle, have created a sense of urgency for many enterprises to effectively manage these important intangible resources.

Identity, image and reputation of enterprise

The identity of an enterprise belongs to the structural intellectual capital (Krstić, 2009). Corporate identity represents the total communication embodied in the culture, beliefs, people's attitudes, as well as, in the competitive strategy. *Corporate identity* is unique, individual personality of the company which differentiates it from other companies. *Corporate identity* speaks about what an organization really is. It is based in all activities of the organization and gives the organization a personal seal. Identity is a base for public to create an image about the organization. It's being built from the beginning of the organization's functioning, and it is harmonized with its mission and defence strategy. Ind (1996, p. 6) points out that corporate identity should be accepted as something which influences and is influenced by everything that organization does and presents in public. It speaks about that, if it is properly understood and used, identity should have serious role in increasing business successfulness.

The term *identity* includes also information and knowledge exchange between certain company and/or groups/individuals which are connected with it. It involves communication with employees, which is in the field of internal relations. In addition, identity is being connected with communication, growing good partnership relations, cooperation and trust with all the external stakeholders. For these reasons, it includes lobbying, creating sponsorships and donation programme, as well as, plans for communication in conditions of business, financial crisis. The basic function of the corporate identity is to enable enterprises to acquire, improve and keep competitive advantage.

With the development of marketing and public relations, identity has been identified with visual appearance of an enterprise in public – the logo or trademark⁵. Identity helps to achieve, first, *coherence*, through the presentation of coherent structure, second, *symbolism*, through expression of the attitude, and, third, *positioning*, through differentiation from the competition. The goals can be different so management should: a) do more on improving communication within the organization, b) increase public's perception of the organization's existence, c) increase market value of the firm's stocks, d) announce a new business strategy, e) provide "painless" integration of two or more firms, f) creates firm's reputation in public, and g) determines its position on the market.

The aim of corporate identity management is to bring it closer and explain it in the best possible way to the stakeholders who are important for the firm, in the way which is positive and precise. This process includes positive enterprise identity and transfers it by communicating to the key stakeholders so that they have affirmative attitude on

⁵ More closely, identity represents visual and material resources which identify and represent organization in public, and they include: a slogan, logo, graphical standards (memos, communication, colours, products and packings), print production (catalogues, annual reports), web-site, code of conduct, data disclosure, business premisses and corporate film.

it. However, identity and image should be differentiated. Identity includes the ways in which enterprise seeks to identify and position itself or its products.

The *image* is the way public accepts (perceives) company and its products. Image is conditioned by many factors which are out of enterprise's control. Image is the totality of impressions public has gained about a certain enterprise, and the consequence of experienced, but not real qualities (performances) of an enterprise. That psychological moment directly determines business or market behaviour towards products/services and the enterprise itself, and it can be either positive or negative. Image is being formed by the process of communication with help of presented characteristics (performances) of the organization. Image is a *sui generis* net-result of interaction of all the experiences, beliefs, feelings, knowledge and impressions which every stakeholder has regarding an organization.

Corporate image represents a picture about the essence of the values which has been created by consumers and the rest of the public about an enterprise and its products. Corporate image has been mostly determined by nature/quality of products and services it creates in a long-term period of time, by culture and employee's competences, as well as, by market segments in which it operates (Stanković, Radenković-Jocić, Đukić, 2007, p. 38). Corporate image is one of the critical factors of new products/services development which reduces the uncertainty of innovations, because satisfied consumers transmit the trust and positive attitudes. Enterprise image is a significant usage performance of the complex of its resources which includes a number of other resource usage performances, but also social responsibility performances. Enterprise image is being created according to tradition in business, financial performances, management quality, product quality, success in export, position in the industry, entrepreneurial spirit, social responsibility (Krstić, Sekulić, 2007, p. 26).

Just like a character of the person is closely connected with motives, attitudes and interests of a man, and just like it is our image in the eyes of another person, so we can tell for the image that it is an image public has about the organization, that is, about what makes its essence embodied in the corporate culture, attitudes and beliefs. "Company, as well as a human being, develops its character and integrates its reputation into the consciousness of other people." (Blek, 1997, p. 101). Main areas of image usage include: strategic positioning, successful market penetration, providing access to different resources and cost reduction, focusing on the behaviour which increases motivation, and also productivity and efficiency of business.

Image can be viewed as a function of accumulated experience over the time, and has two main components: *functional and emotional* (Weiwei, T., 2007). *Functional component of the image* is associated with tangible – visible attributes that can be easily measurable. *Emotional component of the image* is associated with psychological dimension which is manifested through emotions and attitudes towards the organization.

Integration of tangible and intangible elements creates image which is recognized by unique and effective set of values embedded into the structure of identity. One of the basic components of the corporate image is a picture consumers have about company's products and services. It's being created according to delivered quality of products/services. Intangible elements of the image are quality performances which are smaller, less detectable or harder to measure. When speaking about relation between identity and image of the company, there is a simple formula that describes that relation as follows: *identity + communication = image*.

Identity corresponds to the values that make company, but, actually, it is important how much public (external stakeholders) think it is worth. Factors that influence enterprise image are numerous: employee behaviour, clothing, manner of conduct

(etiquette, speech), accountability, sincerity, credibility – in one word, total culture and skill of business and communication. Also, one should bear in mind that attitude and relationship between management and employees influences corporate image. Here, one should have in mind: positive attitude towards work, towards colleagues, towards clients and life in general, creates positive image, and vice versa.

Managing corporate image and reputation has two primary goals. First one is related to creating the intended image, and second one to creating a favorable reputation in the consciousness of key stakeholders. Strong image can be built through coordinated, so called, image development campaign, which includes a formal communication system – name, logo, corporate advertising and public relations.

The goal of efficient corporate communication is to establish confidence in products, in future of business orientation, in resources and capabilities of companies, and, finally, in the brand. Corporate communication is management function with ultimate goal in establishing and maintaining wanted reputation with the stakeholders (Cornelissen, 2004). Corporate communication is a critical connection between identity, image and reputation. When one says corporate communication, it refers to the entire communication of many stakeholders who, in return, can influence image and reputation via secondary and tertiary interpersonal communication. Methods and channels of corporate communication should be defined in the broadest possible sense because they are influenced by interest groups. They include almost everything that enterprise does, from the way of using telephones, to the participation of managers and other employees in enterprise activities and in different social activities. Corporate communication focuses on organization as a whole, but also on the importance of its representation to the key (Dolphin, 2000).

Image is connected with advantages and disadvantages of an enterprise. The reputation is being built on the image, through the years of existence and consistency of the declared values in enterprise culture. Good reputation attracts investments, new and quality labour, new consumers on new and/or existing markets.

New researches of the enterprise success determinants, show growing interest for intangible resources and values. Reputation is one of those intangible categories, which is particularly hard to imitate, which makes it valuable source of competitive advantage. Over time, positive perceptions are being “crystallized” into the intangible assets – enterprise reputation, which means enterprise is taking important and specific position in the minds of stakeholders (buyers, consumers, strategic partners, etc.).

Enterprise reputation is built on enterprise’s basic values. For key stakeholders those values are: reliability, credibility, trust and accountability. Enterprises build and save their reputation by developing practice which incorporates economical and social conditions into the competitive strategy. By respecting quoted principles in business, enterprise establishes and saves strong reputations, while creating enterprise brand which represents base of the business concept as a symbol. That kind of business concept, that is, a symbol, describes enterprise itself and its qualities, and also identifies and differentiates enterprise on the market.

Enterprise reputation is strategic value or assets. Reputation, among the others, is a part of intangible assets (Hall, 1992). Reputation, as well as vast of other intangible resources is hard to imitate/copy, especially if it’s being viewed as a combination of past actions and different built relations. Reputation is being built over time and it is a result of complex internal relations between stakeholders and organization. It is about the development of these complex relationships over the time, which is hard to imitate in a short period of (Grant, 1991, p. 117). Reputation is a very complex category which is hard to be harmonized with other elements in the organization’s value chain and which

cannot be a subject of (*Dierick, Cool, 1989*). Therefore, good understanding of the criteria stakeholders use in assessing reputation can contribute to reputation growth.

Enterprise identity, image and reputation as sources of competitive advantage

In literature, identity is being viewed as a strategical resource for building credibility and support which should be generated with different stakeholders for acquiring competitive advantage in new business surrounding. On the one hand, *strategical approach to enterprise identity*, assumes that vision, values, mission and philosophy of management are connected with image and reputation⁶. In the phase of strategic positioning, enterprise creates its own identity as a base to build image and reputation. Image is being formed from identity through: social responsibility, quality of products/services, experience, employee's attitudes and behaviour, financial performances, organizational structure, organizational culture, etc.

Although corporate reputation is, so called, intangible value, researches undoubtedly showed that good reputation increases enterprise's market value and provides sustainable competitive advantage. Business goals can be easier to achieve if enterprise has a good reputation which is perceived by its stakeholders. Reputations does not represent only the way enterprise conducts. *Hilman and Keim (2001)* pointed out that enterprise is required to establish and maintain relationships with primary stakeholders. Companies have to devote a lot of attention to the needs and expectations of their stakeholders in the aim of their satisfaction, as a condition for establishing and maintaining successful relationship with them. Reputation helps enterprises to attract and increase the loyalty of employees and consumers. In particular, as a factor of building a competitive advantage, reputation helps enterprise in attracting new investors and buyers.

Trust and reputation can disappear over night, and without build trust and reputations, enterprise finds it very hard to exist, and especially to make progress. Key role of enterprise management should be directed to reputation protection and improvement. Good reputation is very important for different organizations, bearing in mind that it can provide calculation of premium product prices, conclusion of favorable agreements with banks, attraction of the best graduates from prestigious universities, etc. Having this in mind, it makes valuable assets for an organization. Good reputation provides enterprise to be accepted and its stocks to be approved by the stakeholders, as well as to achieve goals, remains competitive and prosperous.

Reputation management is, in fact, management of risk connected to relations with different public of the company – internal and external stakeholders of the enterprise. There are four abilities that can be achieved by reputation management (*Persey, Heugens, Van Riel, Van den Bosch, 2004*): 1. Ability for dialogue that provides managers to build cooperative relations with large number of subjects; 2. Negotiation ability, provides managers to persuade external public that the position of the organization is appropriate, that is, good; 3. Ability of avoiding critical/crisis situations; 4. Crisis communications ability provides managers to be in important interactions with influential stakeholders.

⁶ Emphasis is on the symbolical business manifestation, that is, on the external manifestations of identity (graphical design, logo, organization's symbols). That is, so called, visual school. Both schools are focused on building image of enterprise which influences its stakeholders. Therefore, identity can be, apart from viewing from the graphical design corner, observed through the perspective of organizational behaviour, and therefore through multidisciplinary perspective.

Built positive reputation represents distinctive competitive ability which necessarily leads to the better position of enterprise. Established position like that can be easily defended if enterprise keeps improving its reputation, which provides achievement of competitive advantage.

Corporate reputation is getting more and more importance as an intangible enterprise assets which increasingly influences competitive advantage (*Black, Carnes, 2000*). Public trust in present and future is a result of enterprise reputation in the wider public which, on the other hand, influences its competitiveness and market position. The question is what recognizable and stable reputation provides to the enterprise? The answer to this question is in the following positions (*Ђукић, Ђорђевић, 2008*): 1. Acquiring authority for achieving long-term business success and competitive advantage; 2. Creating reputation of products/services and emotional attachment of consumers; 3. Creating consumer loyalty in high-risk buyings when complex information makes the estimation of total offer value difficult; 4. Creating goodwill which decreases conflicts of enterprise with local community, Government, consumer protection organizations, and other organizations; 5. Increasing of trust with different interest groups, such as: consumers, investors, financial analysts, media, employees and others; 6. Easier and faster overcoming of crisis.

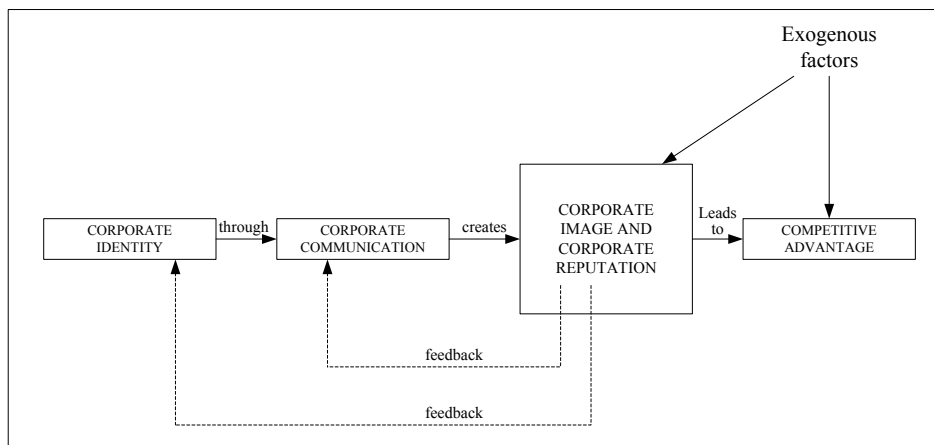
Company which has better market reputation, decreases risk and simplifies consumers buyings, that is, protects them from bad buying. Companies with good reputation are more attractive for hard-working and talented employees which, on the other hand, means acquiring greater knowledge and abilities and increasing enterprise's innovative capacity.

Model of influence and interdependence of identity, image and reputation on enterprise's competitiveness

In sensitive business milieu of today, firm's existence can depend a lot from the development and maintenance of recognizable image and good reputation. In order to help managing the reputation and image of the organization, a model is presented (*Gray, Balmer, 1998, p. 696*) which shows that, in addition to understanding of corporate reputation and image, managers should also understand identity and corporate communication of their own firm, as well as interconnection of these components.

It is clear that higher managers are forced, due to events in the surroundings, to think about the importance of reputation and image of their company and how to manage them. In order to help their proactive and strategic thinking, a model of interdependence of *identity, communication, image and reputation, that is, their influence on competitiveness* is shown (Figure 1). Model suggests following fundamental process components: identity, communication, image and reputation. Model gives a connection of these components and points out that feedback information and corrections are of the essential importance for the efficiency of management process. Model, also, suggests that result of the management process can be improved competitive advantage, despite the presence of numerous exogenous factors in the model which can influence the outcome.

Figure 1. Model of identity, communication, image and reputation management – influence on the competitiveness (Gray, Balmer, 1998, p. 696)



First of all, the aim is to create a certain image with the main constituents. Usually, this means that enterprise should create widely recognizable name with its key stakeholders and identify markets of main products. The second aim in managing is to create good reputation in the heads key stakeholders. Basically, a prominent image can be created faster and easier than first-class reputation. Very strong image can be built through *coordinated image* by starting the campaign which gathers formal communication system – name, logo, signals, corporate advertising and public relations. Coordinated communication program can strengthen and promote good reputation. It is possible that enterprise has top reputation, but no prominent image, like competition (Gray, Balmer, 1998).

Different authors explained complex relationship between identity, image and reputation differently. For example, *Fiol и Kovoov-Misra (1997)* speak about *signalization, interpretation and assimilation*, and *Marziliano (1997)*, speaks about *individualization, identification and accreditation*. In addition, very interesting explanation of the relationship between identity, image and reputation is given by *Vhetten и Gotfrid (1998, p. 308)*.

Fiol и Kovoov-Misra (1997, cmp. 150) suggested a model which describes dynamics of interactive relationship between reputation and identity. Identity means signaling conditions, image means reading those signals, and reputation means assimilation of the signals, in cases when discredited events influence cognitive categories of observers (internal and external organization members). These cognitive categories can influence intensity and presence of bad opinions (stigma) which connect to the organization. Intensity and presence of previously mentioned stigma among the observers overlaps and shapes according to interpersonal opinions. This appears as an internal and external signal of interpretation and assimilation of organizational image.

Marziliano (1997, cmp. 159) suggests model of relationships between individualization (identity), detection (image) and accreditation (reputation) in order to explain complex relations between them. He thinks that organization reacts in internal and external environment. Internally, in the aim to face internal problems of coherence and strength, and earlier experiences of organization point to the possibility of building identity. Externally, organization creates image which it will manage and control in order to survive and create good opinion about itself. Internal members of organization see organization's image in the way they believe other people see organization and condemn the manner in which external

members condemn the organization. Organizations do not need legitimacy to do something, but they need good organizational activities in searching for better reputation. Organization is accredited into a reputable one by the society, which is worth of its trust.

Vhetten и Gotfrid (1998, p. 308) think there are two kinds of actors involved in creating reputation: firms and stakeholders. Firms try to make observer's influence reflected through projecting image about itself (identity) and development of interpersonal relations. Interaction of firm and stakeholders depends on their strategic goals and their identity perception, shaping their business practice and relationships, which, in return, shape firm's image.

From the above mentioned, it can be concluded that identity, image and reputation can be presented as *three sides of the enterprise identity pyramid*. Relations between them are dynamic, because each side of the pyramid depends on the other. In the suggested model, it is assumed that these interwoven dimensions represent help to answer the following questions: a) what we believe is the enterprise's identity, b) what we want others to think is our identity (image), and c) what we know about what others think is our identity (reputation) (*Whetten, 1997*). One should bear in mind that enterprise's identity is one of the main drivers of corporate reputation (*Marwick, Fill, 1997*).

The influence of corporate image and reputation on enterprise's competitiveness can be either positive or negative. Competitors can hardly imitate well-designed image, so it can have positive impact on enterprise's market position. Correlation between reputation and competitiveness is achieved by: 1. Generating profitable sales in saturated markets; 2. Successful response to competitor's actions; 3. Attracting capital and strategic partners; 4. Conquest of new markets without any major problems; 5. High level of consumer satisfaction and repeated purchase rate; 6. Attracting, motivating and retaining talented employees; 7. Successful strategic management reaction, etc.

In order to create market reputation, perceptions of the stakeholders, who are directly or indirectly connected with enterprise activities, are crucial. The involvement of a large number of different organizations in creating and delivering value, further complicates harmonization of their interests and goals. Successful creation of reputation and strategical positioning of enterprise in such conditions should provide harmonization of stakeholder's goals, long-term market attractiveness, and, consequently, sustainable competitiveness.

Conclusion

Good image and reputation have strategic value and extraordinary significance for an enterprise. Enterprises with resources which are valuable and rare, have competitive advantage and can expect to earn well and be profitable. Intangible resources, like strong image and good reputation, are essential, not just because of their potential to create value, but for their intangible nature that makes copying by the competitors much more difficult. Variety of possible uses of strong image and good reputation provides significant connectivity of these non-financial performances and future financial performances of an enterprise. Good image and reputation is hard, almost impossible, to repeat in a short period of time. Reputation has an important role when there is uncertainty about basic quality of firm's offer. This uncertainty makes difficulties to competition firms to create offer quickly, in order to alleviate signalization of utilities connected with good image and reputation. Reputation and image of the firm has consistently strong influence to constant profit and sustainable competition. This shows the importance of strengthening interdependancy relation. So, firms work on profitability improvement, and, consequently, on strenghtening positive image and reputation improvement. In return, these intangible values facilitate firms to remain good business (financial) performances and competitive position over time. The conclusion is that

enterprise identity, communicated and transformed into the strong image and good, growing reputation, have great importance for competitive advantage of an enterpris

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MARKET AND WORKFORCE GLOBALIZATION; THE NIGERIA CONTEMPORARY HEALTH ISSUES DIMENSION

Abstract

The production of goods and services for haven consumption is a function of available factors of production among which labour and entrepreneurship are very prominent. The essence is the skill input which has to do with mental and physical attributes or resource activities and also acquired by training education or natural endowments. In this paper, the issue of health workers of all categories is discussed in terms of their marketing (demand and supply) workforce composition (population and size) the globalization factor and the ultimate effects on nations health policy issues, management structures and effectiveness.

This paper presented Nigeria as the case at hand whereby, health workers at both foreign and local markets with workforce composition in globalization perspective was examined to determine among others the compositions and category, competence measurement using local and international determinants, adequacy and spread among others. This is an explorative research where secondary data was used to explain questions like do we have well trained health workers in Nigeria that measure up to international standard? Are they well remunerated? What of the level of facilities to work and right environment? What about assessment of international competitiveness among others? Some of the findings shows that Nigeria's health workers measures among the best world – wide, highly competitive and marketable internationally, very competent despite inadequate facilities to works at home and poor working conditions but in foreign lands very exceptional (brain-drain factor). Again, the supply in terms of rate of development by training and education is grossly inadequate resulting into many patients to a particular health worker like doctors to patients' ratio which is too high in Nigeria among other findings.

It is therefore suggested that health workers skills acquisition programmes in Nigeria which is currently too expensive should be subsidized by the governments to have many of them produced to meet the health needs of Nigerians. They should equally be well remunerated with good environment to work as well as adequate facilities as applicable in the global arena. A healthy nation is a productive nation with the potential for growth and development like other great nations in the global environment.

Keywords: *Workforce, Health, Workers, Globalization, Skill, Market, and Brain-drain.*

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ТРЖИШТЕ И ГЛОБАЛИЗАЦИЈА РАДНЕ СНАГЕ; НИГЕРИЈА ПРИМЕР ЗДРАВЉА ПИТАЊА И ДИМЕНЗИЈА

Апстракт

Производња робе и услуга као и њена потрошња је функција расположивих производних фактора међу којима рад и предузетништво су веома изражени. Суштина је вештина која има везе са менталним и физичким атрибутима или ресурсима активности, а стечено образовање односно обука су битне карике у свему томе. У овом раду, говори се о питању здравствених радника свих категорија у смислу њиховог маркетинга (понуде и тражње) радне снаге, састава (становништво и величина) глобализације као фактора и крајњих ефекти на питање здравствене политике, управљачке структуре и ефикасности.

Овај рад се односи на Нигерију, а везан је за проблеме здравствених радника на оба тржишта радне снаге страном и домаћем са композицијом у перспективи глобализације где треба испитати и одредити им место међу другим композицијама и категоријама. Ово је експлоративно истраживање, се користи секундарним подацима у циљу да би се објаснила питања колико су добро обучени здравствени радници у Нигерији, до која мере испуњавају међународне стандарде? Да ли су они добро плаћени? Какав је квалитет објеката за рад и да ли се штити животна средина? Да ли су конкурентни са другим међународним установама исте намене? Неки од налаза показује да су здравствени радници у Нигерији међу најбољима у свету - високо су конкурентни и тржишно пожељни на међународном плану, веома компетентни упркос неадекватним објектима за рад у земљи и лоших услова рада, са друге стране они у страним земљама дају изузетне резултате (фактор одлив мозгова). Опет понуда у смислу стопе раста од обуке и образовања је неадекватна и доводи велики број пацијента одређеном здравственом раднику, однос лекара и пацијента је несразмерно велики у Нигерији што смо утврдили на основу осталих налаза.

Стога се предлаже да се здравственим радницима програми за стицање вештина који су у Нигерији тренутно прескупи субвенционису од стране владе, да се многи од њих школују да би задовољили здравствене потребе Нигеријаца. Они треба да буду подједнако добро награђени са добрим окружењем за рад, као и да раде у одговарајућим објектима какви се користе у свету. Здрава нација доводи до продуктивнијег народа са потенцијалом за раст и развој какав постоји код других великих земаља које се налазе у глобалном окружењу.

Кључне речи: *радна снага, Здравствени радници, глобализација, вештина, тржишта, одлив мозгова.*

Introduction

As much as it is no longer news that we are living in a globalized world, the attendant implications are constantly and daily steering us in the face whether as individuals, organizations or nations. The issue at stake for now is the market and

workforce constituent of Nigeria health workers. The bone of contention here is multifarious in various degrees. Aside the issue of cost implication on the nation in training and developing these health workers, there is the problem of their inadequacies compounded by the few available ones leaving the country for greener pastures further compounding the already worsen health care services and delivery in the nation. The points now is looking at health workers market in Nigeria and the global arena and explore ways by which Nigeria and her people will not be disadvantaged.

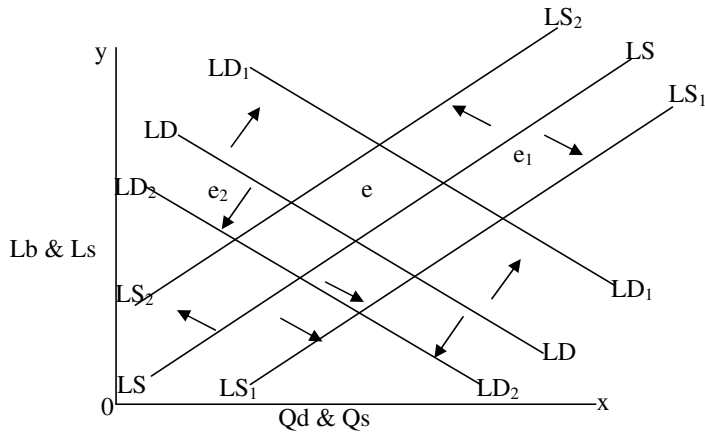
Market and market analysis of health workers services

The market is not just a place from the literatures. It is more than a mere geographical location though traditionally, world over, this is still recognized as the market in primary. Technically, the economist viewed the market as any situation where buyers and sellers meet to transact business on buying and selling either in goods or services. The actual seal of transaction is payment effected and goods or services delivered as paid for in terms of transaction. Market exist locally guided by local laws, policies, medium of exchange like the local currencies among others while there is also the international market which is business of buying and selling across nations' frontiers. The principle here is in line with the acceptable international standards like immigration rules, certification documents, visa, work permit, foreign exchange, sponsorship or guarantor among others. Despite the challenges of foreign trades and markets, many still go for it possibly because of the international prestige, earning of foreign currencies and better standard of living among others.

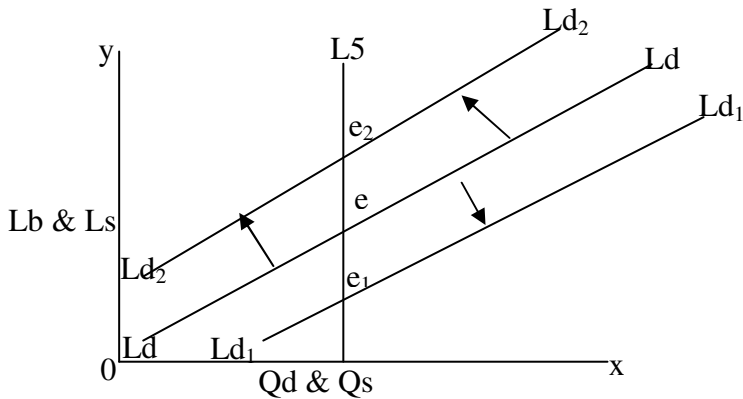
Just like other similar professionals and professions in Nigeria for instance, the academia, engineering and other carriers, health workers of all categories are also suffering from problem of brain-drain in the country. Brain-drain is the emigration of skilled professionals from a country to another (immigration) in search of a greener pasture. From available records in the literatures, most health workers of Nigeria origin have immigrated into other countries like Saudi – Arabia, Australia, U.K., U.S.A and the rest due to some pull factors such as;

- Poor working environment.
- Poor remuneration, salaries and other entitlements.
- Desire for self fulfillment and improvement in living conditions.
- Acquisition of more skills among others.

The market structure of health workers world-wide is also of importance to be looked into. It is no longer news in Nigeria like many other developing nations that the ratio of patients in the hospitals to the population of the available health workers is completely deficient. The medical personnel are inadequate to meet the health requirements of the people whether as out-patients or in-patients. The various categories like nurses, hospital assistants, Para-medics, pharmacists, general practitioners, specialists among others are grossly inadequate across the nations which make their services highly competitive and perfectly elastic where any positive or negative variables can easily instigate their mobility. Health workers have high level labor mobility intra and inter since their services are constantly in high demand. This is further presented graphically;



The graph above represents different equilibrium given supply and demand for health workers services. The various positions are possible in inward and outward shifts in the supply and demand curves due to other factors or variables that can influence the workers except changes in the salary or income which will only be reflected as movement along the curves and no shifting. The equilibrium can therefore be any of e_1, e_2 or e_3 . However, another imperative situation to be considered based on the health workers supply elasticity which is perfectly structured is the distribution, spread and amount. Graphically, the curve will be in this form;



The situation above is a function of the limitation in their supply given various reasons like long years of training to acquire expertise and certification to practice, high cost of training and developing the man-power, limited carrying capacity of their training institutions (universities, colleges of health sciences, teaching hospitals and the rest) and again, the fact that their services are indispensable, they can maintain any cost to demand their services since they do not have close substitutes. Head or tail, it is like they can always win and though they have professional ethics to save life among many others, their services are still so much available to those that can afford to pay whether locally or internationally and Nigeria is no exception.

Literature exposé

According to some literatures in terms of health workers supply in the world, generally, it is estimated to be too poor, compare to the level of demand. In Ethiopia as an example, it is said to be significantly tiny further compounded by few entrants into the profession from the area. Definitely, the short fall or deficit can only be catered for through migration of the health workers from other regions. In the bulleting of the World Health Organization examining migration of health workers on bases like personnel / supply and distribution, physicians / supply and distribution (2004) it is in the ratio of 82 to 595 and 600. Zurn et al (Google search Engine 2012) painted the picture of what the situation is like in remote and rural areas in terms of having access to health care workers which nonetheless can be nil in some places and grossly inadequate in others. The saving grace here is sometimes the activities of charitable donor agencies bringing free health care services and personnel to those areas or at times, through the efforts of the WHO, Red cross among others. Bill and Biller Gates foundation efforts in the eradication of polio, malaria and other childhood diseases in Nigeria's infants and mothers is worth commending here as an example in this regard among others.

To WHO and ILO, nothing can be done to stop the migration of the health workers since they have the right to market their services where the returns will be high, however, the migration can also be managed. In both developed and developing countries, migration and recruitment of health care services workers is said to be in crisis for instance labour and social issues. According to Wikipedia, all categories of health workers are involved including the nurses and this is not helped by the poor funding of health workers education making it very expensive and also the problem of high wages. Lorenzo F. in Google search Engine (2012) using demand and supply of nurses in Philippines reported that health workers migration is primarily demand led which is very correct since like it was said before, their services end up being for those that can afford it living many others uncatered for. By estimate, Global physician forecasts in terms of demand and supply by year 2015 is already put at ratio of 8 to about 2006. The world Health Report (2006) had a vivid description of the situation and trends demanding immediate attention to avoid looming crises like some causative organisms and host parasites of diseases becoming more and more resistant to treatments for instance the case of malaria parasite in many countries including Nigeria. This is aside many lives that will be lost due to not having access to health care facilities to mention just a few.

It may not be too much therefore for the UNO through WHO to declare state of emergency in the health sector the world over and for nations to rally round themselves to see ways to produce more health workers across nations' frontiers to reduce migration while putting in place good health policy to also protect the interests of the health workers and safeguard the patients needing medical care.

Looking at globalization factor relatively critically as it affects health workers across the globe, the pertinent variables are not indices of competition but that of universal standard binding on all in respect of skill competence and training. Unfortunately, this does not take into cognizance varying capacities of the nations to train and develop health workers for the same market and health challenges across the globe. This is why some literatures are advocating giving globalization a human face when it comes to developed and developing nations like Nigeria in the global arena on issues of common challenges and common solutions which unfortunately we do not have common resources to tackle. However members of the international community should be commended in this regard for instance, constant helping hands to needy states across the globe in particular, developing and less developed economies in Asia, Africa, South America and others.

Ways out of the challenges

It may be practically impossible to legislate a ban on health workers migrating from one nation to another except under a totalitarian or autocratic government which is out of place in the current democratic type of government. The sure measure of remedies for governments across the globe is to promote health workers education by subsidizing it to make it more affordable to many which will give room for majority of them to be trained in order to meet the health needs of the populace. Of relevance equally to this is that more health institutions should be established while the carrying capacity of the existing ones is also enhanced and increased.

From technical point of views, health care delivery world over should be operative on the bases of being proactive rather than curative. That is the people should be educated on how to stay away from diseases and getting sick rather than looking for cure which sometimes may not be available or if available not affordable. The emphasis is on primary health care services where people are taught simple hygiene rules like eating balanced diets, living in neat and tidy environments, avoiding causative organisms of diseases like malaria parasite which breeds easily in unkempt environments while simple learning of hand washing before eating and personal health maintenance may go a long way preventing outbreak of diseases. Immunization activities should be continuously promoted while adequate funding into research work to discover cures to many other internationally acclaimed communicable and non-communicable diseases should be sustained.

It is a fact know and ever that an health body produces a sound mind in healthy and sound nations and by implication, the whole world.

Summary and conclusion

The manpower base in the health sector the world over is encumbered in serious challenge of inadequacy of capable hands and developing states like Nigeria are greatly entrapped. Many have called for declaration of state of emergency in the health sector of the nation but the most important solution will be a multi-dimensional approach of training and developing more health workers locally and internationally across the globe, greater commitment by all concerned (public and private partnership) to develop and sustain the health sector by adequate supply of human and material inputs and finally, the development of primary health care programmes and services among the people and pursuance of preventive medicine to avert diseases' causative organisms in the first instance.

Policy statements and recommendations

The government and private concerns should invest more in training and development of health workers and there is need for adequate supply and funding of the health sector in terms of input and material needs. Also, internationally collaborative efforts to be spearheaded by the WHO of the UNO should be constituted to tackle global health challenges across the continents among other issues confronting mankind and our existence on earth. For Nigeria like other developing nations, all hands just must be on deck to supply and meet our health care needs whether human or material.

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TRANSITION OF LABOR MARKETS IN SOUTH EAST EUROPEAN COUNTRIES DURING ECONOMIC CRISIS¹

Abstract

Labor markets of South East Europe are going through deep and significant changes typical for transitional period of economy but prolonged and deepened by economic depression which started in 2008 and continues even today. In the SEE countries the key labor market indicators were much lower in comparison with West European economies. The general idea in this paper is to compare the labor markets of the countries in the region across different variables and to discover the main characteristics of the regional labor market during economic depression. Through implementation of multivariate analysis changes in the last three years were monitored and key features were identified. On the basis of situation in the last few years we can conclude that countries of SEE have the constant and even growing problems on the labor markets characterized by large unemployment, long term unemployment and structural mismatches.

Key words: Labor Market, Southeast Europe, Dendrogram

JEL Classification: J21, J64, J70

ТРАНЗИЦИЈА ТРЖИШТА РАДА ЗЕМАЉА ЈУГОИСТОЧНЕ ЕВРОПЕ У ПЕРИОДУ ЕКОНОМСКЕ КРИЗЕ²

Апстракт

Тржишта рада земаља југоисточне Европе пролазе кроз дубоке промене типичне за транзициони период, али су додатно продубљене и продужене економском кризом која је почела у 2008 која траје и данас. У земаљама југоисточне Европе кључни показатељи тржишта рада били су знатно лошији у поређењу са западноевропским привредама. Основни циљ овог рада је да се упореде тржишта рада земаља у региону преко различитих променљивих и да се открију главне карактеристике регионалног тржишта рада током економске кризе. Применом мултиваријационе анализе прате се промене и идентификују се главне карактеристике у последње три године на појединачним тржиштима рада. Кључни налаз је да земље југоисточне Европе имају константне, па чак и растуће проблеме на тржишту рада које карактерише висока незапосленост, дугорочна незапосленост и структурне неусклађености.

Кључне речи: Тржиште рада, Југоисточна Европа, Дендограм

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² Овај рад је саставни део пројеката Министарства науке, просвете и технолошког развоја 179001 i 179015

Introduction

Labor markets of South East Europe countries are going through deep and significant changes typical for transitional period of economy but prolonged and deepened by economic depression which started in 2008 and continues in 2012. It is important to monitor and analyze the main trends in the countries of the region and draw conclusion about their development, especially in the light of economic crisis which started in the second half of 2008.

During the last decade the structure of labor market has been changing significantly from the aspects of age, gender, occupation, sectors, education, etc. After the start of transitional reforms in the Eastern Europe, at the beginning of introduction of free market economy instead of state-run planned economy, the key labor market indicators were much lower in comparison with West European economies. Common phenomena were large unemployment with significant long-term unemployment, structural mismatches followed by gender and age gaps. If we consider weak educational system and strong negative demographic changes (intensive emigration of labor force, low fertility rates, ageing, etc.) the situation at the beginning of transition was even worse.

During this turbulent period of transition some East European countries succeeded to reduce the negative effects of transition (like Check Republic and Slovenia) but in the case of South East Europe many countries have the same problems as in the first years of transition end even more problems caused by 2008 economic crisis.

Process of transition in the most of the countries in the SEE region started approximately two decades ago and since then they have been trying to adapt to fast changes of market economy where opportunities for life-long jobs will be scarce and job mobility will be even more intensified in the future.

The general idea in this paper is to compare the labor markets of the countries in the region of South East Europe across different variables and to discover the main characteristics of the regional labor market since the beginning of economic crisis in 2008. Also we wish to discuss what are the main consequences and challenges of recent economic development on the labor markets in SEE.

Through implementation of methods of multivariate analysis changes of regional labor market in the last three years were monitored and key features were identified. Through cluster analysis on the basis of key labor market indicators we have discovered the most similar countries in the region and main changes caused by the recent development in the world economy.

The plan of this article is as follows. After the short introduction, the state of the art in the field of labor market analysis in East Europe and SEE countries is presented. In the section "Scientific Methods" analytical tools used for the research were described. In the next section the results of research were presented through graphical presentations followed by short description considering comparison of two periods: 2008 and 2010. In the last section the main findings were discussed and general conclusions were drawn about changes on the labor market of South East Europe. The last section in this paper also includes recommendation for further development of labor markets.

Literature Review

The transition of SEE economies and their labor markets has been different from the predictions of scientific literature two decades ago. After long period of changes, it is still characterized by stagnant unemployment pools, large flows to inactivity, enormous

informal sector, significantly low labor mobility, large gender and age gaps, and deep structural mismatches.

All the countries in the region are sharing the similar history of labor markets, and Kuddo correctly notices that “The labor market in the economies of the former Yugoslavia³ was shaped by the particular legacy of the “self-management” system for enterprises, and the existence of the so-called social ownership, which led to a high level of job protection and overall rigidity, and to widespread labor hoarding (...) Despite major revisions in the 1990s and 2000s, the ideology of the current labor laws (labor codes) in many countries in the region still dates back to the 1970s, 1980s or early 1990s when the laws were first adopted.” (Kuddo, 2009). The traces of this old ideology we can still find in SEE, and it is especially expressed in public and state owned enterprises.

Today, we can see that labor markets of SEE countries are mainly the function of Mediterranean social policy model which is typical of Greece, Italy, and Portugal. This model is characterized by high spending on pensions, employment protection, early retirement provisions and strong unions’ influence (Rovelli & Bruno, 2008)⁴. Protection against undesirable risks of labor market is provided mainly by rigid employment protection legislation which is the main obstacle for entering and re-entering the labor markets. Rutkowski (2006) explains the accumulation of a large pool of workers and problems of entering and re-entering the labor market on the examples from Croatia and FYR Macedonia. Similar opinion about rigid employment protection legislation we can find in great part of contemporary literature (Boeri (1999), Burda (1993), Lehmann and Muravyev (2010), Tyrowitz (2009), World Bank (2003), etc).

Since 1990’s the main goal for all the countries of the region was to become the members of European Union. Some of them have already succeeded (Slovenia, Bulgaria, Romania and Greece) and Croatia should become the member in the near future. One of the main challenges of EU accessions for candidate countries is to develop the labor market in such way to become competitive in every sense. “If we think about this competitiveness from the labor demand side, this implies that labor market institutions, regulations in general and the tax system all need to be shaped in such a way as to boost the willingness of firms to create jobs. When we focus on the supply side reforms need to have at least a two-fold thrust to ensure that the workforce in the new member state is competitive with workers elsewhere in the union.” (Lehmann, 2010, p. 2). Lehmann also stresses that “Changing the behavior of workers and firms is a long-term process and most of the NMS have spent at least a decade before accession to improve the performance of their labor markets by reforming their institutions.”

Through analysis of ALMP Kuddo discovered that the countries in the SEE region have different priorities in provision of ALMPs. While some of them are spending more on employment incentives (Croatia) and job creation programs (Bulgaria), the others are spending funds on start-up incentives (FYR Macedonia).

One of the main problems in SEE is inadequate educational systems because they are not producing qualified working force with competitive skills. When it comes to education, some researchers are arguing that orientation must be on the younger cohorts on the labor market in order to reduce the drop-outs and minimize bad educational outcomes (Lehmann, 2010). The SEE countries are making significant efforts to introduce life-long learning and improve the outcomes of vocational education.

³ Countries of former Yugoslavia: Serbia, Slovenia, Croatia, FYR Macedonia, Montenegro, Bosnia and Herzegovina, and Kosovo.

⁴ Rovelli and Bruno are quoting Boeri and his four social policy models among EU members: Nordic, Anglo-Saxon, Continental and Mediterranean.

Scientific Methods

On the basis of labor market indicators and employment structure we have conducted a comparative analysis. In order to achieve relative perspective of SEE national labor markets in the analysis we have included also EU members from South East Europe (Greece, Slovenia, Bulgaria and Romania). These comparisons will be conducted for two periods: 2008 and 2010. The analysis will actually have two directions: relative comparison among countries and dynamic comparison of two periods.

Data were collected for 11 countries in the region of South East Europe: Croatia, Serbia, Bosnia and Herzegovina, FYR Macedonia, Albania, Montenegro, Slovenia, Bulgaria, Romania, Turkey and Greece. Kosovo is not included in the analysis because the data for 2010 were not available. Main data sources are Eurostat database and annual labor force surveys.

Data set consists of 140 labor market variables: employment, unemployment, activity, inactivity, and occupation across genders, age groups and two years. Additionally, labor market indicators from World Economic Forum for 2008 and 2010 were used for more comprehensive analysis.

After short descriptive part, in order to discover the similarities among countries we have used the cluster analysis. Cluster analysis was conducted in two steps. On the basis of joining (tree clustering) method the number of clusters was selected. The technique of joining was complete linkage amalgamation rule, based on squared Euclidean distances. Second step was to conduct K-means clustering method for selected number of clusters. We have obtained two dendograms for 2008 and 2010.

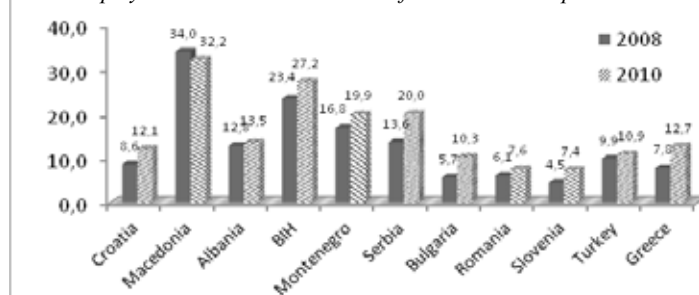
On the basis of dendograms we have discovered the relative position of each country and changes in the three years period. On the basis of analysis of variance we have discovered which labor market variables are making the most significant differences among countries of the region.

Results

On the basis of unemployment rates for the countries in the SEE region (Figure 1) we can conclude that situation on the labor markets is getting more unfavorable in 2010 than two years before because in all the countries (except FYR Macedonia) unemployment rates have increased significantly.

There is statistically significant difference between unemployment rates in 2008 and 2010 ($p=0.0097 < 0.05$). Variation of unemployment in 2010 is smaller than in 2008 (standard deviation in 2008 is 8.91 and in the 2010 it is 8.09). This shows that in the interval of two years labor markets of the SEE countries are changing significantly. This was the main reason for deeper and more comprehensive analysis of changes in the last few years through multivariate methods.

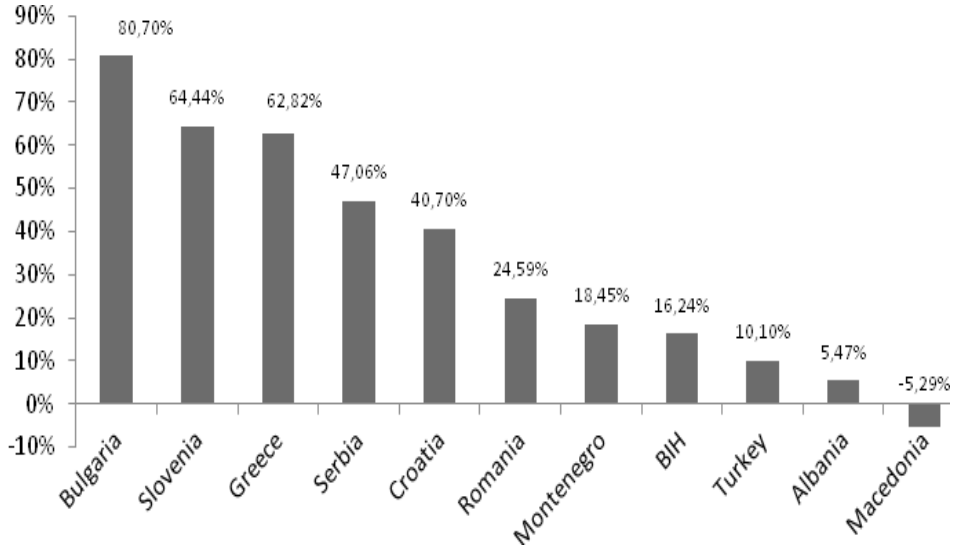
Figure 1 - Unemployment rates in the countries of South East Europe in 2008 and 2010 (age 15-64).



Source: Eurostat data and LFS data for BiH, Serbia, Montenegro and Albania.

If we look at the changes in unemployment on a different way, through relative changes (Figure 2) we can see that the most dramatic increase of unemployment is in Bulgaria where unemployment rate is 80% larger in 2010 than in 2008. All in all, the relative increase of unemployment is larger in EU members than non-EU members, with two exceptions: Serbia and Croatia.

Figure 2 - Relative increase of unemployment rates from 2008 to 2010.



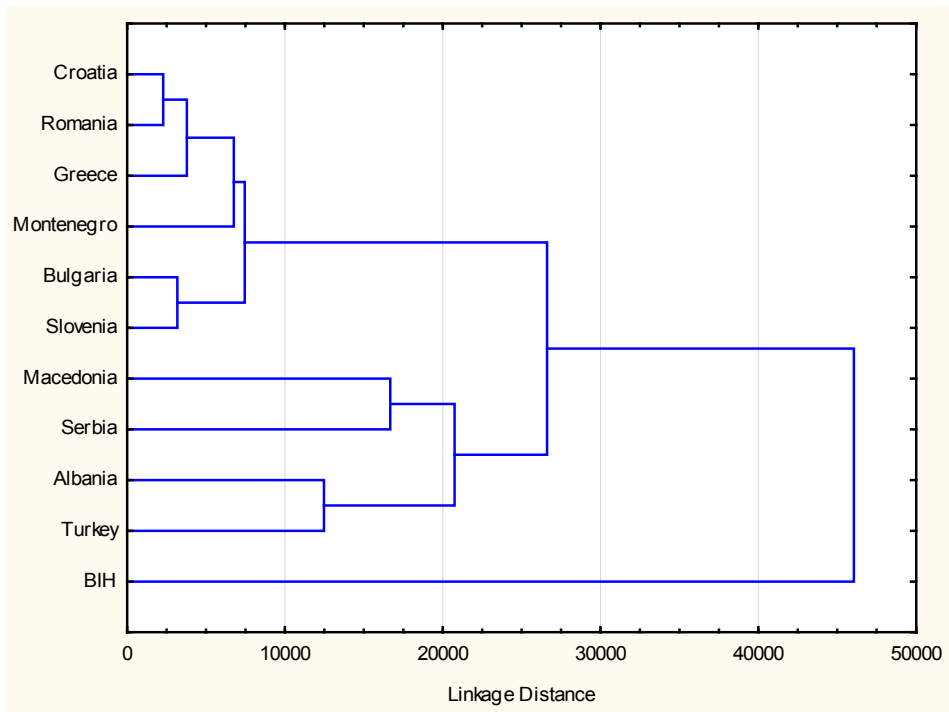
Source: Own calculations on the basis of Eurostat and LFS data

This could be partially explained through level of flexibility of labor markets. More market oriented labor markets are more flexible and in the time of depression they react more intensively on the negative changes in the economy. On the other hand, after the crisis we can expect that market oriented and flexible labor markets will have more dynamic growth of employment and decrease of unemployment rates.

Some labor markets, like Montenegro and BIH have more rigid labor legislation which actually helps in the time of depression to reduce the growth of unemployment rates. The problem will occur after economic depression because recovery of labor market will go to slow and rigid labor market will slow down the entering and re-entering of working force.

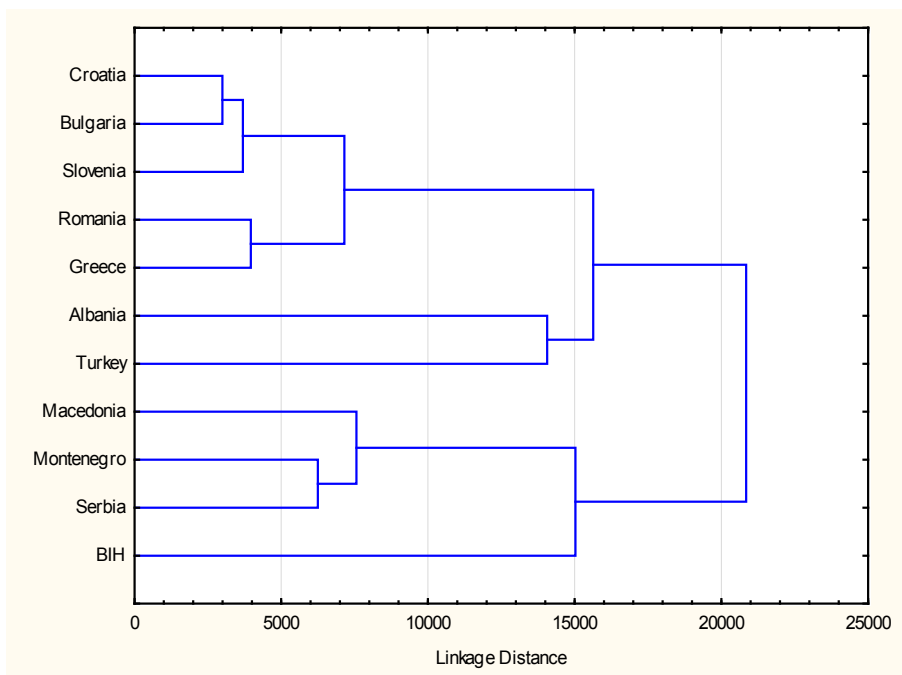
In order to get the full picture of labor markets in the region it is necessary to analyze the whole set of labor market indicators (employment rates, activity rates, inactivity rates, occupation, education level etc.) across genders and age groups. With use of multivariate statistical methods it is possible to obtain summarized results easier for qualitative analysis, especially in the case of comparative analysis of labor market performance across countries.

Figure 3- Tree diagram – Similarities of labor markets in 2008 on the basis of 70 indicators



The first step was to conduct cluster analysis on the basis of labor market indicators. The outputs are presented on the Figures 3 and 4 where we can see dendograms and relative position of each country. In 2008 we can clearly see the difference among 3 clusters. The first cluster consists of 6 countries with the most developed labor markets: Croatia, Romania, Bulgaria, Slovenia, Montenegro, and Greece. These countries can be considered as the leaders in the region. Second cluster consists of 4 labor markets: Turkey, Serbia, Macedonia, and Albania. The third cluster is Bosnia and Herzegovina which is characterized with very unfavorable indicators and represents significantly different case. These results were obtained through complete linkage amalgamation rule, based on squared Euclidean distances. Almost identical results were obtained with other clusterization techniques.

Figure 4 - Tree diagram – Similarities of labor markets in 2010 on the basis of 70 indicators



On the basis of three cluster solution the K-means clustering method was conducted. In Table 1 the members of each cluster are presented both with Euclidean distances from cluster centers. In Table 2 we can see distances among clusters in 2008 and these results will be compared to the cluster distances in 2010.

Table 1- Members of each cluster and distances from respective cluster center / year 2008

Cluster 1		Cluster 2		Cluster 3	
Country	Distance	Country	Distance	Country	Distance
BIH	0,00	Croatia	2,39	Macedonia	10,65
		Montenegro	6,40	Albania	9,63
		Bulgaria	5,34	Serbia	9,27
		Romania	5,01	Turkey	8,75
		Slovenia	5,83		
		Greece	5,95		

Table 2- Euclidean Distances between Clusters Distances below diagonal / Squared distances above diagonal / year 2008

-	Cluster 1	Cluster 2	Cluster 3
Cluster 1	0,00	452,53	455,93
Cluster 2	21,27	0,00	103,64
Cluster 3	21,35	10,18	0,00

Two years later, in 2010, we can see that situation has been changing (Figure 4). We can still see that exists three cluster solution but the memberships of the clusters are different. Table 3 is showing the membership of each cluster. Turkey now belongs to the group of countries with relatively better performing labor markets while Montenegro is in the group of countries with weaker labor markets, together with Macedonia, Albania, and Serbia. The leaders in the region from the aspect of labor market are Croatia, Slovenia, Bulgaria, Romania, Greece, and Turkey, while Bosnia and Herzegovina is in very problematic position.

Table 3- Members of each cluster and distances from respective cluster centre / year 2010

Cluster 1		Cluster 2		Cluster 3	
Country	Distance	Country	Distance	Country	Distance
Croatia	4,07	BIH	0,00	Macedonia	5,98
Bulgaria	6,48			Albania	8,64
Romania	4,23			Montenegro	7,11
Slovenia	5,84			Serbia	6,26
Turkey	8,84				
Greece	5,99				

If we now compare distances among clusters in 2008 (Table 2) and distances in 2010 (Table 4) we can see that distances are getting shorter which means that differences among labor markets are getting relatively smaller and similarities are growing. The explanation is that because of economic depression negative influence is larger on a labor markets of cluster 1 and their performances are getting relatively more similar to the labor markets of cluster 2 and cluster 3.

Table 4- Euclidean Distances between Clusters Distances below diagonal / Squared distances above diagonal / year 2010

-	Cluster 1	Cluster 2	Cluster 3
Cluster 1	0,00	193,77	84,09
Cluster 2	13,92	0,00	159,58
Cluster 3	9,17	12,63	0,00

The basic conclusion is that labor markets of EU members in SEE are relatively similar and belong to one cluster. There is one exception in the case of Croatia. The explanation for Croatia is simple: this country will become the EU member before all the others in the region and labor market reforms in last few years were relatively successful because of significant support from EU financial funds.

Where are the main differences among clusters? According to ANOVA results, in 2008 the statistically significant differences among countries are in distribution of employment and unemployment rates across different levels of education (pre and primary, secondary, and tertiary education) especially in the case of female labor force. In the case of pre and primary level of education for both genders we have found statistically significant differences among countries.

In 2010 the situation is different. ANOVA results are showing that we have still statistically significant differences in employment and unemployment rates across all three educational levels, but we have also significant differences in unemployment rates across all age groups and both genders. The long term unemployment rates are also statistically significant for both genders.

We can draw the conclusion that the countries of SEE have similar levels of activity and inactivity in labor force, followed by similar structure from the aspect age, gender, occupation, status in employment, etc. The main difference among labor markets in the countries of SEE region in the three year period of economic depression are educational levels of labor force and how they have been handling unemployment.

Conclusions

On the basis of situation in the last few years we can conclude that countries of SEE have the constant and even growing problems on the labor markets characterized by large unemployment, long term unemployment and structural mismatches. For the countries in the region we can repeat the statement from Lehmann about reforms conducted in the EU NMS: "However, according to many observers, the NMS have not pursued labor market reforms consistently enough, and more consistent and coherent reforms could have produced an even better performance of their economies after 2004." (Lehmann, 2010, p. 3). In other words, despite economic depression, the process of transition is too long and inefficient because of inconsistent labor market reforms. The conclusion is that many of the SEE countries are in the status of prolonged transition and without hope of finishing this process in near future: Serbia, Macedonia, Albania, Montenegro, and BiH.

The main challenge, especially for the Serbia, FYR Macedonia, and Montenegro is the status of EU candidate which brings new responsibilities and targets that must be achieved in much shorter period of time. "In order to find adequate answers to these challenges labor markets in the region should become more market-driven" (Savić, 2011). The countries in the region must develop more flexible labor markets in order to integrate into EU economy. They must continue to transfer workers from declining sectors and occupations into new, emerging sectors with help of reformed educational system and life-long learning.

On the basis of experience of NMS we can conclude that reforms of labor market institutions should lead to labor market structures that are more or less as flexible as structures in old EU members. On the basis of analysis it is clear that slow decrease of labor hoarding shows high level of employment protection of regular jobs which indicates rigid labor markets. That means that restructuring efforts in SEE economies are going slowly.

Policy Recommendations

There is a reach list of scientific papers analyzing labor markets of individual countries in the SEE region (Gligorov et al. (2011), Tiongson and Yemtsov (2008), Dobre et al. (2008), Koske (2009), Beleva (2011), Hoffman et al. (2011), etc). More or less we can notice similar recommendations for improvement of labor markets. On the basis of literature and similarities among countries of SEE it is possible to conceptualize list of general recommendations for the whole region:

- The most important measure is improvement of investment climate and reduction of business costs. Entry and growth of business needs to be encouraged through further incentives. This will contribute to job creation and faster inclusion of workers previously displaced by structural changes. The main challenge is how to do it in the period of economic depression.
- Further improvement of labor legislation in order to develop more flexible

labor markets. Labor laws must be more business friendly and allow to employers to modify their work force to market variations. This fact is especially important in the period after the economic depression because more flexible labor markets will react with faster growth of activity and employment.

- Reform of all levels of educational system is necessary in order to meet the needs of economy for certain skills and qualifications. It is necessary to monitor skills requirements on the regular basis through surveys and react on them through flexible educational and vocational system.
- It is necessary to increase employment of low skilled and unskilled people through reduction of tax wedge for the smallest wages. This is important especially for the FYR Macedonia and BIH.
- The incidence of part-time jobs must be significantly larger. Change of tax policy can make this type of work more attractive for the work force.
- Training unemployed and re-training of employed in order to increase the skill level has tremendous importance. Currently large part of unemployed working force, both older and young, has unnecessary skills and they are in the pool of long-term unemployed. During 2012 Serbia will adopt new strategy of education and accent is on the lifelong learning and orientation towards labor market demand.
- More effective and detail oriented monitoring and analysis of ALMP measures and their efficiency. Many countries do not have database that covers the ALMP participants and outcomes of implemented policies. Some countries that have databases are not performing analysis of ALMP outcomes on the micro level but only on the aggregate level. This problem is especially significant in Bosnia and Herzegovina, Serbia, Albania, Kosovo and Macedonia. It is impossible to analyze the behavior of labor force without proper data collection. Additional problem is availability of data collected through Labor Force Survey. In the case of Albania, for example, the only available data (and very limited) are from LFS in 2008 and 2009.
- Relatively successful ALMP in other Eastern European countries should be considered for implementation in the SEE labor markets. Countries of the region must rely more on the experiences of new member states in EU. Design and effectiveness of existing policies must be improved.
- Reform of PES must be continued. Special attention must be oriented towards monitoring of unemployment and long-term unemployed. Distribution of unemployment benefits must be strictly supervised.
- Reduction of informal sector. Traditionally informal sector has deep roots in the economies of SEE and each country must evaluate the size of it and implement the measures for effective transition into formal sector. Through enlargement of formal sector the government will have additional incomes and measures of labor market policies will be more successful. This measure is especially important for Croatia, FYR Macedonia and even Slovenia.

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COMPARISON OF DIFFERENT APPROACHES TO SCIENTIFIC RESEARCH METHODS

Abstract

Experience shows that the question of whether or not to introduce a hypothesis is most vital in methodology, but special importance is assigned to its conceptual definition: how it originates and is discovered, its functionality, classification, and structure, and the derivation of the hypothesis and its indicators.

In methodology exists an understanding that the hypothesis role is not important, but necessary for elaborate subjects of research and is a basic term that is usually expected from a PhD thesis title. It is an issue regarding whether it is possible to conduct research without the pursuance of a hypothesis, which requires the additional effort of researcher to formulate said hypothesis and adjust the paper to its operational determination of the subject of the research.

There is a second opinion based on the fact that hypotheses make up the research process framework, and suggests the other elements of the research goal are not as important. This understanding directly promotes a methodology built solely on a system of hypotheses and indicators as a sufficient road to project realization.

The research goal of this paper is to determine the importance of creating hypotheses with all their necessary scientific attributes by using a comparative analysis between the two above-mentioned scientific research approaches.

Keywords: Hypothesis, Scientific Research, Scientific Research Method, Subject of Research

JEL Classification: B41, B49

ПОРЕЂЕЊЕ РАЗЛИЧИТИХ ПРИСТУПА НАУЧНО-ИСТРАЖИВАЧКОМ МЕТОДУ

Апстракт

Искуство је показало да је проблем хипотеза у науци најзначајнији у методологији, а посебан значај се придаје појмовном одређењу, настајању, откривању, функцији, класификацији, структури и извођењу хипотеза и индикатора.

У методологији постоји схватање да хипотезе немају значајно место и улогу, већ да је много важније добро разрадити предмет истраживања и дефинисати основне појмове који се, обично дедукују из наслова истраживања. Стална је дилема да ли се истраживања могу спровести без извођења хипоте-

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за и додатног ангажовања истраживача на њиховој формулацији и усаглашавању с операционалним одређењем предмета истраживања.

Друго схватање полази од чињенице да су хипотезе окосница истраживачког поступка и да други елементи научне замисли нису значајни. Ово схватање директно заговара пут корекног изграђивања само система хипотеза и индикатора као довољан пут за реализацију истраживања.

Главни истраживачки циљ у овом раду је утврђивање значаја дефинисања хипотезе са свим њеним научним атрибутима и поређење ова два приступа а уз помоћ компаративне анализе.

Кључне речи: хипотеза, научно-истраживачки рад, истраживање, научно-истраживачки метод, предмет истраживања

Introduction

In scientific methodology is a developing belief that the hypothesis does not have a significant role, and the more important aspect of a thesis paper is the definition of basic concepts deduced from the title of the paper.

The other interpretation is based on the concept that the hypothesis is the framework of the scientific research, and the other elements of the scientific concept are not as important. This interpretation supports the opinion that correctly constructing a hypothesis and its system of indicators will be sufficient for accomplishing the research project.

It becomes a consistent question as to whether scientific research can be accomplished without defining a hypothesis, which requires a lot of additional research time.

In this paper, these two opinions are examined with the help of comparative analysis. This comparative analysis is formatted as a line by line evaluation and analyzes first the similarities and then the differences between these two approaches.

Hypotheses are not possible to analyze outside of the scientific research context, where the hypothesis has a central role and a special meaning. Our examination of methodology reveals the different approaches to scientific research. While some authors see only two basic types—the quantitative and qualitative methodology approaches—other authors identify three different styles: quantitative, experimental, and historical methodology approaches. (Roberts 2004; Samic 1980)

What approach will be used depends on the subject of the scientific research, as well as the nature of the scientific research. For example, while a researcher in the natural sciences will most likely use the experimental method, a researcher in the sociological sciences will use the historical method, or combine this method with the quantitative method.

The discussion on whether or not a hypothesis is necessary for proper research is closely related to choosing one of these three approaches. While an experimental approach inevitably requires identifying a hypothesis as the basis for defining an experiment to test the experiment's results, the historical approach can start and finish all research without ever defining a hypothesis. Although it can be argued that both methods are based on observation, the historical method in the case of sociological research has certain limits that can avoid carrying out any experiments.

On the other side, experiments and experimental results are fundamental elements in the study of natural sciences, for example, mechanical sciences, physics, and biology.

Both approaches have their advantages and disadvantages. Supporters of the hypothesis and the experimental process can be criticized for too much active involvement, causing interference that certainly influences the experiment's results. Those who do not

see a need for defining a hypothesis in their dissertations can be criticized that their interpretation of the results of their research and observations are always subjective, and that it is very difficult for them to avoid attributes of belonging to a particular culture, ethnic group, region, or school.

The final conclusion is that the role of the hypothesis is not possible to analyze outside of particular contexts. Whether a hypothesis is necessary or not depends mainly on the nature of the scientific work.

In the case of research in the field of natural sciences where results are based on experiments, it is quite normal and even necessary at times to define a hypothesis, because the hypothesis becomes a basis for defining the next steps, experiments, and testing of results, and dictates and leads the whole process of scientific research.

In the case of historical scientific research, when the options for experiments are very limited, or even impossible, such as research related to changes of the social systems, or where a huge number of facts can influence such changes, defining a hypothesis can hinder the researcher, and limit, or even wrongly direct, the process of gathering evidence to specific results that cannot be used to draw a general conclusion.

Comparison of Hypothesis and Subject of Research

In this section of the paper, we begin to learn more about the other approach to scientific research that does not use a hypothesis. This is called the subject of research, by which it is assumed that the hypothesis is not explicitly specified, but rather the research process is based on the subject to be researched. The subject of research in principle can also be called a choice of research theme.

The subjects of this comparison are the two different approaches. The first approach is the example of scientific research applicable in natural sciences, based on a hypothesis and using experiments, while the second approach is applicable in historical or social scientific research, based on choosing a subject of research, and avoiding the additional work to define and prove a hypothesis. Both approaches are based on a hypothetic-deductive model widely used today that can be generalized in following steps:

- 1 Gathering data and information and learning about a problem
- 2 Definition of the subject of research or hypothesis
- 3 Gathering evidence, materials, and proof, demonstration and classification of materials used for demonstration purposes
- 4 Analysis and revision
- 5 Conclusion

The fourth step is necessary, but interesting because in those cases where the result of the research is known in advance, why do the research?

Scientific research can be compared to a sandglass. At the very beginning, the scientific research is very broad, and as the sand travels to the bottom of the sandglass the space, the subject of research, becomes narrower. The chosen theme becomes more concrete and definition gets more detailed and precise, and in the most narrow constricted section, the subject of research fits perfectly into the frame that is defined by time constraints, a financial constraints, constraints related to resources, as well as the limitations related to the current development level of science and technology. These technological constraints, however, should not limit the imagination or prevent new inventions and preparation for future research projects.

”Another of the qualities of science is that it teaches the value of rational thought as well as the importance of freedom of thought; the positive results that come from doubting that the lessons are all true.” (Feynman 1968)

Then, after all of the constrictions of the scientific research pass, just as in a sandglass, the results and conclusion are applied more broadly, generalized for the wider view. Arguments are given that the observed examples and their connections, relationships, and behavior are valid for an entire category or belong to a category of generally applied laws.

Roberts (2004) illustrate this process by calling this V or funnel-shaped fashion. She explains four steps, where the first step is at the top of funnel, and begins with description of general area to be studied. Next step identifies more specific problem within area and then next step identifies what is not known about a subject of studies. Final step is very short and specific and defines research question. Roberts (2004) calls hypothesis also a research question.

The following sections describe the similarities and differences between working with and without a hypothesis during research.

Similarities between hypothesis and subject of research

The most apparent similarity is that both approaches are based on hypothetic-deductive method. Therefore the research process in both approaches goes through the same phases described in the previous section.

The next similarity is that both approaches apply limits and specifications to the scientific research. The goals of both approaches are to enable research to be completed according to predefined time constraints and both approaches narrow the scope of the research in order to identify the correct focus.

Both the hypothesis approach and subject of research approach contain similar terms and concepts. Both define the terms and concepts that are found in the research title or research description. This also means that the hypothesis and the subject of research more or less specify a target group or groups and the object of observation, measurement, and experiment.

If we again use an analogy between scientific research and the sandglass, traveling to the most narrow part of a scientific research project is the same or very similar regardless of whether using a hypothesis or a subject of research.

For both approaches, the first steps are an introduction to the problem and the study and research of already available knowledge and previous research projects about the same subject.

Both approaches are searching for the correct title or description that will clearly express the idea of the research and serve as a guide in further research.

Susnjic (2007:126) quotes two methodology approaches:

- 1 General method as a strategy that is independent of a content or subject of research
- 2 Research method as a tactical or research technique that is adapted to the content or subject of research

“The general methodology in all science can be the same: for example, structuralism. A biologist strives to discover the structure of cells, a physicist the structure of an atom, a chemist the structure of a molecule, a linguist the structure of a language, a sociologist the structure of society, a psychologist the structure of a person, an anthropologist the structure of an archaic community, a philosopher the structure of science, etc.” (Susnjic 2007:126)

Collecting evidence and testing it is the next step for both hypothesis and subject of research approaches.

The hypothesis approach and the subject of research approach record and manage evidence, and classify it according to their sources and importance. Both approaches derive their conclusions based on the evidence, logic, and logic principles.

Susnjic (2007:126) further argues the general logic methods, such as analysis, synthesis, abstraction, induction, and deduction, are mutually used by researchers of many different sciences with the same terms and concepts.

Of course, the definitions of key terms and concepts are different in some sciences, such as history and physics. History research as a cause of change can assume sources like economic crises, war, rebellion, strikes, and the downfall of industrial production, while physics research regarding cause of change can probably assume natural forces are involved that are interacting with an object of observation.

Both approaches need to define terms that are measurable. For example “*We cannot just say we will “reduce anxiety.” We must define how anxiety will be measured and just what is a reduction in anxiety. In our example we define anxiety as a change in galvanic skin response generated by the discussion of potentially emotional content (i.e., one’s pending death)*”. (Marion 2004)

Both approaches can use the same research methods or techniques, such as different types of observation, analysis, questionnaires and surveys, case studies, or statistics for collecting and handling of data. Both approaches can use the same technical equipment for collecting and classification of data. Today, for example, it is unthinkable storing and handling materials without the use of a computer.

Both approaches use the same mathematical and statistical methods for processing quantitative data, and use the same tests and methods for discovering trends or phenomena levels according to widely accepted standards and nomenclatures.

In both cases, the approach enables comparison of research results that are logically similar or identical, but are based on different principles and obtained by using different starting assumptions.

In both cases, it is necessary to publish results and enable a wide range of scientific community insight into the scientific work and results of such work, as well as insight into the methods and techniques used and the data and materials collected. In both cases, this is a final test and examination that any kind of hypothesis or subject of research must pass, without any difference as to the title or differences in research or the research process.

Nagel (1961) in his capital work “The Structure of Science” cited Aristotle who compared “*poetry, like theoretical science*” and a history and conclude that poetry is “*more philosophic*” than a history.

“Aristotel’s remark is possible source of widely accepted distinction between two allegaly different types of sciences: the nomothetic, which seeks to establish abstract general laws for indefinitely repeatable events and processes; and the ideographic, which aim to understand the unique and the nonrecurrent. It is often maintained that the natural sciences and some of the social ones are nomothetic, whereas history (in the sense of an account of human events, as distinct from the events themselves) is pre-eminently ideographic.” (Nagel 1961)

Differences between hypothesis and subject of research

Similarities are distinctly visible at the research method level and research techniques, as well the first phases of scientific research work. The differences, however, between the approach of using a hypothesis or the subject of research style becomes visible in the content and formulation of the problem type, as well as in the nature of a problem that is the subject of research.

Differences become especially noticeable when it is necessary to define a hypothesis or subject of research. To define a hypothesis, it becomes necessary to first invest additional work on specifying its terms and concepts, as well as a title for the hypothesis.

“Scientists balance what is said in the hypothesis (termed clarity) and influence the phenomenon about which they talk (precision of speech). Such measurements are demonstration of the limits of cognitive interest.” (Susnjic 2010:149)

For the definition of a subject of research approach, it is not necessary to invest the additional work and effort. The subject of research can be a working title or so-called work hypothesis, a hypothesis that is still specifically undefined and the final definition will probably be delayed until the very end of research.

The level of precision used for defining terms and concepts subject to scientific research also differ depending on whether you use the hypothesis approach or a subject of research.

While the hypothesis aspire to limit scientific research to an examination of the least amount of variables as possible, the subject of research approach enables research in a wider context and provides freedom for the researcher to see his or her work in interaction with a much larger number of events and phenomena.

Other differences between these two approaches are the collection of necessary knowledge and experience, as well as in the applications of different techniques.

For example, during research based on the historical method it is possible to use interviews and questionnaires. This is still not possible in the case of medical or biological experiments on mice or physics research connected to CERN project in Switzerland.

While it is possible in science research based on quantitative methods to repeat an experiment over and over, sciences based on qualitative methods in most cases do not have that option.

While it is possible to regularly repeat the experiments with water and temperature changes with the same results, it is not possible to repeat certain events that already happened even in the near past, for example wars, rebellions, the French Revolution, or the transition from feudalism to capitalism, or changes that happened in Eastern Europe. It is impossible to recreate the events in the case of research related to humanity’s genesis or the creation of primal communities in the Stone Age.

“There exists an aspiration that scientific knowledge would only be considered knowledge if based on precise measurement, while all other knowledge not based on measurement be considered hypothetical.” (Susnjic 2007:148)

Hypothetical in this context does not mean based on a hypothesis, but rather that the knowledge is not proven and therefore is a subject for debate and controversy.

This difference between scientific work based on measurements and experiments and scientific work based on history and social sciences is well known. Djuro Susnjic also says:

“Analytical expressions (logic, mathematics, etc.) are products of deductive reasoning and are true by their own form. Unsystematic expressions from particular sciences are products of opposing ideas with facts, which mean that the logical form is not sufficient, but rather empirical content is necessary.” (Susnjic 2007:129)

Empirical content is subjective by nature and always connected to an individual person, culture, or environment. Where in the world the information is coming from, where the person grew up, where he or she was educated or spent more or less time, it is dependent on experience, reading, awareness and contacts, and personal, social, political, and particular interests.

Djuro Susnjic, with good reason, quotes the great French philosopher, enlightener, and romanticist Jean-Jacques Rousseau in the beginning of his first chapter with the title “Structure of Science”:

“Let us begin, thus, we will remove all facts.”

In many cases, facts are subjective experiences that limit ideas and bind discussion. Intellect without fact is free and focused on subjects and can be elaborated on without limits.

If results are going to be accepted as scientific work, the conclusions cannot be based only on experience that is subjective, but must be based on objectivity. The term inter-subjectivity covers this in cases of qualitative method, where conclusions are between objectivity and subjectivity. If a phenomenon or observation could be considered inter-subjective, then it should be repeated on more than one subject. The subject in this philosophical context focuses on the relationship between an observer and an object that is the subject of observation.

The next difference is that the hypothesis more precisely defines research and the expected consequences. The hypothesis almost always predicts the expected consequences in cases where the assertion is true. Here, true means that the hypothesis is not disproved and the null-hypothesis is rejected.

But it can be a mistake to assume that in the case of qualitative research it is not possible to accept consequences. One example of such a hypothesis is that from social research based on the qualitative method, which was defined by the previously mentioned French philosopher Jean-Jacques Rousseau. The title of his hypothesis was “*Technical progress and material goods corrupts man’s morals.*”

The subject of research can be based on observation and a record of events and still not foresee the consequences. Historical research is an example of how this can occur.

In cases when the hypothesis is defined, the definition is used to harmonize the definition with the operational title of the subject of research. A hypothesis is used for the definition of an experiment and analyses that can be tested empirically.

In the case of the subject of research approach, empirical testing or experimenting is often not possible. The wait for changes to happen and make a difference can take a long time. One example is the massive changes in Eastern European countries after the Berlin Wall was pulled down. I could not imagine how long after the destruction of Ancient Rome that changes were still occurring.

A hypothesis is proven by experiments and tests, while the weight of proving a subject of research is on the verification about the credibility of sources and materials used during the scientific research process.

While it is usually possible to specify the hypothesis in research based on the quantitative method, such as in the case of natural sciences, the qualitative method is most often used when terms and concepts are not possible to measure directly.

Results of experiments are crucial for confirming, correcting, and concluding a hypothesis, especially for the final recognition or rejection of the hypothesis. In cases when research begins without defining a hypothesis, the importance is switched to proving the reliability and credibility of sources and material that are used as the starting and ending points of the research.

Qualitative terms are often a part of the description of the subject of research. Terms like development, civilization, culture, science, power, and domination are all examples of qualitative terms that cannot be directly quantified and cannot be used directly for an experiment. At this point it becomes necessary to find indirect terms, or indicators, that can help to quantify the qualitative terms.

During research based on the quantitative method, experiments directly determine the value of terms, and their relationships and differences with an object of observation. The results are recorded and often themselves are the subject of observation. For example, the changes of color or changes of structure are observed and recorded during chemical and biological experiments.

For historical and sociological research that focuses on the past, it is not possible to use observation. In these studies the primary focus is on collecting accurate materials that could enlighten and explain the event or phenomenon, therefore the most important evidence becomes the source's reliability.

"A definition is always broader than a measurement, because some elements of the definition cannot be measured, and are, by rule, qualitative; measurement is a rejection of the qualitative side of reality." (Susnjic 2010:149)

While it is easy to confirm or reject a hypothesis by using experiments, it is not so easy to defend a subject of research in a historical essay or paper, because the results and conclusions are based on experience and are by nature subjective and disputable.

This difference is especially important when comparing the two approaches. Although acceptance and rejection is clear for hypotheses, it can be unpleasant when events and phenomenon are interpreted differently by a multitude of people, each from their own individual point of view.

While in research based on the quantitative method it is possible to control debates technically, and keep the experiments and results on the exact same measurements and comparisons between quantitative indicators, relationships and differences, in research based on the qualitative method, which is insufficiently specified, this can be an impossible task. This is especially true in cases where the political or individual interests of different groups are mixed. In these studies, proving and rejecting the subject of research can take an unlimited amount of time and practically never finish.

While subject of research title can simply describe research project, as for example "French Revolution" or "Italian Renaissance Painters", hypothesis is expressed as "*preliminary or tentative or postulate by researcher*" (Gerber 2011a) and "*an hypothesis is a suggested solution to a problem. A problem (question) cannot be directly tested, whereas an hypothesis can be tested and verified.*" (Gerber 2011b)

While subject of research can be expressed as assertion, for example "Migration of Nations in the First Half of 3rd Century", a hypothesis does not assert anything. "*When you hypothesize something, you are not asserting anything about whether the hypothesis is true. It might be known true, known false, probable, improbable, completely unknown, or whatever. Usually the intention is to determine at some later stage the truth or falsity or probability of the hypothesis.*" (Denker 2004)

In research based on hypotheses and experiments, the equipment used and each step in the experiment are precisely described, as well as any other kinds of auxiliaries. These descriptions make it possible not only to verify the original experiment, but to allow other researchers to repeat the experiment just through the paper.

In the case of investigations using the qualitative method, such as historical research, that is not possible, even if the sources and materials were available. The interpretation of the sources and materials, and recognition of reliability is much more difficult to replicate. This is because the research is based on the subjectivity and competence of the person participating in that process.

This difference in principle has nothing to do with the hypothesis or subject of research, but is interesting to mention it.

Scientific Research Method and Hypothesis and Subject of Research

To be able to understand the signification of defining a hypothesis for dissertations, as well as defining of subject of research, first it becomes necessary to understand the place where these terms are defined and their role and importance explained. It is also necessary to

know about the basic assumption that creates the framework of the scientific research project and the requirements the researcher needs to achieve to be considered a valid scientific study.

If research is to obtain the label “scientific,” it should first satisfy the methodology requirements that are defined at the beginning of this paper, which can be summarized as:

- 1 Problem definition
- 2 Observation and experiment
- 3 Observation and experiment results
- 4 Publishing of results

It is not necessary at this point to once more explain that each of these steps is very complex and in reality represents an individual project that requires additional efforts by the researcher for successful completion to be able to continue to the next step.

For this paper, the first step is especially interesting. The definition of a problem is a key, because in this step either the hypothesis or subject of research is defined. The other important step is step three—observation and experiment results—because the results are used for the modification of both the hypothesis and the subject of research.

The standard methods and techniques that are used in the first step, as well as those used in other steps, are described through terms and concept definitions. These are the basis for understanding the correct definition in each individual study and provide a sufficient level of details that such definitions should guarantee that the research can be successfully accomplished and obtain the epithet of “scientific.”

Deviations and challenges are not small or simple, and that is why in the definition of analysis is quoted the idealist opinion that analysis inevitably contains elements of falsification and distortion. Analysis defined in scientific research is a framework and basic tool for any kind of research. By using an analysis the definitions of the subject of research and hypothesis are discovered. If we accept previous assertions about the analysis, then it means that these definitions contain falsification and distortion.

It is very difficult to argue against the above assertion, when it is known that past science has manipulated even natural laws, ignoring results—even in experimental sciences—that deviate from measurements necessary for proving a hypothesis. Such results have been used for making conclusions and discovering new laws, in turn building theories that civilization—to amass wealth and fame—boosted forward.

This does not mean that quality of life measured in qualitative terms, like happiness, satisfaction, success, or joyfulness, are directly proportional to success in science. In many parts of the world, unfortunately, such success has brought grief and sadness.

On the other side, it is necessary to understand this complexity in order to break it down. This approach has been criticized as well, for example, by followers of Neo-Kantianism, who hold the opinion that the whole is more than its set of component parts.

The definitions of the subject of research and the hypothesis themselves are a subjective choice, as well as the choice of variables and indicators necessary to quantify the qualitative terms and concepts.

The interpretation of results is often the focus of protest because of subjectivity, and in the case of research and experiment design, objection are often made regarding too much researcher interference.

To mitigate these objections, or more and less remove them, it is necessary to repeat the research and compare results again. If there are numerous repetitions of research, then confidence that the results are confirmed is higher. Of course, this process is limited by available resources as well as time constraints.

Comparative analysis, as it is obvious from the name, compares two or more alternatives and attempts to explain the similarities and differences discovered. When quantitative results are compared, the results of the analysis can be the subject of debate. Especially the interpretation of the results can be treated as subjective and becomes the subject of recommended modifications and rejection in endlessly long discussions.

How does the scientist explain to a test subject who has never seen a human being or a monkey what the advantage is to being one or the other by using comparative analysis? How certain can the scientist be that the subject after such an analysis would decide to be a human being rather than a monkey or be a monkey rather than a human being?

While similarities and differences can be represented fairly easily, the interpretation of advantages could be an unbridgeable issue.

Could the subject first of all understand what the term “advantage” means?

One of the most illustrative examples is speech. The argument that speech is an advantage for human beings can be rejected by the argument that human beings use speech to spread hate and conflicts. More developed languages offers more possibilities and more sophisticated kinds of offense.

Other reason language is subjective is that language is not unique. The process of learning a foreign language is long and complex and many spend years learning the language and are still unable to use it in conversation, or if they do, they do not understand enough and a number of misunderstandings and mistakes occur. This is not acceptable in a huge number of occupations where even a small mistake can produce fatal consequences, as for example in nuclear plants, hospitals, or in machine-driven industries. Even with less vital examples, inaccuracies or misunderstandings create unnecessary debate and waste precious resources and time.

On the other hand, monkeys do not have a need for a more developed language because their communications are effective. The human languages are not effective and language is often used for fruitless discussions that amuse indolent people.

Some could conclude that human kind would be more effective if they talked less. Also the outspoken word is quickly forgotten and it is not easy to reconstruct a conversation from memory. If everything was to be written and recorded, life would become a real hell. And how many resources would be wasted on re-play and deletion?

The support for human beings argues they are capable of changing their environment with the help of tools manufactured by their own hands. This can be rejected by pointing out the results: exterminated forests and pollution of food and water, destruction that is the source of climate changes that may be catastrophic for future survival of human beings. The possible extinction of human beings as well as animal and vegetative life forms points to what a bad concept humanity is in the world. Human beings, according to war and these other activities, could be considered viruses and parasites destroying that which gives them life.

These examples illustrate how a definition, as well as the results of an analysis, can be interpreted differently by different observations. The results depend on the person who makes the analysis, as well as the person who interprets the analysis results. Unfortunately, in the current world, a huge number of the human population would without any doubt choose to be monkeys and escape from their miserable and extremely hard living conditions. Despite that I do not live in such terrible conditions, exchanging humanity to live life as a free monkey looks very attractive. This is not a joke, but rather the eternal human dilemma about making the right choices.

Another important message that can be taken from this example is that an analysis cannot be unlimited and consider all possible combinations, but rather must be based on representative examples. The quality of the analysis depends on those chosen examples,

as well as the style and presentation, if an analysis is to be presented to those who know about the subject and the goals of the research.

Presenting a complex mathematical analysis—such as quantum theory, with the help of mathematical formulas—to literary critics can be interesting exercise, and in special cases can provide additional understanding for both sides, but it is difficult to believe that literary critics can estimate the validity of the analysis.

In the above example it would be a better argument supporting humans by describing how human beings care for children and describe how, unlike monkeys, humans are able to produce medicine that reduce mortality rates and can build shelters that protect human beings from rain and cold. Humans are able to develop sources of energy that enable shelter heating during the winter time as well as extend food production. In this way, human beings are better when compared to monkeys, being much less dependent on nature and weather conditions, drought, flood, or diseases, thereby increasing the human population.

This conclusion is not a fixed truth, and is concluded on the basis of the author's personal experience of the environment where he grew up. Someone else could easily see an increase in population in a negative context.

One example of the negative effect of growth on a population is the famous Irish example, when the people of Ireland starved and died. Almost a million people perished, and just as many fled the country. I can't even mention examples from Africa, where each day children starve and die because of illnesses caused by insufficient nutrition and lack of clean drinking water.

Another negative example is the effect of population growth on increasing expenditure of natural resources and increase in environmental pollution caused by the enormous amounts of garbage.

Even argument that human beings are “of having a memory for the race, of having an accumulated knowledge passable from one generation to another” (Feynman 1968), can be presented in negative context because it was possible to pass on ideas which were not profitable for the race. The race has ideas, but they are not necessarily profitable”. (Feynman 1968) Such ideas caused destruction, racism and discrimination, and exploitation, and huge suffering for large human being population.

The primary goal of these examples is to illustrate how there are many different points of view of the same information and this demonstrates how it is possible to argue for and against any argument. This also clearly shows how complex research can be and what kinds of issues are related to drawing the correct conclusions.

Methodology and philosophy are both tools that enable one to control the quality of research during the process of concluding and deriving the general principles and laws. Simply using these tools is not a guarantee of high quality. These tools can be abused and wrongly used.

“But the misuse of methodology obscures an important conceptual distinction between the tools of scientific investigation (properly methods) and the principles that determine how such tools are deployed and interpreted.” (“Methodology” 2000)

It is an essential precondition for the researcher to recount the work in its entirety, and with pertinacity and honesty record all results and sources without consideration what they reveal. That is what makes the difference between a scientist and someone who produces the results for political, marketing, or strictly private interests. To uncover fraudulent reports, science requires that the results, as well as the methods used are made public and available and able to meet critics' close scrutiny.

The supporters of the hypothesis will find in the above discussion the explanation that the hypothesis is essential, because a hypothesis defines and limits the field of

research. The hypothesis clearly identifies the terms and concepts, as well as the expected consequences in case the assumption is true.

This characteristic of the hypothesis is not necessarily included in the definition of a subject of research. In the case of historical research, it is possible to conclude one's research by proving that in a certain historical period a certain location was populated by members of particular ethnic group or even nation and their most important activity was agriculture.

“A historian, for example, reluctantly talks about cognition-theoretical questions relating to his own science. History happened and the historian makes notes about what happened: they do not create history's time-table, but precisely manage its records! Very often they accentuate that they are researchers and they do not have the time, power, or will to deal with the scientific questions of their own science. We do not make assumptions, but we collect facts; we do not ask questions how our science is possible, but we built it; we do not ask what the facts are, we describe them; we do not check hypotheses, we are asking questions about historical sources; we do not aspire to cognition of general principles of law, but insist we perceive events by their uniqueness; we avoid abstract theory, because we know in advance that enormous amounts of historical material were snatched from one thought or experience; our subjects of research are past events, therefore, we do not dare speak about the present and the future; our method is inductive and empirical, thus we do not derive from a logical law of conduct; we are not falling into a trap of predicting evaluation opinions, but we portray how something really happened; the historian's job is to narrate, but not preach; our task is to reconstruct that what happened, but not build the past according to our wishes or any other interests; the purpose of our science is discovering people and their relations as they were, whereupon we step back from evaluating how they are or shall be.” (Susnjic 2007:139)

The similarities between a hypothesis and a subject of research are radically visible on a level of scientific research methods and research techniques, especially with using a general method as a strategy. They are also similar in how they conduct the very beginning phases of scientific work or the pre-research where the primary goal is to learn about previous research and available knowledge.

The differences are most visible in content and the types of problems that are formulated, as well as in the very nature of the problem that is the subject of scientific research. The differences become visible at the moment when there is a need to define a hypothesis or subject of research. The definition of hypothesis requires additional work and engagement by the researcher to specify the terms and descriptions of the hypothesis, as well as its title.

The subject of research can be a working title or so-called work hypothesis, a hypothesis that is still not precisely defined where the final definition may remain undefined until the end of the research. The subject of research, when compared to hypothesis, permits greater freedom for the researcher to explore relationships and expands research area to include a larger number of parameters and mutual connections.

On the other hand, it can be stated that research based on a hypothesis is in some ways easier, because the focus is on a fewer number of relations and connections, so the number of combinations are less and easier to test.

All of the above mentioned reasons are arguments that the approach to define research should be serious. The researcher should be aware of the pitfalls and difficulties, as well as understand very well the multiple methods and techniques and their advantages and weaknesses, to be able to complete this task successfully.

Allegations that establishing a hypothesis is a pre-condition sine qua non to start any research is not true. The definition of a hypothesis is an important part of the research project and, to conclude it successfully, is often necessary. An defined hypothesis helps the researcher accomplish the pre-research for the project to purify the idea and focus

to a point in research that can give a scientist the most hope that an assumption and its consequences are provable so that the scientific research method can be accepted as a good enough for that kind of problem type.

The hypothesis, according to its own nature, requires a high level of precision, and is preferable, because the hypothesis focuses and narrows research to what can be considered essential and important. The hypothesis directs and guides research directly to the target.

Susnjic (2007) was right when he said that the hypothesis is the center about which everything moves around.

Scientific research starts with the hypothesis definition, then plans a process of argumentation based on that definition. The results of the argumentation process are used again to replace, modify, and polish the hypothesis, and in the end the conclusions are used as the framework on which the hypothesis stands.

Everything, from beginning to end, moves around a hypothesis. Even the rejection of a hypothesis is still connected to that hypothesis—in this case, a null-hypothesis, which represents the reverse of the original assumption, or alternate hypothesis.

General discussion

It would be wonderful if the human brain was capable of understanding the whole, without instinctively dividing everything into its parts, and if the human knowledge was capable of providing laboratories and equipment for such kinds of massive research. Reality teaches us that the human capability of understanding and interacting with complex systems is limited. Because of this, to be able to understand and control a process, humans must divide it into a lesser degree of the whole so it can be analyzed and explained, and then group and recombine the process to its greater whole that is concatenated by theories and laws.

To overcome the limitations related to understanding the complex whole, human beings use specialization and interaction. Specialization means that to solve a particular problem human beings use their potential to apply knowledge to the information and control the problem.

As other problems arise, the researcher continues to focus on each, until all groupings are shaped and—with the help of interaction, and its important parts, communication and collaboration—leads the project to its desired and expected end.

In this way, human beings overcome their individual limitations, both spiritual and physical, and are able to make machines that can lift enormous loads to incredible heights, fly, or successfully accomplish complex calculations that the human brain cannot. When all of this can be accomplished by only one member of human kind, without any help from others, that human being would surely even today be called a Living God.

The hypothesis can be compared to this form of specialization, because the hypothesis aspires to limit and explain the assumptions and consequences and define the connections and relationships in a research project.

When human beings are provided alternatives, there will always be those who favor one way and those who will support the other, even in science where experiment can be repeated and proofs demonstrated on concrete example.

In sciences such as sociology or philosophy, research is based on observation and much wider terms, definitions, and examinations than for sciences like mathematics, physics, biology, or medicine. These differences in viewpoints are much greater for observation sciences, and researcher can go further to totally ignore or disclaim one or more alternatives.

The final product of science research is based on the written word and textual explanation of terms. But it is also a freely influenced interpretation of that which has been observed and analyzed, directly dependent of the observer and analyst's capacity, and his or her capability to recognize patterns. These researchers generalize and build a language of terms, and create terminology that meaningfully describes his or her thoughts and conclusions. Their research will always be subjected to bitter discussions and disagreements.

For anyone who even slightly recognizes the nature of human beings, such behavior is not strange. Besides the emotions, and differences related to age, experience, and education, and the culture and environment where they were raised or lived for a time, there exists objective circumstances that makes each human being unique. Not only physical difference, such as dress, hair color, nose length, or distance between eyes, but rather objective physiological differences that do not allow us to see the world with the same eyes, to hear voices the same way, or feel the same way.

For example, although it is not always easy to keep in mind that no one experiences the same color the same exact way, nor color combinations, and that probably affects what people like or dislike, it is easy to hear foreigners speak the same language with different accents. This explanation is very simple and physiologically explained.

A human's sense of hearing is developed by the time they are seven or eight years old. Those who learn a foreign language during this time has a greater chance of learning to speak that language without an accent. Those who learn other languages later in life tend to speak foreign languages with an accent that more or less singles them out as non-members of those respective groups or nations.

When researchers is performing an observation and analysis, and during the process of making the conclusions and recognizing the patterns and consequences, all these personal influences are mixed into the research, and many more that are not easily visible or easy to explain, and which are still a mystery for science.

The famous film instructor, Akira Kurosawa, and his even more famous film "Rashomon" demonstrates how witnesses of violence do not always agree about the interpretation of the same event, but they describe totally different basic facts. Some individual testimonies were directly opposite to that others described.

One possible explanation for this is the process of thinking and creating ideas and searching for solutions. It is often explained as the result of chemical processes in the brain producing unique combinations that cause different reactions.

The understanding of this process of thinking is a subject of an immense number of research papers. How can the thought process be recognized in the earliest years of a lifetime, and how can scientists categorize human beings according to their level of intelligence? Evidence that intelligence depends on race or ethnicity was the basis for many racist theories and discrimination that was not uprooted until the modern era.

Genetics and genetic engineering open doors to new hopes as well as speculation. Humanity's dream to become a God has never died, as along with dreams regarding flying and immortality. These dreams could be interpreted as a human being's congenital idleness and wish to accomplish eternal happiness and readily available pleasure. But this can be interpreted as the constant aspiration to change one's living conditions and influence the laws of nature that limit him and makes him dissatisfied, sick, or angry at the environment where he lives.

I deeply hope that these scenarios will never be realized. One God is more than enough. Imagine how it would look if there were even two human Gods, not to mention a million or billion of such Gods?

I strongly believe that the entire universe would turn against them, and in the end exterminate them, never mind how much power they have, long before they would end up doing it themselves.

Conclusion

When all this is then considered again, the question of whether a hypothesis is necessary or not can be answered simply. Should the alternative of a subject of research be considered?

In the case of experimental, natural sciences, it is quite clear that one must define a hypothesis. It is natural also in the case of historical research to work without a hypothesis definition, and instead use the subject of research as one's guide and restrictive factor to keep research inside the framework and warn the researcher quickly if the study leave that frame.

If taking into account the human nature and inclination to controvert even itself, then the answer can be generalized this way.

Those who believe that it is possible to work without a hypothesis will do so, until they do not discover the hypothesis' advantages and needs that arise from it.

Those who believe that the hypothesis is indispensable will first define their hypothesis and support only that hypothesis and believe the proof is important and ignore all the facts that are outside of the scope of the hypothesis, until they find an example where the hypothesis limits their progress and jeopardizes their project's success.

There are, of course, those who will exclusively stand for one of these two principles and do not reconsider their stance at any price. Such examples of researchers usually do it to be different, at any cost—even at the cost of common sense.

On the other hand, what today is accepted as objective opinion would support the use of a hypothesis where it is possible or necessary, as for example in research based on the experimental or quantitative method, but encourage the freedom of choice for researchers in cases of research based on historical or the qualitative methodological approach.

What can be noted is that a hypothesis narrows the focus to certain research fields and leads research to deeper problems, and can produce research without sufficiently detailed definitions of the subject of research. That is to say, without a hypothesis definition, the scientist is led to broader research and an observation of the object of research in a wider context and interaction with its environment.

Even previous conclusions can be accepted as generally correct, since the depth or breadth of research is defended best by the researcher. Different researchers in any case will go to lesser or greater levels, to one side or another.

It simply does not exist, only one truth or only one choice, which is applicable to all subjects of research. I would rather say that the subject of the research determines the appropriate application of which method should be applied.

For example, historical research would probably best define the theme or subject of research without a need for a hypothesis to narrow their focus. Research based on experiment and the results of experiments would only in particular cases, if such cases exist, perform research without defining a hypothesis. This is because the hypothesis becomes the basis for defining experiments.

Many times it is necessary to isolate a subject of research, first to understand the subject as a singular entity, and then to observe that same subject in a wider context or interacting with a different environment. In this case, a hypothesis can be a valuable tool for defining goals and identifying necessary experiments. The best examples are mathematics, physics, and biology, where the experiment is one of the most important tools and likely the only one that can confirm the research results.

In other sciences, as for example psychology and sociology, most important are the observations of the object of research in interactions with its environment. A hypothesis in this case could limit the freedom of the subject and direct research to less important aspects and formalities. This would obstruct the researcher to discoveries that are not the objects of research.

It is not unique for science to discover a very important finding by accident. Such an example is roentgen. Without roentgen, it is difficult imagining medical diagnostics today.

An accident in this context cannot be considered as incidental, because discovery in scientific research that applies a scientific research method is not an accident. This method is a detailed, defined process where each step produces result and those results are recorded and analyzed. That means that in natural sciences, the result should be the same or almost the same every time, and even in philosophy and sociology the result should be approximate.

That does not mean that new interpretations of results do not create new theories and modify applied methodology. That also does not mean that unexpected results should be ignored or forgotten. Unexpected results can become the embryos of exciting discoveries and new branches of science.

Another important factor, in deciding what approach to use, is the research's complexity.

In statistics it is easy to explain that the validity of results in marketing research or questionnaires are directly dependent on the number of tested samples.

In metallurgy, it is a known problem that the scale of tests within a laboratory can produce different results when applied to industrial production. For example, in iron production a laboratory oven can be few meters in height but in the iron production factory, a real oven can be over twenty meters in height. Even if the production process is enlarged proportionally to other parameters of the scale, the changes in the scale of the real oven usually produces quality differences and, in extreme cases, can cause massive waste of material, time, and labor.

On the basis of the example, we can conclude that measuring with proportional scaling is not necessarily negative, nor positive, and positive or negative effects vary from example to example.

Can a problem regarding scale change a researcher's decision about their hypothesis definition?

In the end I will mention one more example that illustrated how implacable the scientists' attitude can be.

"Nurture versus nature, behavior acquired against behavior inherent, is still the subject of one of most lively discussions and discrepancies of modern psychologists. The division is so deep that it was assured that reasonable discussion between supporters of the influence of environment and supporters of the influence of genetically intellectual development were impossible (Crawford, 1979)." (Naklada Slap 2002)

Susnjic (2007:66) in his final discussions about the importance of the hypothesis, asserts that research can start with any kind of hypothesis, but cannot start at all without a hypothesis. He states further that the hypothesis can be truth-less but never absurd, because that same hypothesis can be the source of a new hypothesis or hypotheses, as well as new research, or even divide a single research study into two or more independent research projects, because the results are so different that they cannot be explained by only one hypothesis.

"Researchers otherwise do not inform the public about their wanderings; they inform the scientific community about their success, but about failure they keep quiet, which is a immense pity, because from great failure can be derived great lessons.' Almost all great discoveries started from wrong hypotheses (R. Muzil, Eseji, Svetovi, Novi Sad, 1993. page 115)." (Susnjic 2007:66)

Under full consciousness and responsibility, I state that today I will not question the necessity of a hypothesis.

Tomorrow, I do not know....

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THE CAPITAL ADEQUACY RATIO ON THE MACEDONIAN BANKING SYSTEM AFTER BASEL III IMPLEMENTATION

Abstract

The aim of this paper is to elaborate the impact of the new Basel III rules of the capital position on Macedonian banks and their activities. Having in mind the characteristics of the banking system, although Basel III still isn't at force in Macedonia, this paper will analyze its impact on the CAR on banks.

The financial crises showed that the bank's resistance to crises is very fragile and two main issues were recovered that should be enhanced: the capital strength of the banking system and the liquidity position. As a result of the identified weaknesses of the regulatory framework the Basel Committee acceded to revision of the Basle II principles. The main question is will the new regulatory framework enhance the resilience of the banking system and how these changes will affect the business model of banks. Off course the effectiveness of the new framework depends on the decision of national regulators and legislation in different countries and regions.

Having in mind the aim of this paper, the implications from Basel III regarding quality and quantity of the capital that is required will be analyzed on Macedonian banks on individual level.

Key words: Basel III, capital adequacy, banking system, Macedonia

JEL classification: G28, G21

СТОПА АДЕКВАТНОСТИ КАПИТАЛА У МАКЕДОНСКОМ БАНКАРСКОМ СИСТЕМУ НАКОН ИМПЛЕМЕНТАЦИЈЕ БАЗЕЛ III

Апстракт

Циљ овог рада је да истражи утицај нових правила Базел III капиталног положаја на македонске банке и њихових активностима. Имајући у виду карактеристике банкарског система, иако Базел III још увек није на снази у Македонији, овај рад ће анализирати његов утицај на стопи адекватности капитала на банке.

Финансијска криза је показала да је отпорност банака веома крхка и два главна питања су се наметнуле, да треба побољшати: капиталну снагу банкарског система и позицију ликвидности. Као резултат идентификованих слабости регулаторног оквира, Базелски комитет је приступио на ревизији Базел II. Главно питање је дали ће нови регулаторни оквир повећати отпорност банкарског система и како ће ове промене утицати на пословни модел банака. Наравно

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ефикасност новог оквира зависи од одлуке националних регулатора и прописа у различитим земљама и регионима.

Имајући све у виду циљ, овог рада, су импликације из Базела III у погледу квалитета и квантитета капитала који је потребан и биће анализиран на македонске банке на индивидуалном нивоу.

Кључне речи: *Базел III, адекватност капитала, банкарски систем*

Introduction

Economists say that a financial asset exhibits a bubble when its price exceeds the present value of the future income that would be received by owning it to maturity (Brunnermeier 2008). Regarding housing bubbles, they can occur in local or global real estate markets. In their late stages, they are typically characterized by rapid increases in the valuations of real property until unsustainable levels are reached relative to incomes, price-to-rent ratios, and other economic indicators of affordability. This may be followed by decreases in home prices that result in many owners finding themselves in a position of negative equity—a mortgage debt higher than the value of the property. The underlying causes of the housing bubble are complex. Factors include tax policy (exemption of housing from capital gains), historically low interest rates, lax lending standards, failure of regulators to intervene, and speculative fever (Laperriere, Andrew 2006). This is scholar definition of mortgage bubble that was initial burst for the world financial crises. The Bank for International Settlements (BIS) has argued for a long time that the financial system is intently procyclical and thus chronically prone to bubble-like behaviour. As BIS has pointed out, very rapid credit growth led to increases in asset prices above fundamental values, which in turn fuelled a boom in consumption and investment (Claudio and Schim, 2004). The financial crises once again pointed on the fragility of the banking systems and macroeconomic consequences of their instability. The focus on the Central banks policies now except on the price stability is put on stability on the financial system as a precondition for stability of the economy.

In order to overcome the main weaknesses of the existing framework and enhance the shock absorbance capacity, BIS has strengthened the capital adequacy rules. There were improvements in the quality and quantity of the capital base and more stringent international liquidity standards. Bearing in mind the focus of this paper, only changes relating to capital and their impact on the banking system in the Republic of Macedonia will be analyzed.

The current macedonian regulation for calculating capital adequacy ratio

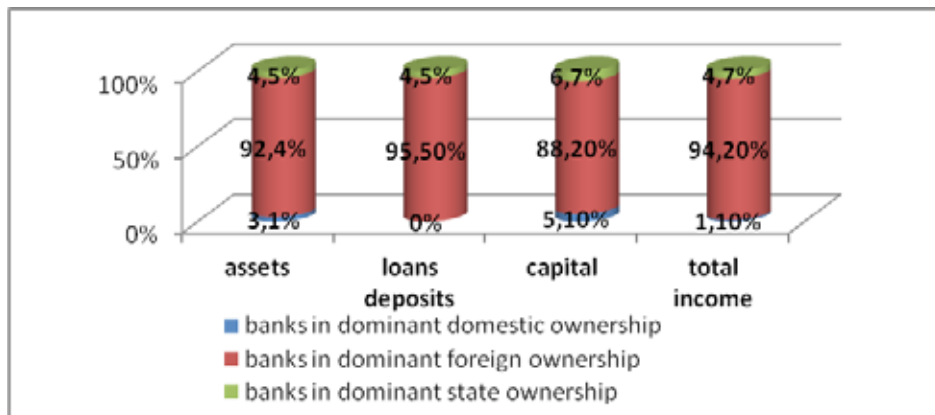
The current regulation issued by the central bank regarding the CAR (NBRM, 2012) is compatible with Basel II with small modifications taking into account the activities on the Macedonian bank and their level of development. The core capital includes only stocks, reserves and profit, but excludes the innovative debt instruments. The minimum capital adequacy ratio that the banks shall permanently maintain is 8%. The amount of supplementary capital I may not exceed the amount of bank's core capital and the amount of subordinated instruments which are part of the supplementary capital I, may not exceed 50% of the amount of core capital. Regarding the approaches that are

used for calculating the capital needed for covering risks, the regulation is in different stages of Basel II. Standardized approach for credit risk is introduced from July 2012, and the obligation for capital needed to cover operational risk has started from September 2012. The calculation of capital needed to cover market risk is according to Basel II.

Another aspect that is important before we analyze the impact on Basel III of the CAR is the structure and characteristics of the banking system. The banking system dominates in total financial system with over 90% share in total assets of financial system. The banking system in the Republic of Macedonia at the end of 2011 is comprised of seventeen banks and eight saving houses (NBRM, 2012, p. 10). Thirteen of the total numbers of banks have foreign shareholders as dominant owners. The banks with a dominant foreign ownership have above 87% share in the total capital of the Macedonian banking system and above 92% share in total assets (Figure 1). The analysis of the structure of the banking system by dominant shareholder points Greece and Slovenia as well as foreign portfolio-investors as owners with dominant share in the total assets of the banking system in the Republic of Macedonia. Although Greek banks own more than 30% of Macedonian banking system, the obligatory limit is exposure to the parent Greek banks to be maximum 10% of the bank capital. Also Macedonian banks don't have investments in Greek securities and the deposits are invested in Macedonian companies and citizens (Bogov, 2011, p. 1) which make Macedonian banks resilient from the developments in Greece.

The structure of the Banks' assets and liabilities indicates that the Macedonian banks business model is traditional. The dominant banking activities are collecting deposits and granting loans. On the liabilities side at 31.12.2011 the deposits of non-financial entities with 70% are dominant source of financing (NBRM, 2012, p.23). The assets side is dominated by loans on non-financial entities whose share in the total assets is 55%. This kind of structure makes Macedonian banking sector resistant to direct influence of the world financial markets that was confirmed during the global financial crisis.

Figure 1 - The Structure of the Balance Sheet Positions According the Banks' Ownership on 31.12.2011



Source: National Bank of The Republic of Macedonia, (2012) Report on Banking System of the Republic of Macedonia of 2012, NBRM, Skopje

Concentration according to the CR5 ratio is high in all segments of banking activities, being highest in household deposits, and lowest in total assets (NBRM, 2012, p.18). The five largest banks on 31.12.2011 occupy over 75% of all segments of banks' operations (Table 1). Concentration according to the CR3 ratio is high in all segments of banking activities, being highest in household deposits, and lowest in total assets (NBRM, 2012, p.18). The five largest banks on 31.12.2011 occupy over 75% of all segments of banks' operations (Table 1).

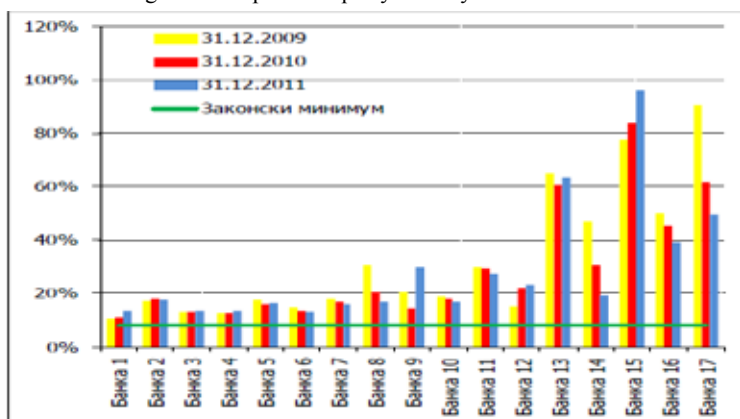
Table 1 – CR5 and CR3 ration of Macedonian banking system on 31.12.2011

Year		Total assets	Household loans	Corporate loans	Household deposits	Corporate deposits
CR5	31.12.2009	77.40%	81.20%	81.30%	85.70%	81.50%
	31.12.2010	77.20%	79.30%	81.10%	84.90%	83.30%
	31.12.2011	76.60%	78.80%	81.70%	82.90%	83.50%
CR3	31.12.2009	67.50%	68.30%	71.40%	76.40%	71.10%
	31.12.2010	66.00%	68.60%	69.20%	76.70%	62.50%
	31.12.2011	64.00%	67.70%	67.40%	75.00%	57.50%

The market share of individual banks is stable. However, in thirteen out of seventeen banks the individual share in the total assets of the banking system is less than 5%, whereas in nine of them it is below 3%. The concentration is even higher if we analyze CR3 ratio. CR3 is above 64% in all segments of banking operations which means that there is oligopoly structure in the banking system. With its share of 90% in the whole financial system, the banking sector has crucial role through channelling on the financial resources to the deficient economic agents. The financial intermediation in the Republic of Macedonia is still on the lowest level relative to some countries from the European Union, the EU average and the Euro zone average.

Having in mind the concentration, it is clear that CAR on the banking system is dominated by CARs on the three biggest banks. The share of the three largest banks in the capital base on the banking system is 67% which means that the resilience of the system strongly depend from CAR of each individual bank from the three largest one. The exposure of the Macedonian banks mainly arises from the credit risk, and because of that 95% the risk weighted assets is due to credit risk exposures. This is consequence of the traditional business model of the banking system that was mentioned earlier. So, the credit risk is dominant in banks' operations, with minor significance of the market risk. If we analyze the CAR by individual bank (Figure 2), it is clear that the small and medium banks have higher CAR despite the CAR of the larger banks. This means that big banks are constrained in their credit growth from their capital. The market distress leads to circumstances where it is difficult to ensure their recapitalization which leaves space for credit growth of the smaller banks. The quality of the capital base is strong, and 85 % of it is due to core capital (NBRM, 2012). Only, 7 banks have supplementary capital I which participate with 15% in the total capital. The capital adequacy ratio at the end of 2011 on the banking system is 16,8%.

Figure 2 - Capital adequacy ratio by individual bank



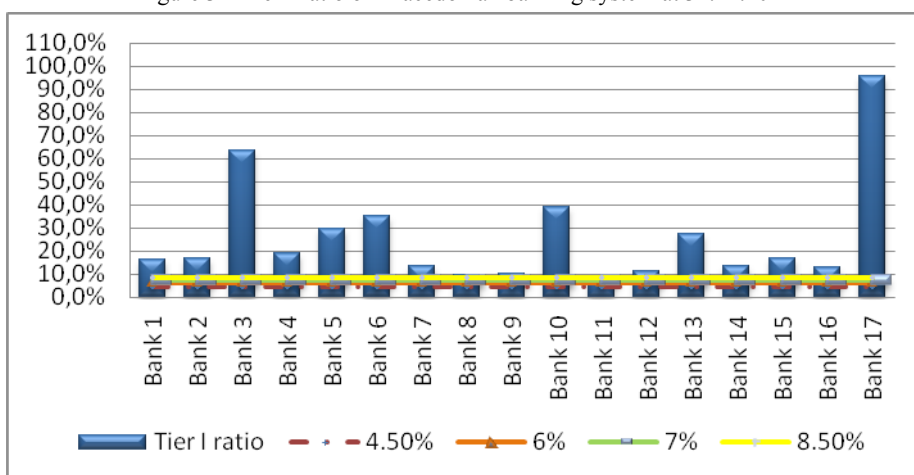
Source: NBRM, (2012) Report on Banking System of the Republic of Macedonia for 2011, NBRM, Skopje

The market distress leads to circumstances where it is difficult to ensure their recapitalization which leaves space for credit growth of the smaller banks.

Impact on Basel III of the car on Macedonian banking system

BIS main idea that the resilience of the banking system should be enhanced at individual bank will be followed in this section and the impact on Basel III will be assessed by individual bank. All Macedonian banks at the end of 2011 fulfil Basel III requirements regarding capital. Tier I ratio is above 8.5% (Figure 3). As can be seen from Figure 3, Tier I ratio on the Macedonian banking system is between 9.5% and 93%.

Figure 3 – Tier I ratio on Macedonian banking system at 31.12.2011

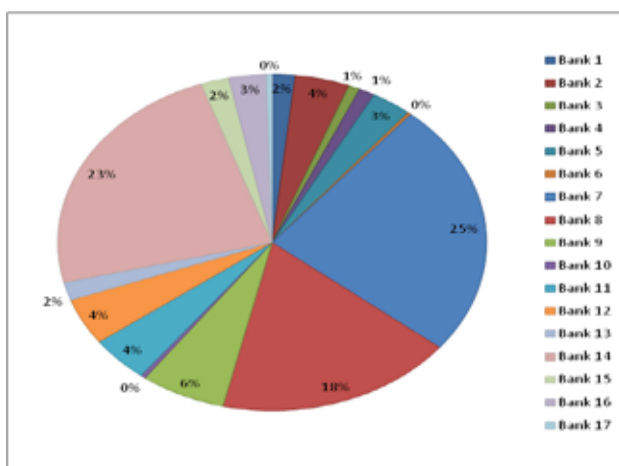


Source: From audit reports at each individual bank

The three largest banks according to RWA (Figure 4) share of individual bank to total RWA of the banking system have Tier I ratio of 13.5%, 9.5% and 13.4%. So the conclusion is that one bank of the three largest one, don't have enough capital if we calculate additional capital for countercyclical buffer. Having in mind the growth of the banking system in the last 2 years this buffer won't be necessary.

The capital adequacy ratio on each individual bank is above 10.5%, and all banks fulfil the Basel III requirements for this ratio including the capital conservation buffer. (Figure 5) Three banks have surplus capital ratio of only 2 p.p and further deterioration of their credit portfolio can put them in situation when additional capital will be required under Basel III. The conclusion that follows is that CAR at each individual bank is higher than the prescribed Basel III rules so tougher capital rules won't have impact on the activities of our banking system.

Figure 4 – Share of RWA of individual bank in total RWA of banking system

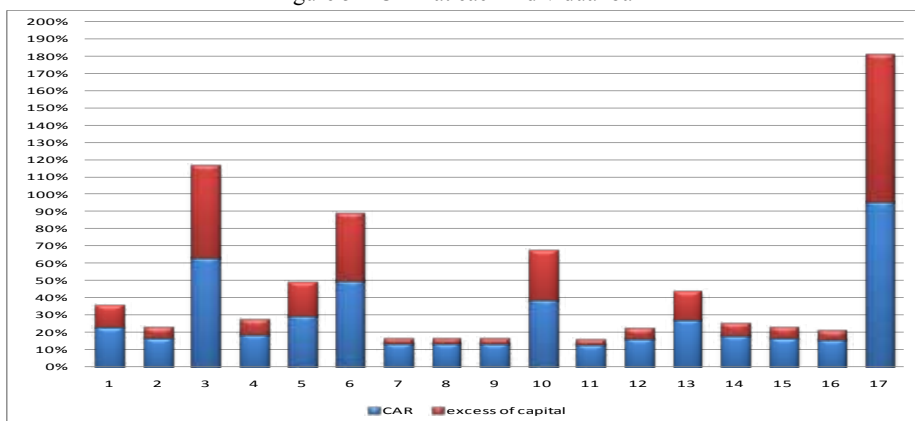


Source: From audit reports at each individual bank

Regarding the obligation for Macedonian banks to calculate capital for operational risk from September 2012, it will have small impact on the capital adequacy ratio (NBRM, 2011). If we assume that all banks will use basic indicator the required level of capital to cover operational risk would lead to reduction of the capital adequacy by 1.7 p.p. in the overall banking system for 2011.

Also all banks on 31.12.2011 have CAR above 12.5% which gives space for further growth in the future even if countercyclical buffer is calculated.

Figure 5 – CAR at each individual bank



Source: From audit reports at each individual bank

The need for countercyclical capital is calculated under instructions of Basel committee. In that purpose for credit exposure is used the Credit exposure/GDP ratio and trend is calculated with the Hodrick-Prescott filter. The process that is used will be explained in details further. The necessary steps that have to be conduct are:

- Calculation of loans/GDP ratio,
- Calculation of difference between loans/GDP ratio and the trend,
- Calculation of the needed % of capital.

As can be seen from Table 2 in this point there is no need for countercyclical buffer. This measure was needed in 2008 when there was massive credit growth. The last step is to calculate the needed capital. Having in mind the deviations from the trend in that point of time, if we have assumption that Basel III was in force than, banks would have to distinguish countercyclical buffer of 0.5%. The increase in leverage, as mentioned in the first part, states as one reason for the great vulnerability of the financial system.

Table 2 – Calculation for countercyclical buffer

Year	Loans	GDP	Loans/GDP	Trend (HP filter)	GAP
2003	46,644	258,369	18.05%	18.10%	-0.05%
2004	58,298	272,462	21.40%	22.00%	-0.60%
2005	70,524	295,052	23.90%	25.89%	-1.99%
2006	92,017	320,059	28.75%	29.79%	-1.04%
2007	128,071	364,989	35.09%	33.68%	1.41%
2008	172,150	411,728	41.81%	37.57%	4.24%
2009	178,196	410,734	43.38%	41.45%	1.93%
2010	190,816	434,112	43.96%	45.33%	-1.38%
2011	202,405	461,730	43.84%	49.21%	-5.37%

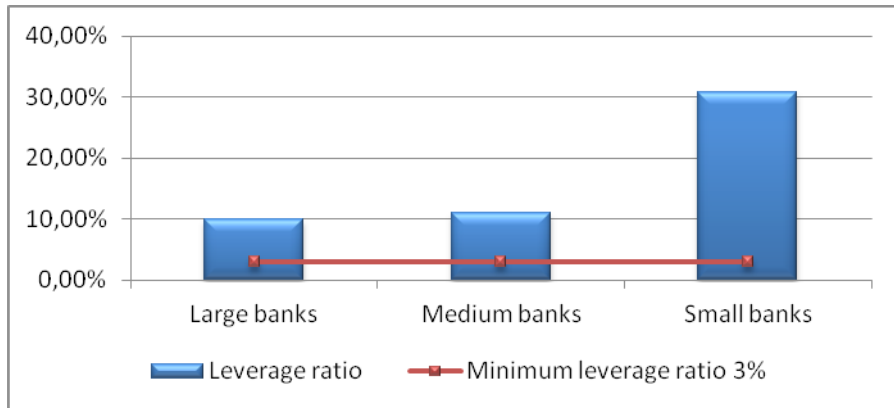
Source: NBRM and State Statistical Office

The current regulation enabled increasing the coefficient of leverage by keeping the rate of capital adequacy within the prescribed limits. During the financial crisis, banks have tried to get rid of part of leverage through the sale of assets which further influenced

to reduce their prices. This condition imposes the need for the Basel Committee to consider the introduction of restrictions on the rate of leverage in the banking system. This is one of the most important innovations in Basel III and is defined as the rate of debt (leverage ratio). The purpose of this rate is to serve as a complementary measure together with the rate of capital adequacy. This rate is projected to be calculated as a quarterly average of monthly state capital and total assets (balance sheet and off-balance sheet). The minimum level of leverage ratio is projected to be 3%.

The leverage ratio on the bank with the smallest one is above 5%. Each individual bank is in line with the requirements regarding the leverage ratio. In figure 6 are shown the leverage ratios by groups of banks. Large banks, which have lowest leverage ratio, have above three times higher ratio than the prescribed ratio of 3%. Having in mind the concentration in the banking system, the conclusion that the banking system is not leveraged at high scale follows. So Basel III rules regarding leverage won't have impact on the banking activities of the banking system.

Figure 6 - Leverage ratio of the Macedonian banking system by group of banks



Source: From audit reports at each individual bank

Conclusion

Macedonian banks fulfil Basel III qualitative and quantitative rules. Macedonian banks don't use hybrid instruments that are accepted as capital under Basel II and are excluded from Basel III. Our banks engage in traditional banking so the changes regarding the trading activities won't affect CAR on Macedonian banks. Further analyse of capital components show that Tier I capital of Macedonian banks meets the qualities and quantities requirements on Basel III. So, the Macedonian banks will not have to increase the Tier I capital level. These rules won't affect the current structure of the capital base and consequently on the banking activities.

The same conclusion can be conducted for CAR. The CAR of each individual bank is greater than minimum Basel III CAR including capital conservation buffer and countercyclical buffer. Regarding countercyclical buffer the calculations show that there is no need for additional capital because of the reduced credit activity of Macedonian banks. The Macedonian banking system meets the requirements for the leverage ratio too. The rules regarding the leverage ratio won't have any impact on the banking activities, because the Macedonian banks have leverage ratios well above the prescribed level.

At the moment, all Macedonian banks have the required capital level and there won't be major changes in their strategies or activities. However, further capital position of the banking system will depend on the economic situation in Macedonia as well as developments in the euro area. Big shocks which will have devastating effect on the real sector can create huge losses which can deteriorate the capital position. Additionally, the uncertainty is greater due to the length of time for Basel III implementation.

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INNOVATIONS IN BUSINESS ARE INEVITABLE

Abstract

Nowadays, management activity inevitably involves computer, lap top, mobile phone, Internet and IT application. Modern information availability approach is necessary component of a successful manager, especially having in mind the newest happenings on new technology market (lap top, notebook, I pack, USB, CD and other flash memories). There is no place for the old way of behaving in modern business.

Key words: *manager, business, modern technology...*

JEL Classification: O31, O32, M20, M21

ИНОВАЦИЈЕ У БИЗНИСУ СУ НЕМИНОВНОСТ

Апстракт

Данас, управљање активностима неизбежно укључују рачунар, лап топ, мобилни телефон, интернет и ИТ апликације. Савремени приступ доступности информацијама је неопходна компонента успешног менаџера, посебно имајући у виду најновије дешавања на тржишту нових технологија (лап топ, нотбук, USB, CD и други облици флеш меморија). Не постоји место за стари начин понашања у модерном пословању.

Кључне речи: *менаџер, бизнис, модерна технологија*

Introductory notes

Business activities and management work of our enterprises during the last decade is inconceivable without use computers, lap tops, mobile phones,¹ Internet and IT technology appliance, which immensely influences modern business. Mobile phones, computers, note books, different terminals and many technical gadgets enabling inland managers almost immediate access to information from any part of the world. In the constant race for profit, Internet usage enables 24 hours business, so workhours cannot

¹ Pioneer phase of mobile phones appliance (1921-1945) is the time when they were used mainly in army and police, when they were considerably bigger in dimensions, bigger energy consumers and only portable with cars. Modern pocket mobiles, during that period of time, was inconceivable. The first technological breakthrough in this field presents invention of frequency modulation (FM) by Edvin Armstrong in 1935. This invention provoked real revolution in radio industry, because frequency modulations were rapidly introduced in mobile communications as well. During The Second World, price and reliability of communication devices were significantly improved, and already from 1946 starts commercial phase of mobile telephony.

be barrier anymore. Internet gives our companies the opportunity to connect mutually no matter what part of the world they are in. With help of Internet, employees are better and more rapidly informed, while business procedure becomes considerably shorter.²

Innovations and business

In our country there is increase in commerce over the Internet (E-commerce). Our managers have accepted the main electronic business canal, realising that online presence is equally important as presence in the real world. Electronic address has become inevitable in our business communication, and number of managers who send their business documentation by post, on paper or by fax is decreasing.

To some inland managers use of electronics still stands for status symbol. In our companies they decide independantly about in what amount and way they are to apply modern IT at work. Besides the fact that in the last couple of years there have been great advances achieved by adopting the act regulating electronic business, our company still does not have clearly defined and well conceived national strategy of IT development of e-business.

IT implementation in companies is mainly reduced to so called basic use, controlling documents creation and storage. Fundamental change of business manner along with modern technologies usage in companies is yet to be carried out. And in order to achieve economic success it is necessary to greatly deal with innovations, that is:

- enterprises should invest more in informational and communication technologies and knowledge,
- to have high level of comptuter possessing and
- education and training about computer usage to be developed.

Our country has pretty weakly conceived development strategy in IT sense and we miss greater initiative of the authorities, in order to create modern and competitive telecommunicational infrastructure.³

IT appliance in our country is greatly consequence of wish always to be in and it is essencial to change our people's consciousness regarding the use of electronics in business and evetyday life. Propaganda of the new IT products existing on our market is also important, because representatives of the companies producing and selling electronic equipment and computers say that journalists and media have considerably contributed popularization of computers, lap tops, telephones and other products usage, so this should be used.

It is often said that media and marketing have given important contribution to the development of electronic usage in our country. The same way, journalists have, with a number of texts and supplements, greatly contributed development of our people's consciousness and need for individual usage of informational technologies. It is important to overcome fear from use of new, which is greatly present among our people, regarding informational technologies.

² Main characteristics of this medium are its universality, multifunctioning and constant evolution which brings more complex and powerful mass communication services

³ Enterpreneurship possibility, investments and employment considerably decrease if in country dominates redistributive mentality and interventionism. In those cases citizens are hostages of monopolies created by symbiosis of politicians and new businessmen, entrepreneurs with broker mentality dominant over industrial one, and reformists reform only themselves.

Nowadays, our younger managers follow new achievements and buy contemporary electronic devices, and equipment producers and distributors claim that business people in our country are trendy regarding electronic devices equipment, since everything that can be purchased in the world is available to them as well. In our country we only lack richer palette of services and utilities necessary for inland managers' business activities; there is also lack of information on the stock market, video news and other services.

Our managers in everyday business should use notebook and mobile phones more; they should constantly create trends in IT usage and advantages of business afloat. Because it is often not important where you are, but it is important to fulfil work tasks and complete everything on time. It is known that work can be done at home or in the street, but it is always necessary to be familiar with electronic devices usage.

New access to information

The greatest number of our enterprises while getting electronic equipment for business use most of the time services of branded world companies, whose equipment enables unfailing daily report and uninterrupted flow of business information. In some of them, manager over portal is in a position to have provided access to certain segment of business information, and all information published/posted daily in media concerning them are available in electronic form.

The greatest number of information published about companies are available to all the employees with the access to computer, so it is necessary to have company internet mail, which is used for work material distribution, giving data about appointments and cancelled meetings and other information important for enterprise business. When presenting a company also projectors should be used for different purposes from office to fair appearance ones which are much stronger. It is necessary to constantly follow all modern trends regarding IT equipment, that is to daily update enterprise business activities.

Modern technologies implementation in our country is in short period of time going to reach the level that Europe has, and each company owner, with market and business development, have to provide complete equipment for electronic business activities if he wants to be market competent.

Pocket Internet

In modern world of business, need for mobility is one of the greatest change.⁴ Our managers nowadays cannot even imagine they workday without mobile phone, getting mere and more computerlike characteristics. By this gadget usage, e-mails can be received, newspapers read, driving schedule information got, stock market position, interesting pictures observed etc. The greatest number of information about company business activities or the newest data from business activity available to manager just by one click on his mobile phone wherever he is.

IT center of Serbian Chamber of the Economy enables all the managers usage of mobile phones and lap tops, whose usage enables them on everyday meetings and

⁴ With tendency to impose ourselves to rich and fastidious west-European market, more initiated question in our country as well is regarding brands, because on the great international market only our products which have their "name, mark and origin" can reach satisfying price. Otherwise, they will be lost in the crowd of nameless things.

business negotiations faster access to information. For bigger inland enterprises, however, it is of immense importance to have fast information access and direct database.

Our managers mainly follow development of modern technology, intelligibly, all depending on kind of business they are in business kind, but on their standard as well. For a modern manager today it is of essential importance to have the right information in the right time which may importantly influence the business flow. Just in case something goes in an unscheduled direction, timely data enable manager to "in motion" correct certain irregularities and finish job successfully. There is no rule regarding use of electronics in manager's business and work. Before, it was enough for an organized manager to use only one mobile phone for everyday job activities. However, nowadays, if he presents company business on business meetings, than team of managers must have notebook, USB memory and other necessities for audio and video projections.

Companies today must daily invest in new knowledge and technology updating.⁵ Since foreign companies present their work most often via notebook or USB memory, our business association – chamber is in possession of complete equipment for video projections, projection screen, projector and computer for presentations.

The number of global net users today per one computer in our country is very impressive, and recent surveys have shown that between number of computers and Internet users there is equality, that is one computer, one Internet user.

Table 1. Internet statistics of Serbia

Population (2009)	7,379.339
Population of the capital (2007)	1,764.650
Internet users number (September 2009)	3,300.000
% population penetration	44,70%
Internet users number with wide connection	451.200
% from the whole number of the users	13,67%

Source: Internet World stats

In our country today is almost complete average family (the one with the computer). It is evaluated that there are over two million computers in Serbia today, so that the number of those who have used the Internet at the beginning of this year has finally overcome the number of three and a half million users, that is over 45%. However, it is well known that information is resource of huge importance for successful market performance, that is that finding efficient ways of information reaching is the aim of each and every company.

⁵ If expectations of increased investment intake in our country in the following period of time are real, is the question possible overcoming of created problems for future development of our country depends on the most. If omitting the exaggerations, it could be said that there is baseless optimism that foreign direct investments are notably going to increase compared to those last year and based on inland enterprises selling. However, unless fund from abalienation from still not privatized and public enterprises are not ultimately rationally used, which will only temporarily abate very difficult issues regarding the sphere of economical-financial relations with overseas and only postpone its entrance into deeper charge crisis.

Young managers and achievements

Modern business activity today is inconceivable without computers. It presents a very important gadget, becoming out of date very fast, so it is necessary to change and update it, which is mainly dictated by modern business trends, that business computers become multimedial (radio, TV, DVD, Internet). Our older managers still consider that all the information can be “carried” in head. They have difficulties in adjusting and unwillingly apply modern electronic in their business activity, while younger managers use almost all up-to-date appliances, are interested and follow the newest achievements in this domain. Personal computer nowadays is changed by notebook, and its role is rapidly overtaken by new PDA mobile devices with I pack among them.

The last one is replaced by notebook and fits into pocket, and along with it message is downloaded, accounts department of company is being entered, balances checked and other jobs are done. It is mainly possessed by younger managers, but in Serbian business circles notebook is still the most dominant one. Older managers are said to accommodate more difficult and unwillingly innovate their business activities. They unwillingly decide to buy new devices and introduce modern software solutions, while young follow the trends in electronics and almost all of them use lap tops and I pack.

Our country does not stand behind the world a lot regarding electronic and IT development, since everything from the seen and noted modern devices for business activity when dealing with foreign managers in European countries and around the World rapidly reaches our country as well. Foreign associates are often surprised when they see the spectrum of mobile electronic devices our managers use.

Our business people most often,⁶ beside standard computers, ask for notebook, being replaced already by I pack, because versions with new solutions appear very fast. The greatest number of managers today it is essential to have desktop computer as work station, mobile phone and lap top, because wireless access to the Internet is often of crucial importance for business activity and work of our manager. Modern manager nowadays, in every moment has to have mobile phone. On business meetings he regularly uses notebook and I pack, depending on the kind and aims of the working meeting.⁷

Business activity as it used to be

Some of our managers still do their business in the old manner, relying on the personal contacts, acquaintances and concluding business jobs in hotels. Rarely, or reluctantly, they use electronic devices in business and work, still being not completely aware of advances in business activities enabled by modern informational systems and electronic devices usage.

Until recently, it was impossible to imagine main headmaster’s team of a big company without a couple of helpers and secretaries. Special aluminium suitcases with

⁶ Modern manager, if he wants to comprehend his position on the market must become familiar with «триПО», that is to research needs, form offer and think of messages.

⁷ For all that, notably bigger investments are necessary, because only with their help development can be made sustainable. And that is what we need and what, again, opens the competition story, about that small economy today may some time in future become middle, and of course the one for export. Export would have to be that healthy economy development generator. Exactly for this reason everything should be done in order to not only start bigger foreign investments but also stimulate domestic savings, which is of crucial importance for development all around the world.

documents, weighting sometimes even a couple of kilograms, were carried on a business visit. Nowadays, however, everything necessary for a manager's successful business is in a portable computer, being the most important working tool. However, apart from a computer, it is also necessary to have a laptop, USB, CD or another flash memory, in order to do business successfully and present company around the world. All the things stated acknowledge us that modern technology basis are the Internet and services based on this global communicational infrastructure.

Modern company managers daily use computer or laptop, all data are available to them on the net, and files on the server are organized the way they can carry, that is record and take on business meetings.⁸

Conclusion

In highly competitive surrounding nowadays, modern technology use is out of question, while there is bigger dilemma regarding defining involvement.

Dynamic surrounding defines and determines increasingly new rules, especially reflecting on modern technology applying in domain of communication with public, that is with customers and suppliers.

Owing to new informational-communicational technologies today, it is possible to get more complete information important for market behaviour of company. For that purpose, use of new trends on the web, like social webs service, giving the basis for higher quality data gathering without a user's permission, with facts sometimes the users was not aware of.

In work, huge importance of modern informational technologies is being emphasized, along with distinguishing the need for constant increase of innovations in that domain. Necessity for knowledge expanding is especially emphasized in work, since we live in time of great changes companies themselves have to adapt constantly to.

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⁸ Our managers most often search for standard equipment for business activity, that is notebook, new editions of computers (palmtops of series HP and Pq 6515), which are said to be at the same time a mobile phone, data organizer, reminder and digital camera. Nowadays, they increasingly buy modern portable printers and digital projectors for presentations in motion.

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PROBLEMS IN ESTABLISHING ACCOUNTING SYSTEMS IN UNIVERSITIES (PRACTICE OF PUBLIC UNIVERSITIES IN BULGARIA)

Abstract

Amid the information available on management that impacts the status of a university, a leading role belongs to the financial and accounting information, formed in all kinds of accountability and control processes. There is a need for the creation of a reporting system, based on new organizational and methodological basis, adapted to current economic conditions.

Key words: Accounting systems, University, Management accounting, Mission, Strategic objectives

JEL Classification: M41, M48

ПРОБЛЕМИ У УСПОСТАВЉАЊУ РАЧУНОВОДСТВЕНИХ СИСТЕМА НА УНИВЕРЗИТЕТИМА (ПРАКСА ЈАВНИХ УНИВЕРЗИТЕТА У БУГАРСКОЈ)

Апстракт

Између расположивих информација о управљању које утичу на статус универзитета, водећа улога припада финансијско-рачуноводственим информацијама, формираним у свим врстама праћења и контроле финансијских процеса. Зато, постоји потреба за стварањем система извештавања, базираног на новој организационој и методолошкој основи, и прилагођеног тренутним економским условима.

Кључне речи: Рачуноводствени систем, Универзитет, Менаџмент рачуноводства, Мисија, Стратешки циљеви

Introduction

The management of a university requires a solid amount of financial information on the base of which it can perform its specific activity. Information on financial resources and their effective management has always been the main task of accounting. The development of micro-accounting systems clearly identified two main aspects - financial accounting and managerial accounting.

Universities as a part of the non-profit sector have very different information needs compared to those of business. Universities often serve several purposes, which must be provided with the necessary information.

Although in literature there are many ways of defining and characterising non-profit organisations, particularly universities, all formulations agree on one thing: the main objective is not the profit.

Nonprofit organisations are created to serve public purposes. This is another specific feature.

The objectives of the nonprofit sector define their activities and product decisions. The product is not tangible, real asset, but service. Those services are not freely traded on the market, so there should be other regulators which are important for decision-making and managerial information system.

Specifics of universities' activities and their impact on accounting systems

As part of the non-profit sector, universities possess the already outlined above specific features as well as some others.

Today education is related to prime national priorities. Systems for managing the quality of education, which meet the international standards such as ISO, TQM and others, are designed and operate in many universities. The basis of all models of quality management lies on the system approach, which alone requires a supply of reliable information about all activities, including financial and analytical information.

As a key area of financial and analytical information could be outlined the systematic reporting on the activities of the university, the analysis of the efficiency of the implementation of all aspects of the educational process and the results of internal control.

Nowadays, when priorities change - from funding the costs to funding performance, a crucial mechanism of management in the sphere of education is budgeting which aims to achieve a particular result.

Significant place in the mechanism of performance management of a university take accounting and control. Control generally gives the university management "feedback" from managerial processes, confirming or rejecting the estimates of performance and efficiency of decisions.

Information, defining decision making, should be formed according to the mission and strategic goal of the university. The significance of such information, its analysis and use for the sake of planning is so important that it becomes a major prerequisite for the development of management accounting system.

With the entrance of the universities on the market of educational services they become equal players on it, which means that the main market principles and rules have a direct influence on the development of the universities' strategies. In this context, the educational service offered by universities can be seen as a product having a consumer value and a value determined by the supply and the demand on the market. At the same time, the "product" of the universities has a high social value, which requires a state regulation. This circumstance requires the development of specific methods for determining the market price of educational services, which meet the market situation and answer the standards and regulations for funding universities.

Demand of employers for specific occupations and qualifications of the future university graduates also determines the level and quality of educational process at any university. In this sense, the sphere of higher education shouldn't be seen just as absorbing money, but as "producing" activity and therefore its funding should be viewed as investment in the reproduction of state's labour potential and its individual regions.

In order to create adequate to the needs of higher education management information, the mission, strategic goals and objectives of the university should be clearly defined.

The mission of a university can be expressed with its transformation into a centre of a national scope and importance, which provides broad preparation and training of bachelor, master and doctoral students.

Strategic goals could be:

- Creating conditions for the introduction of dynamic and competitive specialities;
- Improving the attractiveness and quality of higher education;
- Strengthening the institutional capacity to improve the management process;
- Establishment of self-motivated administration, loyal to the mission and goals of the university, complying with the law and ethical principles of the administration.

The most common tasks of a university are:

- Addressing the needs of different categories of students for educational services;
- Creating a market for educational services;
- Saturation of the market with services satisfying the demand of different categories of learners;
- Improving the quality of education;
- Qualification of teachers;
- Research;
- Additional income from other activities, etc.

In the whole quantity of managerial information of a university main priority has the finance information, which is formed in the process of all types of accounting and control. Appear a need to establish reporting system, on a new organisational and methodological basis, which is adapted to current economic conditions. The implementation of this process requires solving a number of specific for the higher education problems.

A major problem is the fact that accounting is orientated to support and satisfy the needs for establishing public accountability - all of the efforts of accounting activities are aimed at drawing up the annual financial report, which is subject to verification by the Ministry of Education, Ministry of Finance, National Audit Office, the National Agency revenue and others, but the received information cannot be of any help in solving current operational problems and tasks.

Another significant problem is accounting's lack of flexibility in responding to the requirements of users in the sense of rapidly changing internal and external environment;

The absence of a systematic approach in solving complex problems of accounting and management control embarrass the establishment of working reporting systems.

There is fragmentation and in some cases contradictory reporting of information received from various user groups;

There is a lack of an organisational model of accounting in universities that meets the requirements for adaptation to the united European information space in higher education. Last but not least, adequate methods of cost management in universities are missing.

In the contemporary, actively developing market relations in the educational sphere, supplemented with intense competition between universities on a national as well as international level, the attention is focusing on the issues of cost control. The later are a mechanism with a significant meaning for increasing the efficiency of the

university's activity. In the sense of a free market, urgent is the need for transforming the operating methods - from cost mechanism to other based on saving resources.

Specific mechanisms for effective cost management could be based on:

- Introduction of short-term planning (budgeting) as a necessary condition for the forming of accountable and information security system and a preliminary cost control in order to enhance the competitiveness of institutions of higher education.
- Taking into account the cost of processes, training and research programs, supporting services and centres of responsibility.
- Preliminary and subsequent managerial control on costs with the provision in the required form of information and within the prescribed period to the interested parties.

In general the models of accounting used in universities have not changed from the era of planned economy. The penetration of market principles in education and the growing autonomy of universities require the development of new models for the implementation of accounting. In the accounting theory, as well as other sciences, modelling is widely used as a tool for studying the researched object. Building a model of organisation and financial management of higher education could be based on the following principles:

- Clarity of the mission and strategy of a university and awareness of all involved in educational, research and supporting processes;
- Implementation of human, IT, and organisational resources in such a way that the best return from the investment made into them is obtained;
- Identification of key internal strengths as well as any weaknesses of the managerial process;
- Immediate detection of weaknesses in the existing management system.

Specificity of accounting systems in universities

Accounting systems are used to create information in financial terms for assets and liabilities, revenues and expenses, profits and losses. The companies from both profit and nonprofit sectors need accounting information system to operate optimally, according to the economic and market laws. The fundamental difference is that universities do not pursue profit. This fact is the basis and plays a vital part in building the structure of the accounting information system in these organisations.

Objectives of prime importance in the business sector are gaining a positive financial result and increasing the value of the shares. These goals are leading in both short and long term. As a result, companies need a system that shows the impact of business decisions and performance on the economic goals. Therefore, the traditional accounting systems calculate the value of units in the balance sheet, net income and expenses, cash flows and financial results for certain periods of a particular activity. As a consequence, the structure of the entire accounting system and accounting and management information system are subject to the stated purpose.

As it was clarified above, traditional accounting systems are fully oriented to profit, which is not valid for organisations of the non-profit sector. Consequently, the standard financial and management accounting systems are to some extent irrelevant to the needs of a university. Categories such as "costs" and "financial results" are important to the extent that those organisations should operate effectively. However, the efficiency could not be considered as part of the mission, but of the tactical objectives of a university.

Institutions of higher education need information and accounting systems, which create data, subordinated to the mission. Otherwise, the traditional accounting system will contradict the objectives pursued by the organisation.

For example, if the university management uses only traditional systems of financial and management accounting, designed for the business sector, the decisions concerning the selection of students and staff, structure and content of courses, different projects, etc. will be cost-orientated and not determined by the quality. With a profit aiming system it is impossible to succeed in adequate managing and controlling of a non-profit organisation.

Enterprises in the economy are integrated into national and global economic systems, which not only pursue profits, but create a strictly defined type of information. In all enterprises belonging to the sector objectives are standardised, and therefore their systems for accounting (financial and managerial) are similar in content. Contrary to them, non-profit sector organisations are very different in nature, with different missions, goals and objectives. Unlike companies from the business sector, where the environment is strongly linked to the economic objectives and markets, non-profit organisations are influenced by their specific tasks.

It could be concluded that for each type of an organisation from the non-profit sphere, information and accounting systems are characterized by certain differences.

The accounting system in companies from the business sector forms the core of the information system, a large part of which consists of financial data. In contrast, non-profit institutions need a more diversified information system. Both financial and non-financial information should be “produced” in order to create measures for the non-financial objectives of the organization.

The organisation’s activity directly reflects on the kind of created information. In a company the information system should include data showing supply, introduction and use of materials, labour, fixed assets, financial resources and other resources, duration, capacity and other characteristics of the processes, characteristics of the products or services;

The “product” of non-profit organisations - services can not be characterised by financial information such as revenue. Their characteristics depend on the purpose of the institution. In a hospital a characteristic could be the number of patients and doctors, at a state university - the number of students, research projects etc. To measure and evaluate the efficiency of the organisation as a whole or of an individual process, it is necessary to compare the information between input resources and output services. Such rates of efficiency should relate to the objectives of a non-profit organisation. Otherwise, they might not be significant in evaluating the processes.

Higher education institutions are legally obliged to prepare and publish annual financial report which contains unified information. It is designed for a specific group of users, namely external users - government, regulators, auditors, etc.

Although universities are obliged to publish annual financial statements, the primary objective of their information systems is to provide information about the processes of decision making and control of their management and members. The refore, emphasis should fall on the created for internal users information.

Conclusion

The development of micro-accounting systems clearly identified two main aspects - financial accounting and managerial accounting.

The companies from both profit and nonprofit sectors need accounting information system to operate optimally, according to the economic and market laws. The fundamental difference is that universities do not pursue profit. This fact is the basis and plays a vital part in building the structure of the accounting information system in these organisations.

It could be concluded that for each type of an organisation from the non-profit sphere, information and accounting systems are characterized by certain differences.

Institutions of higher education need information and accounting systems, which create data, subordinated to the mission. Otherwise, the traditional accounting system will contradict the objectives pursued by the organisation.

Non-profit institutions need a more diversified information system. Both financial and non-financial information should be “produced” in order to create measures for the non-financial objectives of the organization.

Although universities are obliged to publish annual financial statements, the primary objective of their information systems is to provide information about the processes of decision making and control of their management and members. Therefore, emphasis should fall on the created for internal users information.

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TAX AUTHORITIES AND PROCEDURES - EFFECTS ON MNK-TRANSPARENCY INTERNATIONAL EXPERIENCE

Abstract

In the last 30 years has drastically increased importance of multinationals in world trade. This is partly caused by the increased integration of national economies and technical progress, especially in the field of communication. Increased number of multinational companies to put the tax administration and the company before any taxation matters more difficult, because the individual national rules for taxation of multinational companies can not be seen in isolation but must be viewed in a broad international context.

The requirement to comply with laws and administrative regulations may differ from country to country creates additional problems for multinational companies. Different requirements may be associated with the additional workload for a multinational company and lead to higher costs related to compliance with these regulations than is the case with a similar company that operates exclusively under one tax sovereignty.

Contentious issues, both for tax administrations and for multinational companies, resulting primarily from the practical difficulties in relation to establishing the expenditure and revenue companies or business units within the multinational companies that are taken into account in a particular country, especially when they concern jobs closely related.

Key words: taxes, national regulations, transfer prices, income, expences.

JEL Classification: H25

ПОРЕСКИ ОРГАНИ И ПРОЦЕДУРЕ - ЕФЕКТИ НА МНК-ТРАНСПАРЕНТНОСТ МЕЂУНАРОДНО ИСКУСТВО

Апстракт

Искусство је показало да је проблем хипотеза у науци најзначајнији у методологији, а посебан значај се придаје појмовном одређењу, настајању, откривању, функцији, класификацији, структури и извођењу хипотеза и индикатора.

У методологији постоји схватање да хипотезе немају значајно место и улогу, већ да је много важније добро разрадити предмет истраживања и дефинисати основне појмове који се, обично дедукују из наслова истражи-

вања. Стална је дилема да ли се истраживања могу спровести без извођења хипотеза и додатног ангажовања истраживача на њиховој формулацији и усаглашавању с операционалним одређењем предмета истраживања.

Друго схватање полази од чињенице да су хипотезе окосница истраживачког поступка и да други елементи научне замисли нису значајни. Ово схватање директно заговара пут коректног изграђивања само система хипотеза и индикатора као довољан пут за реализацију истраживања.

Главни истраживачки циљ у овом раду је утврђивање значаја дефинисања хипотезе са свим њеним научним атрибутима и поређење ова два приступа а уз помоћ компаративне анализе.

Кључне речи: хипотеза, научно-истраживачки рад, истраживање, научно-истраживачки метод, предмет истраживања

Legal sources, international experience

Contentious issues for both tax administration and for multinational companies, resulting primarily from the practical difficulties related to the determination of income and expenditure of companies or business units within the multinational companies that are taken into account in the States, especially when they concern jobs closely related. The requirement to comply with the law and administrative regulations may differ from state to state creates additional problems for multinationals. Different requirements may be associated with the additional overhead of a multinational company and lead to higher costs related to compliance with these regulations than is the case with a similar company that operates exclusively under one tax sovereignty. For the tax office in a political standpoint and from the standpoint of practical implementation of special problems. From a political standpoint States must coordinate the two types of needs: on the one hand, their legitimate right to tax those gains taxpayer derived income and expenses that are reasonably believed to be located at the source of their national territory, on the other hand, taxation the same income by a larger number of states. Such double or multiple taxation can create a barrier to cross-border activities in the area of goods and services and movement of capital. From a practical standpoint, the attribution of revenues and expenditures made by a State may be additional difficult obstacles in obtaining authoritative information from abroad. The rights of taxation which emphasizes a state first depend on whether you poreskisistem state relies on a universal principle, the territorial principuilinaoba principles. The tax system which is based on the universal principle of the state tax base partially or fully include all revenues generated by licekojese considered a resident of that state (including legal entities - corporations), uključujućione income derived from sources outside that State. The tax system kojisetemeljnateritorijalnom principle states the tax base includes those areas prihodekojipotičuiz its tax sovereignty, and that regardless of ukojojdržavije resident taxpayer. In relation to multinational companies this means that these two principles, which are often applied together, generally treat each company within the multinational company as a separate legal entity. OECD member countries have opted for the principle of an independent company, as an instrument that is most suitable for achieving fair results, and that the risk of double

taxation neotklonjenog reduced to a minimum. Thus, each individual entity within the group with their actual income is subject to tax under universal or territorial principle. Relations between the companies within the group may, however, permit the company in terms of its internal relations renegotiate conditions that differ from those which would be made to the companies included in the Group's operating as an independent company. To the principle of independent companies could be applied to the internal affairs group, individual companies within the group should be taxed as if in their mutual affairs act according to the principle of external comparisons. In order to ensure the correct application of the principle of independent companies, OECD member countries are usvojiie principle external comparisons, based on which it is to be eiminišu effects of specific conditions on the amount of profit. OECD member countries have opted for this international principle, because they serve to satisfy two objectives:

- On one hand, their application provides adequate taxation in the State,
- on the other hand to avoid double taxation, thus the conflict between tax administrations is reduced to a minimum, and be able to promote international trade and investment. In a globalized economy, the coordination between the state of the appropriate tax competition.

OECD Guidelines 1995/96/97 "transfer pricing guidelines for multinational enterprises and tax administration" ("the OECD Transfer Pricing Guidelines") - Guidelines for transfer pricing for multinational companies and tax authorities ("), as well as review of Article 9 OECD Model Contract ("Affiliated Companies") containing a consensus of member states on the formation and control of the appropriateness of transfer prices. They are especially important in cases of agreement or arbitration the Procedures, because it is about the principles that are internationally recognized.

Example: The Federal Republic of Germany

Federal taxes for the central government and the Department for field control. Federal taxes for the central government of the Federal Republic of Germany is the highest federal authority that is directly subordinate to the Federal Ministry of Finance. Federal taxes for the central government consists of five departments, one of the functional departments and two classes of taxes and field control. Tax departments perform tasks at national and international level. Tasks at the national level, for example. How rebates and exemptions, supervision over the implementation of old-age allowance, providing official support for national authorities. Tasks at the international level, for example. providing official assistance to foreign authorities, the implementation process of agreement, the delivery of foreign tax solutions, providing information to law projects (International Settlements, the providing of information and opinions about the tax regulations in foreign countries) and other activities of the Federal Ministry of Finance, the refund of value added tax and Anti-Fraud The VAT, indentifikacionog allocation of the VAT for intra-Community trade.

The division in field control for about 150 federal inspectors field audits participating in field control of provincial services for site control in about 15,000 large enterprises and

the concern in the Federal Republic of Germany. The structures of provincial services for site control and the Department for site control are different. Provincial inspectors in the field of control so. comprehensive control exercise control companies from all industries in the province of his. In 2007. year in the states were engaged in 13,646 inspectors field control. The controls have led to additional revenue of € 16.6 billion. On average, the total additional revenue of € 1.2 million per inspector. From 8,352,473 companies registered in tax administration branch is controlled companies 213,375 (2.6%). Additional revenue from 13.2 billion € by large companies and corporations, to € 1.39 billion medium-sized enterprises, and the rest to small and micro enterprises. Papers in the Department for site control are organized by industries, inspectors on the territory of states controlled by different areas, often simultaneously, in various companies. My paper is a report to the trade industry, which means that the large trading companies, for example. department stores, discount stores to sell groceries, store construction equipment, etc.. control inspectors in Germany this report. Participation in international decision to establish contacts with foreign tax authorities.

Sector field control is working closely with the Tax Department of the Federal taxes for the central government, which is responsible for the process of agreement, transfer pricing and APA (advanced price agreement).

A special emphasis in the work of the Department for site control is a control cases with a foreign element, especially transfer pricing.

The reasons for this are, among others:

- international tax competition
- increasing pressure of foreign tax authorities
- scientific publications on the reduction of the tax base in Germany for transfer prices that are not common in the business with external parties

The object of the transfer pricing provision of income tax

- About 60% of the volume of world trade, according to the OECD, the Group's internal affairs
- For Germany this means the volume (transfer price) of about 715.000.000.000 €
- transfer pricing adjustments of 1% and a tax rate of 40% means the potential revenue from a year 2.860.000.000 €

At the international level, around 27% of the control transfer pricing leads to results. Participation in international decision to establish contacts with foreign tax authorities.

Transfer pricing and international experience

Administrative principles for dividing revenues were published 1983rd years, and some parts are still valid. The principles laid down by this document are largely undisputed and relevant principles of the OECD, in its Guidelines on transfer pricing (OECD Transfer Pricing Guidelines). Germany participated in the work on the guidelines and agreed with them.

Transfer pricing

Transfer rate = reported value of products, services and other goods conveyed and transferred between related companies. When independent companies doing business with each other, the conditions related to their commercial and financial relations (eg the price of the goods supplied or services and the terms of delivery of goods and services) usually determine relevant costs. When you do business with each other affiliated companies, it is possible that their commercial and financial relations are not in the same way directly affected by external market forces, although associated companies often try to imitate the dynamic effect of these forces in their mutual business relationships. Tax administrations should not automatically assume that affiliated companies manipulate their winnings. Dealing with transfer pricing should not be confused with the treatment of the problem of fraud or tax evasion, although the transfer pricing can certainly be used in such purposes. In addition to thinking about the tax aspects, other factors may influence the distortion of conditions relating to the commercial and financial relations between associated enterprises. Companies can, for example, be exposed to the pressures of the state, both in their own and in a foreign country, in determining the customs value, the anti-dumping duties, and monetary controls and price controls. The cause of the disturbance transfer rate and pressure can be a shareholder who wants to see a high level of profitability of the parent company.

As a rule, there is no real international transfer price, but the usual range of external transfer prices. In this regard, the OECD says: "Transfer Pricing is no exact science."

Differences in goods or services justify various international transfer pricing.

Since the control of transfer pricing primarily on matters relating to the facts, the clarification of the facts is crucial.

Companies have the freedom to shape their affairs until obey the laws. If a decision is companies are rational economic reasons, the tax authorities shall accept it. Decisions are economically rational, if passed as is common among unaffiliated third parties, ie. business partners are independent of each other, and between them there is a natural opposition of interests. When this starts with the fiction that the two orderly and conscientious businessman negotiate with each other so that each side for yourself achieve optimal results. From independent companies, for example, before buying a product at a certain price can be expected to consider the possibility that they buy a product from another company at a lower price.

Comparability (associated companies)

Under comparable conditions are the following:

- the size of comparable companies
- conditions (type, shape, volume)
- the functions and risks
- the duration of the relationship posiovnih
- business strategies business partners
- microeconomic framework conditions (conditions of contract and delivery)
- general conditions in the market
- the level of market
- comparable quality of information

Another factor to be taken into account when checking the contents of the economic risk sharing is its effect in the case of work between unrelated parties. With operations between unrelated persons generally makes sense to attribute to the parties a greater share of those risks which may be exercised more influence. Suppose, for example, the company concluded a contract for the production and shipment of goods, company B, and the amount of product and shipping company determines B. In this case, it is unlikely that the company will be a ready to bear significant risk in terms of stock, because there is no control over the volume of storage, while the Company B is the case. Of course there are risks, such as general conjunctural risks, that no party can have a pronounced effect and is therefore among the unaffiliated third parties may be attributed to one or another business partner. Can be significant and of the risk of exchange rate exchange office and possibly interest rates, is whether there is a strategy for reducing the risk of such operations by the security guards, forwards, and 'put and call' option. Loss of the taxpayer who bears the risk of planetary gear exchange and interest rates may be the cause of the business strategy of multinational corporations. Such practices can lead to significant gains or losses that can be transferred to a location that is most convenient for multinational corporations. If anyone associated company constantly suffer losses, while a multinational corporation as a whole makes a profit, you should thoroughly check the particular function and transfer rates. Of course you can associate as well as independent companies that suffer real losses, whether they are caused by the high initial costs, unfavorable economic conditions, inefficiency or other legitimate business reasons. An independent company, however, would not be ready to for an indefinite period of time to accept permanent losses. An independent company that always causes losses in the end will not undertake further work under the circumstances.

In contrast, the associated company is incurring losses can continue its business activities, it is useful for the multinational corporation as a whole. Repeated losses in an acceptable period of time may be eligible for certain business strategy in order to win market provides particularly low prices.

So, for example, a manufacturing company in the interest of market entry, market expansion, introducing new products or services, or for the defense of competition can lower prices for their goods even to the point of temporary losses incurred. These special low rates are to be expected, however, only a limited period, while bearing in mind the long-term increase in profit. But if pricing strategies remain in effect after the expiration of the eligible period, it may be justified to correct transfer price. Especially if the comparable independent enterprises have incurred such losses. You have to be addressed and contractual conditions. With operations between unrelated persons contractual terms of a deal explicitly or implicitly determine what will be the division of duties, risks and benefits between the parties concerned. Therefore, the analysis of conditions of one of the analysis functions. In addition to the contract that need to be checked and the accompanying correspondence, in particular, the actual execution of the contract.

The tax system and tax reform - local experience

Recession, economic downturn caused some errors in the process of privatization in the country, significantly affect the existing tax system does not provide enough

revenue. In order to curb the budget deficit is already critical, as agreed with the IMF, the proponents of tax reform in Serbia, his attention on the “classic” easiest, but the most dangerous of the current government, the budget deficit by increasing tax burden on the population? The main changes in the tax system is based on the increase of the VAT from 18% to 22%, and lower “slums” in the VAT rate on food, water, utilities, heating, newspapers, books, housing, and so on. from 8 to 12%, which will automatically lead to a significant increase in prices, inflation and a further reduction in living standards. Second, it provides an increase in the payroll tax of 12% to 20%, with a comforting increasing tax-free earnings, which significantly affects the deterioration of the competitiveness of the Serbian economy, hindering exports and does not contribute to the creation of new work places .. On the other hand, it is proposed to reduce unpopular health insurance contributions of employees, as alleged tax relief economy. In fact it’s about reducing funding for primary care population, which in turn affects the broader segments of the population? All other proposals of the concept of tax reform accelerated fall in with the wrong shade directing attention to the main tax burden on already impoverished population.

The proposals of tax reform in Serbia should be based on the experiences of the European Union, and certainly not unpopular experiences on the other side of the Atlantic, where it caused the biggest global financial crisis of the century. Real additional public revenues can be quickly achieved only by increasing taxes on the enormous profits organizations in the financial sector, in all forms of mediation, rental, telecommunications and similar institutions that generate high profits by investing outside the real economy. In the midst of the Great Depression is not acceptable to the tax and continue to protect the best financial standing legal and physical entities in the country, particularly banks, insurance companies, financial intermediaries and privatization, other financial institutions and the like, but by keeping unsustainable low tax rate of 10% profit , the lowest in Europe.

The new tax system in Serbia, should be working to strengthen the economic power of the creators of public revenues in the country, fostering faster economic development, job creation and improved living standards, which is when downloading valstzi proclaimed the existing government. Tax reform, among other things, should not be the only function of the already privileged financial sector and other organizations in similar business activities, it will cause unnecessary social tensions, as has already happened in some close neighbors, on the one hand, and continue to protect existing rights acquired numerous direct and indirect beneficiaries, on the other hand. Does not exclude the possibility of other more appropriate score, the better proposals and solutions. necessary tax reforms in Serbia.

Conclusion

OECD member countries have committed themselves to international principles, because they serve to satisfy the basic goals related to the fact that their application provides adequate taxation in the State, on the other hand to avoid double taxation, which is thus a conflict between the tax administrations reduced to a minimum, and to enhance the opportunities of international trade and investment.

In a globalized economy, the coordination between the state of the appropriate tax competition. They are especially important in cases of agreement or arbitration the Procedures, because it is about the principles that are internationally recognized. Recession, economic downturn caused some errors in the process of privatization in the country, significantly affect the existing tax system does not provide enough revenue. In order to curb the budget deficit is already critical, as agreed with the IMF, the proponents of tax reform in Serbia, his attention on the “classic” easiest, but the most dangerous of the current government, the budget deficit by increasing tax burden on the population. Our new tax system should be working to strengthen the economic power of the creators of public funds in the country, fostering faster economic development, job creation and improved living standards, which is when downloading valstzi proclaimed the existing government. Tax reform, among other things, should not be the only function of the already privileged financial sector and other organizations in similar business activities, it will cause unnecessary social tensions, as has already happened in some close neighbors, on the one hand, and continue to protect existing rights acquired numerous direct and indirect beneficiaries, on the other hand.

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SMALL AND MEDIUM ENTERPRISES IN SERBIA IN THE ERA OF GLOBALISATION

Abstract

This work focuses on the development of small and medium enterprises (SME) in Serbia and the effect globalization has on its growth, as well as correlation between the development of small and medium enterprises (SME) and commerce rise. The goal is to improve and create national conscience about the importance of development of the small and medium enterprises (SME).

Small and medium enterprises (SME) are considered to be one of the leading guidelines of the economical growth. It stimulates private ownership and entrepreneurship skills, since this area is flexible and can quickly adjust to market changes. This is generated by employment, creation of diversified economical activity and contributes to export and trade and is the basic factors of development of competitive economy.

It is obvious that the internationalization and creating global network of small and medium enterprises (SME) presents the focus for future research of development of entrepreneurship in the EU. Innovative capacities for small and medium enterprises (SME) are modest and usually represent local values. By creating international networks the obvious misbalanced between potential partners disappears, by which we open the possibilities for greater achievements and successful international partnership which provides small and medium enterprises (SME) with bigger chances in the EU system of public procurement.

In contemporary conditions small and medium enterprises (SME) represent the combination of the innovative, proactive and risky behavior which exceeds national borders and tends to create certain values in the organizations, since they appear more often as the suppliers in the big production systems.

Development of privately owned entrepreneurship in Serbia – country born from one of the Yugoslavia ex republics, in the present transitional economy does not differs much from the other countries in the Southeastern Europe.

As society we are at the historical milestone in determining our own future. So the key question is: how can we set the concept of future development which would lead us to higher productivity of our companies, their inner and outer competitiveness by using entrepreneurship and knowledge as the most important resources. In the last few years, there has been a vast group of activities in the line of developing business environment in Serbia. SME is recognized as one of the major growth priorities. In that sense, we can say that their perspective is quite certain. We only have to bear in mind that this is a process which in many aspects requires a certain period of time.

Key words: *Small and medium enterprises, entrepreneurship, globalization, commerce growth*

JEL Classification: L23, L25, F60

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МАЛА И СРЕДЊА ПРЕДУЗЕЋА У СРБИЈИ У ЕРИ ГЛОБАЛИЗАЦИЈЕ

Апстракт

У раду је изложен развој малих и средњих предузећа (МСП) у Србији и утицај глобализације на развој МСП, као и корелација развоја малих и средњих предузећа (МСП) и привредног развоја, са циљем унапређења и развоја националне свести о значају развоја малих и средњих предузећа (МСП). Мала и средња предузећа (МСП) се сматрају једном од водећих снага економског развоја. Она стимулишу приватно власништво и предузетничке способности, она су флексибилна и могу се брзо прилагођавати променама на тржишту. Генеришу запосленост, стварају диверсификовану економску активност и доприносе извозу и трговини и основни су чиниоци развоја конкурентске економије. Очигледно је да интернационализација и стварање глобалних мрежа малих и средњих предузећа (МСП) представља фокус будућих истраживања развоја предузетништва у ЕУ. Иновативни капацитети малих и средњих предузећа (МСП) су скромни и најчешће представљају локалне вредности. Стварањем интернационалних мрежа евидентна асиметрија међу потенцијалним партнерима нестаје, чиме се стварају могућности за веће подухвате и успешно интернационално партнерство што малим и средњим предузећима даје веће шансе у систему јавних набавки у оквиру ЕУ. У савременим условима мала и средња предузећа (МСП) представљају комбинацију иновативног, проактивног и ризичног понашања које прелази националне границе и тежи да креира вредност у организацијама, с обзиром да се све више јављају као добављачи великим производним системима. Развој приватног предузетништва у Србији једној од држава насталих распадом Југославије, у транзиционој економији битно се не разликује од других земаља из окружења у Југоисточној Европи. Као друштво налазимо се на пресудној прекретници одређивања властите будућности. Зато је кључно питање: како поставити концепт будућих развоја који треба да нас доведе до веће ефикасности наших предузећа, њихове унутрашње и спољне конкурентности користећи предузетништво и знање као кључни развојни ресурс. Последњих година покретан је читав фронт активности на унапређивању пословног амбијента у Србији. МСПП су препознате као један од развојних приоритета. У том контексту, може се рећи да је њихова перспектива прилично извесна. Треба само имати у виду да се ради о процесу који у многим аспектима захтева одређени период.

Кључне речи: Мала и средња предузећа, предузетништво, глобализација, привредни развој

Intorduction review

Commerce growth of one country does not consist only of the existence of big enterprises, but from the right combination of small, medium and big enterprises. Small enterprises can adapt with new technologies the easiest way in order to fill market voids. They swiftly acquire proper solutions than the big enterprises. Size of the small enterprises in relation to the big gigantic corporations' shows clearly in the shorter time span for implementing decisions, faster decision periods, market closeness and motivation. Small enterprises in the developed countries are the source of commerce

growth. These enterprises produce the significant part almost half of it of the entire range of offered products and services. Small enterprises, however poses certain qualities, i.e. they provide jobs, implement innovations, stimulate competition, help big enterprises and efficiently produce products and provide services. Small enterprises work as the suppliers for the big enterprises.

World trade globalization trend is undoubtedly connected with enterprise existence, including the growth of small and medium enterprises. Small and medium enterprises are very successful way of preparing for “upcoming” financial and intellectual capital arriving outside of the beneficiary country. In the last decade we have witnessed great political turmoil and technology boundaries. Today small and medium enterprises in its form are present in practice in every country. It is especially specific for many developed economies. Development of the small and medium enterprises and so called middle class act should be treated with greater attention. This helps enterprises to resist market requests which are enforced by big and strong participants-players.

Turbulent business environment is the main characteristics of the last decade of the second millennium, which creates challenges for big as well as to small organizations. Past market position protection which the big economy uses to provide is no longer available by the arrival of new technologies, so the big enterprises have to find the ways to decrease and simplify various activities to smaller independent enterprises. Small enterprises thus don't have the global range so much needed in this time of global competition, where even a family shop at the corner is overwhelmed by the competition from all over the world.

Business concept of the small and medium enterprises has been rapidly growing in the last decade to all worldwide markets. Desire of the entrepreneurs for expanding business operations and creating bigger profit, has made them to consider strategies fro approaching other markets.

Observing business ethics and practical implementation, small and medium enterprises (SME) become one of the alternative possibilities which contribute to development and success. Principle advantage and weaknesses of the small and medium enterprises have to be well known in order to use the maximum from this form of entrepreneurs union.

Past years have devastated the capital of socially owned companies up to the level that the losses extend the value up to two or three times the value of the company itself and any prolonging of the privatization process can have terrible consequences for the further development of the Serbian commerce. Nothing is as important as the time, which doesn't play for us and only the swift and diversified action towards the competitiveness of the Serbian commerce can help us recover. Small and medium enterprises will certainly play an important role in achieving the set goals.

Growth of the enterpreneurs and small business in serbia

Various researches show that Europeans in general tend to work in a company rather than to start their own business². This characteristic is especially obvious in post communist countries in which the long term laidback work tempo in socially owned companies was dominant and normal behavior stance for citizens of these countries³.

² Jones, V.M., Nummela, N., (2008) International Entrepreneurship: Expanding the domain and extending our research questions, *European Management Journal*, 26: 349–353.

³ Jiangyong Lu, Zhigang Tao, (2008) Factors of entrepreneurial activities in China, *Journal of*

In the conditions of the transition economy which all post communist countries go through (Poland, Check Republic, Slovakia, Hungary, Romania, Bulgaria, ex Yugoslav republics, ex Soviet countries and China), with dominance of state ownership, new so called "entrepreneurs", generally had the experience in the companies with various ownership forms. Decision to become an entrepreneur usually means that they have to negate the position in some of the state owned companies and start private business with uncertain legal status⁴. Forming European Union (EU), boundaries have been broken and harmonization of relations is broken on the market of 450 million consumers. Creating friendly environment has a key significance for starting and developing private ownership. Council of Europe has adopted "a book of small enterprises" in order to help providing recommendations for private ownership development⁵.

Finalizing privatization of the big enterprises in post communist countries in Europe (similar situation is in China and ex Soviet countries) which has been performed in many cases on the verge of the law with leading men in privatization close to the new political structures. At the beginning of 21 century during the phase of creating new economical order, various new entrepreneurship undertaking arises. These entrepreneurship undertakings of creating new private ownerships are followed by numerous difficulties, most important as: lack of knowledge and initial financial funds. Wish to create private business has only small number of people (45% Europeans want to have their own business, in regards to 67% of people in the USA). Only 4,5% citizens of the EU tried to start their own business in the last three years which is different than the 13 % in USA⁶. These percentages are far lower in post communist countries in Europe, and it indicates that the goal in the entrepreneurship growth is a far fetch thing. The ability for creating business must include leadership skills, creativity and persistence, as well as few managerial qualities such as creativity and credibility.

In modern conditions, small and medium enterprises present combination between innovative, proactive and risky behavior which exceeds national boundaries and tends to create the certain value in the organizations, since they work more and more as the suppliers to big systems⁷. It is obvious that internationalization and creating global networks of small and medium enterprises is the focus of the future research of entrepreneurship development in the EU. Innovative concept of small and medium enterprises is modest and usually represents only local values. By creating international networks we can see the obvious asymmetry between potential partners disappears and therefore create bigger accomplishments and successful international partnership⁸ which gives small and medium enterprises greater chances in the sector of public acquisition of EU.

In the table below (*table 1. Serbia is ranked according to World Bank criteria*) we can see the negative tendencies of the economic indicators in Serbia, which we have to take into account for creating future commerce-economy development politics for this country.

Business Venturing, (Article in press- doi: 10.1016/j.busvent.2008.10.005).

⁴ McMillan, J., Woodruff, C., (2002) The central role of entrepreneurs of transition economics, *Journal of Economic Perspectives*, 16(3): 153-170.

⁵ Jones and Nummela, 2008; European Commission, 2005.

⁶ Jones, V.M., Nummela, N., (2008) International Entrepreneurship: Expanding the domain and extending our research questions, *European Management Journal*, 26: 349 – 353.

⁷ McDougall and Oviatt, 2000.

⁸ Coveillo, 2006; Chetty and Anddal, 2007.

Table 1: Serbia is ranked according to World Bank criteria

Description	Rank 2006.	Rank 2007.	Change Rank
Total	84	86	-2
Establishment of companies	84	90	-6
Operations that require a permit	148	149	-1
Employing workers	109	110	-1
Registering property	110	115	-5
Getting Credit	21	13	+8
Investor Protection	62	64	-2
Paying Taxes	117	121	-4
Cross-border trade	54	58	-4
Enforcing contracts	99	101	-2
Closing a Business	106	103	+3

Source: The World Bank, Doing Business 2008, Washington, 2007.

In the table no.2 (*Number of the enterprises in Serbia, classified by size - without Kosovo and Metohija*) we can see the number of companies in Serbia, classified by size (without Kosovo and Metohija) where we can see the development of private entrepreneurship in Serbia as one of the ex Yugoslav countries, that in transitional economy it does not differ that much from other region South East European countries. Since the commerce reform began in the year 2001 until today number of 400.000 small and medium enterprises in Serbia have over 1.200.000 employees. Every third privately owned company is located in Belgrade, with more than other half located in four regions: Belgrade, Novi Sad, Nis and south Banat. More than 40% privately owned enterprises consist of wholesale and retail, which with downstream industry, transportation makes more than 2/3 enterprises. There is a very small number of export oriented enterprises. In East Serbia – region of Timok (region of Bor and Zajecar) at the border triangle with Bulgaria and Romania, there are 7500 small and medium enterprises registered which have around 65.000 employees. This region is pretty devastated and only participates with 2,5% GDP of Serbia. Structure of the listed enterprises is the following: 44% services, 31% trade, production 18% and agriculture 7%.

Table 2: Number of the enterprises in Serbia, classified by size - without Kosovo and Metohija ⁹

Year	Small		Medium		High		Total	
	Number	%	Number	%	Number	%	Number	%
1999	58.662	94.8	2.359	3.8	879	1.4	61.871	100
2000	59.106	94.3	2.616	4.2	973	1.5	62.695	100
2002	63.995	95.6	2.223	3.3	742	1.1	66.961	100
2003	65.547	95.8	2.181	3.2	663	1	68.391	100
2004	66.989	96.9	1.515	2.2	605	0.9	69.109	100
2005	68.309	95.8	2.292	3.2	702	1	71.303	100
2006	73.382	96	2.347	3.1	665	0.9	75.394	100
2007	80.939	96.23	2.572	3	598	0.7	84.109	100
2008	83.939	96.36	2.572	2.95	598	0.68	87.109	100

Source: Serbian Chamber of Commerce

⁹ Statistical Yearbook of RS

Table no.3 (*Structure changes in commerce of Serbia 2005-2012.*) shows the structure of our commerce and changes things to be expected, which can help us in making a concept for creating future economic politics.

Table 3: Structure changes in commerce of Serbia 2005-2012.

	2000.	2005.	2012.
Food products, beverages and tobacco	28,7	31,9	31,3
Textiles and textile products	9,5	4,1	3,7
Leather and leather products	1,6	1,1	1,1
Wood processing	1,1	1,0	0,5
Paper and publishing	4,9	5,7	4,9
Coke and refined petroleum	1,5	12,3	12,7
Chemistry	12,6	12,3	12,7
Rubber & Plastics	4,8	4,4	5,0
Non-metallic minerals	7,3	5,2	4,8
Metals	11,9	12,7	12,0
Machinery and equipment	4,1	6,7	8,0
Electrical and optical equipment	3,9	4,3	5,0
Vehicles	5,1	3,6	5,0
Other industry	2,8	2,3	2,0

Source: “National Strategy for Economic Development of Serbia 2006-2012.”, Belgrade, 2006., pp. 15.

By carefully analyzing the table above (table no.3) we can see dominant influence of food industry in the structure of Serbia economics that is understandable considering possibilities and growth chances for industrial-food sector as the underdeveloped sector. Entrepreneurs in all sectors indicate that time is needed for starting privately owned business in Serbia, in average 105 days, costing around 620 Euro.

Entrepreneurs indicate the problems as follows: lack of affordable credits, complicated start up procedures, administrative problems, exchange rate, etc. For more than ten years transition in ex Soviet republics clearly shows that the market is more efficient coordinator of economical activities than having administrative mediation in sector. Efficient market needs competition, i.e. competitive commerce structure, so the main point of the socialistic reconstruction was increasing outer and inner competition, i.e. opening towards outer markets and also creating mass of new competitors. SME mostly at the local level significantly contributes to its market growth and generating new jobs. So from the aspect of local community development SME plays an important role and justifies efforts to stimulate its growth and development. Efforts that are put in these activities relate to creating institutions and funds, specialized for working with SME, such as: regional/local agencies/development centers for SME.

Direct role and importance of SME sector in social life of every country can be seen through:

1. Fulfilling market needs through different commerce segments:
 - In normal circumstances SME fills the void on the market, which is not interesting for big companies, but at the same time opens new market

segments with their innovations.

- When big enterprises meet on the verge of their growth in fulfilling social needs, SME takes over the part of their business (for example: creating cluster of big companies, etc)
- During the recession big enterprises almost cease to exist and then SME plays the leading role of how to survive in society (for example: in transitional period, etc)

2. Innovative P/U with entrepreneurs oriented towards SME,¹⁰ shows that they often change daily work routines of the people and their lives. These new and innovative SME provides to the world commerce the *vitality* which is much needed.

3. Entrepreneurs are the people who provide through their SME process of *creating new jobs*, in the only possible way: recognizing society needs and upgrading their resources from the lower productivities to upper productivity.

4. SME, together with tax and other mechanisms (sponsors, donors), becomes *financing source* and in that way spreads among social communities.

5. SME represents *the most desirable form of disengaging planned commerce system*. It is characteristic for the commerce transition period that the most of the subjects in state owned ownership are being shut down, cut down into few smaller enterprises or being sold, with clear ownership status. But also, through creating larger number of SME it is possible to reconstruct national economy.

6. With SME it is possible to provide *faster regional interaction*, within the state as well as between other countries. This especially gets recognized by pushing SME to better global market appearance.¹¹

Character and essence of the necessary changes in Serbia can be defined as – new entrepreneurship society or:

- Society whose values (enterprises and entrepreneurship) and their combination are in the constant process in creating wealth and jobs,
- Society which entirely supports and encourages taking risks,
- Society which creates new entrepreneurship vacancies in all areas, without discriminating ‘ new ‘ and ‘ old ‘ economy,
- Society which identifies new talents in the enterprises to get into the adventure of entrepreneurship creation

Swift changes happening in the world with fast reaction to changes is the key of success and economy politics as:

- Support to entrepreneurship activities;
- Creating environment which is positive to innovation and changes;
- Ensuring the market for successful products and services.

Problems with developing every social community by its complexion and volume vastly exceed government capacity and their institutions. Modern concept of sustainable growth requires much bigger participation of other risk factors like business community, citizens and their organization.

¹⁰ Remark: Not every SME is oriented towards entrepreneurship. Numerous statistics show that the world average of entrepreneurship oriented people in each population is 3- 5 %.

¹¹ Group of authors (2002) Analyzing and developing small and medium enterprises in Serbia, Op. quo., pg. 2.

Experience in promoting sme and entrepreneurship in region and transition countries

Small and medium enterprises (SME) are considered as one of the leading powers to economical growth. They stimulate private property and entrepreneurship skills; they are flexible and can adjust swiftly to market changes. They generate employment, create diversify economical activity and contribute to export and trade and are the basic factors to developing competitive economy.

USA

USA, country which upgraded the support to SME on the highest level, creating cooperation of all three state sectors, but at the same time providing space for functioning of social entrepreneurship and creating USA as the picture perfect example for Serbia. However, as with other analyzed countries we have to take into consideration specific characteristics of the non-financial help to SME sector and its growth. So in the USA, besides big support of the *Government and local institutions*, in the law and finances area, great support is also provided by big companies regarding space, clustering, market and finance. Besides that Serbia like the USA could give *universities* a more active role in the growth of this sector with space, knowledge, transfer of technology and other education means. Similar as the universities, non-financial support in Serbia, as per USA sample we could involve *I&R institutions*, whose basic activity is producing new knowledge's, so necessary for the commerce. Finally, *tehnopolises* all around USA contribute to this fact and show that this is a significant part of non-financial support to SME sector.

Japan

Similar to USA, Japan has seriously developed system of non financial support to SME sector and managed to sustain entrepreneurship economy. *State* has in its legal frames, created and developed a non stop and key support. Japan's role in the national SME strategy called *JASMEC* is very beneficial for Serbia, since their approach can be implemented in Serbia system. During daily trainings, SME people were present and besides them few state officials, i.e. people outside the business, which have their role in this and assist the whole process. In this way, they start to get to know each other and understand each others problems. Japan has also created numerous smaller *I&R institutions*, which provide support for SME in finding innovations as the key factor of competitiveness. Besides that, famous all over the world are clusters in car industry as the clear example of *small* and *medium* enterprises. Based on positive experiences of such unions, there have been formed smaller SME industrial groups which between themselves work together and operate with certain individual ideas of group members, as well as they are open to outside suggestions. *Regional advices for investments promotion, business incubators with secured sales places*, as well as the *network of on-line available business consultants* which complete the picture of institution development for non financial support for SME sector in Japan, i.e. with the possibility of their implementation in Serbia.

EU

Importance of the experience of EU countries and at the most with EU15, the significance of developed united Europe, which Serbia took as its goal destination. Besides the fact that EU has been for a long time on purpose limiting private initiative and adjusting it to their legal frames. In the past few years there have been serious efforts to achieve the goals of creating entrepreneurship society and culture, as the basics for

society welfare. According to this, developed non financial SME institution gets the true meaning of its existence and gets the first results. *Annual programs for SME development* are resulting with progress all over the countries EU15 and now even bigger with EU27. Their experiences with developing *network RAMSPP*, would also give positive results, since SME receives support at the right moment and the right place and not in centralized and bureaucracy institutions. Development of *Information service for I&R community*, has advanced the work of I&R institution all over EU15, since there has been wide spread offer and demand for services. *Learning entrepreneurship* has been set as the task for EU members to achieve, implementing it in their education systems so that young generations can be raised in the spirit of creativity, competition and entrepreneurship. *Network of European enterprises* is a higher level of institution which connects SME with EU institutions and improves cooperation with foreign countries and innovations. *Science-technology parks* are the main holders of region development all over EU, so therefore we can conclude to be quite necessary for Serbia too.

Hungary

Hungary, neighboring country that has passed the entire process of entering EU, can surely contribute with its experience to development of non financial institutional support of SME sector in Serbia. It is a typical example of country from former “east” block which has relatively successfully passed transitional period by harmonizing legislation, creating institutions and reconstructing commerce. At the beginning of transition Hungary has passed first and later second *SME Law* in which it is regulated position and support to the sector. Parallel with these development programs, a national development program has also been created that directly addresses this sector. Afterwards, Hungary has formed *Regional development holding* as an institution, with its network spreading all over Hungary, specialized in supporting innovative SME. One of the priority tasks of the Holding is to professionally, precisely and accurately secure flow of information relating to regional and entrepreneurship development through National and EU contests. Network HDNG is actually *Hungarian development network group* that participates in all developing programs for entrepreneurship all over Hungary and the fact that entrepreneurship centers and their owners are the heart of this project, promises long-lasting future to these institutions and positive example to similar institutions in Serbia.

Slovenia

Slovenian experience is very special for Serbia, since its history before becoming a country and its transition experience is of vital importance for EU and all ex Yugoslav republics. Many of them can be seen through recent activities such as: founding and existing of Regional agencies for SME development and entrepreneurship, consulting, etc. Raising SME capacity can be seen in Slovenian experience through *voucher consultation*, though we can see the usage of free expertise support from the consultants. Slovenian experiences in reconstruction of commerce sector can be of great significance in order to form Professional-entrepreneurship chamber that would have a role in informing, educating, issuing “craftsmen letter”, etc. We can also learn from few interesting experiences of individual *business incubators* that have a tendency in growing into technological parks.

Croatia

In regards to Slovenia, like other ex Yugoslav republics, Croatia had a few years of war that additionally weakened and prolonged transitional period. However, besides that Croatia

has managed to receive a status of the country candidate in order to join EU, but only if they pass stabilization process. For our research it is very important to learn from their SME experiences, i.e. system of creating relevant institutional environment. Croatia has done a lot regarding legislation *issues*, so the relevant *Law on trade communities* – harmonized with EU legislation, as well as *Law on turnover*, where all craftsmanship chambers are defined. Besides that, basic law for regulating this sector is considered to be *Law on developing small commerce sector*, based on which they create programs for other operational plans and sector growth. Characteristics of the plans are that they operate on annual level and besides the projects they also contain list of executors and full budgets. On short term level, it would be interesting for Serbia to also implement experience of HAMAG, relating to *consulting network* on national level, in order to support development of the sector. On the long term level it is for sure that the experience of Croatian *free zones* is very interesting for Serbia, which has few difficulties in operating and functioning, while Croatia has already developed functional webs of these institutions.

Countries in transition (constitutional legal act)

In comparison to other countries in transition, Republic of Serbia has started its reforms later than others, baring in mind all troubles it had during the Nineties. Period from 2001. to 2006. reflects the implementation of numerous reforms, introduction of macro economical stability and sustainable and stabile commerce growth, restriction of big systems, privatization of the companies and beginning of EU union that includes numerous legal adjustments in the sectors of commerce and society. Basic goals of the economy politics were sustaining macroeconomic stability, with performing high rate commerce growth (average rate of GDP for the period of 2001. to 2005. year were 5,2 %). Production activity for the period after the year 2000. was performed with positive attitude of economic transition and reforms of tax system, employment market and social sector. Exchange rate of national currency Dinar is stabile with constant growth of foreign currency reserves, a significant deregulation and prices and foreign trade linearization was made, together with international financial institutions. A significant progress was made in structural reforms, especially in companies' privatization and consolidation of banking system. There were 350 system laws passed which support structural reforms.

Forming the Agency for development of small and medium enterprises at the level of Republic Serbia in June 2001. and spreading agency network all around the country, adopting The Strategy of developing small and medium enterprises and entrepreneurship as well as the Law on guarantee funding has formed institutional foundation for the faster growth of SME.

Most of the countries in transition have accepted SME as the essential part of economical reforms (Check Republic, Hungary, Poland, Slovakia and Slovenia). Transition towards market economy has the strong correlation towards developed private sector especially with SME that plays the main part in the reform process. Recent activities of these countries show that:

- SME is the generator of economical growth
- SME was the crucial element of industrial reconstructing, which can be confirmed in the early stage of economical transformation
- Even tough many countries in transition consider development of SME as and important element in the reform process, governments would rather deal with privatization issues than with SME and entrepreneurship.
- Countries in transition don't have solved legal issues, have limited understanding of entrepreneurship, lack of infrastructure and financial possibilities which represents big setback in formulating acceptable politics for SME

- Countries in transition in south east Europe have to figure out the cooperative politics relating to SME development (Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia)
- Before political and economical changes, central and south east Europe concept of SME did not almost exist. SME were regarded as cradle of capitalism.

Macro economy and result analysis of commerce movements in Serbia show negative fluctuation on the market:

- High level of company inefficiency in all commerce sectors,
- Three times higher import than export,
- Fall of industrial production,
- Higher number of unemployed,
- High percentage of administration material expenses in the republic and federal budget.

Key reason for this is:

- Engaging state owned capital of high value and putting it to practical use.
- More than 66% value of total commerce in Serbia in the last eight years generates only losses and unemployment.
- Inefficient state companies in every business circle contaminate negatively balance of subcontractors and their banks and therefore entire Serbian market ends up being insolvent and inefficient.

Having a lot of assets, state companies can secure credits with banks, but are not solvent to pay out the credit, so based on collateral they end up spending their own substance. The consequence of this is a decrease in capacity usage, lowering the level of employees productivity and at the end them - being fired.

On the other hand, privately owned companies show the following:

- They are the only ones which in the continuity for the last eight years show some positive progress,
- With small number of employees and modest capital they still can't erase negative affect that state owned companies have on the market.

Highly capitalized privately owned companies don't have the opportunity to guarantee credits (with present conditions) in the banks with their own capital, so that this sector could enter investment development and therefore generate higher profits and more jobs. Possible efficient solution needs an urgent relocation input to the higher level of efficient usage which can only be done with entrepreneurship reconstruction.

Entrepreneurship reconstruction is possible to perform at the least two ways:

1. selling companies to foreign strategic partners (by importing entrepreneurship skills and capital) and/or
2. By selling state capital under good conditions to domestic entrepreneurship and managerial teams originating from existing private (and/or to internal entrepreneurship and managerial teams from own companies).

Referring to this, Serbian Government has opened tender and auction privatizations and it has been marked as good concept. Weakness of the non existing laws as well as of follow up instruments and institutions in performing privatization shows as low accumulative and capitalized private enterprises and their owners – so that they can appear as buyers of partly or whole part of the state owned company. Victory of opposition at the 2000 elections has created political and social assumptions towards

creating market economy and civil democratic society in Serbia. It has been made possible to bring political legal framework for processing necessary reforms, without key institutional changes that have been announced by creating new Constitution. Regarding this it is impossible to precisely determine necessary social context for developing entrepreneurship and SME since the following hasn't been defined:

- Regional and unitary concept of the future Serbia
- Owners decentralization and giving bigger rights to municipalities in handling their property
- Tax decentralization and tax competitiveness
- Administrative decentralization and providing bigger rights (and responsibilities) to local authorities
- Centralized or decentralized education system
- Centralized or decentralized inspection surveillance

Conclusion

Entrepreneurship in Serbia is yet not recognized as good choice of career. However, evaluation of potential in Serbia shows the few possibilities in developing entrepreneurship as well neighboring countries. In the last few years, there have been operating actions taken by various domestic ministries, government agencies and non governmental organizations and international donors towards developing creative, competitive business environment showing in numbers and vitality of SME.

Existing institutions such as Agency for small and medium enterprises, National employment office, regional and local agencies for developing small and medium enterprises, chambers of commerce on various levels, increasing number of domestic and foreign non governmental organizations and local self-government and recognize entrepreneurship of young people as the sector to be invested in. Through support of mentioned institutions and organizing, youth entrepreneurship gets additional support for development, but due to increase in efficiency it is necessary to improve work of all institutions and their mutual cooperation.

Success depends on many factors, but we can influence on some of them and on some not, lucky is also to be reckoned with. However, one of the big, as not the biggest, advantage is getting to know it possibilities. If we know our limits and abilities and how far we are ready to go, we have the advantage not only on personal but also on business level as well. Getting to know yourself and your personality is not an easy job but with a lot of psychoanalysis; thinking and experience we can get to know ourselves and react accordingly. However, work and/or company we don't know that good, nor we have spent much time getting to know it and also there are a lot of extern factors which influence its potential. Still, to know advantages and defects of your company, your work environment, work sector and project can be essential for success. Furthermore, even if you know well your business, you should always take periodical checks and put remarks on the piece of paper, since its better to understand them like that and remember them and written form are available to your other associates.

Main goals of developing small and medium entrepreneurship in Serbia should be:

1. Increasing number of small and medium enterprises for 20% in the next five years
2. Encouraging growth of profit and additional value of small and medium enterprises
3. Encouraging growth of fast track, innovative and export of small and medium enterprises

4. Encouraging development of small and medium enterprises by developing franchises, connecting domestic and foreign franchise systems
5. Encouraging entrepreneurship environment to create and increase investment of small and medium enterprises
6. Standardization of business of small and medium enterprises, as important pre condition for developing SME in global world tendencies

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THE GROWING IMPORTANCE OF THE INNOVATION POLICY IN THE MANAGEMENT OF MODERN DEVELOPMENT

Abstract

The aim of this study is to indicate the growing importance of the active innovation policy in the contemporary economic conditions. A dominant attitude in the studies dedicated to the analysis of national innovation policies is that the national innovative capacity denotes a key determinant of the international competitiveness of the countries. The improvement of the national innovative capacity and building an adequate national innovation system are in the very epicenter of the activities of the country, and that is known as the innovation policy.

In the 1960s and 1970s, the conduct of the national innovation policy was present only in the most economically developed countries, whereas during the 1980s and 1990s, it was also established in many developing countries along with the process of economic globalization.

In its initial phase, the innovation policy dominantly had the elements of protection policy (primarily, patent policy). In the latter phases, its basic characteristic is merging of the science, technology, and industrial policies. Within that period, the innovation policy has acquired various expressive forms, from research and development organizing in the national laboratories and other research institutions, to the selection, winning, and applying new technologies in industry.

Contemporary trends in the conduct of innovation policy refer to abandoning the top-down approach to its implementation. They underline the importance of inclusion of all interested parties in creating and implementing processes of the innovation policy.

Key words: *innovation policy, national innovative capacity, national innovation system, innovation clusters, new technologies, international competitiveness.*

JEL Classification: O10, O32

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РАСТУЋИ ЗНАЧАЈ ПОЛИТИКЕ ИНОВАЦИЈА У УПРАВЉАЊУ САВРЕМЕНИМ РАЗВОЈЕМ

Апстракт

Циљ рада је указивање на растући значај активне политике иновација у савременим условима привређивања. У литератури посвећеној анализи националних политика иновација, доминира став да иновациони капацитет привреде означава кључну детерминанту међународне конкурентности земља. Унаређење иновационог капацитета привреде и изградња адекватног националног система иновација налазе се у епицентру активности државе познатих као политике иновација.

У времену шездесетих и седамдесетим годинама претходног века вођење националне политике иновација било је присутно само у економски најнапреднијим земљама, док је током осамдесетих и деведесетих година паралелно са процесом економске глобализације дошло до њене афирмације и у многим земљама у развоју.

У почетној фази развоја политика иновација је доминантно имала елементе политике заштите (патентна политика, пре свега). У каснијим фазама њена основна карактеристика се огледа у обједињавању научне, технолошке и индустријске политике. У том периоду политика иновација је попримила најразличитије изражајне облике почев од организације истраживања и развоја у државним лабораторијама и осталим истраживачким институцијама па све до селекције освајања и примене нових технологија у индустрији.

Савремени трендови у вођењу политике иновација говоре о напуштају топ даун приступа у њеној конкретној реализацији. Указују на важност укључивања свих заинтересованих страна у креирању и конкретној реализацији политике иновација.

Кључне речи: политика иновација, иновациони капацитет привреде, национални систем иновација, иновациони кластери, нове технологије, међународна конкурентност.

The Concept of National Innovative Capacity

Michael Porter and Scott Stern hold the opinion that the following determinants define the structure of the national innovative capacity (Porter & Stern 2003, p.4):

- *national innovation infrastructure,*
- *innovation environment in the national industrial clusters, and*
- *linkages between common innovation infrastructure and specific clusters.*

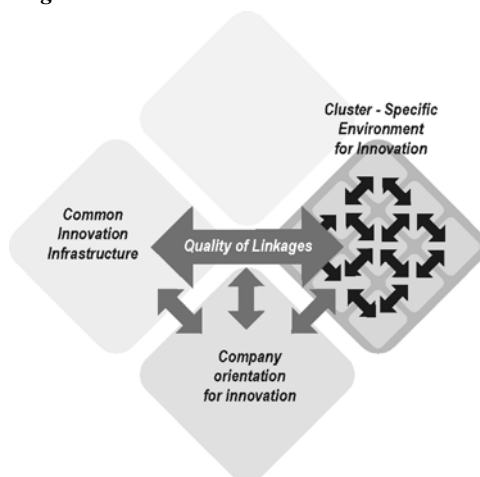
Each of the aforementioned determinants may be described, but also measured to some extent, by a group of indicators, which enables modeling of the national innovative capacity. "The efficiency of the development policy, from the micro level of a company, over sectors, to the level of national economy, may be evaluated by observing how the value of the three mentioned components of the national innovative capacity changes within a certain period of time." (Semenčenko 2009, p.18) Macroeconomic development

policy here denotes "a group of activities of a modern country, which are focused in the direction of creating economic conditions convenient for the maximum acceleration of the development dynamics, that is, maximum possible efficiency of the resource allocation. Bearing in mind that spontaneous, i.e. market outcomes, even beside all advantages in the resource allocation, also show certain deficiencies, it is logical that external macroeconomic regulation plays very important, and in certain situations, even irreplaceable role in modeling real macroeconomic flows." (Cvetanović 2002, p.17)

The national innovation infrastructure consists of a series of the interconnected factors which stimulate innovations in different economic fields, including a group of human and financial resources dedicated to scientific and technological progress, development of the wider public economic policy regarding innovation activities, and to the inherited level of technological development. The basis for the common innovation infrastructure of one nation lies in its engineering and scientific cadre engaged in the innovation issues. This basis also includes investments intended for the institutions dealing with the basic researches, which improve fundamental understanding and emphasize the importance of the commercial valorization of technology. Government financing remains the essential source of investments for every research whose objective is to break the limits and to set the new ones. The spheres whose policy overlaps with the innovation development policy refer to the protection of intellectual property, the level of utilization of the funds acquired through the taxes for the innovation stimulation, the level of conducting the anti-monopolistic policy so as to motivate and stimulate the innovation activities, the level of innovation stimulation as opposed to their thwarting by the security and quality structures, and regulations for the protection of the living environment. Taking all the facts into consideration, strong national infrastructure for innovation denotes national investments and decisions which have been brought over the decades.

Innovation environment in the national industrial clusters (Figure 1) consists of four wider elements which define the way the location influences the possibilities of a company to implement innovations in the wider area. Although this frame has been made so as to be applied at the national level, it can also be used for evaluating the innovative capacities at the regional or local level.

Figure 1. Elements of Innovation Environment



Source: Modified according to Porter & Stern 2003, p.4.

Although the common framework sets the basic conditions for innovations, development and commercialization of new technologies occur within clusters – groups of companies, and especially institutions which are interconnected in certain geographic area. Four attributes of the macroeconomic environment which contribute to the vitality of a cluster regarding to competitiveness and innovation are: the presence of specialized and high quality products, the local context which stimulates investments and follows the way of expressive rivalry, the insight into needs and demands for products and services of the given cluster, and the local presence of related industries.

The importance of clusters can be noticed in the external capacities for innovations which are offered by certain geographic area. Presence in clusters enables companies to see the needs as well as the possibilities for innovations. Flexibility is of equal importance as well as the capacities of the clusters to convert new ideas into reality. Within the cluster, a company organizes staff, components, machines, but also the services which are necessary for the commercialization. Providers of the basic products and 'main' buyers become key partners in the innovation process, and the relations necessary for the efficient innovation are established more easily with the participants who are near. The increasing number of possibilities for innovation represents a certain kind of pressure, the pressure to be competitive, the pressure among related companies, the pressure imposed by the clients, and constant comparing. We deal with clusters rather than with individual industries due to wasting of energy and to external pressures which individual industries face with, and which has vital influence on the success in introducing the innovations.

Innovation environment, characteristic for the cluster, is of outmost importance for the competitiveness of the cluster. The recent growth of Australian wine industry is a good example. Although the climatic conditions in Australia have always provided the possibility for wine industry development, Australian companies have not appeared at the global scene of wine industry until Australian wine clusters have realized their strength within each element of the 'diamond'. This industry has made progress owing to the combination of a moderate pressure exerted by sophisticated consumers in Australia, emphasized rivalry among domestic competitors, and local environment which stimulates the development of advanced agricultural technologies and methods. Establishing of the Australian Wine Research Institute and the domestic wine school in the 1950s was of key importance for the rise of this industry, which took place several decades afterwards. Similar examples of cluster vitality and tendency toward innovation exist in many spheres, such is the case with the longtime domination of the pharmaceutical companies which have based their researches in the USA, and the global leadership of the Scandinavian companies in the field of technology for the protection of living environment.

The quality of linkages which exist between the common innovation structure at the national level and the individual industrial clusters is crucial for the innovation. This relation is reciprocal: strong clusters invest into the common infrastructure, and at the same time they benefit from it. If there are no strong linkages, scientific and technological achievements may disperse and cross over to other countries instead of being used at home. For example, although fax machine was invented in Great Britain and the USA, Japanese companies which manufacture electronic and telecommunication equipment made it commercial as an innovation during the 1970s.

Universities play an extremely important role in linking and bridging the gap between researchers and companies. A great number of diverse formal and informal

organizations, including trade organizations, agencies for standardization and technology networks – which are defined as 'institutions for cooperation' – is present in many countries, and they also establish connections between research centers and companies.

National Innovative Capacity and Globalization

The globalization process makes the research of national innovative capacity, as a determinant of the efficiency of macroeconomic development policy, complicated, primarily because the attempts to specify the concept of the national innovative capacity give the impression that the activities and the processes related to the innovations of a country are limited to the national territory, which is far away from the truth. One of the less debatable globalization trends is an increasing number of technology alliances and international joint ventures of the companies, most often organized by the transnational corporations. The main influence of the globalization on the innovative capacity of some countries lies in the fact that it made them open systems. The cardinal question still remains: How has the globalization influenced the innovative capacity of certain countries in terms of development of particular technologies? The answer to this question connotes previous short retrospection of the nature of the strategic alliances in the sphere of technological development.

A company reduces the business risk by entering into an alliance with other partners or competitors because, due to the scarce financial resources and qualified personnel, it shares performing of the research, promotional, and distributional activities, financing of more complex projects, as well as undertaking of more extensive and more riskier forms of international engagement (joint venture companies, direct investments, and similar arrangements), with other companies. However, more powerful globally oriented companies often use alliances to have dominant influence on the nature and the flow of competition within the given branch. Frequent manifestation of power of such alliances represents imposing of their productivity and marketing standards to their competitors. On the other hand, it may cause a significant increase in production costs, distribution, logistics, and management, as well as additionally complicated goal coordination among the alliance partners.

Of all the aspects of globalization, the least disputable dimension of this phenomenon is the technological one. "Technology is one of the main incentives of globalization. It is not difficult to perceive that the world is heading towards competition in the global technologies. Technology is 'a product' which, once created, becomes available everywhere. There are no serious barriers to using new technologies in large number of countries." (Milisavljević 2000, p.467)

Technological development is a result of the activities at several levels:

- *The first level* – individual ideas for development, theories known to individuals or to a smaller group. They may originate from experience, experiments, or personal imagination.
- *The second level* – it consists of knowledge which is verified and codified through scientific experimental processes. During the process of verification, some ideas will be confirmed, some will be discarded, and some will wait for the verification. In the process of codification, ideas are formalized and

translated into a language which is understandable to the users. It becomes available to a wider population.

- *The third level* – knowledge is put into use, that is, it acquires its physical dimension through products, services, and processes.

In order to fulfill social requirements, new technology must possess four characteristics:

- *A possibility for further improvement* – technological progress starts when a possibility for improvement of a technology is observed, for substantial or economic reasons. Therefore, there should exist a possibility of further improvement of the new technology.
- *The appropriateness of the technology* – in many cases, when the technological improvement is driven by economic motives, individuals will make the improvements only in the case when the results of that development are returned to the researcher.
- *The possibility to transfer the technology* – the transfer of technology or knowledge is not an easy process. While people communicate, there is no perfect correspondence between a sender of the message and the recipient.
- *Available resources* – technological development spends certain resources.

Major trends in the modern technology development are:

1. Time compression, and
2. Technology integration. (Narayanan 2001, p.175)

Time compression implies that the time interval between the creation of new ideas and their successful application is significantly reduced, as well as the period between product introduction and peak production. It also brings another important source of competitive advantage – speed. This speed refers to the ability of a company to learn, to adapt to the continual changes, as well as to be innovated in shorter and shorter time intervals.

Time compression includes the following processes:

- *Shortening the product life cycle,*
- *Shortening the development period, and*
- *Shortening the invested resources restitution period.*

In the process of the globalization of world economy, information technologies play the essential role, such role that there appears a tendency to label the information as the fifth factor of production, along with the labor, capital, natural resources, and entrepreneurship. Among the main novelties in the development of 'the new economy' are fundamental changes in the production structure which reflect in the increasing dematerialization. Nowadays, it has been estimated that around 80% of the input value are of non-material origin, whereas only 20% have the form of material investments. New forms and contents of the production factors in newly created values may also lead to the change in the ownership over the factors of production.

The data show that over 95% out of total number of strategic technology alliances in the world represent different forms of technological collaboration among the companies in the most developed countries of the world (USA, EU, Japan). What is more, in certain fields, distribution of strategic business cooperation in the sphere of

technological development to a great extent resembles a closed shop to a cooperation which almost entirely occurs among the companies of the developed countries. For instance, this particular indicator of concentration in the field of development in medical technology and medical instruments amounts to 100%, in biotechnology 99.5%, and in software 99.1%. (Hagedoorn 1995, p.39) Therefore, "the crucial internationalization of research and development is to a large extent limited to developed economies. Starting with the given, but not necessarily potential, technological abilities, world's leading corporations limit their research and development internationalization to the regions where they are situated and where they discovered technological advantages. The companies internationalize only one part of the research-and-development activities, leaving the greatest segment of research and development near the domestic base or with the partners from the regions with the favorable factor yield." (Levi-Jakšić 2006, p.414)

In the globalization era, there is a constant conflict of the attitudes advocated by Porter, who emphasizes the significance of the national basis of a company, and Ohmae, who holds the opinion that the national borders will soon become obsolete and that the countries will become a part of interconnected economies of the USA, Japan, Western Europe, and rapidly developing countries. He even states that this group is so powerful that it has already devoured the majority of consumers and corporations, almost caused national borders to disappear, and directed the bureaucracy, politicians and the army toward the status of the industries in decline. (Ohmae 1990, p.XL) He adds: "When money, goods, people, information, and even companies so freely cross the national borders, it is not logical to talk about 'U.S. industrial competitiveness'." (Ohmae 1990, p.99) Ohmae accepts the fact that before the 1980s national policies and national differences were important. Let us compare this with Porter's statement that competitive advantage is created and maintained through an utterly localized process. The differences between national economic structures, values, cultures and histories significantly contribute to the competitive success. The role of the country of one nation seems to be stronger than ever. While it might seem that the globalization of competitiveness makes the national less important, actually, it is quite the opposite. The significance of the nation rises with less obstacles in commerce which would protect uncompetitive domestic companies and industries because it represents a source of skills and technologies which upholds competitive advantage. (Porter 1990, p.19)

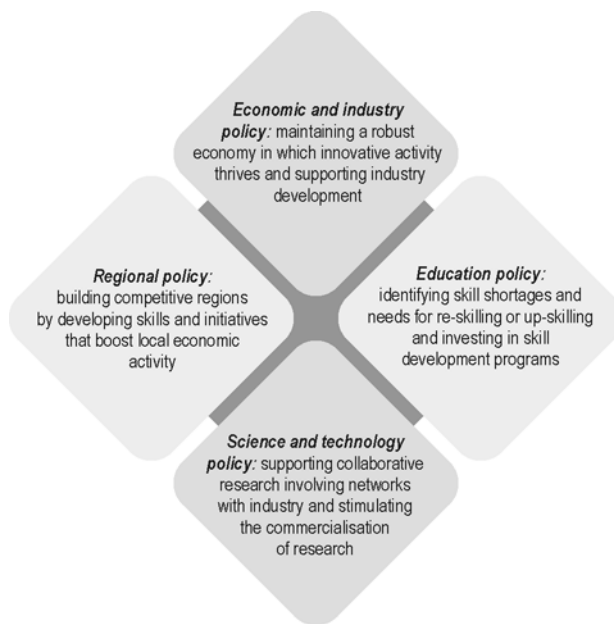
The question is which approach is more acceptable. Some authors think that both approaches are correct in different ways. However, they require very careful quantification. Main argument of Ohmae's analysis is that transnational corporations have become oriented toward the consumer, with the rise in the consuming 'power' and the need to serve to the global market. He also recognizes the importance of the increasing number of strategic alliances of the companies from different continents. However, it seems that Ohmae treats the complex of technological innovations in an unacceptable way. He ignores the way new technologies may appear, as well as a strategic form of the companies to develop them. In any case, technological innovations are not *per se* at the disposal of the companies. He claims that technological innovations are widely available for the simple reason that it is difficult to control them, and that individual companies can afford to develop every critical technology. The lack of any serious discussion on this issue prompts Ohmae to completely marginalize the significance of new technologies. Considering the fact that globalization does not abate, the debate between Ohmae and

Porter inevitably brings into question the entire concept of the national innovative capacity and makes it almost insignificant. (Saviotti 1997, p.196) Porter's analysis and the empirical evidence suggest that, although globalization has changed the nature of the national innovation system, it will continue to change it, and that there are only slight hints that the essential importance of the concept will be diminished.

Innovation Policy in the Function of National Innovative Capacity Growth and the Improvement of Macroeconomic Efficiency

Over the last thirty years, the innovation policy has held one of the central roles in the improvement of macroeconomic efficiency in the economically leading countries of the world. It is logical if we are aware of the fact that innovations, understood in its broadest sense, represent the most important factor of the structural economic transformations and economic growth.

Figure 2. Innovation Policy



The role of science and technology in initiating the economic growth came to the fore especially in the period after the end of the Second World War. Over the last fifty years, numerous specific macroeconomic policies have been established with the intention to optimize this role, among which the central place belongs to the innovation policy. At the beginning, this phenomenon occurred only in the world's most developed economies, whereas the innovation policy was also established in the developing countries during the 1980s and 1990s, along with the process of economic globalization. (Sagasti, 1989)

In short, the innovation policy comprises permanent efforts of the country in the direction of supporting the creation and application of innovations in the production of

new products and services. In its initial phase, it had the elements of protection policy (patent policy), whereas it has gradually come to the merging of the science, technology, and industrial policies. Within that period, the innovation policy has acquired various expressive forms, from research and development organizing in the national laboratories and other research institutions, to the selection and application of new technologies for the support of industrial branches whose development is primarily based on innovations.

The farthest ranges of more-less efficient innovation policy in certain environments are reflected in their contribution to the improvement of national innovative capacity. However, in the economic studies, the complex of national innovative capacity is often wrongly identified as the concept of national innovation system. Without engaging into more detailed explication of these categories, we want to point out that the complex of national innovative capacity represents the ability of the national economy to use the existing knowledge and to create new one in the goods and services production process, while, on the other hand, national innovation system is a network of public and private institutions which are included in the processes of creation, import, as well as the widest application of innovations. (Freeman 1987, p.4)

The economists of the neo-Schumpeterian provenance ascribe more and more visible differences in the quality of key macroeconomic performances of the countries to the differences in the quality of some components of the national innovative capacity, and especially to inadequate coordination of institutions which represent national innovation system. The absence of an adequate coordination between the activities and the objectives of public institutions, on one hand, which represent national innovation systems of certain countries, and institutions responsible for the creation and practical achievement of the objectives of the conventional macroeconomic policies, on the other, inevitably leads to the poor economic results. The problems here refer to the poor coordination and harmonization of the activities of the institutions within national innovation systems, which are also responsible for the implementation of the conventional macroeconomic policies and national institutions included into the realization of the concrete innovation policy as a specific sublimite of the industrial, technology, and science and research policies. (Nassif 2007, p.1)

Innovation policy, beside activities related to advancing of the technology research and development, must count with numerous measures of other macroeconomic policies which, at first sight, have no direct relations with the dynamics of economic innovations (market regulation policy, tax policy, infrastructure development policy). With this, innovation policy becomes more comprehensive, more coherent, and more significant factor in promoting and supporting of innovation activities of certain economic subjects.

Nowadays, nobody denies that existence of active innovation policy is necessary. The experts consider that the innovation policy is especially relevant to the small developing countries, and that it represents a strong catalyst of their adapting to the global economic and technological changes. This is the case because of the fact that low private rate of return, due to the high risk and uncertainty in technology research and development, as well as ever-present external effects in this sphere, may discourage private investors to invest into the field of innovations which are of the key long-range national interest. This problem is more serious in small developing countries, which already have many investment barriers standing in the way of innovation activities of the private sector (low absorption capacity of the national market, insufficient economic

potential of the private sector, etc.). The deficiencies of the corresponding institutions (e.g. the lack of research capacities, equipment, etc.) can be partially mitigated by the activities of a modern country. The open questions of inadequate international national competitiveness increase the pressure for the intervention of the country in the field of innovation. (Hadjimanolis 2001, p.807) Therefore, the conduct of active innovation policy is characteristic of the majority of countries, as the small ones so the big ones whose economies are ascending. (Freeman & Lundvall 1988)

Modern trends in the conduct of innovation policy in certain countries abandon the *top-down* approach and underline the importance of inclusion of all interested sides into its creation and practical realization. Bearing in mind the circumstance that private companies are also the major users of innovation policy measures in small economies, it is logical that it should be adjusted to their needs and expectations.

Conclusion

The innovation policy represents more and more significant component in the management of economic development in most countries, and especially in economically leading ones. A special place in the innovation policy of each country holds the concept of national innovation system, whose building process, however, is directly related to the increase of the innovative capacity at the national level.

National innovative capacity is in its own way represented by national innovation infrastructure. National innovation infrastructure consists of a series of interconnected factors which stimulate innovation in different economic spheres, also including the group of human and financial resources dedicated to the scientific and technological progress, development of wider public economic policy regarding the innovation activities, and to the inherited level of technological development.

Over the last twenty years, the quality of innovation infrastructure of the economically successful countries has been determined by the innovation clusters to a large extent. The importance of clusters reflects in the external capacities for innovations offered by certain geographic area. Companies get the opportunity to recognize the needs and possibilities for innovations by being a part of a cluster. Flexibility is of equal importance, as well as the capacities of the clusters to convert new ideas into reality. Within the cluster, a company organizes staff, components, machines, as well as the services necessary for commercialization.

The significance of innovation systems for the economic development of certain countries is not decreased even in the globalization era. Porter's analysis and the empirical evidence suggest that, although globalization has changed the nature of the national innovation system, it will continue to change it, but there are only slight hints that the essential importance of the concept will be diminished.

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EVALUATION OF RISKS AND RETURNS OF A COMPANY'S PORTFOLIO

Abstract

Expected return and standard deviation are a good measure of future return and risk estimation, not only for the investments in securities, but for the whole company's portfolio as well. This paper contributes to the understanding of the risks and returns of a company's portfolio, consisting of financial assets and projects.

Key words: *expected returns; portfolio; risks; standard deviation;*

JEL Classifications: G11, G12, G32

ПРОЦЕНА РИЗИКА И ПОВРАТАК НА ПОРТФОЛИО ПРЕДУЗЕЋА

Апстракт

Очекивани принос и стандардна девијација су добра мера будућих приноса и процене ризика, не само за улагања која се односе на хартије од вредности, већ и за портфолио целе компаније. Овај рад доприноси разумевању ризика и приноса портфолија компаније, која се састоји од финансијских средстава и пројеката.

Кључне речи: *очекивани принос; портфолио; ризици; стандардна девијација; пројекти.*

Introduction and theoretical background

As far back as 1952, Harry Markowitz introduced a portfolio theory, whereas investors had been interested in securities on an individual basis. The Markowitz theory defined an efficient portfolio as a portfolio with minimal risk for a given return, or, as the portfolio with the highest return for a given level of risk². The expected utility of an individual's terminal wealth is a function of the mean and the variance of the portfolio return. The expected return of the portfolio is measured by the mean return. The risk, which corresponds to the uncertainty of obtaining the return, is measured by the variance³.

In the 70's, evaluating the performance of investment portfolios received a great deal of attention, mostly as a result of developments in the Sharpe's theory of capital-

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² Markowitz, H., 1952. Portfolio Selection, *Journal of Finance*, March, pp. 77–91.

³ Amenc, N., Le Sourd, V., 2003. *Portfolio Theory and Performance Analysis*. John Wiley & Sons Ltd.

asset pricing⁴, which have led to an improved understanding of the criteria necessary for evaluating investment performance. Also, this theory has influenced an increasing number of studies on this issue⁵. Measurement of portfolio performance is usually based on Sharpe ratio – “the ratio of the excess expected return of an investment to its return volatility or standard deviation”⁶, by large a number of authors⁷. Sharpe (1964) improved the Markowitz’s model on the possibility of simplifying the calculations in order to develop the practical use of the model.

The Sharpe ratio is now used in many areas of Finance and Economics. It is used for the purpose of evaluation of portfolio performance, to tests of market efficiency for risk management⁸. According to Levy (1972), the Sharpe ratio is closely related to the investment horizon under the assumption that portfolio return distribution is stable over time. Levy’s assumption means that historical returns have predictive value regarding future performance. For many investors and mutual funds, this can make a highly

⁴ Sharpe, W. F., 1964. Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, *Journal of Finance*, Vol. 19, pp. 425-442.

⁵ Fama, E., 1968. Risk, Return, and Equilibrium: Some Clarifying Comments, *Journal of Finance*, Vol. 23, pp. 29-40.

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⁶ Sharpe, W. F., 1994. The Sharpe ratio, *Journal of Portfolio Management*, Vol. 20, pp. 49-58.

⁷ Levy, H., 1972. Portfolio performance and the investment horizon, *Management Science*, Vol. 18, pp. 645-653.

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⁸ Levy, H., 1972. Portfolio performance and the investment horizon, *Management Science*, Vol. 18, pp. 645-653.

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important signal for purchase or sale. Later, Cvitanić, Lazrak and Wang⁹ argue that the Sharpe ratio creates a tension between the short term performance and the long-term performance, called as the horizon problem¹⁰. This horizon problem arises mainly because the investment horizon of investors is different from that of fund managers.

Following these models, many authors have offered their models or so-called efficient portfolio models, which are usually based on Markowitz or Sharpe's theory, such as Optimal one-fund theorem, Merton and Jorion models, Cadsby ratio, Simplified methods by Elton and Gruber, etc. All these models are exclusively designed for measuring portfolio performance of mutual funds or finance companies, or even the interest of the investors in securities on an individual basis (Markowitz theory). However the question still lingers on how other companies measure the performance of their portfolio, with the observation that most companies do not deal only in securities or have a relatively small value of their assets as securities. This issue discusses the problem of majority of portfolios, which mostly include various projects. With regard to period when these theories were written, many financial instrument are designed, which influence on the selection of the portfolio and the ability to hedge. This is especially important for corporate risks and opportunities to manage these risks¹¹.

The primary purpose of this paper is to give expressions which will include the measurement of performance of the company's portfolio. The plan of the paper is as follows: First, the authors will express the returns within the period of investment, followed by measurements of the risks associated with the company's portfolio. The returns and risks are related to the securities held by the company and other various company projects. This will be closely followed with an illustration that explains the use of the expressions. The final section of the paper is a concluding statement and remarks on findings and learning statement.

Methodology

Monroe and Trieschmann¹² are researched portfolio performance of property-liability insurance companies. In their study, the rate of return measure used for all portfolios is the ratio of all realized and unrealized investment income to the market value of the investment at the beginning of the year. According to these authors (1972, p. 3) the annual rate of return for each insurance company portfolio is defined as:

$$R_{it} = \frac{I_{it} + RG_{it} + UG_{it}}{V_{i(t-1)} + NI_{it} / 2}$$

⁹ Cvitanić, J., Lazrak, A., Wang, T., 2008. Implications of the Sharpe ratio as a performance measure in multi-period settings, *Journal of Economic Dynamics and Control*, Vol. 32, pp. 1622-1649.

¹⁰ Kim, S., Park, H., 2011. Examining the effect of investment horizon on the mutual fund performance measures. Annual Paris Conference on "Money, Economy and Management". Paris, France.

¹¹ Grubišić, Z., Vuković, D., Branković, B., 2012. Upotreba fjučersa u zaštiti na finansijskom tržištu. *Ekonomika*, Vol. I-III 2012 (1) pp.80-88.

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¹² Monroe, J. R., Trieschmann, S. J., 1972. Portfolio performance of property-liability insurance companies. *Journal of financial and quantitative analysis*, March 1972.

Where:

- R_{it} = annual rate of return for i^{th} firm during year t ,
- IT_{it}^{it} = investment income (dividends and/or bond interest) ,
- RG_{it}^{it} = realized gains on the sale of securities,
- UG_{it}^{it} = unrealized gains on securities,
- $V_{it(t-1)}$ = end-of-year market value, and
- NI_{it}^{it} = net investment (purchases-sales).

Monroe and Trieschmann (1972) defined investment company portfolio rates of return from reported per share data adjusted for all stock splits and dividends, as:

$$IR_{it} = \frac{V_{it} + I_{it} + CG_{it}}{V_{i(t-1)}} - 1$$

Where:

- IR_{it} = annual return for i investment company in year t ,
- V_{it} = end-of-year market value per share,
- I_{it} = income distributions, and
- CG_{it} = capital gain's distributions.

In Schlarhaum study¹³, the measurement of investment performance was based on the following way: Portfolio performance is examined from the point of view of an insurance company shareholder. Schlarhaum is evaluated the performance of the companies' common stock portfolios by comparing the returns earned by these portfolios with those that could have been achieved by investing in randomly selected portfolios of common stocks. Risk is taken into account by keeping constant either the variability of annual rates of return or the coefficient of nondiversifiable risk (the beta coefficient in the market model). He argued (1974) that the variability measure is more appropriate for an insurance-company shareholder with no other investments in securities, while the beta coefficient is more appropriate for an insurance-company shareholder who holds a diversified portfolio of his own.

In performance evaluation, many authors uses Sharpe ratio, which is widely adopted and used to compare the performance with other funds and market indices¹⁴. According to Sharpe's formula, using historical holding period returns (i.e., monthly, quarterly and semi-annual returns) for fund p , each investment horizon can be calculated as:

$$SR_p(\lambda_j) = \frac{\bar{R}_p(\lambda_j) - \bar{R}_f(\lambda_j)}{\sqrt{\sigma^2(\lambda_j)}}$$

This formula is adopted from Kim and Park (2011), where $\bar{R}_p(\lambda_j)$ and $\bar{R}_f(\lambda_j)$ are the mean values of mutual fund returns and the risk-free rate at investment horizon λ_j . In this specification, $SR_p(\lambda_j)$ indicates the Sharpe ratio of mutual fund returns, which can be varying depending on the investment horizons. Given formula clearly shows the possibility of calculating returns, returns of mutual funds or banks.

¹³ Schlarhau, G., 1974. The investment performance of the common stocks portfolios of property-liability insurance companies, *Journal of financial and quantitative analysis*.

¹⁴ Kim, S., Park, H., 2011. Examining the effect of investment horizon on the mutual fund performance measures. Annual Paris Conference on "Money, Economy and Management". Paris, France.

What happens to everyday investment? Is this formula should be used by other companies that do not invest only in securities that have a different portfolio, which consists in part of a larger of material asset. The answer to this question is given below. The investor's holding period is the interval of time between successive portfolio actions. In our expression it is assumed on lengthening investment horizon. Assumptions are as follows:

1. First, company's portfolio can be very complex, in terms of duration, associated risks and mix, as they range from long to short-term, medium to high risks and a mix of stocks, bonds, cash-equivalents etc. It is easier to express complex company's portfolio in a long term interval. Bearing this assumption in mind, the time interval in our expression will be shown as time T-1 (beginning) and T (ending). For the purpose of simplicity of expression, multiple time intervals will not be considered.
2. Numerous authors consider that the investors are better off holding risky assets in the long-run investment climate. This point was confirmed through research and analysis by the following authors: Lloyd and Haney 1980, McEnally 1985, Butler and Domian 1991, Bodie 1995, Levy and Spector 1996, Hansson and Persson 2000, Strong and Taylor 2001, Jan and Wu 2008¹⁵. However, there is a group of authors who argued that increasing the proportion of investing risky asset over long-run investment horizon is illusory¹⁶. Bearing in mind the assumption 1 and referring to the researches of majority authors with the view that investors are better off to hold risky assets in the long-run investment horizon, our expression is based on long-run investment horizon.
3. We defined portfolio as a set of various kinds of assets belonging to any institution or individual, which hold these assets in order to achieve returns and therefore are willing to take a risk. Company's portfolio consists of projects and financial assets. We consider projects as all company investments in order to achieve the expected results (returns) and those they

¹⁵ Lloyd, W. P., Haney, L. R., 1980. Time Diversification: Surest Route to Lower Risk, *Journal of Portfolio Management*, Vol. 6, pp. 5-9.

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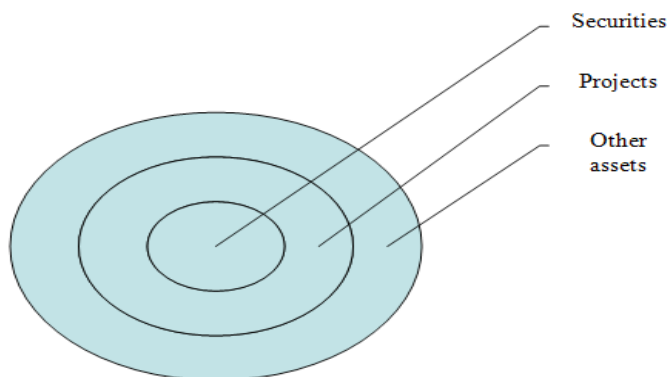
Hansson, B., Persson, M. Time Diversification and Estimation Risk, *Financial Analysts Journal*, Vol. 56, pp. 55-62.

¹⁶ Samuelson, A. P., 1990. Asset Allocation Could Be Dangerous to Your Wealth, *Journal of Portfolio Management*, Vol.16, pp. 5-8.

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are not securities. Due to the simplicity of the model, the financial assets in the company's portfolio are not diversified into different forms of assets.

Picture 1. Different forms of assets in long-run investment horizon



Source: Authors

Holding period return is the rate of return over a period of investment. Marking the ending price and beginning price of securities as $P_{t(s)}$ and $P_{t-1(s)}$ respectively, and project ending price and project beginning price as $P_{t(p)}$ and $P_{t-1(p)}$, formula can be expressed as:

Holding period return of company = Holding period return of securities + Holding period return of projects

$$HPR_c = HPR_s + HPR_p \quad (a)$$

$HPR_s = \text{dividend yield (interest yield)}^* + \text{capital yield} = [\text{dividend (interest)} + (\text{ending price} - \text{beginning price})] / \text{beginning price}$

$$HPR_s = [\text{dividend (interest)} + (P_{t(s)} - P_{t-1(s)})] / P_{t-1(s)}$$

* If a company holds shares, the expression involves the calculation of dividends. Where the company holds bonds, the expression involves the calculation of interest. In both cases, the calculation is the same. Consequently, for the sake of clarity and transparency, only dividends will be calculated.

$HPR_p = [\text{project ending price} - \text{project beginning price}] / \text{project beginning price}$

$$HPR_p = [P_{t(p)} - P_{t-1(p)}] / P_{t-1(p)}$$

Holding period returns on project is essentially similar to the definition of Return on Investment (ROI), where instead of total benefits and total costs we use project ending price and project beginning price. Use of this terminology ensures simplicity of expression.

Given expression (a) can be represented as (b):

$$HPR_c = HPR_s + HPR_p = \frac{[\text{dividend (interest)} + (P_{t(s)} - P_{t-1(s)})] / P_{t-1(s)} + [P_{t(p)} - P_{t-1(p)}] / P_{t-1(p)}}{\quad} \quad (b)$$

This formula allows the exact arithmetic return on a portfolio to be obtained easily, as a linear combination of the returns on the assets that make up the portfolio. By introducing probability (p) for each HPR, we could calculate the Expected return - E(HPR_c). Expected return can be expressed as the average HPR of all investments in company's portfolio. The term can be expressed as:

$$E(HPR_c) = E(HPR_s) + E(HPR_p) = \sum_{s=1}^s p_s r_s + \sum_{p=1}^s p_p r_p \quad (c)$$

Considering that we have probabilities to realize a HPRs and expected return, it is now easy to determine the squares of deviations from the expected value and calculate the variance (d) and standard deviation (e).

$$\sigma^2 = \sum p_s [r_s - E(HPR_s)]^2 + \sum_{p=1}^s p_p [r_p - E(HPR_p)]^2 \quad (d)$$

$$\sigma = \sqrt{\sigma^2} \quad (e)$$

The uncertainty surrounding the investments depends largely on unforeseen factors. The risk of possible surprises expresses the variance, i.e. the standard deviation is the square root of the variance. All deviations are squared, otherwise the negative deviation reverse the positive deviations, which would result in the expected deviations from the average value is zero. Nonlinear transformation (squaring) increases the importance of large deviations, and reduces the significance of small deviations. Also, the risk is expressed in the same way as the expected return; standard deviation is used as the square root of the variance.

Picture 2. Risks and returns of a company's portfolio



Source: Authors

Illustration

In our example we will assume that company ABC operates over a longer period of time, passing through a phase of cyclical expansion, normal growth and recession. Beginning price is 30 dollars for the financial asset and 2.000.000 for project. For each cyclic phase we assume the probabilities, ending prices and dividends for the financial asset. According to this data, we could calculate the returns and risks that the company generates. The data is presented in the table below.

Table 1. Illustration of portfolio of the company ABC

	Portfolio of ABC company						
	Probabilities (p_s)	Financial assets			Probabilities (p_p)	Projects	
		Dividends	Ending prices $P_{t(s)}$	Returns (r_s)		Ending prices $P_{t(p)}$	Returns (r_p)
Recession	0,25	4	17	-30%	0,25	2.200.000	10%
Normal growth	0,35	5	31	20%	0,35	2.600.000	30%
Expansion	0,25	7	33,5	35%	0,25	2.800.000	40%

Sources: Authors

$$E(HPR_c) = E(HPR_s) + E(HPR_p) = [0,25(-10\%)+0,35(20\%)+0,25(35\%)] + [0,25(10\%)+0,35(30\%)+0,25(40\%)] = 8,25\% + 23\% = 31,25\%$$

$$\sigma^2 = \sigma_s^2 + \sigma_p^2 = [0,25(-30-8,25)^2+0,35(20-8,25)^2+(0,25(35-8,25)^2)] + [0,25(10-23)^2+0,35(30-23)^2+(0,25(40-23)^2)] = 592,978 + 131,65 = 724,628$$

$$\sigma = \sqrt{\sigma^2} = 26,919$$

Concluding remarks

With a simple illustration we have demonstrated that it is possible to calculate expected returns and risks of portfolio of the company, which consist of both - financial asset and project. Standard deviation is calculated as the square root of the variance of the total of the portfolio, rather than as the sum of standard deviation of portfolio that relates to financial asset and portfolio that relates to the project. Therefore, the standard deviation of the total portfolio of company ABC is less than the standard deviation which calculates the sum of standard deviations of each one. The reason lies in the nature of the portfolio - when the portfolio is more diversified then the risk is lower.

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POSITION OF ENTREPRENEURSHIP IN SERBIA INFLUENCED BY TRANSITION PROCESS AND MACROECONOMIC TRENDS

Abstract

Rapid changes, uncertainty and risk require a new approach to business, new business orientation and strategies. Economic relations that reproduce the transition are directly related to the present and future position of each individual, households, businesses, state and nation in the world. It is necessary to create the conditions for rapid economic development, the need to maintain economic stability, narrowing the technological and social gap between the rich and the poor, the role and influence of multinational companies in the modern world, providing higher living standards and a common understanding of human rights in the homogenized world.

At the beginning of this century, developed economies of the world entered a phase of change, and from the century of information technology entered the century of knowledge, and the global economy became based on knowledge and irreplaceable factor of development. Developing and undeveloped countries are in the permanent transition period. Entrepreneurship is interesting for all economies in transition as a factor that can significantly accelerate growth and mitigate the consequences of changes in economic structures through self-employment and job creation, as well as an engine for growth.

Entrepreneurship is a feature of developed economies and market economies, and it achieves the best results in such a business climate and business environment. However, entrepreneurship reaffirmed its full creativity and experience in countries that are returning to an open market economy.

Keywords: *Economic Development, Entrepreneurship, Transition, Privatization, Innovation, Investment, Unemployment*

JEL Classifications: P31, E20

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ПОЛОЖАЈ ПРЕДУЗЕТНИШТВА У СРБИЈИ ПОД УТИЦАЈЕМ ТРАНЗИЦИОНИХ ПРОЦЕСА И МАКРОЕКОНОМСКИХ ТРЕНДОВА

Апстракт

Брзе промене, несигурност и ризик, захтевају нов приступ бизнису, нове пословне оријентације и стратегије. Економски односи које процес транзиције репродукује најнепосредније се тичу садашњег и будућег положаја сваког појединца, домаћинства, предузећа, нације и државе у свету. Потребно је да се створе услови за бржи привредни развој, потреба за очувањем економске стабилности, сужавање технолошког и социјалног јаза између богатих и сиромашних, улога и утицај мултинационалних компанија у модерном свету, обезбеђење већег животног стандарда, заједничко схватање људских права у све хомогенизованом свету.

Развијене економије света су почетком овог века ушле у фазу промена, и из века информационе технологије ушле су у век знања, или глобалну економију засновану на знању као водећем и незамењивом фактору развоја. Земље у развоју и неразвијене привреде налазе се у периоду перманентне транзиције. Као фактор који може значајно да убрза раст и ублажи последице промена привредних структура кроз самозапошљавање и отварање нових радних места, као покретач развоја, предузетништво је интересантно за све привреде у транзиционим процесима.

Предузетништво је обележје развијених економија и тржишних привреда и оно постиже најбоље пословне резултате у таквој пословној клими и амбијенту. Међутим, предузетништво своју реафирмацију и пуну креативност доживљава у земљама које се враћају отвореној тржишној привреди.

Кључне речи: *Економски развој, предузетништво, транзиција, процес приватизације, иновације, инвестиције, незапосленост*

Introduction

The modern world is painted with constant changes, in which the key to economic success lies in the ability of their understanding and optimum adaptation to new business environment. The changes that occur are not related to any specific point of the planet, but affect every single point in it.

Does the globalization lead to an increase in inequality in countries around the world, or on the contrary, it just contributes to reducing inequality between countries in their economic development? On the one hand are those who believe that the process is desirable and beneficial because of increased competition, creating the conditions for making a healthier market and a possible reduction in the gap between rich and poor countries. On the other side are those who believe that globalization deepens inequalities and leads to permanent poorer part of the globe.

Social relations of globalization and the transition are directly related to reproduce the present and future position of each individual, households, businesses, state and nation

in the world. It is necessary to create the conditions for rapid economic development, the need to maintain social stability, effective international peacekeeping, narrowing the technological and social gap between the rich and the poor, the role and influence of multinational companies in the modern world, providing higher living standards, a common understanding of human rights and preservation of cultural identity in the homogenized world.

Globalization, as an independent variable, produces a variety of changes and responses in different societies. Thus, the status and trends in the field of employment and unemployment are determined by global labor flows in the economy of any country. However, they express the content of economic and political measures to be taken, both in the field of economic development, employment policy and labor. From the perspective of economic development, unemployed labor force is untapped economic potential to be exploited using different measures of development policy. On the other hand, unemployment of labor force - particularly if it is high causes a number of social, demographic and political consequences of contemporary society where everyone has to care about. Therefore, solving the problem of unemployment of labor has different aspects: economic, social, demographic, political, and others. They are all interconnected and conditioned, and their center is the use of labor as a factor of development.

High unemployment in Serbia is caused by low levels of economic development and the economic reforms carried out in recent years. The labor force remains under-utilized development potential, which leads to many social problems in the society. Such unemployment is unsustainable, both from economic and social reasons, but also because of the Euro-integration process in which Serbia entered.

Macroeconomic trends in transition

In the late 80's, as a federal unit of the former Yugoslavia, Serbia was a medium industrialized country, with about \$ 3000 of GDP per capita, where the unemployment rate of labor was relatively economically and socially acceptable. The industry had a dominant position in the economic structure, and therefore in the structure of employment. However, between the ends of the eighties of the last century coincided with major changes: a decline in production and major changes in its structure, a large foreign trade deficit, rising unemployment workforce, reduction in the standard of living, etc. In some years of that time a decline in gross domestic product was noted: in 1992. - 27.9% in 1993. - 30.8% in 1999. - 19.3%. In those same years, there has been a large reduction in industrial production. In following years in the same order, the reduction was noted: -30.6%, -38.2% and -33.0%. Such a reduction in gross domestic product and industrial production was a hurricane attack to the Serbian economy, the consequences of which will have to be treated for a longer period of time.

At the beginning of this decade, there was a major change in the political and economic development of Serbia. Internal political changes that have occurred in 2000th provided the new position of Serbia in relations with the West, international organizations and institutions. From the phase of confrontation to the world, Serbia crossed in the stage of cooperation on new grounds and with new goals. This has created the conditions for a new macro-economic policy in Serbia, whose main tasks were raising and acceler-

ating the process of economic development. The basis of the policy was of political and economic system and the inclusion of the country in Euro-integration processes.

Generally, under the new conditions, there was an evident gradual economic recovery in Serbia. However, closer analysis of economic trends in individual sectors of the economy, leads to conclusions that are not in agreement with this assessment. There have been large fluctuations, economic and systemic-economic and political changes that have affected the corporate sector. A decisive influence on the trends in this sector was the privatization and investment growth.

The process of economic recovery and development of Serbia, apparently, is not going the desired dynamics. It is still very strong instability of developmental processes in key sectors of the economy: agriculture, industry and construction. In addition to affecting the overall pace of economic growth and development, such movements have a particular impact on the growth and structure of the labor employment and the possibility of solving unemployment. This process takes place parallelly with the rapid change in social development and operations of the economy that have a transitional character. Privatization of SOE's and entering into the process of European integration are two very important activities, because they create a new social environment of which will largely depend future flows of economic development in Serbia.

In the transitional market conditions, entrepreneurship is also emerging as one of the prerequisites of development and development opportunities with a clear goal and outcome of privately owned property and the suppression of other forms of property to be less efficient and less innovative. The transition caused by private enterprise tends to achieve steady growth and development through innovative business that strives to constant growth and progression. Entrepreneurship as the transition period must be offered to contribute to strengthening the organization and efficiency of the market, competition and aspirations called steady growth and development.

However, Serbia still can not be listed into developed countries in transition. The process of transition changes in our country is not yet finished. It should be noted that the transition is not a goal to itself, but that it needs to create conditions for economic expansion.⁴ These changes will certainly lead to economic growth and development, and resolving some of the economic and social problems, particularly those in the area of employment of labor.

Position of entrepreneurship in the privatization process (transition through ownership transformation)

Privatization, as one of the strongholds of the transition was not painless, and in this region lasts practically too long, leaving behind too many unresolved issues, shortcomings and failures, and the spirit of entrepreneurship that is not encouraging at all.

When the process of privatization of socially owned enterprises started, it was calculated that it would have a less impact on the growth of unemployment. The assumption was that the privatization of those companies and the development of entrepreneurship,

⁴ Golubović, N., „Politika tranzicije i razvojna strategija - koje pouke Srbija može da izvuče iz iskustva ostalih tranzicionih privreda“, Theme, No. 4, october-december 2002.

would lead to the creation of new jobs rather than creating a number of redundancies. However, the problem of unemployment proved to be more complex, than previously assumed. The main reasons could be found in the inability of privatized companies to quickly launch their business activities and restructure their operations (adapt it to the market demands), etc. Apart from a few exceptions (large and attractive market companies, such as tobacco factories, cement factories, brewery, etc..), a number of other privatized companies are not investing in new production and new jobs, and instead of hiring new workers without jobs they stayed without existing work force.

It is obvious that the manner and the policy of conducting the privatization of SOEs, especially in industry, did not take care of ability of the new owners of these companies to invest in their development, in order to achieve greater and faster impact on labor employment and production development. Privatization procedures are often accompanied by lengthy litigations, which was the reason for extending agony of the workforce. On the other hand, the ratio of their customers based on commitments in terms of investment, new technologies and organization, restructuring of production processes etc, stayed with no serious government control and effective measures to fulfill given obligations. For these reasons, a considerable number of privatized enterprises continued business and development agony after privatization. These facts were fundamental reasons why the process of privatization of socially owned enterprises, rather than to allow faster growth in employment and production, yet led to unemployment of the workforce.

It is characteristic that with a high degree of certainty can be derived that practically all economic actors in the transition process appear to have obvious problem with the number and structure of employees. In this regard, the legal framework has shown deficiencies and did not allow the new owners to properly adjust the number and structure of employees with the basic objectives of its business concept and for employees to fulfill their legal security to greater extent. It has led the quality human resources to crumble as a redundancy due to the mass principle for the new owners of privatized enterprises to transform the company into real estate where the business activity does not continue, shutting off with their jobs. In this way, hundreds of thousands of employees lost their jobs or their jobs put at risk. For these reasons, a considerable number of privatized enterprises continued business development and agony in the aftermath of privatization. In fact there are fundamental reasons why the process of privatization of socially owned enterprises, rather than to allow faster growth in employment and production, yet became generator of unemployment of the workforce.

The Graph 1 below shows a drastic drop in the number of employees of private entrepreneurs challenged by the conditions of the economic environment in the country.

Graph 1: Employees - private entrepreneurs and their employees



The role of law is to contribute to the necessary process of transition taking place in accordance with the objectives of the transition, with minimal social upheavals in scale and intensity, which in our case was not satisfied. So the question is, in which way legal decisions went to meet requirements set in transitional demands, i.e. did it manage to provide the basis for an employer in a company in which the ownership changed to meet its obligations towards its employees, while also organizing the process of work based on the principle of economic efficiency and entrepreneurial goals.

The fact is that in the countries in transition, in the long term, employment is viewed primarily as a social and secondly as an economic category. One of the main characteristics of this type of economy and denying the market rules are manifested in existence of the apparent, economically unjustified employment. In other words, in this way, regardless of market criteria, the problem of employment was solved, but the long-term economic consequences were very bad: almost all the jobs was performed by much larger number of employees than necessary, while productivity and efficiency were below any acceptable level, with the complete lack of motivation of employees, valuable but unused human resources, as shown in the Graph 2.

Graph 2 Data on the efficiency of Serbian companies from 2006.-2010.

Dark Blue - turnover of small private enterprises
Intermittent dark blue – Turnover large companies
Light blue - gross value added of small private enterprises
Intermittent Light blue - gross value added of large companies
Red – Profit - small private enterprises
Intermittent red - large companies



Source: Ministry of Finance of the Republic of Serbia, www.mfp.gov.rs⁵

From the very beginning of the transition process, in all countries in transition, the apparent employment was a major problem, and the method of its solution in terms of employment and human resources usability was the biggest challenge.

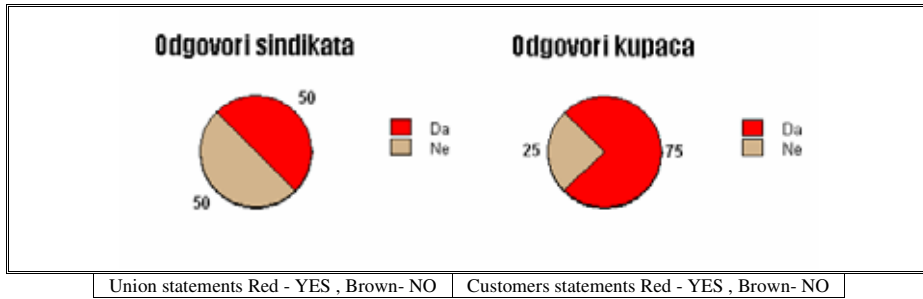
Considering that because of well-known events in our region, the transformation was evidently stalled, now we face with the problem of objective redundancy in all types of functioning of the economic system.

At this point, we can say very opposing views on the causes and consequences of the emergence of a large number of unemployed persons in the sense of the privatization process consequences. Also, we are facing with a big problem of un-motivation of entrepreneurship as the only solution in this economic environment.

⁵ Ministry of Finance of the Republic of Serbia, www.mfp.gov.rs

According to the union, dismissal of employees was mainly the result of misuse of new employers, while employers and economic analysts approach to this problem from an economic point of view, justifying such behavior with rational considerations that are often not acceptable and reasonable.

Graph 3 Hiring new employees - Project Svillupo



These conflicting attitudes always induce caution because certainly there are a number of new business owners who dismiss employees without clearly defined standards and criteria, which largely reflects on the result of the concept and implementation of privatization in our country.

Therefore, it must be noted the fact that a dominant number of social enterprises had objective redundancies at the time of privatization, and that any prudent businessman, in order to increase productivity, would first rationalize the workforce. From this reason we can determine that the workforce is not viewed as a creative entity, but as a bunch which could be cut as surplus to resolve the burden.

Contradictions presented, are mainly the result of the current situation. However, it is very likely that they result from major deficiencies of legal regulation and inconsistency in control of the implementation of the privatization process, but also in the background of the entrepreneurial capital.

Both views are based on the arguments. First, new employers are not controlled in part with the legal provisions governing the status of employees who lose their jobs as part of the social programs, in part of the severance payments, severance paid not rationally used (for the purpose of solving the employment of persons who have lost their jobs), which results with huge amount of money spent for a irrevocably purchase of consumer goods, and not with the creation of an entrepreneurial center and use of knowledge of available human resources, capital and invaluable experience.

Innovation as a key factor in the transition process

Real economic drivers are the knowledge and new developments, i.e. to penetrate new knowledge to the market. Innovation creates demand for new capital, and general, structural innovations are providing equity value.

Previous development of business awareness recognized the specific gravity and importance of the quality of knowledge as well as the usage of this knowledge and

specific experience to design, launch and create business opportunities and the successful result of ideas. Such ideas are heavily based on business intuition and willingness to fight for market, introduce innovations to the market through the entrepreneurs in a new or different way than others. Innovations in this regard through their interaction offer widely preferred options in the market.

Innovations come in different sizes and shapes. From time to time, really big waves of innovation sweep the society and create a discontinuity - a breakthrough - in the development of knowledge. Such fundamental innovations generate new economic activity with a huge amount of new products, they tend other activities to disappear, due to changes in total demand and produced radical changes in the production process in almost all other industries.

Innovation increases welfare. In the global economy, countries need to innovate constantly in order to maintain the standard. Status quo inevitably leads to poverty. This is exactly what makes big differences between rich and poor. The better you understand it, is more likely to help poor nations to escape from their situation.

Kind of transition we are exposed to a number of years resulted in a large number of owners of small and medium enterprises operating in severe conditions and poor business environment and comply entrepreneurs to have the vision, the knowledge and skills, but also to turn their vision into practice in a sense of production.

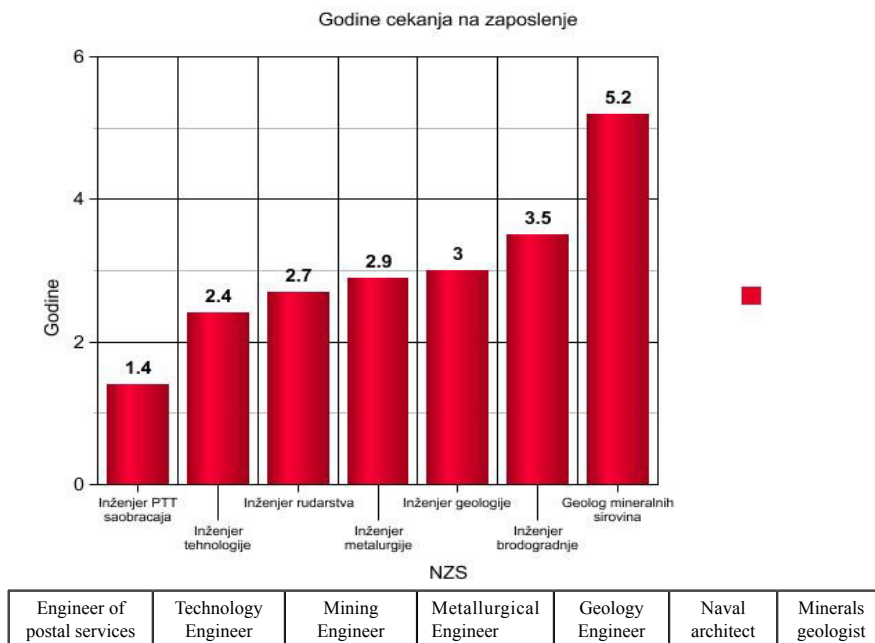
Entrepreneurship therefore offers constant innovation of production and organization in order to the continuously increase efficiency and reduce business risk in order to maximize profits.

The success of entrepreneurship and entrepreneurs shows the liberation of the human resources to create their own culture and business environment of companies and organizations to which they belong, leading their entrepreneurial talent to the continuous development and progress as a basis for economic development of society and economy in general.

The global economy can be seen as a kind of pyramid - hierarchy of knowledge – in which those who continually invest in innovation remain at the top. It seems that today's society allocates just one value, over whose importance there is no collective consensus, and it is believed that the development of science and technology can provide a better future for mankind.

In recent years, noticeable is increase of unemployment among those with no education, but also among those with a higher education who often have decades of experience. This indicates that our economic environment does not show a growing need for skilled labor, which can be connected with skipping the process of modernization of technology, and thus the labor force and in the privatized enterprises in general.

Graph 4 Faculty educated workforce on the National Employment Bureau waiting for employment



Source: Magazine Politika, www.politika.rs, 27.02.2011.⁶

A tendency is absent to adapt technological development in the privatized enterprises, increasing the lag in relation to the criteria of highly developed markets, all of which leads to less need for skilled labor and the application of knowledge of available human resources in the labor market.

The applicability and the real needs for specific skills of these categories are, in the context of the changed market environment, main problems in our labor market, because our education system for decades does not track the actual market demand for labor. This is why it goes wrong way, and our competent employment services and the state, under pressure of realistic staffing needs, take on the responsibility for finding and creating conditions for employment of persons without qualification (eg, public positions, etc..) which is not a systematic solution to the problem, but relative, offering skilled workers with unskilled jobs, which slowly destroys the knowledge and capacity of available human resources.

Certainly such resolving of unemployment issues is not how it should be on the market and has to be temporary, but apparently there is no strategy that would substantiate it. Therefore, there remains a need for further reform of the education system and its harmonization with the needs of the labor market, which would not accompany the needs of the market and the market itself, according to the speed of reforms.

⁶ Politika, www.politika.rs, 27.02.2011.

So absurd appears for having continuously growing number of unemployed people develops, with work experience and educational qualifications, and reducing the number of unemployed persons seeking work for the first time and who have no work experience.

It is clear that the rationalization of the workforce in privatized enterprises had to lead to the termination of employment of a number of people for organizational, economic or technological changes (redundancies), but those changes were not followed by the state creating an environment that would absorb and redirect the knowledge and experience where needed. So employees lay off after 20-30 years of service, which significantly complicates the overall future employment and retraining and it becomes a burden for the state, which cannot create and organize appropriate mechanisms to solve problems.

This situation causes permanent workforce difficulties in re-employment, and of course the budget burdened by the funds for compensation for the redundancies, constantly allocating significant funds, which again does not contribute living capital to create new value, but only passive mass caseload burden to the state.

Privatization, as the core part of the transition process with its every mistake in the initial steps always has grave consequences for the social status of a large number of individuals, primarily because of a sudden shift from politically regulated economy to market economy, which also means losing jobs for employees who by energetic state action must immediately be returned into the system while “fresh” and still keep up with work habits and general technological development and the necessary knowledge.

Therefore, it is reasonable to expect that the long-term impact of privatization on the labor market and the economy in general will not be good, because of the absence of increase in economic activity, attracting foreign investment and involvement in the international labor market that could eventually lead to the opening of a number of work places, and thus a tangible improvement of the overall situation, which could be seen from the following table, showing the comparative trends in the number of employees at the national level.

Table 1 Comparative change in the number of employees in the period Oct. 2008. – Dec. 2010 in 000 of employees

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
2008.										1,994	1,991	1,990
2009.	1,983	1,981	1,860	1,856	1,849	1,845	1,842	1,835	1,867	1,864	1,861	1,857
2010.	1,851	1,846	1,817	1,815	1,813	1,811	1,808	1,806	1,775	1,773	1,773	1,771

Economic growth, investment and unemployment

Trends in macroeconomic developments and in the unemployment sector in Serbia last year are apparently at odds. The problem of unemployment in Serbia reached the limit of economic and social endurance. A trend in the sectors of employment, that is unemployment, in the last decade is not in accordance with the economic growth and development and does not express, in full, its trends. This condition requires that the

increase in labor employment to a special attention results in measures in a relatively short period of time which would yield with positive results: for the start an immediate termination of growing unemployment, and later its final reduction.

Analysis of economic growth and development, as well as rising unemployment, clearly shows two problems that affect the growth of unemployment. The first refers to the condition and development problems in the industry that had, until a few years ago, the largest share in employment. Continuous decline in industrial production and its slow restructuring has a negative impact on economic development and the increase of unemployment⁷. The second considers the reform of the economic system and current economic policy, with special emphasis on the process of privatization of socially owned enterprises. In this context, it is particularly small contribution of privatized part of the economy to the employment so far, in most cases, contributed only to the increase of unemployment. Last years had no effective measures for development of the labor market and economic policies in order to increase employment. Almost alarming state of unemployment in Serbia and the consequences caused by requires urgent measures and activities in many areas of economic and social life. Among the most important are the measures and activities related to the economic development of the country - the structure of the development and changes in the system and employment policy.

The basic condition for the acceleration of economic development, and therefore increase the employment of labor in Serbia is the increase in the volume of investments. The low level of investment is our reality for years, and as a consequence, slows economic growth, technological obsolescence and high unemployment. By the amount of funds for investment in gross domestic product Serbia is still lagging behind other countries in transition. For this purpose, it is necessary to change the current policy of macroeconomic distribution, but also take more account of the accumulation of domestic savings and investment as long-term sources. Reducing the tax burden, stimulating savings - its development of new forms appropriate to market economy and securing monetary stability in the country are the most important activities in this direction.

In recent years the state has made large privatization revenues and income from foreign investments. A large part of this revenue is made for investment. Structure of investments from this fund is such that most of it is invested in economic and social infrastructure: road construction and reconstruction of health facilities, education and culture, the construction of infrastructure in the tourism industry and utilities. Investments from these sources directed in the revitalization of production are relatively small. The effects of these investments on the employment of the labor force are mostly short-term – achieved by the growth of employment in the construction industry and its related industries. The long-term significance of such investment structures is reflected in the fact that it creates a more solid infrastructure investment environment for foreign and domestic investors.

In order to increase global investment in recent years Serbia worked hard to attract foreign investment. Realized FDI was largely achieved by sales of state and socially-owned enterprises and banks, and to a lesser extent Greenfield investments. This structure in the long term is not sustainable for the simple reason that the attractive companies

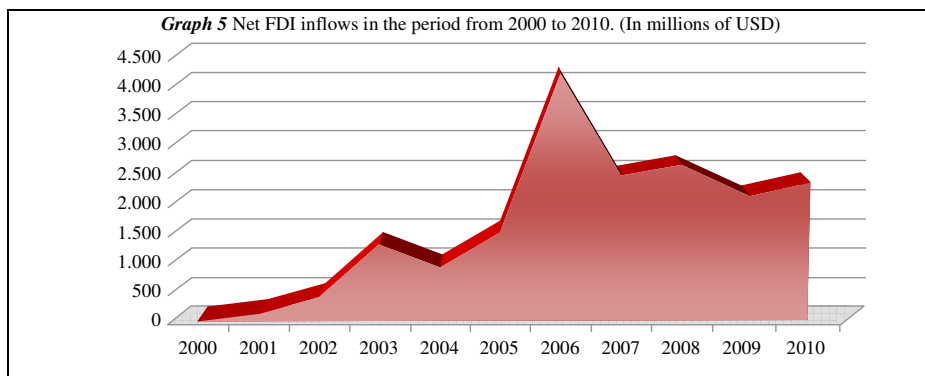
⁷ Reinert, E., „Globalna ekonomija: kako su bogati postali bogati i zašto siromašni postaju siromašniji“, Čigoja štampa, Beograd, 2006.

and banks for sale to foreign customers is less in time. This means that future policy in this area need to ensure changes in the structure of foreign investment in favor of Greenfield investments. But there is an important question. Which Greenfield investments are desirable for the Serbian economy? Certainly, not investments in large retail chains offering foreign goods to the domestic market. Such investments generate profits using the Serbian market, and contribute little to the labor employment and supply of the domestic market of consumer goods. It puts additional pressure on the import of consumer goods and often with a system of monopolies and unfair competition, and stifle domestic production. Of course, such imports have a negative effect on the trade balance of the country. In a long term, Serbia needs Greenfield investments in the export sector of the economy which would contribute to greater use of domestic resources - including labor and employment, and through exports to increase export earnings, and more lasting impact on the balance of trade balance of the country. The policy of attracting foreign investment should go in the direction of their increase in industry, agriculture, construction, services etc.

Table 2 Number of Greenfield FDI projects from 2004-2011.

	The World as a Source							
	2004.	2005.	2006.	2007.	2008.	2009.	2010.	2011. I-IV
Serbia	2	-	7	2	15	9	13	1

Source: UNCTAD, www.unctad.org/templates, 16.09.2011.⁸



Source: NBS, Department of Economic Analysis and Research, Department of Payments Statistics, www.nbs.rs⁹

In addition to the volume of investment, the greater and more rapid reduction of unemployment in Serbia, the most significant is the structure of investments. From this point of view, it should not just be the result of uncontrolled action of the market, but

⁸ UNCTAD, www.unctad.org/templates, 16.09.2011.

⁹ NBS, Sektor za ekonomske analize i istraživanja, Odeljenje statistike platnog bilansa, www.nbs.rs

also the result of the action of development policy. Returning to priorities of investment in the manufacturing sector (industry and agriculture), would make possible use of the potential we have for development, greater long term stability and development of the production sector of the economy that makes basis for future development of the service sector, and involvement in the international division of labor.

When it comes to investments and development of agriculture in function of employment of labor, it should be noted that the contribution of this activity would be very frugal in the future. Serbian agriculture needs large changes in the organizational, technological, human resources and other aspects. The current state of fragmented, technologically outdated, disorganized and lack of the modern way of market-oriented production must be overcome.

The rapid economic growth and increased employment of labor are the main directions of action against poverty. In Serbia, the problem of poverty is very strong and is mainly caused by unemployment and low wages. Unemployment and poverty in Serbia have a pronounced regional dimension. Seen from this point of view these problems are far more pronounced in the southern and eastern Serbia, as well as in some municipalities of Western Serbia and Šumadija. The process of transition and the process of de-industrialization have led to the unemployment rate of working age population increase rapidly, and with it the poverty of the population in those areas. As a result, we have accelerated the process of depopulation of these areas, and increased emigration of population towards Belgrade and other major cities in Serbia and abroad. These problems require more active and more comprehensive regional development policy in Serbia, with more rapid growth in employment of labor in underdeveloped areas.

Unemployment and European integration

The strategic goal of Serbia is to join the European Union and other European associations. On the way to this goal it is necessary to make a number of changes in the political and legal system, economic policy, the justice system and other areas of social life. In all these areas it is necessary to accept the standards and policies of the European Union.

In the last decade, the basic characteristics of an unstable environment were unfavorable makro-ekonomik parameters, such as unstable currencies, hybrid banking system, a huge long-term foreign-trade debt and no transparency in business and financial flows. The result of such an approach is creation of a general unfavorable investment climate that is primarily manifested through poor economic, legal and political organization of government institutions in the country. In order to overcome such a situation, it is necessary to prove that Serbia has not only desire, but also a sincere intention expressed by taking concrete actions, the ability to reform the legal and economic systems, as well as creating a favorable environment for foreign investors and their capital, as order to enable the possibility of their investment.

A particularly important part of the process of European integration of Serbia refers to its economic development and solving the problem of unemployment of labor. In both areas Serbia is far behind the EU and its member states individually. This means that in the process of approaching the most important European association it is neces-

sary to raise the level of economic development and reduce unemployment of labor. This is a very important activity that Serbia needs to provide a more favorable position in relation to other EU members at the time when it becomes its full member. In solving these problems Serbia already uses the help of the EU and other European associations. Only after Serbia will join the EU, it would realize the full access to needed EU development funds.

Table 3 shows exactly how Serbia and other countries are lagging behind in the transition process to the EU.

Table 3 The unemployment rate (%)

Year	B&H	Croatia	MNE	Serbia	Kosovo	Turkey	EU27	Bulgaria	Greek	Romania
2005.	44,7	17,9	18,5	21,8	41,4	10,2	8,9	10,1	9,5	7,2
2006.	44,2	16,6	14,7	21,6	44,9	9,9	8,2	9	7,7	7,3
2007.	42,9	14,8	11,9	18,8	43,6	9,9	7,1	6,9	8,3	6,4
2008.	40,6	13,2	10,7	14,7	47,5	11	7	5,6	8,9	5,8
2009.	42,7	14,9	11,4	17,4		14,1	8,9	6,8	9,9	6,9
2010.		11,5				13,9	9,7	7,9	11,8	8,5
2011.		11				13,4	9,8	7,3	13,2	7,9

Source: Database of National Department of Statistics, www.comtrade.un.org¹⁰

It is unrealistic to expect that the process of assigning and eventually EU membership itself allow solve the problem of unemployment in Serbia. The European Union has its own principles and policies to tackle unemployment, but also requires countries - especially those who are preparing to join, to maximize their engagement in order to achieve their unemployment to be in “acceptable limits”.¹¹

The strategic approach to solving the problem of unemployment of labor in Serbia, especially in the area of attracting foreign investment and its eurointergrations, raises the special importance to its competitiveness in labor costs and the level of wages. This raises the question of whether Serbia has a cheap labor force and whether it could be its long-term competitive advantage in these and other international relations. In reality, the economic situation in Serbia is such that the level of wages is relatively low.

The new position of Serbia in international economic relations, based on global liberalization is important for employment and labor. It provides opportunities to our workforce to employ in an organized manner, temporarily or permanently abroad in most industrialized countries and in developing countries and countries in transition. While most countries in Western Europe have problems with their workforce employment, job opportunities in certain occupations and skills exist for our work force in these countries.

¹⁰ Database of National Department of Statistics, www.comtrade.un.org

¹¹ The EU has adopted a strategy of employment (The European Employment Strategy), which is part of the political program that the Union launched the 1997th in Luxembourg, and confirmed in 2000th in Lisbon. The main idea of the policy has been implemented in this area: Employment is the best barrier to poverty and social problems. The European Employment Strategy sets the framework for the EU members, and the main points of the program include: 1) improvement in employment and quality of work, 2) the development of entrepreneurship, 3) adjustment fostering relationships between businesses and 4) strengthening equal opportunities policies

Conclusion

What is the position of Serbia in relation to future trends of globalization and the transition? Lost time, both in relation to these two comparative processes turned their cost. Is it going to stop there, or despair indefinitely, depends on whether there is an awareness that globalization and the transition are caused by objective laws, and not one's arbitrary, and whether it should meet these flows, introducing liberalization and free markets as a part of the modern world, or Serbia will remain an isolated island, where poverty, corruption and social conflicts would reign?

High unemployment in Serbia is one of the major economic and social problems at this stage of its development. It expresses the negative macroeconomic trends in the development of the country, but it is also an expression of rapid transitional changes. A major impact on its growth had been sluggish economic recovery, development, status and trends in the industry, as well as the privatization of SOEs.

Given the consequences that entails, high unemployment can not be tolerated. From the economic point of view it is an untapped economic potential that can be used to accelerate growth and development, and in terms of domestic consumption and domestic markets, a factor that reduces their volume and size. Taking into account both of these aspects, the complete use of labor as a development potential to contribute to the economic revival of Serbia should lead to a better position to solve social problems.

Condition in this area requires urgent measures and activities to be taken in a short period of time in order to increase employment and reduce unemployment. These measures are primarily related to the acceleration of the growth and development of the economy and the continued restructuring of the labor market and labor employment system reforms. Among development activities, increase of the volume of investments and appropriate structuring, are at the very top of the agenda. Directing investment, especially through the system and the structure of foreign investment towards the production activities (agriculture and industry), would allow faster employment growth. This may significantly contribute to the encouragement of all forms of entrepreneurial activity and development of small (family) businesses. It is also a way to put into the function more domestic sources of investment, economic development and employment growth.

Serbia is in the process of European integration, with the ultimate goal of becoming an EU member. Speed and results of this process to a large extent depend on solving the problems of economic growth and unemployment. The low level of economic development and high unemployment are not good recommendations for EU membership. Therefore, it is necessary to accelerate the European integration through solving these problems in Serbia. Help in that direction provided by the EU and other European institutions, should be maximally used. Of course, one has to accept the standards and policies with the essence that "employment is the best dam to poverty and social problems." For Serbia, at this stage, reducing unemployment means preparing for faster access and equal status in the EU.

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STRATEGIC PROJECTS FOR DEVELOPMENT OF GAMZIGRAD SPA

Abstract

Choosing and ranking projects are complex tasks in business operations. Ranking of projects considers Multiple-Criteria Decision Making as a very popular way to support decision makers. This paper deals with proposed projects for development of the tourist resort of Gamzigrad spa in Eastern Serbia and its thermo-mineral wells. The projects are ranked by application of the ELECTRE method and by application of the AHP method, as ancillary method to determine the weights of criteria.

Key words: project ranking, MCDM, ELECTRE I method, AHP method, Gamzigrad spa.

JEL Classification: Q00

СТАРТЕГИЈСКИ ПРАВЦИ РАЗВОЈА ГАМЗИГРАДСКЕ БАЊЕ

Апстракт

Рангирање пројеката, односно развојних праваца представља комплексан задатак пословних подухвата и операција. Методе Вишекритеријумског Одлучивања (MCDM) се често користе као подршка доносиоцу одлука. У раду је акценат стављен на рангирање стратегијских пројеката за развој Гамзиградске бање, места у Источној Србији. Пројекти су ранжирани ELECTRE методом, као главном и АHP методом приликом одређивања тежине критеријума, као помоћном методом Вишекритеријумског Одлучивања.

Кључне речи: рангирање пројеката, MCDM, ELECTRE, АHP, Гамзиградска бања.

Introduction

The Gamzigrad spa is one of the important Serbian marketing destination. Marketing is the sum of the activities that are used to direct the flow of goods and services from producers to consumers (users, customers, clients).² Great potential for development

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² Simonović Z., Miletić S., Miletić V., Uloga i značaj marketinga u svremenom poslovanju, *Ekonomika časopis* 3/2012, 93-101 str., Niš, 2012

of both marketing and protection of natural values lies in using up renewable energy resources³. The paper presents the possibility of finding adequate solutions for strategic selection between several projects for development strategies, applying the ELECTRE method, as major and AHP method as ancillary method to determine the weights of criteria. The concept of the paper was done as follows: in the part of introduction it is given a brief overview of the problem of decision-making, then in the second part of paper it is explained Multiple-Criteria Decision Making and it is theoretical presented the ELECTRE method. After that, it is explained application of selected method that is used for ranking optimal projects of Gamzigrad. Finally in the section of conclusion, it is given recommendation for the final selection of projects.

Multi-Criteria Decision Making - ELECTRE method

Multi Criteria Decision Making (MCDM) is one of the most well known branches of decision making. According to many authors, such as Zimmerman, MCDM is divided into Multi-Objective Decision Making (MODM) and Multi-Attribute Decision Making (MADM)⁴. MODM studies decision problems in which the decision space is continuous. MADM concentrates on problems with the discrete decision spaces. The concept of MCDM refers to situations when there is making a number of conflicting criteria. However, MCDM has its bad side, that is the need to use much more complex mathematical models for solving multi-criteria problems⁵. The ELECTRE method (**E**limination and **E**T Choice Translation **R**eality) was made up by Bernard Roy, 1971. There are a few versions of this method⁶. ELECTRE I is used for determining partial order of alternatives, while the ELECTRE II method is used for complete arrangement of the assembly of alternatives. The ELECTRE III and IV are the methods of higher rank. To select the ELECTRE I method for evaluating the projects for development of Gamzigrad spa, a number of specific factors were influential. For the start, preferences in ELECTRE methods are modelled by using binary outranking relations, S , whose meaning is “at least as good as”. Considering two actions a and b , four situations may occur (Salminen, Hokkanen, Lahdelma, 1998):

1. aSb and not bSa , i.e., aPb (a is strictly preferred to b).
2. bSa and not aSb , i.e., bPa (b is strictly preferred to a).
3. aSb and not bSa , i.e., aIb (a is indifferent to b).
4. Not aSb and not bSa , i.e., aRb (a is incomparable to b).

At the very beginning of a process of ELECTRE method, it is necessary to define the initial decision matrix. The general form of the initial decision matrix is shown on

³ Magdalinović N. (2007), *Upravljanje prirodnim resursima*, Inorog, Bor, 2007

⁴ Zimmermann, Niklaus E. Kienast, Felix, Predictive mapping of alpine grasslands in Switzerland: Species versus community approach, *Journal of Vegetation Science* 10: 469-482, 199 © IAVS; Sweden

⁵ Nikolić M (2009), *Metode odlučivanja*, Univerzitet u Novom Sadu, Tehnički fakultet „Mihajlo Pupin, Zrenjanin

⁶ Roy B. (1968), Classement et choix en présence de critères multiples (la méthode ELECTRE), *RIRO*, 8, 57-75.

table 1. Beyond that, it should be quantified matrix via the linear scale. The linear scale usually has values ranging from 0 to 10 for estimating the importance of criteria. In the paper, the following grades of criteria are used: 1- very low , 3 – low, 5 – average, 7 -high and 9 –very high.

Table 1 - General form of the initial matrix

Criteria	C ₁	C ₂	...	C _n
Alternative				
A ₁	X ₁₁	X ₁₂	...	X _{1n}
A ₂	X ₂₁	X ₂₂	...	X _{2n}
A ₃	X ₃₁	X ₃₂	...	X _{3n}
...
A _n	X _{n1}	X _{n2}	...	X _{nn}

The first step involves calculating normalized decision matrix via adequate formulas (3, 4) by which normalized elements are calculated. The formula 3 is applied to the attribute of type max, while the formula 4 is applied to the attribut of type min. Each element of a vector columns from the normalized decision matrix, is divided by its norm⁵.

$$n_j = \frac{x_j}{\sqrt{\sum_{j=1}^m x_j^2}} \quad (3)$$

$$n_j = 1 - \frac{x_j}{\sqrt{\sum_{j=1}^m x_j^2}} \quad (4)$$

The general form of normalized decision matrix is shown in table 1.1.

Table 1.1- General form of normalized decision matrix

n ₁₁	n ₁₂	...	n _{1n}
n ₂₁	n ₂₂	...	n _{2n}
...
n _{m1}	n _{m2}	...	n _{mn}

The second step involves calculated weighted normalized matrix, where the decision-maker actively participates in the procedure of solving the problem by determining the preference, that is the weight of user's criterion (formula 5)⁷. The general form of weighted normalized matrix is shown on table 2.

$$N = T \bullet N \quad (5)$$

⁷ Mitevska N. (2005), *Terija odlučivanja*, Tehnički fakultet, Bor 59-69.

Table 2 - General form of weighted normalized matrix -TN

$t_{1n_{11}}$	$t_{1n_{12}}$...	$t_{1n_{1n}}$
$t_{1n_{21}}$	$t_{1n_{22}}$...	$t_{1n_{2n}}$
...
$t_{1n_{m1}}$	$t_{1n_{m2}}$...	$t_{1n_{mn}}$

In the paper, it is the section where the Analytical Hierarchical Process (AHP) method is applied, so that by comparing in pairs, on the basis of opinion of three experts, it is possible to get more exact determination of criteria weights. The AHP method was developed at the start of the 1970's, by Thomas Saaty (Saaty, 1980). It is a useful tool in decision-making analyses at solving problems in which a pretty large number of decision-makers participate⁸. The third step of the ELECTRE method, there are determined the assemblies of agreement and disagreement. This step compares all pairs of the analyzed actions on the basis of value of elements from weighted normalized matrix⁶. There, we compare the pairs of actions p and r . Firstly, it is determined the assembly of agreement S_{pr} for the actions a_p and a_r (actions mark the alternatives), made up of all criteria, for which the action, or alternative a_p is more desirable than the alternative, or action a_r , that is shown in formula⁶.

$$S_{pr} = \{j \mid xp_j \geq xr_j\} \quad (6)$$

Then, it is formed the complementary assembly of disagreement – NS_{pr} , by using the following formula⁷:

$$NS_{pr} = J - S_p = \{j \mid xp_j < xr_j\} \quad (7)$$

In the fourth step, it is defined the matrix of agreement on the basis of the assembly of agreements. The elements of the matrix of consent are the indices of agreement, and they are calculated as a sum of weights of criteria belonging to certain assemblies of agreement. Based on the assembly of agreement, it is determined the matrix of agreement MS. For calculating the values of the matrix, it is used the formula⁸:

$$S_{pr} = \sum_{j \in S_{pr}} t_j \quad (8)$$

The fifth step refers to determining the disagreement matrix on the basis of the assembly of disagreements. The elements of the matrix are the indices of disagreement, determined by the formula⁹. The element of weight normalized matrix in the formula is marked as

$$ns_{pr} = \frac{\max_{j \in NS_{pr}} [tn_{pj} - tn_{rj}]}{\max_{j \in J} [tn_{pj} - tn_{rj}]} \quad (9)$$

In the sixth step it is determined the matrix of agreement domination, on the basis of the value of so-called threshold of agreement index (the average index of consent) -

⁸ Cupic M., Tummala R. (1997), *Savremeno odlučivanje: metode i primena*, Fakultet Organizacionih nauka, Beograd

which can be also defined as average index of agreement - **PIS** (10)⁴.

$$PIS = \sum_{p=1}^m \sum_{r=1}^m \frac{S_p}{m(m-1)} \quad \text{where } p \neq r \quad (10)$$

The matrix of disagreement domination (step seven) is calculated on the basis of the average index of disagreement, as it is analogous to the matrix of agreement domination⁹. First, it is calculated the average index of disagreement – PINS (11)⁴.

$$PINS = \sum_{p=1}^m \sum_{r=1}^m \frac{D_p}{m(m-1)} \quad \text{where } p \neq r \quad (11)$$

The step eighth determines the matrix of aggregate domination. The elements of this matrix are equal to the product of the elements on definite position in matrices of agreement and disagreement domination (12) (Mitevka, 2005).

$$mad_{pr} = msd_{pr} \bullet mnsd_{pr} \quad (12)$$

Finally, in the ninth step, less desirable actions are eliminated, while one or more alternatives is/are sorted out as most desirable. The matrix of aggregate domination gives partial preferred order of actions. Therefore, the ELECTRE method I provides a partial order of actions¹⁰.

Ranking projects of Gamzigrad applying the ELECTRE method

Gamzigrad spa is the little village of termomineral well, settled in Eastern Serbia. Taking into consideration degree of utilization of the existing facilities, we should point the fact that business operations of Gamzigrad spa is based on relatively modest capacities of a hotel „Kastrum“. This paper emphasizes the choice of the best alternatives at making adequate decisions for the development of the geo-thermal well, as a renewable energy resource. To make good possibilities for future development of the Gamzigrad spa, a group of experts made up a list of projects, that could be acceptable relating to financial and other criteria. The following five development projects have been defined and accepted: Health tourism, Sport tourism, Recreational tourism, Rural tourism, Congress tourism. Each project or the alternative for future development strategy, was defined by its attributes, that is, appropriate criteria. After talk with the Management team, the following five criteria (with some attributes shown in brackets) were defined for evaluation of the projects:

1. FI financial investments (investments in Euros – 200,000)
2. EN (the environment)- (the influence on resources and approach to resources) – maximum care for the environment.

⁹ Cupic M., Tummala R., Suknovic M. (2001), *Odlučivanje : formalni pristup*, Fakultet organizacionih nauka, Beograd

¹⁰ (Adamovic et al, 2008)

3. SD (solution delivery) – relating to subsequent appropriate solutions if initial ones are not adequate (proof of technology, uncertainty, if benefits are measurable)- expressed in Euros – 250,000.
4. SC (strategic contribution) (the contribution of the business plan for Gamzigradska Banja and its surroundings) – it was estimated that maximum is necessary.
5. RM (risk management) it is necessary to lessen risk to its minimum.

Table 1.2 - Values of criteria and project

Criteria	F	SD	SC	RM	EN
Project	min	min	max	min	max
Healthy (P₁)	200,000	250,000	high	average	v. high
Sports (P₂)	70,000	90,000	v. high	average	high
Recreative (P₃)	60,000	70,000	v. high	low	v. high
Country (P₄)	120,000	140,000	high	low	high
Congress (P₅)	40,000	60,000	high	low	v. high

The table 1.2 shows the values of five projects and five criteria that were using for selecting optimum development project of Gamzigrad. Majority of criteria were divided into simpler measures of well-defined attributes, combined in the way that a result for each project and each criterion could be obtained. On the basis of the table 1.2, it was created the initial decision matrix, shown on table 1.3.

Table 1.3 - Initial decision matrix

Criteria	F	SD	SC	RM	EN
Project	min	min	max	min	max
P₁	200,000	250,000	7	5	9
P₂	70,000	90,000	9	5	7
P₃	60,000	70,000	9	3	9
P₄	120,000	140,000	7	3	7
P₅	40,000	60,000	7	3	9

Applying the formulas 3 and 4 (Mitevaska, 2005) using the data from the table 1.3, it was obtained the normalized decision matrix, shown on table 1.4.

Table 1.4 - Normalized decision matrix

	F	SD	SC	RM	EN
P ₁	0.790	0.800	0.398	0.570	0.487
P ₂	0.275	0.286	0.511	0.570	0.380
P ₃	0.236	0.222	0.511	0.341	0.487
P ₄	0.472	0.445	0.398	0.341	0.380
P ₅	0.157	0.190	0.398	0.341	0.487

Applying the formula 5, it is calculated the weighted normalized matrix -TN. In this part the decision maker determines the weights of criteria. In the case of the Gamzigrad, three experts (ecologist, sociologist, economist) were consulted to calculate the weights of criteria.

Table 2.1 - Weights of criteria – Expert 1

	F	EN	RM	SC	SD	Cr	Wt
F	1	1/7	1/3	1	1	F	0.072
EN	7	1	5	7	7	EN	0.580
RM	3	0.200	1	3	3	RM	0.188
SC	1	0.143	0.333	1	0.333	SC	0.061
SD	1	0.143	0.333	3	1	SD	0.099

Consistency Ratio (CR) =7,39%

Table 2.2 - Weights of criteria– Expert 2

	F	EN	RM	SC	SD	Cr	Wt
F	1	1/7	1	5	1	F	0.136
EN	7	1	3	7	7	EN	0.539
RM	1	0.333	1	5	3	RM	0.190
SC	0.200	0.143	0.200	1	0.333	SC	0.042
SD	1	0.143	0.333	3	1	SD	0.093

Consistency Ratio (CR) =9,30%

Table 2.3.- Weights of criteria – Expert 3

	F	EN	RM	SC	SD	Cr	Wt
F	1	1/7	1/3	3	1	F	0.091
EN	7	1	5	7	7	EN	0.569
RM	3	0.200	1	5	3	RM	0.204
SC	0.333	0.143	0.200	1	0.333	SC	0.045
SD	1	0.143	0.333	3	1	SD	0.091

Consistency Ratio (CR) =9,50 %

By using of arithmetic mean for the final weights, the mean values of criteria were found, and the same are shown in tables 2.1, 2.2, and 2.3. The final values of criteria weights, obtained by calculating the arithmetic mean for each criterion, are shown in table 2.4.

Table 2.4 - Arithmetic mean - weights of criteria

Cr	Wt
F	0.100
SD	0.094
SC	0.049
RM	0.194
EN	0.563
Σ	1

The weighted normalized matrix –TN, is shown on the table 2.5.

Table 2.5 - Weighted normalized matrix - TN

	F	SD	SC	RM	EN
P ₁	0.078	0.074	0.020	0.110	0.274
P ₂	0.028	0.026	0.025	0.110	0.213
P ₃	0.024	0.021	0.025	0.066	0.274
P ₄	0.047	0.042	0.020	0.066	0.213
P ₅	0.016	0.018	0.020	0.066	0.274
W _{Cr}	0.100	0.094	0.049	0.194	0.563

Having calculated the before mentioned, also applying the formulas 6 and 7 it the is determining the assemblies of agreement - S and disagreement - NS (table 3).

Table 3 - Assemblies of agreement (S) and disagreement (NS)

Assemblies of agreement S	Assemblies of disagreement NS
S ₁₂ = 1,2,4,5	NS ₁₂ = 3
S ₁₃ = 1,2,4,5	NS ₁₃ = 3
S ₁₄ = 1,2,3,4,5	NS ₁₄ = -
S ₁₅ = 1,2,3	NS ₁₅ = 4, 5
S ₂₁ = 3,4	NS ₂₁ = 1,2,5
S ₂₃ = 1,2,3,4	NS ₂₃ = 5
S ₂₄ = 3,4,5	NS ₂₄ = 1,2
S ₂₅ = 1,2,3,4	NS ₂₅ = 5
S ₃₁ = 3,5	NS ₃₁ = 1,2,4
S ₃₂ = 3,5	NS ₃₂ = 1,2,4
S ₃₄ = 3,4,5	NS ₃₄ = 1,2
S ₃₅ = 1,2,3,4,5	NS ₃₅ = -
S ₄₁ = 3	NS ₄₁ = 1,2,4,5
S ₄₂ = 1,2,5	NS ₄₂ = 3,4
S ₄₃ = 1,2,4	NS ₄₃ = 3,5
S ₄₅ = 1,2,3,4	NS ₄₅ = 5
S ₅₁ = 3,5	NS ₅₁ = 1,2,4
S ₅₂ = 5	NS ₅₂ = 1,2,3,4
S ₅₃ = 4,5	NS ₅₃ = 1,2,3
S ₅₄ = 3,4,5	NS ₅₄ = 1,2

Matrix of agreement – MS, for definite values of index is calculated applying formula 8 and it is shown on table 4.

Table 4 - Matrix of agreement - MS

0	0.757	0.563	0.612	0.612
0.437	0	0.049	0.806	0.049
1	1	0	1	0.806
0.437	0.757	0.194	0	0.243
1	0.951	0.951	1	0

Table 5 - Matrix of disagreement - MNS

0	0.840	1	0.725	1
1	0	1	1	1
0	0	0	0	1
1	0.045	1	0	1
0	0.092	0.708	0	0

The matrix of disagreement –MNS is calculated applying formula 9. It is shown on table 5. Matrix of agreed domination - MSD is shown on table 6. It is calculated applying formula 10.

Table 6 - Matrix of agreed domination - MSD

0	1	0	0	0
0	0	0	1	0
1	1	0	1	1
0	1	0	0	0
1	1	1	1	0

The matrix of disagreed domination – MNSD is shown on the table 7. The elements of the matrix are calculated applying formula 11.

Table 7 - Matrix of disagreed domination - MNSD

0	0	0	0	0
0	0	0	0	0
1	1	0	1	0
0	1	0	0	0
1	1	0	1	0

Table 8 - Matrix of aggregate domination - MAD

P_1	0	0	0	0
0	P_2	0	0	0
1	1	P_3	1	0
0	1	0	P_4	0
1	1	0	1	P_5

The next step is determining the aggregate domination matrix – MAD (matrix of aggregate domination). In this case, the matrix has the values, shown on table 8. It is calculated applying formula 12. The last step, step nine, of the ELECTRE method, by eliminating less desirable projects, led us to the following recommended projects (Mitevaska, 2005).

Table 9 - Final ranks of projects

$P_3 \rightarrow P_1, P_2, P_4$	Dominate under P_1, P_2, P_4
$P_5 \rightarrow P_1, P_2, P_4$	Dominate under P_1, P_2, P_4
P_2	Do not dominate
$P_4 \rightarrow P_2$	Dominate under P_2
P_1	Do not dominate

Conclusion

Approach of the ELECTRE method, described in this paper, besides the ranking projects, also separates objective components from subjective ones. In the case of ranking projects of Gamzigrad, it has been allocated that the projects P_1 and P_2 do not dominate, while the project P_4 dominates under the project P_2 . However, projects P_3 and P_5 , dominate under the projects P_1 , P_2 and P_4 , which means that these two projects, P_3 and P_5 , are the appropriate. The further question can be defined on the next way: between the two projects that have applied in the ELECTRE method as acceptable, which one is better? If we take into account the Financial criterion, then the development strategy of Gamzigrad should be based on Congress tourism, because the investments in this project are lower than the investment of the project Recreative tourism. Therefore, the project of Congress tourism is economically better than the others. In the experts' opinion and on its rank in the selected method, beside the least investment, this project, requires the shortest time of realization.

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TERRITORIAL INNOVATION SYSTEMS AND THEIR INFLUENCE ON ECONOMIC DEVELOPMENT

Abstract

Spatial innovation systems consist of a network of local participants and the relationship which forms the production system and through which joint forces for learning are created. In networks, economic, social, political and institutional participants possess specific ways of rule organization and a unique culture. Territorial innovation systems increase productivity, direct investments and innovation activities stimulate the development of new business forms and affect the expansion of the existing economic structure.

Key words: *innovation, territorial innovation systems, innovation clusters, economic growth.*

JEL Classifications: O10, 031

ТЕРИТОРИЈАЛНИ ИНОВАЦИОНИ СИСТЕМИ И ЊИХОВ УТИЦАЈ НА ПРИВРЕДНИ РАЗВОЈ

Апстракт

Територијалне иновационе системе чини мрежа локалних учесника и веза које обликују производни систем и кроз које се стварају заједничке снаге за учење. У мрежама, економски, друштвени, политички и институционални учесници поседују специфичне начине организације правила и јединствену културу. Територијални иновациони системи повећавају продуктивност, усмеравају инвестиције и иновационе активности стимулишу развој нових пословних облика и делују на ширење постојеће привредне структуре.

Кључне речи: *иновације, територијални иновациони системи, иновациони кластери, привредни развој.*

Genesis of territorial innovation systems

Territorial innovation systems include mutually connected enterprises in certain sectors, together with appropriate suppliers and the service sector, as well as a series of supporting institutions.

Territorial innovation systems have a threefold role in the economy:

- they increase productivity,
- they spread enterprise innovation on certain territory and
- they stimulate the appearance of new innovation-oriented enterprises.

In the economic literature, far more has been written about clusters as a form of territorial innovation systems. In insufficiently developed economies, the promotion of clusters is founded on cheap labour, natural resources etc., whereas adversely, in

developed economies, cluster organization is primarily based on new technologies, specialization, infrastructure etc.

The development of industrial clusters which include innovative enterprises and research institutions has become one of the priorities of economic development of many countries, which is not surprising, having in mind that jobs in these countries stand out due to their productivity and level of earnings. However, the problem is that there still is a great gap between the research results and concretization of state interventions. A certain number of economic analysts notice, with a cause, that future research must much more thoroughly break through in the nature of territorial preconditions for the formation and success of industrial clusters.¹ The challenge is more evident in the context of effort to alleviate development inequalities of certain spaces. Namely, it is clear that the activity of highly technological clusters is closely related to the educational structure and that most of such clusters are located in the most advanced regions. The mechanism of cumulative causality acts in the direction of increasing the already obtained advantage of economically most advanced territorial areas, while simultaneous globalization processes increase the pressure of competition, especially in less developed areas. This is the reason why specific activities, oriented towards raising innovativity of less developed areas, faced with additional risks and problems. The advantages in terms of possibility to realize innovations which exist in clusters in certain areas strengthen due to competition pressure. The similarity of basic conditions (for example, the costs of labour and utilities) combined with the presence of numerous rivals force companies to express themselves creatively. The pressure for innovations is increasing. Individual companies in the cluster can hardly maintain dominance for long, but most enterprises advance faster than those which are located at other places.²

Characteristics of territorial innovation systems

Crucial characteristics of spatial innovation systems are:

- geographical concentration,
- high level of specialization,
- great number of small and medium size enterprises
- easy way of arrival and departure,
- high level of innovativity.

Geographical concentration is one of the characteristics of all forms of territorial innovation systems. The attribute territorial is important because the group consists of a greater number of companies which belong to the same or mutually related fields of industry which are grouped within a certain location. What makes this form of group different from other types of industrial locations is the fact that companies are located close to one another and that they work on interrelated subjects.

The presence of a great number of enterprises, most of which are small, is good ground for the development of a high level of specialization. This is completely opposite the situation when companies offer a wide range of products. The significance of specialization is not just one of the approaches to define the nature of the group. It is related to the group nature because the presence of a great number of companies enables the realization of specialization.

¹ Smith, D. 2010. *Exploring Innovation*, McGraw-Hill, p. 208.

² Портер, М. 2008. *О конкуренцији*, ФЕФА, Београд, стр. 224.

One characteristic of the group is a simple way of entering and leaving of companies. In other words, companies must be enabled to simply access the group. Economically speaking, all barriers at the entrance must be removed. At the same time, the companies must be provided with the possibility to leave the groups whenever they wish to do so.

Group operation, as a rule, is related to high innovativity. New ideas, new concepts, new designs and new processes can easily be commercialized by founding a new company which is the spin-off of the preceding one.

Company concentration enables efficiency growth based on:

- employee specialization,
- company specialization for certain production phases and
- knowledge circulation.

A great number of specialized workers is engaged in the industrial fields because the existence of small companies improves high concentration of specialized labour. For some companies this can mean saving because in this way they can overtake employees from other organizations before they spend their money on their training and specialization. The number of companies which are specialized for certain phases of production can significantly increase the demand from other companies. Knowledge circulation takes place significantly in an informal way.

However, the most important factor which is behind the return of industrial areas to the top of the list of economic goals, especially behind the promotion of clusters comes from two economists, Michael Porter and Paul Krugman³. They have done a lot for renewed interest in the industrial clusters. Porter's paper on clusters, which came almost a decade after his earlier paper, drew attention to the importance of competition. Politicians from the whole world were impressed by Porter's idea of business clusters as a means in promoting both the national and regional wish for competition and the promotion of innovativity.

Forms of territorial innovation systems

Four most commonly mentioned forms of territorial innovation systems are:⁴

- Form of neo-Marchallian industrial district,
- territorial innovation systems in the form of center-suburbs,
- territorial innovation system in the form of satellite platform,
- state innovation systems.

The first form of territorial innovation system has a structure which is characterized by the presence of a great number of small companies in local ownership. Since the companies are in local ownership, the decisions about production are mostly made on the local level. There is also a significant level of trade on the local level, with raw materials

³ Krugman, P. 1991. *Geography and Trade*, Cambridge: MIT Press; Krugman P. 1995. *Development, Geography and Economic Theory*, Cambridge, MIT Press; Krugman P. 1998. What's new about New economic Geography?, *Oxford Review of Economic Policy*, vol. 14, no. 2; Krugman, P. 1991. Increasing returns and economic geography, *Journal of political economy*, 99:3, 483-99; Krugman P. R. and A.J. Venables 1995. Globalization and the inequality of nations, *Quarterly Journal of Economics*, 60, 857-880.

⁴ Markusen, A. 1996. Sticky Places in Slippery Space: A Typology of Industrial District, *Economic Geography*, 72. pp. 293-313.

which are obtained locally which results in a strong connection among companies within the territorial innovation systems. On the other hand, products can be sold outside the area which is covered by the local level. Labour force is also employed on the local level without expressed migration. The presence of great contingent of workers who deal with design or development ensures that these groups are fertile ground for innovations.⁵ According to the criteria of innovation, the number of companies which it connects, according to special suppliers, the Silicon Valley in California is an example of the type of technologically-oriented, neo-Marchallian industrial district. In Britain, Motor sport valley in Oxfordshire is another example of this type of spatial innovation system. It represents an innovative center which is focused on the development and production of racing cars, the first of this type in the world in relation to the number of small and medium-sized enterprises grouped in the diameter of around seventy kilometres from Oxford.⁶ Within this field there are more than 600 companies located which deal with design, development and production of racing cars and the components for them. What makes this spatial innovation system similar to the Silicon Valley is not only the presence of the leading constructors of racing cars, but also a great number of suppliers of special components, but also a well-trained staff and scientific community, mutually well-connected, which enables the collection and spreading of knowledge which leads to high dominance of innovations.⁷

Territorial innovation systems of the type center – suburbs are characterized by a small number of big companies or plants which have the role of the center around which a great number of enterprises can be found, connected to the strategic company in terms of the theme, origin or business relationship. Companies-centers are usually big with international business amount which can include relationships with branches, suppliers, consumers and competition on the local level, as well as outside the region.

Territorial innovation system of the satellite platform form is characterized by a concentration of branches of great organizations with the headquarters and ownership abroad. In these groups, there can be companies starting from those that mainly deal with routine jobs and all the way to the organizations which handle sophisticated research. However, one of their main characteristics is the tendency towards the formation of separate facilities which are separated in the physical sense, with relatively little connection with other companies within the territorial innovation system. As a result, permanent cooperation with the local suppliers mostly does not exist.

With an economic structure in which branches of big technologically advanced companies are dominant, center Sophia Antipolis in France is a good example of spatial innovation system of the satellite platform type. Among companies which have their branches within it are: IBM, Digital, Thompson, Rockwell. They were attracted to Sophia Antipolis by the prestigious character of the scientific park. Attempts to influence the development of small and medium-sized enterprises through incubator programs have had limited success.

The fourth form of spatial innovation system can be found in public ownership. It is formed when one of the companies of the public sector or some non-profit organization takes the place of the main tenant of land in some region.

⁵ Markusen, A. 1996. Sticky Places in Slippery Space: A Typology of Industrial District, *Economic Geography*, 72. p. 301.

⁶ Henry, N. Pinch, S. 2000. Spatialising Knowledge: Placing in Knowledge Community of Motor Sport Valley, *Geoforum*, 31. pp. 191-208.

⁷ Henry, N. Pinch, S. 2000. The Industrial Agglomeration (of Motor Sport Valley): A Knowledge, Space, Economy Approach, in Bryson, J. et. all. *Knowledge, Space, Economy*, Routledge, London, p. 127.

Examples of this type of spatial innovation systems are Denver in Colorado, where the second largest concentration of state agencies in USA can be found and Ann Arbor in Michigan, where a university is located at the center. The structure of the state innovation systems has many similarities with the structure of the ceter-suburbs group because one or a small number of organizations show a tendency towards domination in the economic development of the region. This is the reason why it is likely that the local business structures will probably be the reflection of the central organization.

Characteristics of spatial innovation systems

There are certain characteristics of spatial innovation systems which make them a good basis for innovations. These characteristics are:

- networking,
- specialization,
- facilitated entrance and exit,
- resource mobility.

Innovation is a phenomenon which is transferred by a system of more intermediaries, which implies a high level of integration among companies. The model shows that companies mostly do not do business in isolation, but they tend to attract other companies and ideas, information and service. As long as they do so, closely related groups of people that work in the same field, but in several different companies which are located close to one another, can enable the growth of networking. Closeness stimulates the development of business communities where different professions meet their equivalents all the time in other companies and in this way they allow knowledge to circulate with the help of common experience which in turn provides each company with an access to a much wider range of information.

Another characteristic of territorial innovation groups is encouraging and stimulating innovations on the basis of more expressed degree of specialization. The presence of a great number of companies which belong to the same industry or, at least, to similar sectors, which are located close to one another, allows companies to be specialized in those activities in which they are good, as well as to provide specialized products and services. As a result, a new type of specialized suppliers can appear in the group. This can further spread on the appearance of entrepreneurs and factory owners who can perform production tasks vital for innovation, which is the case with the solutions related to the prototype development.

Most company groups in the field of new technologies include the presence of significant number of small, relatively new companies. This is the result of an easy admission to the group and also an easy exit. Therefore, it is relatively simple for certain entrepreneurs to separate from their existing employer and start their own business. Although it was believed that most companies could be great innovators, based on the fact that they have the potential needed for obtaining innovations, there is increasing evidence which confirms the claim that small companies are the best for the development of innovations. Why? Primarily, because they do not contain the load of old technology. Secondly, in small companies decisions are made fast and quickly, while in big companies, which have a higher level of management, it is much more difficult. Finally, knowledge circulates much faster in small companies. Therefore, since groups have the tradition of young enterprises combined with facilities which greatly facilitate beginnings, they can provide the best conditions for the formation and generating innovations.

Resource mobility, especially human resources, is a common characteristic of many enterprise groups. Several studies on this topic have shown that groups are often characterized by a high level of labour force mobility. Mobility encourages innovations in several ways. If people move, the ideas will move too. A high rate of mobility implies the existence of an active market for certain abilities. Under these conditions, awards present the most accurate indicator of an individual's abilities. Finally, labour force mobility implies that companies are very aware of what other enterprises do, which further motivates them for rapid development of innovations.

Impact on economic development

Innovation is the central initiator of economic growth, development and creation of better jobs. It is the key which enables companies to successfully compete on the global market and the process which searches for solutions for social and economic challenges, from climate changes to the battle against deadly diseases. It is the source of improvement of our everyday lives.

Innovation environment has significantly evolved in the recent years. First, the change has occurred in the geography of innovations. Trends in economic growth and forms of investment in education and research and development encourage development of multipolar innovation horizon. Companies in undeveloped countries (lower-income countries) are not only passive technology implementers of the developed ones but also like enterprises from economies which are developing (middle-income economies) are rapidly appearing on the international innovation scene. The technological gap between countries which are developing and highly developed ones (high-income countries) is narrowing.

Secondly, the complexity of the way from an idea to a commercial realization is more intensely recognized, which brings about the spreading of our understanding of innovation. Non-technological form of innovation, such as new organizational forms, new marketing approaches, successful design, etc. – are now seen as vital elements of an innovative environment. Innovation capacity is also the ability to exploit both the new and the incremental technological innovations.

Thirdly, the innovation process in nowadays more open, collaborative and internationalized than ever. It is important to emphasize that in the new global environment, innovation as the initiator of economic growth is not only the prerogative of only highly developed countries. Opportunities for innovation can and should be used by everyone.

Territorial innovation systems represent one form of expression in establishing economic stability and economic progress of many countries, that is their regions. They include mutually connected enterprises in certain areas, together with appropriate suppliers and the service sector, as a series of institutions, including universities, institutes, services, laboratories, branch associations, agencies etc. In the strategy of improving competitive advantage of a country, territorial innovation systems have a threefold role:

- they increase productivity, since the specialization in a certain economic activity enables the growth of productivity,
- they specify long-term development directions, which directs investments and innovation activities,
- they stimulate the development of new business forms and affect the spreading of the existing economic structure.

A successful territorial innovation system can create the needed basis for cooperation among companies and specialization, improve the private-public dialog, encourage external stakeholders (suppliers, buyers, etc.) and accelerate innovation. Owing to the closeness, both the geographical and in activities, members of spatial innovation system obtain certain economic benefits and advantages. These advantages include access to human resources and supplier, professional knowledge, pressure for better business because of direct competition and learning from close cooperation with specialized consumers and suppliers. Territorial innovation systems are important because they create tangible economic benefits for its members. Benefits from spatial innovation systems appear in two forms:

1. productivity growth:
 - a) exchange of information and use of mutual resources
 - b) expenditure decrease through connection with agencies for providing specialized services (marketing, accounting, consulting, professional and other services)
 - c) easier approach to specialized suppliers and human resources
2. improvement of the national innovation capacity owing to:
 - a) rapid circulation of new ideas and technological knowledge
 - b) lower costs of developing new products and services
 - c) greater innovation-directed investments.

Conclusion

In the past twenty years in finding factors which decisively contribute to the economic growth of a region, a significant place belongs to the innovation complex. Although it is a very heterogeneous group of interpretations of economic development, on the one hand, and the fact that these explanations are very frequently intertwined with different forms of endogenous theory of economic development, on the other hand, it is a fact that the phenomenon of spatial innovation systems is based on the concentration of a great number of highly-innovative companies which invest directly in the development of new technologies and new products and services.

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FOREIGN DIRECT INVESTMENT AS DEVELOPMENT CHANCE FOR SERBIAN

Abstract

In this paper author considers globalization problems, observed through prism of foreign direct investment activities in transition countries framework, with special review on economy of Republic of Serbia.

Key words: *foreign direct investment, capital, globalization...*

JEL Classifications: F21; F62; F63; P33;

СТРАНЕ ДИРЕКТНЕ ИНВЕСТИЦИЈЕ РАЗВОЈНА СУ ШАНСА СРПСКЕ ПРИВРЕДЕ

Апстракт

У раду обрађујемо проблематику данас веома актуелног феномена глобализације. При том, глобализацију посматрамо кроз призму страних директних инвестиција у земљама у транзицији. Посебна пажња посвећена је могућностима које пружа наша привреда на привлачењу страног капитала.

Кључне речи: *Директне стране инвестиције, капитал, глобализација...*

Introduction

The development of the human society is inextricably linked to the concept of investment, which is theoretically and empirically proved. Therefore, it is a well-known claim that the investments are the generator of the society development. Also, argument that the investment are in fact only the potential energy of the society sounds good, while for the real development their kinetic effects is essential or their effectiveness.¹

Serbia's economy, at the beginning of the new millennium, faced a major problem of economic development: the lack of capital, without which it can not solve the key issues of sustainable development. The overall economic crisis, as a result of ten years of war and isolation, outdated technology and a lack of domestic capital, call for attracting foreign investments in order to guarantee sustainable economic development. In addition, our economy in all aspects of the manifestation of performance success, primarily external liquidity and solvency, is one of the most indebted countries in the group of countries in transition.

Because of that, foreign direct investments (FDI) are its most significant development opportunity for sustainable development, because the symbolic level

¹ Прокоповић Б. Боривоје, *Инвестиције у трговини*, Проинком, Београд, 2002., pp.14.

of domestic savings² and high indebtedness of our economy are limitations in the development, which we can overcome only through the active engagement of the private foreign capital to fill a “investment gap “ and to effectively implement reforms .

The scope and the dynamics of foreign direct investment in the economy of the Republic of Serbia

The inflow of foreign capital after the collapse of the former Yugoslavia and the UN imposed sanctions on Yugoslavia was almost suspended, and international trade and financial flows were discontinued. In the process of Serbia's ten years isolation, there has been: a great slowdown in economic transition; a decrease in the level of overall economic activity; reducing in the domestic investments; and a large decrease in the level of investment.

The experience of some countries in transition in the past ten years have shown that the inflow of foreign direct investment was the main generator of their economic development, which was not the case in Yugoslavian, ie. Serbian economy, which has not felt significant effects in this domain. Political stability is the most important element of the investment climate and to a large extent is determined by the value of investment flows in the period. It is believed that foreign investors are highly valuing, above all, the stability of the potential borrowers of FDI. For them, in addition to profits, market conditions, economic potential, geographical location, cost of labor and other resources, skills and infrastructure, the political stability is essential.

The last decade of the last century in our country was marked by the existence of objective circumstances, and they were a serious obstacle to the inflow of foreign capital: international sanctions and isolation of the FRY and Serbia with the explicit prohibition of foreign investment. The traditional economic partners of our country, because of UN Security Council sanctions, could not invest their capital in our companies until 1996., and as a result of these limitations there are a significant reductions in the number of contracts on foreign investments.³

At the presentation of the “White Book 2012.” of the Foreign Investors Council (FIC) Prime Minister Dacic said that over the last ten years, companies that make up this Council, have invested in the Serbian economy 17 billion euros, that they participate in the gross domestic product to 16% of value and to are employing more than 88.000 workers.

By observing the volume of foreign investments in Serbia in the last decade of the last century, we notice that the intensity of FDI was largely conditioned by political developments and international relations of our country. It was only after the suspension and abolition of UN Security Council sanctions, in 1996. and 1997. year, that there was a significant increase in the number of contracts on foreign investment, of which, if we

² Formation of the savings mass and its distribution by sectors, spillovers of the savings and its use, in the present economic and financial theory and policy are areas of particular interest and guidance. Otherwise, the tendency to save and to spend, processes of the concentration of formed deposits, relations between savings and credit system, the monetary system and the policies and processes of the formation of savings and others are the central issues of development of each national economy. It is possible to start up the economic growth with the accumulation of imports, but it is difficult to maintain it, because, ultimately, the formation of sufficient domestic national savings is necessary for maintaining the import. Imported accumulation can be accelerate or help to accelerate the pace of economic growth, but it can not be the basis for long-term economic growth. Base for that are, above all, national income and national accumulation (savings).

³ In the period from 1991. until 1995. only 1038 agreement on foreign investment were concluded.

look at the types of investments, very few were related to privatization.⁴ Much larger single foreign investment in this period was related to the purchase of 49% of shares (from 738.5 million USD) of the Serbian “Telecom” by the telecommunications company from Netherlands and Greece. However, this investment has not generated significant developmental effects, as privatization revenues were not used for investments, but they are used to cover the budget deficit and other social benefits.

Prohibition of investing in Yugoslavia, introduced in mid-1998, caused a serious deterioration in the business environment and in the operations of our companies, particularly because of the conditions under which privatization took place. Direct result of sanctions imposed by the EU was to stop the process of privatization that has started, because foreign investors were unable to engage. NATO military aggression on our country and the tightening of economic sanctions, followed by its end, even more alienated the Yugoslav, that is, Serbian economy from international economic flows of capital. Foreign direct investment, in such circumstances, were more than symbolic, and in 2000, they amounted to barely 54 million. The changed political relations in the international community towards our country and its reintegration into the modern global integration processes have led to increasing interest of foreign investors in our economy.

The total value of foreign direct investment in 2001, amounted to 160 million euros, which is two and half times more than in 2000. It is, however, far below expectations and the real needs of the Serbian economy. The largest investors in 2001, were as follows: Germany (16.9), USA (9.7), Cyprus (7.6) and Austria with 6.1 million euros. It is interesting that the sectoral structure is dominated by: trade and services in the fields of transport, food and beverage, construction, textile, leather and footwear, beauty sector, production of household appliances, wood, paper, etc. During 2001, the significant amount of foreign investment was related to the banking sector in which, with the funds of foreign investors, several banks were set up: “*Micro-Finance Bank*”, “*Raiffeisenbank Yugoslavia*”, “*HVB Bank Yugoslavia*”, “*National Bank of Greece*” and “*Societe Generale Yugoslav Bank*” (with a minimum initial capital of 5 million dollars).

Based on the available data of the Agency for the promotion of exports and foreign investment, the total amount of foreign investment was totaled at about \$ 300 million in September 2002. It is interesting that, at this time, unlike in previous years, in the total foreign investments, foreign currencies have dominant role, because of the significant privatization ventures in the country. In this regard, tenders for sale of shares in the following cement plants are standing out: “Beočinska fabrika cementa” to the partner in France “*Financiere Lafarge SA*” (with 50.89 million dollars), cement plant “Novi Popovac” to the partner from Germany “*Breitenbyrger GmbH*” (with 52,5 million dollars) and cement plant “Kosjerić” to the partner from Greece “*Titan*” (with 35.5 million). At the same time, “Merima” from Kruševac was also sold to a foreign partner for 42.3 million U.S. dollars. Auction processes provided 16 million dollars, and all the sales were linked with the foreign legal entities.

Serbian economy and foreign direct investment

The isolation of our economy from international economic flows is strongly reflected in its economic lag in the last decades of the 20th century. The consequences of this lag are manifested in the modest attracting of the foreign capital. Changes in

⁴ In the period from 1996. until 1997. in Yugoslavia were registered about 2,800 contracts on foreign investments.

the political relations of the international community towards our country created the conditions in which Serbian economy can integrate into the wider international trends (economic, trading, investments and so on.). The conditions for an easier access to the international capital market are created.

How foreign direct investments are the most important means of the economic recovery and sustainable development of the economy, strategy for the inflow of foreign capital has to be treated as the backbone of our economic and development policies. In this regard, it is essential to define the priority areas of the economy for foreign investment, and to determine the most desirable form of this influx. Development strategy of our country should determine the priorities of economic development, starting from the areas which are of the most interest for its achievement. In connection with the above highlighted, comparative advantages of the country are determining the choice of industries that Serbia should develop and within which foreign investments can be implemented in the best way. Strategy of attracting foreign investment in our economy, then, must be oriented to those economic areas in which they can get the best of our strengths. We believe that between them these are standing out: the geographical and strategic position - that should be used better, cheap and educated labor force, the size and connectivity of the domestic market with other markets, natural resources and so on.

It is important to emphasize at this point, that our country, for a long period of history, was present in markets other than the European countries, in many underdeveloped countries, and that fact can be useful in restoring the broken relationships, that arose from the earlier mentioned reasons.

Events in this region, that largely influenced our economy, have influenced on the change in its industrial structure, which certainly determinates the choice of sectors in which foreign investors want to invest. Perhaps this is the reason that a potentially attractive areas for foreign investments are oil sector, trade and transport infrastructure.

For our economy today especially important and attractive are the investments in infrastructure and energy,⁵ because in this way the conditions for investment in other sectors are created, so that with the infrastructure development we are removing the restrictions on foreign investment ventures. Especially in this context, attracting of the foreign investment through concessions in the fields of: road and rail infrastructure, mining, spa and mountain tourism resorts and the like, should be promoted. Law on Concessions can significantly simplify the procedure to obtain the necessary financial resources.

Metal and chemical complex of our economy, is an investment opportunity too. In this section it is necessary to determine the areas that are considered to be competitive in the regional market, because, once a significant exporter, today has a lot of problems and its structural changes may contribute significantly to the revival of export activity.

Telecommunications, where the local market determines the interests and business decisions of foreign investors, have attracted significant foreign investments, but we still believe that it remains a significant investment opportunity in our economy.

Agrocomplex and tourism also represent significant sectors of interest to foreign investors. Since there is a major problem in financing of agrocomplex, and as

⁵ According to the Minister of Energy, Development and the Environment, the Ministry will greatly simplify and speed up procedures that precede the investment in energy, and there will be an elimination of a large number of administrative and bureaucratic obstacles. The Ministry plans that, to the end of 2012., the number of currently required permits, that investors need so they can start business, will be reduces from 27 to 5. The Ministry plans to be in charge of licensing for investment, in the next year.

it does not have its own capital, foreign investment in this area are the best solution for its sustainable development. Foreign partners are particularly interested to finance production of products that they can not produce in their own countries: products with known geographic origin (which have a certificate of health safe food). Today, tourism as an economic activity is rapidly evolving and is a particular challenge for the countries that, in the export of tourism services, see one of the most significant opportunities to accelerate economic growth and development. Our country has an economy in transition and is facing numerous economic difficulties, and the foreign tourism development offers great opportunities. Certainly, the improvement of the political situation in our country would contribute to creating favorable conditions for a substantial inflow of foreign capital and strengthening the competitiveness of our tourism offer. Favorable geographical position and natural resources of our country can be a valuable asset for significant involvement of foreign investors in the sphere of our tourism industry. Otherwise, the intensification of foreign investment activities of the tourist areas in the country, includes benefits such as: the construction of new modern facilities and modernization of existing hospitality and tourism facilities, use of modern information technology and involvement in global tourism trends, innovations in the promotional activities, promoting the concepts of modern marketing management in hospitality and tourism, as well as raising the quality of hospitality and tourism services, all in accordance with the requirements of a demanding global market.

We believe that high qualifications and relatively low labor costs are the benefits that would be used specifically to attract foreign investment (textiles, clothing and footwear). When this industry is at question, we are talking about a labor-intensive industrie, in which to the fore comes our competitive advantage (related to the labor force), and that is something that should always be emphasized in talks with foreign investors. However, the national strategy must respect and other competitive industries, the benefits of which are not only based on skilled labor and abundant natural resources, but also on the tradition of the production of certain goods/services, such as eg. production of: healthy food, beverages, clothing, footwear, as well as providing services in the hospitality and tourism, health etc.

When it comes to the attention of the foreign investors, it should be directed towards traditional European partners, because past experience may be of importance for future joint business arrangements. In addition to attracting large transnational corporations that individually make more capital, the interest of the Serbian economy must be oriented on a small and medium enterprises that are willing to take entrepreneurial risk, because they take much less care on various limitations.

Neighboring countries are also an important potential investors for us. The reasons for this may be in geographical proximity, but also in the fact that these countries already have significant experience with the operation of their market economies. In this regard, the most important are the countries of the former common state - Yugoslavia, because we believe that once a very intense connection system of economic actors, who not so long operated within a unified economic space, is guaranteeing more active economic cooperation and significant investment and other connections.

The authors advocate with all their heart to attraction of capital and other resources of our diaspora, because that act may be an important source of funding for the large number of development projects in our economy. Valuable experience of Greece and other countries that were able to take advantage of this important segment to strengthen cooperation with the diaspora, should also be used by us. In fact, Greece, thanks to its diaspora (with strong companies and individuals), during the nineties has made five times bigger export to other Balkan countries. To achieve similar results, you need to

give up a long time present assumptions that patriotic motives of our citizens abroad are the main motivation for their investments. We are committed to, first of all, creation of a stable institutional environment, which will be more effective in diplomatic and consular missions abroad, will animate Serbian diaspora to get intensively involved in all aspects of the functioning of the Serbian state.

In order to attract FDI, much more aggressive strategy of promoting Serbia should be implemented, so Serbia would be promoted as an attractive destination for foreign investment. Given the fact that the role of the state in attracting FDI in the present context is completely changed, she must constantly make efforts for the promotion of potential investment opportunities in the country and raise the level of services to foreign investors.⁶ To Serbian economy foreign capital is undoubtedly a primary mean of recovery and our country has to do anything that will allow foreign investors to change their perception of Serbia.⁷

In order to ensure successful attraction of foreign investments it is necessary to do much more, and here we can only mention urgent points:

- eliminate the political risk, creating a highly credible government;
- quicker implementation of economic changes;
- create a predictable business conditions, by eliminating barriers and restrictions;
- deeper involvement of the country in international organizations and like.

Some of the necessary improvements in economic conditions are offered by Minister Dinkić at the presentation of the "White Book 2012.", where he announced a number of laws, including: Excise Law; Law on lump sum taxation; the Law on Property Tax; Law on company commitment to pay its obligations within 60 days (in which the state should be the leader); Law on tax for unused agricultural or urban land plots (by allowing those who do not use it, that it can be sold or rented) and others. At the same time, the Minister said that, for those investors who invest more than 10 billion dinars (10 million euros), the government will get rid of income taxes over the next 10 years.

Conclusion

Harmonization of relations between our country and the international political, economic and financial institutions has led to a significant inflow of foreign funds in the form of foreign loans and grants. The inflow of capital by some developed countries and international financial institutions is a considerable support in the initial phase of the reforms, as well as in creating conditions for the inflow of foreign capital. However, given the high indebtedness of the our economy and the time constraints of the donor

⁶ The State, through its mechanisms must undertake promotional activities, with the aim to: provide a complete package of services to potential foreign investors with: true analysis of our business environment; overview of the situation in specific sectors of our economy; provides instructions and materials to facilitate the process of establishment of foreign companies in Serbia; the possibilities of organizing meetings between interested investors with local managers and local authorities and other.

⁷ Foreign Investors Council (FIC) recommends to the government of Serbia, in order to improve operations in 30 areas, the improvement of conditions in the real estate and construction, employment of law and tax regulations. The main message of the "White Book 2012." Is that foreign companies in Serbia are expecting that the government continues with economic reform and liberalization, and continues along the path towards the EU.

assistance, Serbia must not only rely on these forms of international economic aid. That's because it is well known that the true form of international capital movements that can trigger production in our economy and increase of its employment are foreign direct investment. To successfully attract foreign direct investment, management of our economy and government bodies must do everything to produce all necessary conditions for the creation of a favorable investment climate for foreign investment. Among the elements of this climate we can mention: stable and well functioning legal and tax systems, political and macroeconomic stability, exchange rate stability, liberalization of foreign trade and prices, quality laws and liberalization of foreign investment, dynamic and stable economic development and other.

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FINANCIAL SUPPORT FOR THE DEVELOPMENT BANK OF FINANCIAL AND REAL SECTOR IN TERMS OF THE WORLD FINANCIAL CRISIS

Abstract

The negative effects of the global financial crisis shook the more or less all countries of the world. The problems caused by the global crisis in the Republic of Srpska are most pronounced in the financial and real sector of the Republic of Srpska. In the current financial crisis, the Investment Development Bank receives a key role in the financial support of Serbian economy. A stable and efficient financial system plays a role in achieving the objectives of economic expansion. FINANCIAL sector capital strengthening the financial crisis imposed as a necessity, especially for smaller banks. The problems caused by the global crisis in the Republic of Srpska expressed primarily in financial and real-sector. The main objective of this paper is to highlight the importance and role, and the advantages and disadvantages of financing the development of financial and real sectors of the global financial crisis. The paper elaborated analysis of the degree of development of financial and real sectors of Serbian, conditions in the banking sector and the role of Serbian Investment and Development Bank of the Republic of Srpska in the development of financial and real sectors of Serbian. As a result, an analysis should highlight the importance of financial support to banks in developing financial and real sectors of the global financial crisis.

Keywords: Investment, banks, financial sector, real sector, financial instruments, the Development Bank of the Republic of Srpska

JEL Classifications: G01, G21, G38

ФИНАНСИЈСКА ПОДРШКА БАНАКА РАЗВОЈУ ФИНАНСИЈСКОГ И РЕАЛНОГ СЕКТОРА У УСЛОВИМА СВЕТСКЕ ФИНАНСИЈСКЕ КРИЗЕ

Апстракт

Негативни ефекти светске финансијске кризе уздрмали су у већој или мањој мери све државе света. Проблеми које је светска криза изазвала у Републици Српској највише су изражени у финансијском и реалном сектору Републике Српске. У условима финансијске кризе Инвестиционо развојна банка РС добија кључну улогу у финансијској подршци привреди Републике Српске. Стабилан и ефикасан финансијски систем има централну улогу у остваривању циљева привредне експанзије. Капитално јачање финансијског сектора у условима финансијске кризе намеће се као неминовност, нарочито

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код мањих банака. Проблеми које је светска криза изазвала у Републици Српској примарно су изражени у финансијском и реалном сектору. Основни циљ рада је да укаже на значај и улогу, као и предности и недостатке финансирања развоја финансијског и реалног сектора у условима светске финансијске кризе. У раду је елаборирана анализа степена развијености финансијског и реалног сектора Републике Српске, стања у области банкарства Републике Српске и улога Инвестиционо развојне банке Републике Српске у развоју финансијског и реалног сектора Републике Српске. Као резултат, извршена анализа треба да укаже на значај финансијске подршке банака у развоју финансијског и реалног сектора у условима светске финансијске кризе.

Кључне речи: *Инвестиције, банке, финансијски сектор, реални сектор, финансијски инструменти, Инвестиционо-развојне банке Републике Српске*

Uvod

The fall in economic activity in the real sector through sectoral interdependence negative impact on the financial sector through the difficulty and interest payment loan, and the public sector through a pad of indirect and direct taxes, which in turn reduces the scope for public investment and expenditure budget for all users. Problems of research results from the current financial crisis that has engulfed the financial system of the Republic of Srpska. In the last quarter of 2008. The Republic of Srpska began to experience the first negative effects of the global economic and financial crisis.

The banking sector of Republic of Srpska banks, ten, engaged primarily in traditional banking, with no significant innovation in the segment and the products we sell in the financial market. The financial analysis of banks in the Republic of Srpska shows that there are significant differences in asset quality and results of operations of banks in the Republic of Srpska. Therefore, their role in providing investment banking services in terms of guarantee, can be very different. Based on consideration of data and financial indicators in the period (2007 - 2010.) We can conclude that it will take a significant period of time while the Republic of Srpska banks start getting business results in terms of investment banking services, as well as the performance of banks in general, as they were before the global financial crisis. Before the banks of the Republic of Srpska followed by a period of restructuring the loan portfolio, changes in business philosophy and reorganization mode. Also, I was the main goal is to work with technical and scientific point of first analyze the negative effects of the global economic crisis on the Republic of Srpska and the interdependence of sectors (real, financial and public sectors) in the crisis, and secondly, to explain the financial support of real sector of the economy in the Republic of Srpska by the Development Bank of the Republic of Srpska.

The analysis used the annual reports of the Banja Luka Stock Exchange in 2007, 2008, 2009 and 2010. year financial statements of commercial banks in RS, reports on the situation in the banking system of the Serbian Banking Agency of the Republic of Srpska and other publicly available data on the Internet. The paper used the scientific method of deduction, analysis and comparative analysis of good practices. Interpretation of results should point to the importance of banking in the function of financial and real sectors of Serbian.

The paper is organized in four interrelated and coherent chapters. The first chapter provides an analysis of the situation in the Republic of Srpska financial system. The second chapter analyzes the data of the banking sector of the Republic of Srpska. The third part of the work entitled "Lending in the function of financial and real sectors,"

where he elaborated the basic theoretical and practical perspectives. In the fourth chapter of the thesis elaborated the empirical analysis of the role of investment banks in the development of Serbian capital market.

Effects of the global economic crisis on financial and real sector of serbian

The negative effects of economic crisis in the Republic of Srpska first appeared to be the capital of Serbian market, but in the second quarter of 2008. year, the fall in prices of financial instruments, a large reduction in turnover and withdrawal of foreign investors. Investor confidence was seriously shaken by the economic crisis and it is certain that the long period of investment and expansion of the race for new markets to be replaced by a period of much greater caution and reduced investment. Shortly after the crisis in the capital market problems occur in the real sector, which arise as a result of falling demand for goods and services both on foreign and domestic markets, reduce sales of products and services companies, inability to collect receivables or insolvency companies, industries and the economy as a whole, then harder and more expensive access to sources of financing with commercial banks at the end of the fall of profitability and downsizing.

Individual bank crisis means its insolvency or inability of banks to settle their obligations in full at the moment, which occurs as a result of problems in business, primarily because of the quality of its troubled assets. Due to the integration of the banking sector and the domino effect of the rare cases of crisis and bankruptcy of the bank remain limited to individual cases. These issues determine the loss of confidence in the banking system as a whole, creating panic and complete withdrawal of deposits, the bank without the injection of additional liquidity and guaranteeing their role can not stand.

Attack on the real sector initially had a strong sectoral dimension and then poured the whole economy. At the beginning of the crisis are the most negative effects of the crisis exposed sectors that are export oriented and labor intensive (the metal sector and the textile industry). Sectors of the domestic market will drop depending on the elasticity of demand to changes in income or can be expected that the sector of the food industry have the most stable demand. In contrast, the greatest impact will certainly feel the construction sector and building materials industry and metal industry. Negative trends in the real in 2009. and 2010. The spill in the financial (banking) sector through lower collection rate for loans disbursed due to worsening general economic situation, the decline in interest income, higher credit risk of future investments, reducing the number of good customers and total investment capacity of the banks, then the higher costs of provision for potential losses and finally falling profitability. Because of difficulties in the real sector of the company is unable to meet its credit obligations and domestic banks face the problem of collection of overdue receivables.

Tabela.1. Past due loans and the ratio of overdue loans to total (see / 21 /)

Bank / parameters	31.12.2008.		31.12.2009.		31.12.2010.	
	DK/UK	DK (KM)	DK/UK	DK(KM)	DK/UK	DK (KM)
Balkan Investment banka	4,38%	6.816.000	7,54 %	11.904.000	10,23 %	16.771.000
Hipo-Alpe-Adria Banka	2,23 %	31.003.000	5,30 %	72.304.000	12,03 %	166.939.000
NLB Razvojna Banka	0,62 %	3.692.000	1,16 %	7.250.000	6,10 %	38.919.000
Nova Banka	2,62 %	11.784.000	2,89 %	14.994.000	4,39 %	25.241.000

Volksbanka	2,70 %	7.193.000	2,97 %	8.608.000	5,31 %	17.546.000
Pavlović Banka	3,60 %	2.655.000	6,01 %	4.388.000	13,60 %	13.314.000
Unikredit Banka	4,04 %	16.458.000	4,21 %	17.249.000	8,67 %	40.245.000
Komercijalna Banka	1,39 %	1.989.000	2,34 %	2.219.000	4,08 %	5.885.000
Bobar Banka	9,26 %	10.879.000	6,13 %	7.986.000	12,04 %	16.845.000

DK-matured loans; UK-Total loans granted;

The growth of loans due attention to the necessity of detailed analysis of credit requires the approval of loans and better tracking of regular servicing of loans, to better manage credit risk. Deterioration of bank loan portfolio in terms of increasing participation of bad loans to total loans, increasing the concentration of loans and related lending is the result of banks trying to maintain life and prevent the bankruptcy of customers encountering problems.

Credit risk is the major cause of bank insolvencies, and the reason is that more than 80% of bank balance sheets generally refers to this form of risk management. Exposure to credit risk the bank is directly dependent on the quality of bank lending policies and the way it manages its credit portfolio, ie. manner in which loans are approved, monitored and evaluated free of charge. Adequate and effective risk management activities are generally planning and maintaining an acceptable relationship between the risk taken and the actual degree of collection and control activities and to reduce to minimum risk of all forms related to quality, concentration, insurance billing, or instruments to secure the collection, maturity, currency, etc.

The forms of the crisis in the banks and the banking sector as a whole are expressed as follows: (See / 13 / p.2)

1. The disproportion in operating costs, or inappropriateness bank size measured by a network of branches and number of employees.

2. Disproportionate growth of deposit (deposit) interest rates above market levels in order to attract new deposits in the function of "growth for growth," the coverage gap created by poor credit or even worse to cover the costs, or prevent withdrawals of existing deposits. This leads to narrowing interest margins, if at all deposits and use those on new loans and the losses are increased.

3. The increase in interest rates in an effort to maintain minimum profitability. At a time when bank credit is limited by high reserve requirements and share of bad loans in the total portfolio of the bank and when the high deposit interest rates and operating costs of banks, bank, reaches for the higher interest rates on loans / credits by trying to cover its imbalances. This results in higher interest margins and higher interest income, but only on paper, because the degree of collectible of accrued interest is very low.

4. Concentration of loans and related lending as a key generator of banking crises. Banks frequently to prevent failure of its major borrowers new loans granted to them, trying to keep them alive, while trying to supervision by the regulator or hide information about the issues. Thus, the remaining credit potential, including one that is obtained by the much higher price now is almost entirely sold already troubled borrowers.

5. Deterioration of bank loan portfolio in terms of increasing participation of bad loans to total loans, increasing the concentration of loans and related lending, which arise as a result of banks trying to preserve life and prevent bankruptcy.

6. Unhealthy corporate culture a culture that is manifested in the behavior of bank management that creates or enhances these banking deformation.

A stable and efficient financial system, allows the realization of new investment opportunities (through the availability of favorable sources of financing for the implementation of profitable business ventures), which contributes to the vitality of the economy, its

liquidity, growth, employment and government revenues and the like. Any disturbance in the functioning of the financial system has significantly multiplied the negative effects on the real sector and its prospects of growth and development. Sectoral interdependence is reflected in the public sector and the decline in revenue from indirect and direct taxes from which the most part full budgets of all levels of state government, central government and local. Decline in revenue reduces the space for public investment and expenditure budget for all users and leads to a drop in demand at the national level. Further deepening problems in the real sector also initiated to increase pressure on social welfare state, through various social programs to care for the unemployed. The increase in systematic macroeconomic risks have led to a reduction in credit ratings in almost all countries in transition. In order to neglect higher-level business financial risk, the efforts of investors are based on obtaining evidence of ability to earn potential of the company (See /15/, p. 151.).

Financial analysis of banks in the republic of srpska

Commercial banks in the Republic of Srpska institutions that collect funds from domestic and foreign individuals and legal entities, to invest the same in the various forms of credit and non-credit loans, with the aim of making profit. Modern Bank in addition to lending, also giving its customers more and more of other financial services. The banking sector accounts for 10 of the Republic of Srpska banks: Hypo Alpe Adria Bank, NLB Development Bank, New Bank, Unicredit Bank, Volksbank, Balkan Investment Bank, Commercial Bank, Bank Bobar, Pavlovic Bank, Bank of MF. MF bank is the legal successor of the IFK bank in which in 2010 saw a transformation in ownership. This bank was not considered because of its participation in the banking services of Serbian is very small, a considerable period the bank has not maintained the minimum requirements necessary to carry out banking activities in terms of capital adequacy.

Financial analysis and evaluation of bank solvency is her professional work that is based on a detailed analysis of the balance sheet, income statement, statement of cash flows and the like. At the end of 2010. compared to the end of 2009. The total assets of banks surveyed in the Republic of Srpska was on the same level and is 5.31 billion KM. Classified assets in category A and B analyzed in nine banks as of 31.12.2010. amounted to 3.4 billion KM and represents 82.22% of total classified assets. The total risk-weighted assets at end of 2010. amounted to 3.83 billion and to 2.83% higher than the end of 2009. year. In 2010. was increased in non-performing assets (C, D and E), indicating a deterioration in asset quality, particularly in the global financial crisis and the inability of banks to such conditions due to collect their claims, or problems that spill over from the real sector in the financial sector .

An important indicator of the strength of capital adequacy ratio, which represents the ratio of total capital to total risk assets, which under the Republic of Srpska banks must be at least 12%. Movement of capital adequacy ratio is shown in Table 2.

Table 2. Capital adequacy (see / 21 /)

Bank / parameters	31.12.2008.		31.12.2009.		31.12.2010.	
	AK	OK	AK	OK	AK	OK
Balkan Investment banka	17,80%	28.445.000	17,90%	30.106.000	21,40 %	38.391.000
Hipo-Alpe-Adria Banka	13,90%	142.992.000	13,50%	139.268.000	14,20 %	137.131.000
NLB Razvojna Banka	15,80%	63.967.000	15,50%	72.950.000	15,70 %	77.702.000

Nova Banka	13,50%	54.474.000	15,20%	57.936.000	12,70 %	68.891.000
Volksbanka	17,09%	42.370.000	16,30%	44.998.000	13,70 %	44.744.000
Pavlović Banka	33,21%	22.983.000	33,90%	24.666.000	23,10 %	24.928.000
Unikredit Banka	15,40%	57.894.000	15,60%	57.533.000	13,60 %	60.804.000
Komercijalna Banka	15,20%	19.302.000	17,20%	19.751.000	37,10 %	59.972.000
Bobar Banka	15,58%	17.102.000	18,70%	23.562.000	18,90 %	30.382.000

AK-capital adequacy, OK-capital

Successful operation of financial institutions depends on the honest reporting of fair values of current and expected salary, business expenses, assets and debts, so that the controllers and supervisors can gain objective insight into the operations of the bank and which direction the bank aims. Experience of previous banking crises suggests that bank statements in their level of capital adequacy, as an important determinant of the stability of the banking business and to protect depositors, formally presented at a satisfactory level, or even above it, thereby creating a false sense of security. Return on assets (ROA) and return on equity (ROE) compared to the end of 2009. was a positive trend in most banks (except for Hypo Alpe Adria Bank), ie. the growth in the majority of banks surveyed. The coefficients return on equity and return on assets are negative for HypoAlpe-Adria-Bank ad Banja Luka reported loss due to the end of 2010. year.

Table 3. The profitability of banks (see / 21 /)

Bank / parameters	31.12.2008.		31.12.2009.		31.12.2010.	
	ROE	Profit	ROE	Profit	ROE	Profit
Balkan Investment Banka	2,30%	686.000	- 1,03 %	-321.000	2,15 %	895.000
Hipo-Alpe-Adria Banka	6,06%	9.433.000	1,57 %	2.322.000	-22,99%	- 48.650.000
NLB Razvojna Banka	17,61%	14.084.000	8,63 %	7.003.000	9,94 %	8.870.000
Nova Banka	5,82%	3.749.000	13,94 %	10.371.000	9,94 %	8.607.000
Volksbanka	4,24%	1.907.000	1,04 %	479.000	7,23 %	4.474.000
Pavlović Banka	6,34%	1.618.000	0,59 %	148.000	6,15 %	1.742.000
Unikredit Banka	0,75%	505.413	0,06 %	39.000	0,53 %	378.000
Komercijalna Banka	1,91%	391.000	1,05 %	218.000	0,85 %	512.000
Bobar Banka	1,79%	327.000	3,27 %	819.000	3,06 %	1.009.000

Lending in the development of financial and realsector

Investment-Development Bank of the Republic of Srpska ad Banja Luka was founded with the intention to become a major pillar of support and investment in the development of Serbian economy, by financing projects of development of character, the implementation of privatization projects, as well as efficient management of state assets in six of the Republic of Srpska public funds. The strategic objectives of the Investment Development Bank are to promote investment and stimulate development in Serbian.

Placements of the Fund managed by the Investment Development Bank used to finance development projects. Funds are distributed by approving loans earmarked by the financial intermediaries lend these funds to end users, as well as investments in securities on the capital market of the Republic of Srpska. The funds invested by approving loans to borrowers as financial intermediaries, representing the Investment Development Bank

high-quality assets, whose value could be significantly reduced only major disruptions in the banking sector of Republic of Srpska. Investment Funds of Funds, which manages the Development Bank, which are invested in securities are directly exposed to market risks. It is important to emphasize that the initial position of the Investment Development Bank, the nature of work performed, similar to the fund management company, was very bad because the portfolio is formed based on a set of laws on the privatization of state capital, and not on the basis of investment decisions Investment Development Bank of RS. It is also necessary to note that some portfolios (RS Restitution Fund), to the establishment of the Investment Development Bank does not manage. A large unrealized losses Funds consequences of poor quality portfolio, and the fact that after the formation of funds has been a sharp drop in the securities markets at the Banja Luka Stock Exchange. In the period until the Funds portfolio is formed on economic principles, and reduce the number of issuers in the portfolio, it is reasonable to expect significant unrealized / realized losses.

It is important to note that the Investment Development Bank is not under regulations of the Banking Agency of RS, and there is no limitation on the maximum amount of loans to capital, as well as limits to the amount of required reserves in the Central Bank. Investment and Development Bank based its business on the Law on Investment and Development Bank of RS having the obligation to respect the principle of preserving and increasing the real value of capital funds that it manages. Activities of the Investment Development Bank focused on funding projects relevant to the national economy, which is not interested in the private sector, either because they do not bring immediate profit (**eg.** infrastructure facilities), require large investments or carry a higher risk. Therefore, financial support by the Investment Development Bank provides the real sector is done through:

- Purchase of securities (stocks and bonds) whose issuers are companies, local governments, which are based in the Republic of Srpska and Serbian Republic itself.
- granting loans to companies, businesses and municipalities from the Republic of Srpska, and through financial intermediaries (commercial) banks;

Investment and Development Bank has invested in securities of 105.3 million convertible marks on 31.12.2010. year. In 2008. year in the capital market of the Republic of Srpska realized the first IPO, which is also supported by the Investment Development Bank of the Republic of Srpska. Although the Republic of Srpska capital market is experiencing the infamous traffic, characterized by small, shallow market, insider information, the reform of financial systems and regulations in the functioning of financial markets and capital markets undertaken in recent years, though uncompleted, closer to the formal business conditions in the financial markets to those in developed countries. Basic interest rates can be further reduced by the privileged user groups and projects that are implemented in underdeveloped communities Republic of Srpska of 0.8%. Approval of loans from the funds of funds managed by the Investment and Development Bank of the Republic of Srpska performed by six lines of credit:

Table 4. Credit lines and terms of allocation of resources (see / 24 /)

Line of Credit	Proceeds	Interest rate	Deadline	Grace period	Amount
1. Loans for starting businesses	fixed assets and working	5,9%	7 god.	12 mj.	50.000 KM
2. Loans for micro business in agriculture	fixed assets and working	5,1%	10 god.	36 mj.	5.000.000 KM
3. Loans for entrepreneurs and enterprises	fixed assets and working	5,4%	15 god.	24 mj.	5.000.000 KM
4. Mortgage Loans	Purchase or construction of first residential units.	5,6%	20 god.	-	100.000 KM

5. Loans to local governments	-	5,9%	10 god.	6 mj.	3.000.000 KM
6. Loans for the purchase of accounts receivable	-	-	-	-	2.000.000 KM

The lending and deposit interest rates are formed and retained at a higher level than the market as a result of distortions determined the banking crisis. Depositors require higher interest rates to compensate for the uncertainty of their deposits, a bank to accept the same offer higher interest rates in an effort to prevent the leaking of existing and attract new deposits to maintain its liquidity. Due to the threatened profitability, banks are trying to improve his bad situation charging higher lending rates. This practice has serious implications for overall economic growth and development. Precisely because many development projects, which would under normal market price of capital be profitable, not realizing it can not handle extremely high interest rate.

Table 5. Plasirana funds on credit terms on credit lines in the period 2008.-2010.
(As of 31.12.2010. Year) (see / 24 /)

Types of credit lines	invested assets
Loans for starting businesses	2.452.876,36 KM
Loans for microbusiness in agriculture	14.651.142,50 KM
Loans for Agriculture	51.651.360,50 KM
Loans for entrepreneurs and enterprises	329.271.909,89 KM
Mortgage Loans	152.708.417,72 KM
Loans to local governments	35.825.000,00 KM
Loans for the demobilized soldiers of the VRS	1.571.650,00 KM
In total	588.132.35,97 KM

From the table above can be seen that the Investment-Development Bank of the Republic of Srpska majority of funds placed with credit lines to enterprises and entrepreneurs, a minimum of funds under the credit line for starting the business. Entrepreneurs say that the reasons for placement of funds by a small line of credit for starting business does not guarantee the existence of the fund, the unordered land registers, lack of entrepreneurial initiative and the financial crisis itself.

The influence of the negative effects of the global economic crisis significantly deteriorate the quality requirements for loan approval, which is reflected in the following:

- Companies are largely responsible and seek salvation in new borrowing;
- Refinancing of existing debt is increasingly coming to the fore;
- The new credit is trying to cover the debts of the failed investments of the previous period;
- Preparation of new investment and investment studies is very simplified (more form than substance).

Rating feasibility of financing the investment project is a very complex process that requires review and consideration of all relevant factors, primarily determine the effects that come the realization of certain investments. In the process of evaluating investment projects, have an important function of the method of evaluation of its effectiveness. By applying the appropriate methods for evaluation of profitability of investment, provide the relevant information and create prerequisites for the selection of the best projects and making quality investment decisions. A key criterion for evaluating investment projects are called. dynamic aspects such as internal rate of return, net present value, etc., while

static indicators serve as its complement. Lack of technical and scientific preparation of investment decisions is one of the main causes of failure and inefficiency of investment.

When granting loans should be cautious and put more emphasis on companies that have a real argument, and the chances of overcoming financial problems for which it is estimated that in times of crisis can be held sales and maintain employment capacity. These companies other than cost reduction, should be given to the restructuring of production and market introduction of the so-called. crisis management, in which short-term goals may sacrifice profitability in favor of creating a new basis of productivity. The pressures in the market will go in the direction of price cuts, but the long term need to follow the course of creating new sources of competitiveness through innovation in the ways in which the production or provision of services and developing new products and services. That is the real content of the idea that the crisis can create opportunity or the company should strive to create opportunity out of trouble how to Professor Nikola Vukmirović often cited.

As mentioned earlier the Investment and Development Bank of the Republic of Srpska assets, which are approved for credit based economy, sold through financial intermediaries (banks) and therefore the Investment-Development Bank, a very significant financial stability of the banking sector of the Republic of Srpska. Business failure of any bank in RS may initiate a "domino effect" on the stability of the financial and real sectors. The bankruptcy of any bank would deepen confidence in the stability of the financial sector, which resulted in the withdrawal of deposits from those banks that, never had financial problems or have had a smaller scale. For this reason it is necessary to strengthen the capital of financial institutions to create real conditions for the stability of the financial system, in the context of preventing and mitigating the negative effects of the global financial crisis. In the current financial crisis, the Investment Development Bank has given a greater role in an effort to provide the backbone of Serbian economy. Special purpose loans that are sold from the IRB RS are the cheapest loans that exist in the region. Investment-Development Bank of the Republic of Srpska monitors developments in real and in the financial sector and the emergence during the period of crisis intervened by amending the rules of lending (the reduction commitments of its own shares, increasing the amount to fund working capital, refinancing of existing indebtedness, obligation to maintain rather than increase the existing number workers in sectors of particular interest, lower interest rates).

Role of investment development bank of serbian capital market development in the republic of srpska

Investment-Development Bank of the Republic of Srpska ad Banja Luka was founded with the intention to become a major pillar of support and investment in the development of Serbian economy, by financing projects of development of character, the implementation of privatization projects, as well as efficient management of state assets in six of the Republic of Srpska public funds. The strategic objectives of the Investment Development Bank are to promote investment and stimulate development in Serbian. Placements of the Fund managed by the Investment Development Bank used to finance development projects. Funds are distributed by approving conditional loans from financial intermediaries that lend these funds to end users, as well as investments in securities on the capital market of the Republic of Srpska. The funds invested by approving loans to borrowers as financial intermediaries, representing the Investment Development Bank high-quality assets, whose value could be significantly reduced

only major disruptions in the banking sector of Republic of Srpska. Investment Funds of Funds, which manages the Development Bank, which are invested in securities are directly exposed to market risks.

It is important to emphasize that the initial position of the Investment Development Bank, the nature of work performed, similar to the fund management company, was very bad because the portfolio is formed based on a set of laws on the privatization of state capital, and not on the basis of investment decisions Investment Development Bank of RS. Investment and Development Bank has an important role in the development of capital markets, primarily through funds disbursed in the purchase of various financial instruments, as presented in Table 6.

Table 6. Bonds purchased in the period 2009-2011 by the Investment Development Bank (see / 21 /)

The issuer	Vlaue
2009 year	
Gradiška	416.000,00
Bijeljina	7.690.000,00
Šamac	4.189.700,00
In total:	12.295.700,00
2010 year	
Brod	2.634.600,00
Kotor Varoš	4.197.100,00
Farmland	448.221,00
Srbac	1.500.000,00
Balkaninvestment	750.000,00
In total:	9.529.921,00
2011 year	
Atlantik	260.000,00
Fabrika cij.UNIS	5.000.000,00
Nova banka	2.500.000,00
Boska	3.749.000,00
In total:	11.509.000,00
In total (2009-2011)	33.334.621,00

Activities of the Investment Development Bank, the purchase of bonds in the Fund for the development of the eastern part of the Republic of Srpska, are presented in Table 7.

Table 7. Bonds purchased in 2010-2011 by the Investment Development Bank (Fund for the development of the eastern part of the Republic of Srpska) (see / 24 /)

The issuer	Value
2010 year	
I.Stari Grad	312.800,00
In total:	312.800,00
2011 year	
OC Jahorina	15.000.000,00
Lopare	950.000,00
Pl.dobro Nevesinje	277.500,00
Osmaci	261.500,00
In total:	16.489.000,00
In total (2010-2011)	16.801.800,00

Securities purchased by the Investment Development Bank in the framework of the Action Fund, are presented in Table 8.

Table 8. Securities purchased by the Investment Development Bank in the framework of the Action Fund in the period (2010-2011) (see / 21 /)

The issuer	Value	The issuer	Value
2010 Bonds		2010 Shares	
Farmland	1.120.552,50	Aura	999.000,00
Balkan banka	1.500.000,00	Balkan banka	2.500.000,00
Gradiška	3.500.000,00	Bobar banka	3.750.000,00
Srbac	500.000,00		
Kneževo	2.800.000,00		
In total:	9.420.552,50	In total:	7.249.000,00
2011 Bonds		2011 Shares	
Novi Grad	1.000.000,00		
Atlantik	520.000,00		
UNIS fabrika ciljevi	10.000.000,00		
Boska	7.499.900,00		
Kostajnica	810.000,00		
Laktaši	4.500.000,00		
Nova banka	5.000.000,00		
In total:	28.329.900,00		
In total bonds (2010-2011)	37.750.452,50	In total shares (2010-2011)	7.249.000,00

Securities purchased by the Investment Development Bank under the Restitution Fund, are presented in Table 9.

Table 9. Securities purchased by the Investment Development Bank under the Restitution Fund in the period (2010-2011) (see / 24 /)

The issuer	Value	The issuer	Value
2010 Bonds		2010 Shares	
Farmland	672.331,50	Aura	999.000,00
Balkan banka	750.000,00	Bobar banka	2.250.000,00
Gradiška	3.500.000,00	Balkaninvestment	2.500.000,00
Srbac	500.000,00		
Kneževo	2.800.000,00		
In total:	8.222.331,50	Ukupno:	5.749.000,00
2011 Bonds		2011 Shares	
Novi Grad	1.000.000,00		
Fabrika ciljevi UNIS	5.000.000,00		
Boska	3.749.900,00		
Atlantik	260.000,00		
Nova banka	2.500.000,00		
In total:	12.509.900,00		
In total bonds (2010-2011)	20.732.231,50	In total shares (2010-2011)	5.749.000,00

It is also necessary to note that some portfolios (RS Restitution Fund), to the establishment of the Investment Development Bank does not manage. A large unrealized losses Funds consequences of poor quality portfolio, and the fact that after the formation of funds has been a sharp drop in the securities markets at the Banja Luka Stock Exchange. In the period until the Funds portfolio is formed on economic principles,

and reduce the number of issuers in the portfolio, it is reasonable to expect significant unrealized / realized losses.

Conclusion

Analyzing the banks in the Republic of Srpska and their comparison with the leading banks in the region, it is evident that our banks are less than the bank in the region and to have lower rates of return on equity and assets employed. The effects of the global financial crisis will hit several smaller banks in the Republic of Srpska. Smaller banks, which often have a more liberal credit policy, if the recapitalization does not obtain funding sources, the effects of the financial crisis could significantly undermine their business results. The high share of deposits of government institutions in total bank deposits (35%) indicated that the stability of the banking sector is significantly correlated with the stability of the budget and economic policy implemented by the Serbian Government.

Despite high interest rates, people eagerly spending continues to borrow, while the strongest regional banks continue to expand their offers, and strengthening its position in the Balkans. The strongest players in the banking market will certainly try to close this gap in the near future. All these are facts which we partly explain the price performance of banks in the Republic of Srpska Banks and neighboring countries. At the end of 2010. compared to the end of 2009. The total assets of banks surveyed in the Republic of Srpska was on the same level and is 5.31 billion KM. Classified assets in category A and B analyzed in nine banks as of 31.12.2010. amounted to 3.4 billion KM and represents 82.22% of total classified assets. Out of the economic crisis must be sought through measures to help the corporate sector based on the principles of maintaining and increasing demand and consumption. Republic of Srpska can maintain current levels of consumption are things that only through borrowing, as higher abstractions from the corporate sector would be absurd. Better position of the Serbian region in relation to the crisis is reflected in the significant resources that are distributed through the Development Programme of the Government of the Republic of Srpska.

Compared with banks in the region, most banks in the Republic of Srpska before the crisis had a much lower yield strength in terms of return on average equity. Expressed a high return on equity (ROE) was the only NLB Development Bank ad Banja Luka (32.92%). The minimum return on average equity had Pavlović banka ad Bijeljina (0.91%) and UniCredit Bank ad Banja Luka (0.40%). In the current financial crisis, the Investment Development Bank plays a key role by providing support of Serbian economy with loans cheapest dedicated that are placed out of the Development Programme of the Republic of Srpska and operations in the capital market. Looking at the underlying causes and characteristics of the banking crisis we can come to the realization that in our banking system has the same discernible. This is indicated by the fact that banks in the Republic of Srpska increase interest rates where they place their funds, to increase the deposit rates in order to collect deposits and increase the credit potential, and to conduct a stricter credit policy. It should be noted that the global recession reduced export of goods abroad, that a certain number of "good" bank's customers due to reduced marketing, lower cost of delivery, billing harder, get into problems.

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IMPLICATIONS OF VOLATILITY MODELING ON QUANTIFYING MARKET RISK

Abstract

Due to fluctuations in financial assets, market risk represents the most prevalent risk in the category of financial risks. The process of market risk management includes its quantification and control. Measure that quantifies the maximum potential loss in a given period of time with a certain statistical confidence level is the value at risk, VaR. Treating financial assets prices as a time series that could be described as a random walk with drift or returns of financial assets as a white noise typically underestimates the value at risk. Back testing shows that the estimation of the risk with variance modeled as a generalized conditional autoregressive heteroscedastic (GARCH) model is a reliable method for a quantification of risk.

Key words: value at risk, constant volatility, variable volatility

JEL Classifications: G11, G17, G32

ИМПЛИКАЦИЈЕ НАЧИНА МОДЕЛОВАЊА ВОЛАТИЛИТЕТА НА КВАНТИФИКОВАЊЕ ТРЖИШНОГ РИЗИКА

Апстракт

Тржишни ризик који настаје као последица колебања цена финансијске активе представља најраспрострањенији ризик у категорији финансијских ризика. Процес управљања тржишним ризиком подразумева његову квантификацију и контролу. Мера којом се квантификује највећи потенцијални губитак у датом временском периоду са одређеним статистичком нивоом поверења представља вредност под ризиком, ВаР («value at risk»). Третирање цена финансијске активе као временске серије која се може описати као случајни ход са прирастом („random walk with drift“) односно приноса финансијске активе као бели шум по правилу потцењује вредност под ризиком. «Back testing»-ом се показује да процена вредности под ризиком са варијабилитетом моделованим као генерализовани ауторегресиони условни хетероскедастични (GARCH) модел представља поуздану методу за квантификацију ризика.

Кључне речи: вредност под ризиком, стални волатилитет, променљиви волатилитет

Introduction

Expected return and its variability are the key issues in the process of risk control and it's valuation. The assumption of stationarity of time series of financial assets' return, which in practice often is not fulfilled leads to underestimation of the level of market risk.

Its calculation perform a significant number of professional investors (banks calculate interest rate VaR etc)¹

Financial assets variability

Starting from the common assumption that the prices of financial assets have stochastic character which can be described as a random walk with drift:

$$x_t = \mu + x_{t-1} + \varepsilon_t, E(\varepsilon_t) = 0, E(\varepsilon_t^2) = \sigma^2, E(\varepsilon_t \varepsilon_s) = 0 \dots\dots\dots(1)$$

return can be calculated as:

$$y_t = x_t - x_{t-1} = \mu + \varepsilon_t, E(\varepsilon_t) = 0, E(\varepsilon_t^2) = \sigma^2, E(\varepsilon_t \varepsilon_s) = 0 \text{ za } t \neq s \dots\dots\dots(2)$$

If we assume that the return on financial assets is calculated continuously, which is equation (2) has the form:

$$y_t = \ln(S_{t+1}) - \ln(S_t) = \mu + \varepsilon_t, E(\varepsilon_t) = 0, E(\varepsilon_t \varepsilon_s) = 0, E(\varepsilon_t \varepsilon_s) = 0, t \neq s \dots\dots\dots(3)$$

where $r_{t,t-1}$ denotes return and S_{t+1}, S_t are prices.

Then, if the assumptions of model are met: $E(\varepsilon_t) = 0, E(\varepsilon_t^2) = \sigma^2$ and $E(\varepsilon_t \varepsilon_s) = 0$ for $t \neq s$ (which means that returns are independently and identically distributed with mean μ and variance σ^2) then applies:

$$E(\ln(S_{t+1})) = t * \mu \text{ VAR}(\ln(S_{t+1})) = t * \sigma^2.$$

This relationship stems from the fact that the linear combination of variables with normal distribution (which is a common assumption about the distribution of return) is also normally distributed. If the variable does not come from a normal distribution, based on the central limit theorem their mean has an approximate normal distribution.

Assumptions of random walk model are in practice often not met. Time series are characterized by the existence of correlation in residuals, with the variance that is variable in time (heteroscedasticity) and symmetrical distribution with thick tails. Periods of high volatility are followed by periods of lower volatility and vice versa. Autoregressive model can be evaluated using least squares if the time series is covariance stationary, and residuals are not correlated (Weiseberg, 2005). If the autocorrelation of the residuals is significantly different from zero, model is not well specified.

As it has been previously mentioned, heteroscedasticity indicates residuals variance dependence on independent variables (Nelson, 1991, Bollerslev 1996). In contrast, homoscedacity presents random error variance independence of the independent variables. In order to produce reliable models it is important to detect heteroskedasticity in time series. Robert Engle gave a solution to test the interdependence of the variance in one period of the variance in the previous period (Christoffersen, 2000). This type is called autoregressive conditional heteroskedastity (ARCH).

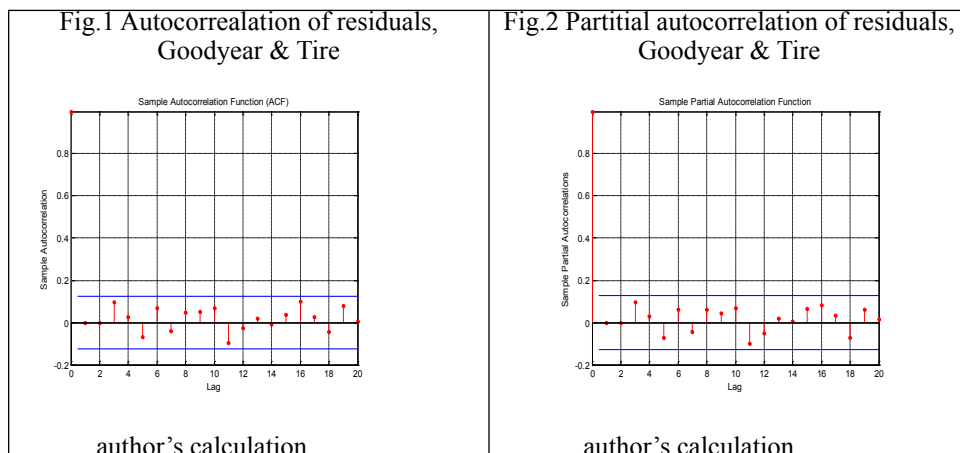
ARCH (1) model has the form:

$$\varepsilon_t \sim N(0, a_0 + a_1 \varepsilon_{t-1}^2) \dots\dots\dots(4)$$

¹ About bank interest rate risk see.Radević, Lekpek (2010)

with distribution ε_t , conditional on its value in the past ε_{t-1} , has a normal distribution with a mean 0 and variance a_0 . If $a = 0$, the variance of the random errors in each period is a_0 . If $a_1 > 0$ the variance in the observed period depends on how much was the variance in the previous period. If the variance is significant in one period, then over the next period, will be even more significant.

For example consider the correlation structure of daily returns of the company & Goodyear Tire (GT) in the period from August 2008 to July 2009 (Fig. no.1).



The graph shows the correlation structure of 1,2, ... 20 lags, with a confidence interval of 95%, which is shown by horizontal lines. Correlations within this interval are not considered statistically significant. The autocorrelation graph did not show any characteristic pattern. As in Fig. no. 2 it can be seen that even partial autocorrelation graph is also not typical. Assumptions of the model described by equation (2) are satisfied from the existence of serial correlation of residuals. Correlogram of squared returns given in Fig. no. 3 indicates that, although the yields are not necessarily correlated, their variance is characterized by the existence of serial autocorrelation.

For quantification of serial correlation of residuals, it can be used formal tests that are based on hypothesis testing, such as Ljung-Box-Pierce Q-test and Engle's ARCH test.

Ljung-Box-Pierce analysis of independence of random variables is based on

$$Q\text{-statistics } Q = N(N + 2) \sum_{k=1}^L \frac{r_k^2}{(N - k)} \dots\dots\dots (5)$$

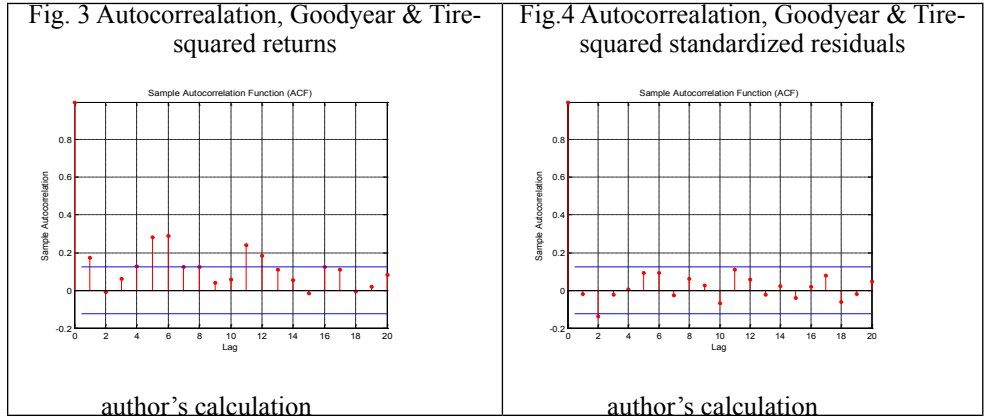
where N is the sample size, L number of lags for which autocorrelation is calculated,

while r_k^2 is the serial correlation at lags k. Q-statistic has a χ^2 distribution.

The null hypothesis of no serial correlation at lags k is rejected if the test statistics with confidence interval $(1 - \alpha)$, for the L-lag is greater than the critical value, ie:

$$Q > \chi_{1-\alpha, L}^2$$

In this example the obtained result is statistically significant, which confirms the presence of serial correlation in residuals.



A formal test for autoregressive conditional heteroskedasticity was also statistically significant and indicates that the observed series is characterized by existence of ARCH effects.

The basic model for a random walk with drift must therefore be adjusted in order to fulfill basic assumptions of the model. In practice for modeling the time variable, conditional variance is most commonly used in simple GARCH (1,1) model described by the equations:

$$y_t = \mu + \varepsilon_t \dots\dots\dots (6a)$$

$$\sigma_t^2 = k + G_1 \sigma_{t-1}^2 + A_1 \varepsilon_{t-1}^2 \dots\dots\dots (6b)$$

The general form of the GARCH (P, Q) model is:

$$\sigma_t^2 = k + \sum_{i=1}^P G_i \sigma_{t-i}^2 + \sum_{j=1}^Q A_j \varepsilon_{t-j}^2 \dots\dots\dots (6c)$$

where σ_{t-i}^2 is the estimated value of the variance in the next period expressed as a linear combination of the estimated number of variances from previous periods σ_{t-i}^2 and realized errors ε_{t-j}^2 .

Residuals with stochastic character can be presented in the form of:

$$\varepsilon_t = \sigma_t z_t, \dots\dots\dots (7)$$

where σ_t^2 is the estimated value of the variance in the next period expressed as a linear combination of the estimated number of variances from previous periods σ_{t-i}^2 and realized errors ε_{t-j}^2 . Thus standardized residuals are independent and equally distributed (Barone-Ades, 1997).

Estimation of parameters in regression equations (6a) (6b) gives the model that best describes the data sample:

$$y_t = 0.00032133 + \varepsilon_t \dots\dots\dots(8)$$

$$\sigma_t^2 = 0.00014172 + 0.8788\sigma_{t-1}^2 + 0.089556\varepsilon_{t-1}^2 \dots\dots\dots(11)$$

Correlogram of squares of standardized residuals indicates that the variances are not correlated with each other.

Evaluation of value at risk by Monte Carlo Simulation with constant and variable volatility

In order to determine the maximum loss over a period of specific period at given statistical level of confidence $(1-\alpha)$ by Monte Carlo simulations with assumed constant volatility, from assumptive distribution (usually standardized multivariate normal distribution) are generating a large number of equally probable outcomes with probability in the interval from 0 to 1 that represents realization of random variable X.

For each realization of random variable X, marked as X_m ,

Vector of portfolio returns are calculated as:

$$-R_m = f_m(X) = K_m + \mu, \text{ where:}$$

-m indicates the m-th simulation;

-k is the Cholesky decomposition of the matrix Σ ;

- X_m is the return vector of the m-th simulation;

- X_m is the m-th realization of the random variable X from the standardized multivariate normal distribution;

- μ is a vector of the expected value of random variable X.

The values for mean μ and variance σ are determined based on a sample of historical data for a specific period.

Daily VaR for the required level of confidence $(1 - \alpha)$ is determined as the percentile of the set which consists of a large number of simulations. Value at risk for an investment horizon T is estimated from equation:

$$VaR_{\alpha,T} = VaR_{\alpha} * \sqrt{T}.$$

Note again that this method of calculating the value at risk is made with the assumption that the variance and covariance remain constant value over time (Hamzagić, 2010).

In contrast, GARCH models give more realistic predictions of variance (Baillie, 1992). In order to determine the variance in the number of time periods in this paper, will be used GARCH (1,1) model.

After determining total standard deviation for all securities in the portfolio value of the variance covariance matrix, with the approximation, which involves a constant correlation (not observed for the overall period, but at a level of observation), among the securities in the portfolio is obtained as the product matrix:

$$COV = \begin{bmatrix} \sigma_1 & \cdot & \cdot & 0 \\ \cdot & \sigma_2 & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ 0 & \cdot & \cdot & \sigma_n \end{bmatrix} kor \begin{bmatrix} \sigma_1 & \cdot & \cdot & 0 \\ \cdot & \sigma_2 & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ 0 & \cdot & \cdot & \sigma_n \end{bmatrix}$$

In the diagonal matrix, are present total standard deviations (i.e. the total regression error), while kor marks correlation matrix of returns.

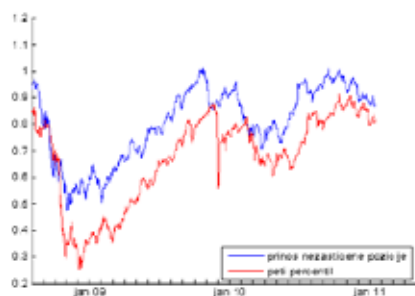
The only difference in estimating value at risk by Monte Carlo simulation with assumed constant and variable volatility is in the way of calculating variance-covariance matrix. It should be noted that this method predicts the value at risk over the next T periods, because in the variance covariance matrix are given overall standard deviation, as opposed to the Monte Carlo simulation with assumed constant volatility when the value at risk for one is determined first and then multiplied with \sqrt{T} .

Back testing of evaluation of value at risk by Monte Carlo simulation (constant and variable volatility)

Reliability assessment of a certain level of risk is done by comparing the estimated VaR using Monte Carlo simulations (constant volatility) and Monte Carlo simulations (variable volatility) for a given period and return achieved in the same period.

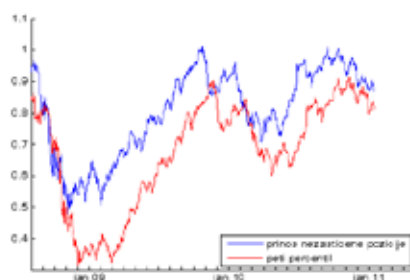
Taking into consideration freely selected portfolio weighted by market capitalization from different industries and with the following structure: Industrial Metals & Minerals: Alpha Natural Resources (ANR), Independent Oil & Gas: Petrohawk Energy Corporation (HK), Biotechnology: Celgene Corporation (CELG), Gilead Sciences (GILD), Dairy Products: Dean Foods (DF), Plastics & Rubber: Goodyear Tire & Rubber (GT), Networking & Communication Devices: Juniper Networks (JNPR), Internet Information Providers: Google (GOOG), Semiconductor: Trina Solar (TSL) Financial: Nasdaq OMX Group (NDAQ).

Fig. 5 Monte Carlo simulation (variable volatility)



author's calculation

Fig. 6 Monte Carlo simulation (constant volatility)



author's calculation

Monte Carlo simulations (variable volatility) was performed for the selected portfolio in the period from 8/8 /2008 to 6/10/2011. There where 716 observations and 31 times realized returns were lower than those introduced by the 95% VaR. That is 4.3% of all observations and it can be considered as a satisfactory result (Fig. no. 5).

By contrast, method Monte Carlo simulation (constant volatility) gave unreliable results (Fig. no. 6). For the same set of data (previously designated portfolio and in the same period) realized returns were lower than those introduced by the 95% VaR in 56 cases that is 7.8 % (of 716 observations) and it comes from the corridors of 5%.

Concluding remarks

The issue of variability is essential in many applications related to investment decisions and risk management. Estimation of value at risk represents a legal obligation for a significant number of professional investors. Adopting the assumption that financial asset prices follow a random walk with drift path, and that return is a white noise, with no confirmation of conditions that every autoregressive model must satisfy in order to be well-specified, leads to unreliable results and underestimating the value at risk.

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USING DECISION ANALYSIS WHEN SOLVING MANAGEMENT PROBLEMS

Abstract

The importance of using decision analysis, styles and types to resolve management problems. The process follows sequences of problem identification, alternative solution generation, consequence analyses, solutions and implementation, evaluation, and feedback. The researcher's job is to actively investigate problems before they appear and anticipate their importance. Managers must discover corporate resources to resolve problems before they take on greater meaning.

Key words: management, business, issues management, decision-making process.

JEL Classifications: M11, M12, M54

КОРИШЋЕЊЕ АНАЛИЗЕ ОДЛУЧИВАЊА У РЕШАВАЊУ ПРОБЛЕМА УПРАВЉАЊА

Апстракт

Рад има за циљ да апострофира значај коришћења анализе одлучивања, стилова и типова да би се решили проблеми управљања. Процес следи секвенце идентификација проблема, алтернативне солуције генерације, консеквентне анализе, решења и имплементацију, евалуацију и повратну спрегу. Посао истраживача је да активно истражују проблеме пре него се они појаве и антиципирају њихову важност. Менаџери са ентузијазмом морају идентификовати корпоративне ресурсе како би ефикасно решили управљачке проблеме пре него што они значајно оптерете пословање.

Кључне речи: менаџмент, бизнис, проблеми управљања, одлучивање, процес.

Introduction

Managerial function reveals that virtually every manager, no matter what his or her official title, makes decisions during the course of business. This points to decision-making as the common function of managers, and some writers have used the term “decision-maker” in place of manager. The decision-making process is the sequence of events taken by management to solve business problems, a systematic process that follows a sequence of problem identification, alternative solution generation, consequence analyses, solution selection and implementation, evaluation, and feedback. We have briefly

examined this managerial decision-making process by describing the social action phase of social responsibility and examining the process in greater detail. First, however, we must clarify the ways in which the management thinks about decisions, the general types of decision, preferred styles of decision-making, the organizational levels at which the various kinds of business decisions are made, and the conditions that influence managerial decision-making.

Thinking about business decision-making

Contemporary business has become more complex, there has been a growing consensus that effective decision-making must take the complex nature of business into account. The simplest approach, however, to the solution of business problems exemplifies *linear thinking*. This assumes that each problem has a single solution, the solution will only affect the problem area, not the rest of organization, and, once implemented, a solution will remain valid and should be evaluated only for how well it solves the problem. Problems are conceived as *discrete*, singular and unique. The way in which most fast-food restaurants deal with hiring and retention of counter or table personnel shows evidence of linear thinking. In the past, most fast-food restaurants hired teenagers and experienced 150-300 percent turnover - the average duration of employment was just under 4 months.⁽¹⁾ A linear thinking approach to personnel has suggested in the past to managers that the solution to the turnover problem is "hire more teenagers". The abundance of teenagers made this *look* like an effective solution. But, when the demographic picture changed and there were fewer available teenagers, it became apparent that this simplistic solution no longer worked. Now management must consider many potential solutions - higher pay, making jobs more interesting, hiring retirees, hiring the physically challenged, offering better benefits, and others. These solutions will impact and interact with other aspects of the organization: benefits and compensation, the need for different managers and supervisory structures, employee training, and so on. As long as the problem was seen in a simplistic and linear manner, neither the range of solutions nor the impact of these solutions upon the whole organization was considered.

Although there is allure for managers in the very simplicity of a linear thinking solution, it often does not prove an effective way of dealing with organizational problems. In the rapidly changing environment of modern business, there are at least three major difficulties with this approach to problem-solving.⁽³⁾

- Since the solution affects not only the problem area but also the rest of the organization, the results of the solution may not be anticipated. Parts of the organization not considered in the original problem-solving efforts may be affected by the solution and react in unanticipated ways. A manager may get more than was originally bargained for.
- Even if the results of a solution are only desired and intended, the focus on a single problem area ignores the interrelationships among organizational elements and may lead to a simplistic solution that does not solve the larger problem.
- Linear thinking assumes that problems, once defined, and solutions, once implemented, are always valid and ignores the rapidly changing nature of a business environment.

Such difficulties have led many business thinkers and practitioners to take a different approach to business decision-making. This new approach is called .

System thinking

As we say, system thinking is a more contemporary and encompassing approach to problem-solving that assumes that problems are complex and related to the situation, so that the situation does not solve the problem but has impact on the rest of organization and should be evaluated on how well they solve the problem (intended results) and affect the total organization (unintended results), and further, that neither problems nor solutions remain constant - situations change, problems evolve and new solutions are constantly necessary.(2)

This approach does not view problems as discrete but sees them as related to all aspects of an organization. Organizations are composed of interrelated systems and processes, and any change in one organizational aspect affects all others. A *system thinker* would therefore consider the interrelationships among the systems and processes of the organization *before* implementing a solution. That solution will be evaluated on the basis of *all* results produced, as cited earlier. Further, there is the recognition that not only do circumstances change, requiring new solutions, but solutions themselves also function to change circumstances. It is therefore necessary, after implementing any solution, to evaluate the effect of that solution and provide feedback to the organization as it begins anew the problem-solving process. Problem-solving is therefore a dynamic process as new solutions create new realities and those new circumstances require new solutions.

Managerial decisions

Whether a manager takes a linear thinking or approach to business problems, there are two major kinds of problems confronted, and the nature of the problems will influence the methods applied to reach satisfactory solutions. These are programmed and nonprogrammed decisions.

Character of the programmed decisions

This is the point, that programmed decisions are characterized by those problems that are well understood, highly structured, routine, and repetitive and that lend themselves to systematic procedures and rules. Each time one of these decisions is made is similar to every other time. The checking out of a book from a library or the processing of a hospital insurance claim are examples of programmed decisions because they are repetitive and routine. Much effort may have gone into the solving of these problems the first time they were encountered in the enterprise. As they were solved for the first time, there was probably much thought given to how the solutions could be routinized. When a process is produced that will give an acceptable results each time, management has created an *algorithm*, a mathematical concept applied to management. An algorithm is "respective calculation", in this instance a repetitive process by which an acceptable solution will always be found. Once implemented, such solution-generating processes become SOP-standard operating procedures.(4)

Programmed decisions, since they are well structured and understood, may lend themselves to linear thinking, but this will only be so if the programmed decisions are simple problems. A programmed decision, however routine and well understood, may be quite complex and requires a true systems approach when first encountered. This implies that a systems approach will be *necessary the first time the problem is solved*, but the result of this

problem-solving approach will be an algorithmic solution that can then be applied every time the same problem recurs. The computer is particularly well suited to algorithmic processing since it processes the ability to make error-free complex calculations each time.

After understanding how an individual approaches a well-understood problem, artificial intelligence (AI) seeks to duplicate human reasoning and action. The good of AI is to improve decision-making by enhancing consistency by applying decision-making rules as an employee would do. Thus, by defining decision-making rules based on mathematical modeling of expert decision-making, that expertise is preserved (even when the expert no longer has the job) and passed to others. An example of such an AI *expert system* would be a customer service computer-generated voice rotary consisting of a series of "if...then" alternatives. Each positive answer leads to a specific alternative, the "then", and the consumer eventually arrives at a satisfactory resolution of the problem initially presented. These systems may be either rule-based and operate by reference to a series of expert rules or case-based, where, having been presented with a problem, a computer searches through a data-based of past cases for the case that most closely resembles the current situation.

Decisions which are not programmed

Non programmed decisions are those problems that are not well understood, not highly structured, tend to be unique, and do not lend themselves to routine or systematic procedures. The key to understanding these decisions is to remember that it happens infrequently, and because they happen so rarely, there is little precedent for decision-making. A merger is an example of the kind of event that requires management decision-making and happens so rarely that neither standardized nor routine decisions are available.

Nonprogrammed decisions rely heavily on the decision-making abilities of managers since there is no routine solution available. Management will make use of data from past problems and performance, examining historical analogy-how others in the past have solved similar problems. Managers look for principles and solutions that *may* apply in the current situation but must be ever mindful that past solutions and problem-solving methodologies *may not apply* now.(5) There may well be something in the past problem that was unique or special to that problem that makes deriving a solution for the current problem impossible. Additionally, managers may review how similarly situated companies are currently solving similar problems to discern ways of dealing with the difficulties currently facing their organization.

Because nonprogrammed decisions are so important to business and so common to the managerial position, a manager's effectiveness and future promise to the business will often be judged according to the quality of his or her decision-making. Business have created training programs in decision-making to help training managers because they make so many nonprogrammed decisions. Many managers elect to seek advanced educational degrees in business, and much of this education teaches problem analysis and decision-making.(6) One of the most popular ways of developing analytic abilities and managerial decision-making is the case study. The case study is a written history of a business problem and the manner in which management solved it. A good case study does not pretend to teach a unique solution, although it may be valuable to see how that solution worked in a specific situation. The greatest benefit to be derived from a case study is to learn how a decision was made and a solution selected. The decision-making methodology can then be applied to other problems.

Levels of decision-making in an organization

Just as there are different kind of business decision-making, there are different levels of decision - making within a business. These are the strategic, administrative and operational levels of decision-making in an organization.

Top management has the “big picture” of all the elements of a complex business enterprise, and it must be able to *integrate* all aspects of a business into a coherent whole. The decision made at this level also determine how the business will relate to external environments. Because strategic policies affect the entire business, they can best and must be made at the highest level within an organization. These policies and goals are not very specific because they must be applied to all levels and departments in a company. Strategic decisions are usually nonprogrammed in nature. The *general* decision to produce a breakfast cereal or to entire a new market are examples of strategic decisions.(7)

Administrative decision-making are those made on a lower level than the previously discussed strategic decisions. They are usually made by midlevel management, such as divisional or departmental managers. These decisions concern the development of tactics to accomplish the strategic goals defined by top management. Although top management’s strategic decisions are nonspecific because they are applied to all departments within the organization, administrative decisions express corporate goals in a *specific* departmental manner. Administrative decisions are therefore more specific and concrete than strategic decision and more action oriented. The decision to produce a specific kind of cereal, in this case a fruit-and-fiber breakfast cereal, is an example of this kind of administrative decision.

Operational decision-making in management problems

This is made on the lowest or supervisory level within the company and concern the course of daily operations. These decisions determine the manner in which operations are conducted - operations designed to accomplish the tactical decisions made by mid-management. These decisions concern the most effective and efficient way to accomplish the goals stated on the administrative level. Setting a production schedule and determining the appropriate level of raw materials inventors are examples of operational decisions. In our continuing example of the breakfast cereal, an operational decision would be to produce each week 10,000 boxes holding 12 ounces.

Figure 1. is a graphic representation of the levels of decision-making shows for each part of the organization.



Pt. 1. Levels of decision-making in an organization

The task of the new manager is to determine the most effective decision-making style. This can be done by observing the styles of established executives in the specific company. This manager functions to maintain current conditions, and although this may not be the *stated* goal of managerial decisions and actions, it will be the practical results. When confronted with difficulty, the PA will either reconcile the conflicts in the reported data with a rationale that seeks to “smooth over” any conflict or ignore it completely. This PA is often called a smoother. This manager may not recognize problems in the business environment and will be able to come up with rationales for supposed problems that demonstrate that they are not really problems at all. He or she may appear blind to business difficulties and will be the person who most resists business changes, even when the changes are obviously for the best interest of the company.(8)

These studies will present and justify organizational efforts designed to minimize change. Problem avoiders are good people to keep an organization on a calm and even course, and this *may be* the most effective decision-making style in industrial environments in which there is little need for change. However, if the business is conducted in a dynamic, changing environment, a more active approach will almost be more effective for problem-solving. Such a manager will be known as a problem solver.

How to solve management problems

Most managers expect to be confronted with problems and to solve those problems in the normal course of doing business. There is no hesitation to make changes when there is an indication that such changes are good and necessary. There is no prior commitment to make changes, however, until it has been determined by means of research and scientific analysis if the data that changes are necessary. It is recognized that change without necessity is gratuitous, a waste of organizational resources. Such gratuitous changes serve to foster an illusion of progress while merely confusing everyone. Change is made more acceptable when those affected by the changes understand the *reasons* for those changes.(9)

The problem solver accepted that modern business operates under conditions of risk and uncertainty. This means that business is often in a very turbulent environment with the imperative to adapt to changed circumstances. Business that fail to adapt suffer decline, cease to be productive and profitable, and may eventually die. It has been observed that the marketplace is unforgiving of a business that fails to change when confronted with necessity to do so. The problem solver accepts the risk and makes decisions that help deal with the uncertainty. These managers deal with problems as they arise and do not seek to preserve the status quo unless the current situation is better than any possible change.

The problem seeker, as the name implies, actively seeks out problems and attempts to deal with them before they emerge as major difficulties for a business. This manager is enthusiastically involved with future planning and the creation of contingencies.(10) The problem seeker not only recognizes the need for change but also believes that the best way to deal with change is to anticipate it, not merely react to current needs. This kind of managerial decision-maker makes use of data analysis, not merely to understand the present, but also to project the future. The problem seeker is a corporate champion of research and will devote many hours of dedicated work trying to understand the implications of research data for the company's future.

There are two major points in favour of the decision-making style of the problem seeker: (1) It is often easier and more efficient to deal with small problems before they

become big ones. It is not enough for a company to change; it must change in the right direction to survive in the rapidly changing contemporary environments of business. (11) The problem seeker is a major corporate resource in planning for the future, but it is obvious that a company must be able to change *both* in response to current problems *and* in response to anticipated future problems.

The problem avoider seeks to mini-maze risk and eliminate uncertainty by promoting the status quo, a totally known condition. The problem solver recognizes the need to risk change and function in an environment of uncertainty in which there are unknown conditions and the possibility of unanticipated results. The problem seeker accepts the greatest amount of risk and uncertainty in actively seeking to deal with problems *before* they have emerged and become known. We now turn a general description of the different levels and types of risk and uncertainty to better understand the conditions under which managerial decisions are made.

Conclusion

This is a systematic process that follows sequence of problem identification, alternative solutions generation, consequence analysis, solution selection and implementation, evaluation, and feedback. Linear thinking is a simplistic approach to problem-solving that assumes that each problem has a single solution; and, once implemented, a solution will remain and should be evaluated only for how well it solves the problem.

This systematic thinking is more contemporary and complex approach to problem-solver that solutions not only solve the problem but also impact on the rest of the organization and should be evaluated on how well they solve the problem (intended results) *and* affect the total organization.

The problem seeker actively seeks out problems before they emerge and will anticipate their significance. This manager will enthusiastically devote corporate resources to solving these problems before they can assume major significance. This manager anticipates rather than merely reacts.

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THE IMPORTANCE OF FINANCIAL CONTROL AND SUPERVISION OF A SMALL COMPANY

Abstract

This paper deals with the method of financial planning which is presented as the instrument of financial managing. It represents the basis of small business management.

Since there are two aspects of control, internal and external, the emphasis is put on internal aspect, for it represents the sum of measures which the management puts into action in order to accomplish the business goals. Those measures could be defined as: the protection of property from excessive spending, providing the reliability of accounting data, consistent realization of business politics in all areas of operation, as well as grading the overall performance of sectors, employees and company management.

To inform and assure the management that all sectors of small business are realizing the basic business plan and politics in the analyzed period, is considered to be the fundamental task of internal supervision. The financial control can be: preventive or subsequent. While the preventive control acquires information on business actions, the subsequent control allows us to perceive the disadvantages in determining and applying the financial politics in the previous period. Based on that knowledge, the management in finances uses the subsequent control as the basis for making business decisions regarding the future actions. Moreover, it is also being used for correcting the already undertaken actions and reducing their effects, if possible or necessary.

Key words: *financial control, financial planning, internal control, supervision, accounting records, small business...*

JEL Classification: D23, D24

ЗНАЧАЈ ФИНАНСИЈСКЕ КОНТРОЛЕ И НАДЗОРА МАЛЕ ФИРМЕ

Апстракт

У раду се говори о методу финансијског планирања који се јавља као инструмент финансијског управљања и представља основу пословања мале фирме.

Пошто постоје два аспекта контроле, екстерни и интерни, акценат је дат на интерни облик, јер она означава скуп мера које предузима менаџмент у смислу остваривања пословних циљева. Те мере се могу дефинисати као: заштита имовине од претераног трошења, обезбеђење поузданости рачуноводствених података, доследна реализација пословне политике у

свим деловима привредног друштва и оцењивање рада сектора, запослених и менаџмента.

Информисање и уверавање менаџмента да се сви делови мале фирме придржавају основе пословног плана и пословне политике у анализираном периоду, сматра се темељним задатком интерног надзора. Финансијска контрола може бити: превентивна и накнадна. Док превентивном контролом долазимо до информација о пословним радњама, накнадна контрола омогућује нам да се на основу прибављених информација сагледају недостаци у утврђивању и спровођењу финансијске политике у протеклом периоду. На основу тог сазнања органи у финансијама користе накнадну контролу као основ за доношење пословних одлука о будућим пословима, а користе је и ради корекције већ обављених послова, односно ради отклањања њихових последица, ако је нужно и могућно.

Кључне речи: финансијска контрола, финансијско планирање, интерна контрола, надзор, рачуноводствена евиденција, мала фирма...

Introduction

A small business doesn't let its future development be affected by the elements. It tries to base it on good projection of all its individual types of activities. That projection comprises of the whole array of business plans which appear as the method and the instrument of financial managing. It synthesizes and coordinates all material plans. Otherwise, a competent and objectively designed financial plan should present a solid basis for performing all the projected financial activities in the company.

Financial planning, therefore, represents the prediction, beforehand projected shifting of the elements of small business' financial functions. The link between planning and control is therefore eminent, since the control presents check, supervision and correction of deviations in plans' realization.

Modern business management is faced with the need of making business decisions regarding the accomplishment of business goals. The decisions which the management makes are, to a great extent, based on information produced in the accountant informational system.

The system of internal supervision, which includes all the measures shifted at preventing the mistakes of overspending, checks and secures the reliability of information. The key task of internal supervision is to control all parts of the company in consistent appliance of the business politics adopted at the beginning of business period, as well as briefing the company's management.

In conditions of increased effect of free market, so is the role of internal supervision increased too. The reason more is also the presence of unlawful competition, the increased corruption and the erosion of business moral. The structure of internal supervision system is comprised of both internal control and internal revision.

Financial control

The control of financial management of small business is a type of expert control with the task to monitor, test, evaluate and correct all the actions performed by financial function. Therefore, the object of this control is the overall financial management of the company, which basically means that it tests and evaluates the following business areas of small company:

- treasury business,
- financial accounting,
- business with banks,
- process of investment funding (the control of investment loans),
- process of financing regular business (the control of short-term credits),
- use of foreign currency credits,
- use of international financial credits,
- use of corporative investments,
- process of self-funding (the use of profit and amortization),
- means of international payments (in foreign currency),
- process of monetary financing of business partners,
- process of goods financing of business partners
- process of business on the financial market.

Internal control and supervision

The system of internal control comprises of all the actions adopted by the company management in order to achieve goals related to securing regular and efficient business. It includes the protection of property, the prevention of frauds and mistakes, securing accurate and complete accounting evidence and prompt preparation of reliable financial information.

In all business activities of a company there is a system of internal control, and its existence has been tightly connected to performing business activities. The important goals of this control are the accuracy of information on which internal decisions are made and the protection of property. If not properly protected with control, material and non-material means, important documents and proper evidence of the company might be stolen, misused or accidentally destroyed.

For internal control, the responsibility falls on all employees: management, the board of directors, internal revisers and other staff; the most responsible by far is the executive director who directs the internal control and issues directives to the managers in charge. The board of directors has got the highest potential for identifying and correcting the management's attempt to be excluded from control and neglect or prevent communication with lower-ranked employees.

Small company's management should be fully informed whether all of its segments work in unison according to the current politics and plans. Therefore, internal control must be thus based and organizationally structured.

Types of internal control

From analytical point of view, internal control could be divided into two broad categories of supervision: administrative and accountant supervision.

Both of these supervisions have the management function, and in most cases they are interwoven so that there is not a clear, distinct division between them. However, in the process of revision, especially when it comes to external revision, reviser deals with internal accountant supervision lot more than administrative supervision. Because of this, the focus will be put on internal accountant supervision.

Administrative internal supervision deals with activities not directly financial in character, and its task is to ensure such efficiency in business so that it would run in all sectors and divisions in keeping with proclaimed business politics of the company. Efficient administrative internal supervisions have great effect on the success of business, for they secure a steady pace of personal servicing business activities, and also leave the impression of security with business partners.

Financial control covers financial activities and involves such organization, methodology and evidence which ensure total protection of property and reliability of financial reports. It is designed in a way to provide reliable evidence that the transactions have been:

- Authorized by the management,
- Logged so that financial report could be provided,
- That the value of means have been properly presented,
- That the disposal of means is allowed only under the authority of management,
- That the accountant state of means has been compared with the existing state in proper intervals,
- That the losses and profits have been established.

In practice of considering the efficiency of internal financial supervision might include considering certain business control that refer to activities which have, or might have a potentially significant financial impact on true and objective presentation of financial reports.

In order for internal control to meet its supervision function, elements for comparison must be presented. Each business transaction should undergo four different phases. It should be clearly stated who:

- approves the transaction,
- signs the documents,
- executes the transaction,
- logs the transaction.

Proper division of obligations and responsibilities is an important element of supervision. A business transaction should not be done by an individual from the beginning till the end. In other words, the mentioned phases have a control role, so that a person responsible for the next phase of transaction controls the work done in the previous phase, and the controlled performance allows us to detect and correct any errors prior to the completion of transaction.

The final phase belongs to the accountant division, which logs the sale after they received the documentation of: buyers order, the approved credit, shipping list and other documentation.

The supervision insists on incompatibility principle of responsibilities and authorizations.

The main point states that people who have access to the means do not have access to accountant evidence, which prevents various frauds and misconducts.

Internal supervision testing by reviser

The first phase of reviser's work is testing and grading the existing internal supervision. Namely, a reviser cannot check all business transactions within one year, or even majority of them. To what extent would a reviser check, and what areas would require more intensive checking, is determined by the analysis of internal supervision.

A revision of balance and success will be done if it turns out that the system of internal supervision is adequate, by method of testing and sampling. It is based on the assumption that the testing of logs or other relevant data would reveal the same characteristics as testing all the positions. Each transaction category is seen as a separate unit.

The fact that the adequate system of internal supervision is the key factor in revision performed by external reviser raises the question what he or she should do if they perceive that the internal supervision has got some serious faults. A detailed check of all logs on the accounts and all transactions, in theory, should compensate for the lack of internal supervision. However, such procedure would not be practical unless it is a small company.

The traditional form of testing and introducing the existing system of internal control is represented by questionnaires for internal supervision, which are being done by many well-known revision companies.

A long-term experience has caused a standard form of questionnaire to be established, which ensures:

- Indication of information source necessary for the reply on every question and check, if necessary,
- Distinction between significant and minute imperfections in internal supervision,
- A detailed description of imperfections in internal supervision which allows composing a written report on those weaknesses.

The weaknesses of using the questionnaire for internal supervision might be: rewriting the replies given in last-year's questionnaire, a mechanical filling out yes/no replies without actual understanding of the problem, seeing the questionnaire as a goal instead of means.

Textual description and presentation of business trends and duty assignment and responsibilities are the tools which revision firms use instead of standard questionnaires for internal supervision. The description includes identifying the people who perform certain functions and who might indicate the details related to the way a certain job is carried out. Reviser after the description of the procedure is able to give final grade by classifying each main part of the supervision as 'good', 'satisfactory' or 'weak'.

One of the procedures used in the phase of studying internal supervision is the schematic (graphic) presentation of internal supervision system, which is symbolic

presentation of the system, which is series of successive processes. This gives the reviser ability to quickly grade the efficiency of internal supervision and thus avoid detailed study of procedures described or long questionnaires.

During the schematic recording, the basic principle is that the scheme only covers certain types of business changes which impact the formation and giving opinion on reality and objectivity of the company's financial reports. This technique means production of special scheme for each closed system of processing business changes, or the most part of one such system.

As mentioned before, the schematic recording displays documentation flows within small company's accountant system, and making too detailed schemes should be avoided since the information should be limited to most important aspects of accountant system and controls installed in that system.

Internal supervision reports

When a serious problem is detected during internal supervision, majority of revisers practice making up a report and sending it to the client, its management. The report is in form of a letter and contains suggestions for solving the problem, and is there to minimize the reviser's obligations in case some great fraud or other serious losses are revealed later. With this letter a contact is made which otherwise would not be established and it helps building an adequate understanding and greater respect of services provided by external reviser. Considering the fact that the grade often includes part of the work done prior to the date of revision, a letter to the management stating main problems in internal supervision might be posted several weeks before the formal revision report.

It should be stated that the important condition in doing financial control is high-expertise in knowing the essence and all forms of company's business, as well as mastering the methods and instruments of control function.

Types of financial control

There are two types of financial control:

- Preventive and
- Subsequent.

A preventive control sets the goal of performing the intended job, establishes the facts related to the job execution and, based on that information, evaluating whether it is a strategic and planned action. A preventive control could be used as a method in managing finances, for it ensures the completion of actions.

With this type of control we acquire the information on what business actions should be undertaken, how and when. Based on that information action's justifiability is determined so that in case of negative review, the same action could be prevented or stopped. This method allows for a business without irregularities and without any negative effects. Therefore, a preventive control should justifiably be considered as the most effective assistant in managing finances.

Considering the role of preventive control in managing finances, one could generally conclude that it prevents irregularities and unfinished financial dispositions, improper dealing with funds. The common form of organizing preventive control is the control within liquidation. It is a methodological solution which enables the execution of only correct monetary operations.

The control, using the method of comparison, is able to provide the information whether the planned scales are within or under the possible scales, that is if they exceed these scales. When the presented scales are smaller than the objective ones, intentionally or not, then there are hidden reserves. The control enables timely prevention of unrealistic plan's fulfillment and thus gaining necessary precedence. Apart from that, a preventive control creates conditions for exploiting all the capacities and opportunities when the hidden reserves have been made unintentionally, as the consequence of insufficient study of existing capacities.

Subsequent control, as subsequent supervision, has got the task to establish the facts regarding business performance after the business has been done, and based on that information evaluate whether the business actions have been planned and effective. Moreover, subsequent control may be used as a method of managing finances, for it allows defects to be shown, all based on gathered information. The management may use subsequent control to make future business decisions, and also correct the defects, if necessary or possible.

Financial control is one of the activities in the system of managing finances and it requires, apart from efficient supervision over business actions, managing the financial aspects of all business processes. 'While the companies were simple and work processes not complicated, the responsibility for managing decisions fell on one person - the director. The problems of control were then hardly noticeable. The industrial progress has significantly increased the volume of information processed, and that is why the director had to delegate certain functions; this delegation required control, so the scale of controlled information increased.'

The activity of financial control seen in this light is actually part of informational importance. The control provides information necessary for making certain decisions regarding the performance and business success.

Conclusion

Financial control is the easiest way to perceive business success of a certain company. Company's assets value is presented in monetary terms, and therefore financial control efficiently perceives business results, regularities in finances and overall success of business politics.

If the manager could foresee the market demand, general economic situation, the availability and costs of resources, as well as human labor and technological processes, there would be no need for control. Since one cannot entirely foresee the future events, the need for control is absolutely necessary. When a system is established with the purpose to achieve certain goals, internal and external events, which constantly appear, want to throw the system out of balance, so that the goals would not be reached.

In ideal circumstances, supervision 'looks forward'. It means the managers would attempt to prevent possible deviations from planned activities, if possible, or prevent repetition of earlier mistakes.

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INTERNET ABUSE IN MONEY LAUNDERING

Abstract

Money launderers constantly find new ways to launder money and become more efficient at it. Due to the occurrence of rapid information and communication technologies, which are incurred as a technical support to the new trends of international trade on global markets, money launderers use the same approach for the execution of the mentioned offense. Classical techniques are bypassed and replaced by more modern and much faster methods of laundering, used by launderers with the help of experts from the information technology field. It is difficult for the government agencies to identify, locate and track these modern sophisticated money laundering techniques and there is a clear need and demand for increased cooperation between institutions involved in combating money laundering and IT professionals, as experts in the information technology.

Key words: Money laundering, Internet abuse, e-money

JEL Classifications: L86, L81, G18

ЗЛОУПОТРЕБА ИНТЕРНЕТА РАДИ ПРАЊА НОВЦА

Апстракт

Перачи новца константно проналазе нове начине за прање новца, те постају све ефикаснији у томе. Услед појаве брзих информационо-комуникационих технологија, које су настале као техничка подршка новим трендовима међународне трговине на глобалном тржишту, перачи новца приступају коришћењу истих ради извршења наведеног кривичног дела. Класичне технике се заобилазе и бивају замењене модернијим и далеко бржим начинима прања, до којих перачи долазе уз помоћ стручњака за информационе технологије. Владиним агенцијама је отежано идентификовање, лоцирање и прање ових савремених софистицираних техника прања новца, те постоји јасна потреба и захтев за повећаном сарадњом између институција које се баве борбом против прања новца и професионалних информатичара, као стручњака за информационе технологије.

Кључне речи: Прање новца, злоупотреба Интернета, е-новац

Introduction

Money laundering is transformation of illegally acquired money into legal money that can be used (spent). The purpose is the legalization of capital, acquired by execution of different criminal offenses, in order that it can be used legally. Money laundering

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undermines the financial system, damages the reputation of national and international financial institutions, harms the production sector of national economy and the capital flows and produces wider legal and social consequences, because its purpose is also hiding the perpetration of other crime acts, and especially its organized forms, and continuation of commission crime acts, without fear of detection. Unlawfully gained property which by the process of laundering acquires an appearance of legal capital, increases criminal's greed for more power, which often results in the entry of criminal structures in the politics and greater influence on the social trends. In the early days of money laundering activity itself demanded physical transfer of financial assets (cash money), which was a significant effort at laundering large amounts of money. Today, cheap, accessible and effective information and communication technologies provide money laundering in a quick, cost effective and much safer way. Consequently, there comes a need for more active cooperation between government agencies responsible for combating money laundering and IT professionals in order to prevent money laundering.

Internet and electronic money

The trend of international trade and capital flows takes a new global form that dominates the global economy, leading to the cancellation of many of the existing constraints. Progress in the development of information technology has led to the appearance of the Internet as a medium for a business, which provides more opportunities to the companies for a rapid business expansion and penetration on the global market. The development of computer systems and telecommunication networks, market integration and globalization has enabled rapid transfer of information and money. Cheap computer resources (PCs, Internet domain lease, etc.) and more demanding, but also "more static" consumer populations, requesting purchase (payment) without going to the store or bank, led to the emergence of electronic commerce and electronic banking.

There is a requirement for using fast and reliable information and communication networks supported with payment software in retail, in accordance with the intentions of each manufacturer/dealer - achieving higher sales and profits which strengthens its own sales infrastructure and position on the Internet and the increases efficiency of the Internet transactions. Feature of the Internet is in the fact that it carries lower overhead costs to the e-trading companies (e-commerce companies). Through on-line commerce it is possible to trade with higher volume of transactions than with the classical methods. The same goes for the banking sector. In the financial sector, banks were refusing to start online business at first, but over time have realized that the Internet is essential to their business banking services, and that it has a great potential in the future. Today there is no a single bank that does not have electronic banking in its range of services, due to the many benefits oriented to the customers and other banks, and it is evidently common struggle of competitors for new banking products related to the Internet.² In the U.S., almost 30% of all payment transactions in the retail sector are accomplished through the Internet, while in Japan, almost 90% of the financial transactions are carried out e-banking.³

Demand for efficient consumer transactions has led to the creation of electronic cash (e-money). Although, nowadays e-money still isn't used in the way cash is, its

² Miljkovich, A., Miljkovic Lj., „Development and Benefits of E-banking“, Economics 1-2011, p.130-131.

³ Direct banking, on-line banking, Internet banking, cyber banking.

utilization is significant. Electronic, digital money is electronic substitute for cash, cyber payment instrument and facilitates the transfer of financial value. It is a specific “monetary information”, series of numbers that have a value in some currency, which transfers between transactors who carry out payments through electronic networks, through electronic impulses, in realistic-time frame. This is the greatest technological achievement in the development of money. It allows purchase of goods and services by using a computer connected on the Internet thus quickly executes payments in a convenient, direct, secure and anonymous way. In addition, it suppresses and replaces cash and is more convenient than paper money (bank notes), due to the storage and transport, but also risks the loss or destruction, etc. Digital money uses the technique of “blind” digital signature and cannot be traced. The elusiveness stems from a technical base, which prevents linking payment transactions with payers. On the other hand, the payer can easily prove that he has paid funds, without revealing any other details of the transaction. Wire transfers become increasingly popular among the citizens, but also among the criminals - money launderers. Features such as speed make the system more efficient and together with anonymity, which makes e-money safe, they attract money launderers. Fast transfer of financial resources from anywhere on the planet without facing the bank officer is crucial for the launderers. If the money launderer was forced to personally be present at the bank while carrying out financial transactions, he would be encounter serious problems. Certain financial transactions are subject to reporting to government agencies in specifically defined form - Report on monetary/suspicious transaction (*Currency transaction report-CTR, Suspicious transaction report-STR*).

The advantage of e-money over traditional money bills is in the fact that e-money is information that can be programmed. The ability of e-money enables it to become the “smart money” stored on a “smart card” with which is possible to withdraw cash, place a deposit, transfer to other accounts and payment of various bills at the ATM. Using e-money enables the entrance to the accounts, payments and transfers from any computer workstation (computer properly connected on the Internet). E-money circulates freely between transactors in the same way cash does. Being in the form of an electronic wallet (e-wallet), it is based on executed pre-payments monetary values, which are registered on the microchips integrated on electronic payment cards used to pay goods and services (*MasterCard, VISA, Dinners Club*).

Internet and the continued development of e-money payments changes the way of business, but also provides significant ground for potential money laundering. Characteristics that make it suitable for e-commerce such as speed, access, anonymity and the ability to spread beyond national borders also make it ideal for money laundering. Therefore, new possibilities create new risks.

Money laundering using the Internet

E-money is transferred to anyone, anywhere, any time through digital communications by using the Internet. Use of digital cash is the latest technique for hiding cash money.

‘Dirty Money’ (acquired by criminal activities), divided into many small amounts (which are not subject to registration under the Law on Prevention of Money Laundering) is converted into a digital e-cash, making illegally obtained money anonymous. Consequently, it can immediately be transferred to the launderer, who has legitimate access to the e-cash. Legal regulations are violated in the process of layering (fragmentation), the structuring of deposits where many small amounts of cash are

distributed to many deposit accounts, which are not subject to completing the report on financial transactions (*Currency transaction report - CTR*), and thus there is the omission of reporting government agencies (*Service for Prevention of Money Laundering*).

The transfer of the electronic cash (*e-cash*) can be repeated several times. Once dirty money is set up to the *SMART* card, money launderer can accessed it from any computer properly connected to the Internet. Creative money launderers can access money via Telnet, the command which includes connection procedures to another computer at the Internet. As a result launderer can move illegally acquired funds from his laptop located in the Caribbean by chartered account of Internet provider in the U.S linked to a bank which then transfers funds and thus the identity of the launderer is concealed. In order to make money illegally separated from the actual source, the launderer does a series of hidden transactions. This process is known as layering. It usually involves a series of financial transactions related to the purchase of goods for resale by an off-shore company. The bank that holds the digital money in the account and any vendor that receives digital money do not have the ability to identify the purchaser. Anonymous e-money and Internet can provide the launderer with a substantial advantage in avoiding operational actions and measures of supervision of government agencies. Launderer may attempt to legalize cash by tax payment under the excuse of completed consulting services. If the procedures for opening an Internet bank account are such that allow the opening of accounts without face-to-face application or without a connection/link with traditional bank accounts where there is a requirement of possessing a verification of identity; money launderer can easily open accounts under a false name and make transactions between those accounts without the possibility of being connected back to him. Hence, financial transactions can be controlled from his personal computer. Launderer may share resources across multiple email accounts in several countries, which reduces the odds to track and verify the money source, since e-money passes through a number of national jurisdictions.

Integration legislates that the money should be used by its owner. Owner of the money (launderer) can use a company that provides Internet services to counterfeit existence of services, from which comes the money. Laundered money can be on the bank account of a fictitious person or company. Payment is made from that account to the account of the company that provides Internet services (consulting, market research, betting), as a payment for completed fabricated services. However, regardless the fact that neither the services nor payments have been done the company which provides Internet service will show sales revenue and profits in the business books. Thus, the wealth of the owner of the Internet Company becomes legal, as a profit from provided services.

This mechanism is much better to the launderers, faster and easier than traditional methods of money laundering. In the classical money laundering there must be a lot of false invoices, often commercial office space of the company that launders money, counterfeited stamps, or other false documents related to the shipment and transportation of non-existent goods (receipts, delivery notes, return receipts, invoices, warehouse lists, etc.). Fictitious business firms can be oriented to only one category of customers/purchasers of one region or a country, giving rise to suspicion and harder to justify the high turnover (it turned out to be that the entire company has a market share whose products/services no one has ever heard of). Also, it can create unnecessary attention of government agencies to combat money laundering when large amounts of money is transferred from overseas foreign banks or from branches nearby the company. Real estate agents, law firms, public notaries, audit companies, etc. have the obligation to

report suspicious transactions.⁴ These reports may result in initiating prosecution against the launderer and cause considerable consequences. If the launderer can reduce the risk arising from the submitted suspicious transaction reports, he can also reduce the possibility of being identified and prosecuted, which is exactly what the Internet provides.

There are several reasons why launderers use Internet:

- Inability to identify a person. Internet transactions are conducted without personal presence, so there is no possibility of being reported by banking officials on the basis of observation of suspicious behavior, fear, pressure of another person, and so on.
- The lack or inadequacy of the system for keeping records of transactions and reporting of suspicious transactions by technology provider.
- Use a higher level of encryption, leading to the inability of law enforcement.

Internet gambling has been recognized as a potentially ideal Internet service for money laundering. Virtual casinos further complicate the monitoring of suspicious transactions because gambling records are unplaced at the Web site, usually located in *off-shore* destinations. This makes the evidence collection very difficult, because it is difficult to find the data, if they exist at all. Casinos are used to launder money through the placement and layering dirty money. Launderer buys chips for gambling, deliberately losing a percentage of the money (the price of money laundering), but a larger amount of chips turns back into cash, which is transferred to his bank account. Payments to his account come from a legitimate source - Internet casino. Of course, the classic casinos are regulated by law and there is an obligation of identifying the players. Many Internet gambling sites are located in *off-shore* destinations, so getting any information or evidence is even more difficult or impossible.

Prevention of money laundering through Internet

Today there are about 700,000 electronic transfers per day in the U.S and it's easy to hide illegal money transfers. The U.S federal agencies estimate that less than 10% of these financial transactions are money laundering operations. By the Internet banking development, monitoring of dirty money flows becomes extremely difficult, because of the anonymity provided by Internet. Report of the Financial Action Task Force - FATF, major international organization for combating money laundering, quotes the existence of major difficulties, if the procedure for opening a bank account does not require a physical presence. A particular problem is the lack of transparency whether the account was accessed in a country where money is kept, or from another location.

The U.S. Federal Reserve has ordered that the banks, which operate as a cyber banks and accept anonymous e-money, must comply with the regulations of Federal Deposit Insurance Corporation-FDIC. It is believed that these banks will be under pressure from federal authorities because insurance of deposits received in the form of anonymous e-cash. Since the same may prove risky and unprofitable for the banks, they could entirely abandon an anonymous e-money. Also, cyber banks may be forced to implement special investigative software in their computer systems, whose purpose would be to recognize and highlight the suspicious accounts with e-money.

Cyber money laundering, using the Internet and e-wallet, is a special concern for international organizations. They are trying to warn the society to establish specific

⁴ The Law on Prevention of Money Laundering and Financing of Terrorism (Official Gazette of Republic of Serbia, №.20/2009, 72/2009, 91/2010).

regulations and that this should be placed under the control as soon as possible. While traditional credit cards and bank accounts are easy to track and monitor, because of the more complex document verification and the fact that it is easier to locate the account holder, the situation with e-wallet is different. E-wallet can be purchased anonymously in cash (as a prepaid phone card) and used to anonymously purchase goods or transfer funds without leaving a written record of the transaction, as well as with a credit card or check.

In order to prevent money laundering, FATF has published the following proposed measures, oriented to the Internet service provider, through the request of:

- maintaining reliable subscriber registers with the appropriate identification information;
- the establishment log files with required information of the electronic communication, ID number, and phone number used in the connection;
- storing data during reasonable time frame (six to twelve months);
- providing access to data to international investigation authorities in the conduct of investigations.

In October 1999-year, the U.S. Currency Control Office has issued a manual on Internet banking. Office recommends that banks set the compatible control system for identification of unusual or suspicious activities, including on-line transactions monitoring procedures. The following types of Internet activities are highlighted as indicators to raise suspicion of the bank:

- the unusual requirements and mail format, the timing of transactions.
- Anomalies in the type, amount of transaction.
- The user who submits an incomplete online account application and does not submit the required needed information.
- On-line applications in contradiction with information about the address location.
- On-line application with multiple accounts, without a good reason.
- Users who repeatedly transferred without justified cause.

Governments of states that are members of the G7,⁵ have published a list of countries which allow money laundering in a simple and fast way, which are registered on the FATF's "black list" and threatened them with a speedy international action and severe sanctions, if their governments do not join international efforts to strike and break up of criminal money laundering activities.

The U.S. Internal Revenue Service, which is engaged in checking suspicious transactions, does not have enough financial inspectors to constantly check each of the legitimized reports for suspicious transaction reporting (CTR, STR), which are related to money laundering. However, the U.S. Financial Crimes Enforcement Network-FinCEN, in order to expedite the work of the IRS, plans to deal with each report of a suspicious transaction with the means of artificial intelligence. It is believed that these launderer's attempts to launder money will be significantly obstructed. Although government agencies are trying to develop software solutions and enable money laundering to be detected, computers still does not have ability to recognize signs of doubt and anxiety, caution, fear, unlike human persons.

⁵ States, members of G7 are founders of Financial action task force – FATF.

Conclusion

There is a critical area for money laundering in the twenty-first century, which is not present on the FATF's blacklist. That location can be accessed by anyone at anytime. There are no special requirements for the formal entry and it is a very inexpensive way to it. Internet has no geographical boundaries and is not regulated. That is why launderers use Internet, because it provides endless opportunities available in cyber space. It is clear that laundering in cyberspace is more than national problem that hardly any country can solve alone, just because of the fact that the Internet is a global network, which does not observe national boundaries, regulations and jurisdiction. The cooperation between the authorities of different jurisdictions with rapid investigations and sharing information is of crucial importance.

Electronic money transfers, which are increasing on a daily basis are not currently registered and followed are indubitably a black hole system in combating money laundering. There is still no access to the accounts with deposited electronic money, and to define the amount of laundered money remains only to be a relative assessment by officials of various government agencies.

Aside from all the benefits, Internet has also created conditions for criminals to abuse it. Today, every analyst must have knowledge of the on-line financial transactions on the Internet. Although the classic money laundering methods are still in use, new methods based on the Internet and new electronic technologies are rapidly spreading. From electronic money to prepaid debit cards and from virtual currency to mobile payment systems, the Internet has become very attractive to venturesome launderers, but also a serious obstacle to the government agencies officials, who are fighting against money laundering. The reality is that the technology developed resources and opportunities for the money laundering by using digital cash that cannot be traced. Although the current laws on money laundering apply to these new money laundering modes, effects are limited. Layering financial transactions to avoid executing a request for reporting of suspicious financial transactions becomes less risky when using virtual channels. Using digital money, which cannot be traced, money laundering is less risky.

For the foregoing reasons, government agencies are justifiably concerned that Internet does not become a haven for money laundering. While there are plenty of regulations governing the issue of money laundering, they are difficult or impossible to implement due to anonymous cash and no transaction records. However, the question is whether to prohibit the use of digital cash or secretly monitor its use because of the possibilities of facilitating illegal activity? Such action would certainly be contrary to the right to privacy. The result may be a compromise between the requirements of government agencies that want to have access to all financial databases and individual users' needs of e-money in a reasonable level of financial privacy.

The struggle against these negative phenomena influences the development of sophisticated tools, mechanisms and procedures aimed at achieving greater efficiency in combating money laundering. Government agencies should hire professionals who master advanced knowledge in the field of information technology, to be able to counter increase use of new Internet money laundering techniques.

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SOUNDNESS OF MARKET RISK MEASUREMENT TECHNIQUES DURING GLOBAL FINANCIAL TURMOIL

Abstract

Value-at-Risk (VaR) is one of the most popular tools used to estimate exposure to market risk and it measures the worst expected loss at a given level of confidence. This paper explains the main characteristics of the VaR concept, as well as, its advantages and limitations. Global financial turmoil changed the whole financial system worldwide and put under the question mark usefulness of market risk techniques. This paper intent to give some frameworks and opinion regarding crucial point impersonate in question: can we blame VaR and other market risk tools for financial turmoil and do they work well during financial crisis? The purpose of paper is presentation of market risk tools to risk management professionals and their possible usefulness in daily operations.

Keywords: Value-at-Risk (VaR), stress testing, financial crisis, Monte Carlo simulation, Basel Accord

JEL Classification: G01, G32

ИСПРАВНОСТ ПРИМЕЊЕНИХ ТЕХНИКА МЕРЕЊА ТРЖИШНОГ РИЗИКА У ПЕРИОДУ ФИНАНСИЈСКЕ КРИЗЕ

Апстракт

Валуе-ат-Риск (ВаР) представља једну од најпопуларнијих алатки за процену изложености тржишном ризику и она мери највећи очекивани губитак за дати ниво поузданости (поверења). Овај рад објашњава основне карактеристике ВаР концепта, као и све предности и ограничења овог концепта. Глобална финансијска криза је променила целокупни светски финансијски систем и ставила је под знак питања корисност примењених техника мерења тржишног ризика. У овом раду, аутор даје обрасце и мишљења везана за кључну тачку оличену у следећем питању: да ли се ВаР методу и другим моделима мерења тржишног ризика може приписати кривица за настанак финансијске кризе и да ли уопште ове технике добро функционишу током кризног периода? Циљ овог рада јесте презентовање алатки тржишног ризика професионалцима у области управљања ризицима, који их користе у својим свакодневним операцијама.

Кључне речи: Валуе-ат-Риск (ВаР), стрес тестирање, финансијска криза, Монте Карло симулација, Базелски стандарди

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Introduction

Value-at-Risk (VaR), as a standard risk measure, indicates the worst expected loss of a financial portfolio under normal market conditions over certain time horizon at a given confidence level. In other words, as it is stated in *J.P. Morgan, RiskMetrics–Technical Document* “VaR answers the question: how much can I lose with $x\%$ probability over a pre-set horizon”. In the simplest manner, VaR is a model of the distribution of future profits and losses of a bank’s trading portfolio.

VaR was introduced when stock market crashed at the late 1980s, and also has attract global attention when 2007-2009 financial crisis put under the question mark the functionality of whole risk management system. (e.g. Lehman fell, Merrill Lynch was sold, AIG was saved by the U.S. government). The main challenge is to analyze the robustness and accuracy of VaR estimation methods under different market conditions - before and during financial crisis.

VaR has been the subject of criticism in recent years, with note that many of these criticisms relate to important precondition as to how VaR results should be interpreted as well as limitations on their use. For better explanation of VaR we need to back on some details mentioned in VaR definition. First, VaR is an estimate, meaning that value of VaR will depend on the stochastic process, which is assumed to drive the random realization of market data. The structure of random process has to be identified and specific parameters must be calibrated. This requires historical data and number of other issues such as: the length of the historical sample, weighting of events whether they are more recent or further in the past. All efforts need to be made in order to have the best possible estimate of stochastic process driving market data over specific time period to which VaR estimates apply. Different circumstances in practice require alternative methods for random processes encompassing, so that is a main reason why VaR estimates are not unique. Second, trading positions under review are fixed for the observed period. It creates difficulties when the evaluation period is long enough to make this assumption unrealistic (i.e. to estimate VaR over 10 days for the purpose of regulatory capital calculating under the Basel Accord.). Third, VaR does not give the “whole” picture if it is not used combined with some alternative tools, such as: extreme value theory or simulations guided by historical worst-case market moves.

The basic time period T and the confidence level α are the two major parameters that should be chosen in a way appropriate to the overall objective of risk measurement. The usual holding period is one day or one month, but the institution could holding period adjust to other objective, for example reporting or investment horizons. Holding period depends on market liquidity, so with other data unchanged, the ideal holding period can be described with length of time it takes to ensure liquidation of positions in the market. The choice of confidence level depends on purpose to which risk measures are being put. When the primary goal is to satisfy bank capital requirements, the confidence level is usually very small (e.g. 1% of worst outcomes).

At the same time, for an internal risk management model used by a company to control the risk exposure, the confidence level is around 5%. In the context of VaR, suppose that a portfolio manager has a daily VaR equal to \$1 million at 1%. This means that there is only one chance in 100 that a daily loss bigger than \$1 million occurs under normal market conditions or the bank’s trading portfolio should not lose more than \$1 million the next day.

VaR measures can have many applications, for example: to evaluate the performance of risk takers and for regulatory requirements. Namely, in 1996 the Basel Committee on Banking Supervision imposes to financial institutions to meet capital requirements based

on VaR estimates, emphasizing the importance of providing accurate estimates. If the underlying risk is not properly estimated, a sub-optimal capital allocation will affect the profitability of financial institutions and through their stability. The number of VaR estimations growing rapidly, so we can divide VaR models into several different manners. Although Monte Carlo simulation and stress testing are commonly used methods for VaR estimations, one often used classification is related to 3 broad categories:

- 1) parametric VaR models – such as RiskMetrics
- 2) non-parametric models – i.e. historical simulations
- 3) semi-parametric models – e.g. Extreme Value Theory.

Parametric models has an advantage that they allow complete characterization of distribution of returns and through avoiding the normality assumption it has a greater opportunity for performance improvement. On the other hand, the major disadvantage is tendency for VaR underestimating. The most common used non-parametric model is historical simulation, which simplifies the calculation of VaR, because it does not make explicit assumption about distribution of portfolio returns. But this is not completely true due to existence of implicit assumption that derives a lot of problems, such as logical consistency of the model. In order to overcome the wrong premises of parametric and non-parametric models, there were introduced semi-parametric models, such as Extreme Value Theory.

In this paper, it will be presented only the simplest model – analytical VaR model. It assumes that holding period returns are normally distributed so if n-day returns R normally distributed with mean μ and standard deviation σ :

$$R \sim N(\mu, \sigma^2) \quad (1)$$

When the portfolio is worth S, our n-day VaR at confidence level 100 (1- α) is:

$$VaR = -x_\alpha S \quad (2)$$

x_α – is the lower α percentile of normal distribution $N(\mu, \sigma^2)$.

Taking into account requirement of high degree of confidence, α is small value, usually between 0 and 0,1. As it can be seen, estimating VaR at a given probability using normal distribution is very easy.

Example of analytic VaR calculation

Suppose a portfolio worth \$1 million and we are interested in normal daily VaR at 95% confidence level while mean is 0,005 and standard deviation 0,02.

$$VaR_{1,0,05} = - (0,005 - 1,64485^2 \times 0,02) \times \$1 \text{ million} = \$ 27.897$$

The important conclusion is correlation between confidence level and VaR in the sense that the higher confidence level is, the greater is VaR. For 99% confidence level and other equals data, the daily VaR is:

² NORMSINV function in Excel for 95% confidence level.

$$\text{VaR}_{1,0.01} = - (0,005 - 2.32634^3 \times 0,02) \times \$1 \text{ million} = \$ 41.527$$

If we are going to change basic assumption regarding one day holding period into for example 10 days, the corresponding VaRs would be:

$$\begin{aligned} \text{VaR}_{10,0.05} &= \sqrt{10} \text{VaR}_{1,0.05} \approx 3,16228 \times \$ 27.897 = \$ 88.218; \text{ and} \\ \text{VaR}_{10,0.01} &= \sqrt{10} \text{VaR}_{1,0.01} \approx 3,16228 \times \$ 41.527 = \$ 131.320 \end{aligned}$$

Although VaR is simple and intuitive technique, it has also some shortfalls which must be emphasized. Maybe the most important disadvantage is that almost all parametric VaR models are based on assumption of normal distribution of market data changes, which is in practice very rare situation. Beginning with wrong assumption regards normal distribution; we are close to wrong estimates of VaR so VaR will be underestimated at relatively high confidence level and overestimated at relatively low confidence level.

Also, market value sensitivities are not stable as market conditions change and as a consequence even modest instability of the value sensitivities can result in major distortions in VaR estimate. Analytic VaR is inappropriate when there are discontinuous payoffs in the portfolio*. In order to exceed shortcomings of analytic VaR, a lot of simulation methods were designed, but there will not be the subject of this paper.

Financial turmoil and VaR

Global financial crisis put under the question mark usefulness and validity of some market risk measurement techniques, in first line VaR method. In that sense, some economists (namely, *Nassim Nicholas Taleb*) strongly argued and criticized the main thesis of VaR methodology. He emphasized the influence of VaR methodology and subscribed the largest responsibility for financial crisis escalation to VaR. Although, only one short review on historical events could help us for unambiguous evaluation regarding financial crisis. Namely, financial crisis did not originate on large dependency upon risk measurement techniques and optimization models, already reasons for their existence are much more different, such as: over-indebtedness of physical and legal entities, outrageous greed for large profits, problematical operations and frauds. VaR measure is a mandatory technique in process of risk measurement and banks are obliged to apply VaR, but managers were reluctant toward VaR. Managers argue with attitude that top management ignore or did not respect enough their opinion, because of mostly profit-orientation, non risk-orientation. Clearly, they emphasized that source of the problem was not on risk management side, rather in the area of corporate management.

Problem, originated from VaR concept essentially, is related to impossibility of applying VaR as a tool for total encompassing of leverage and liquidity risk. Hence, careful risk managers treat VaR only as one of the many techniques on which they rely on in a process of risk-taken evaluation. In the criticisms of VaR technique, Taleb highlighted assumption on normal distribution and emphasized the importance of Monte Carlo simulation. He also stressed that Monte Carlo simulation is a helpful tool for the most important conclusions from future simulations (which is superior than past) and could help us in resolving problems, independently of people appeal to forgot many useful lessons from past.

³ NORMSINV function in Excel for 99% confidence level.

Beside theoretical approach, we can be faced with one logical fact: if market movements are opposite from our expectations, then neither VaR concept nor some other methods will not help us to avoid financial crisis. Only reasonable question in that case would be: how much we will be dependent upon VaR concept in crisis?

Philippe Jorion, famous economist and one of the supporters of VaR method, has qualified VaR as „wobbly compass in a dense forest. It can point you in the right direction, but it never gives you a proper coordinates where exactly you need to go“⁴. That opinion regarding VaR is maybe the closer definition of VaR, which symbolically show us the level of their usefulness.

Consequently, VaR needs complement tools for risk measuring, in order to make reliable conclusions. As a result of research, parameter VaR model does not give satisfactory results because of large number of limit excesses, if we compare daily VaR prices with daily gains and losses in portfolio. Taleb stressed significantly this argument, while Monte Carlo simulation, although burdened with a lot of shortfalls, performed better results in a period of high volatility.

Statistically observed, at 95% confidence level, it can be expected limit excess on every 20 trading dates, whilst applying parameter model we have 4 limit excesses in 21st day, which is completely unacceptable result. Furthermore, at 99% confidence level, one limit excess shows on every 100 days, while applying parameter model, limit breach exists on every 20 day. Abovementioned data clearly shows that parameter VaR model is not adequate and economist can not believe in it too much, mainly due to embedded assumption of normal distribution. Empiric evidence goes in favor of VaR applying for encompassing and approximation of risky assets, such as: equities, swaps, futures etc. Even in conditions, without high volatility, parameter VaR undervalues risk when asset with non-linear or asymmetric distribution is involved in portfolio (for example, options).

Monte Carlo simulation, combined with conditional VaR model⁴, gave much better and comprehensive picture of portfolio risk, especially comparing with parameter VaR. Certainly, it does not mean that Monte Carlo simulation is the perfect solution. On the contrary, the choice of Monte Carlo simulation has a lot of weaknesses:

- complexity of calculation increasing as number of risk factors rise;
- random simulations are not always a proper projection of future;
- Monte Carlo simulation is created on the large number of embedded covariance matrices. If those matrices are not applicable in future or if they are not success in crisis situations, the whole simulation is wrong.
- volatility parameter is constant during the simulation period. In case of computation 1-day VaR, it could not have massive consequences, but it has important consequences if the horizon is longer, for example 10 days.

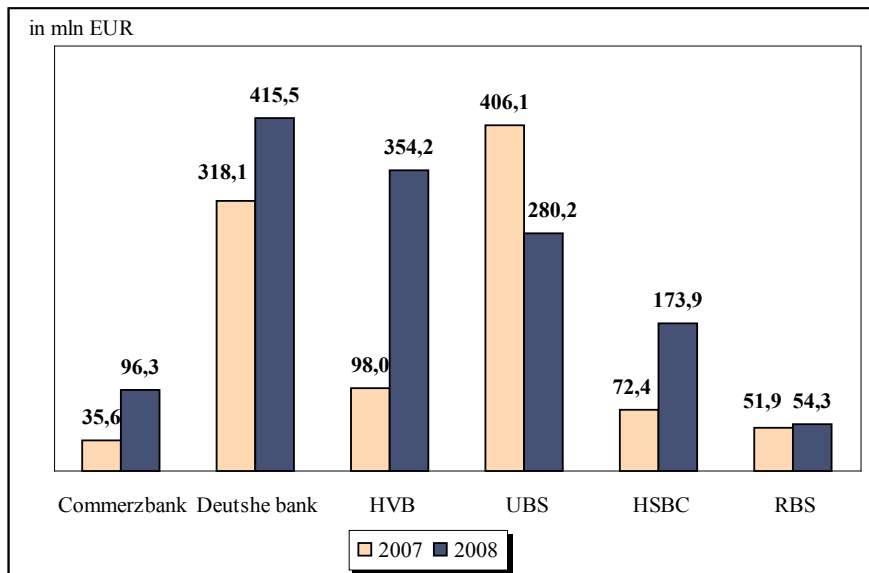
In order to overcome mentioned shortfalls, risk managers implement historical scenario to define performances of current portfolio during extremely negative market events. Guiding idea is derived from a famous cliché: the history repeats itself. Each new event has some specific characteristics, while some events are very unpredictable, so experience from the past can help and prevent, due to high level of similarity between unexpected market events. Risk managers take steps in order to hedge their portfolio and must take care of predictable negative events extent and possible manner of events controlling. Hence, they will focus on stress scenarios conducting on certain number of

⁴ That is usually case for certain types of barrier options. Barrier options are type of exotic derivatives, in practice very similar to ordinary option with the difference that they become active when the price of underlying asset reaches pre-determined level (barrier level).

risk factors and will try to make some conclusions, which could be helpful when they deal with unpredictable market events.

Final result would be possible gain or loss under hypothetic stress situations. VaR methodology implementation, must be kept with dosage of qualitative scepticism, transparency and strict qualification to compliance measure (liquidity limits, exposures limits etc.), which make possible for risk managers to efficiently control, report and limit risk-taken, if situation required limitations. VaR model weaknesses, particularly expressed in a period of global crisis, illustratively are presented with Figure 1:

Figure 1: Comparing 10-day VaR model for trading book activities, at 99% confidence level, in millions EUR in 2007. and 2008.



Source: Commerzbank AG Frankfurt

Clearly, VaR measure in observed period, was significantly larger in 2008 than in previous 2007 year for each bank (except UBS), proving once again the fact that VaR has a lower power in predicting the possible losses under extraordinary circumstances. Observed banks had faced with greater potential losses in 2008, as well as global financial crises expanding. During financial crisis, VaR model did not show a high level of efficiency for prediction of potential losses and also had embedded assumption of liquidation of all position overnight, which meant direct influence on market liquidity. Many economists consider modern financial crisis as the largest from the period of Great Depression, in 30th years of previous century, but only the future period can give the correct answer regarding of modern financial crisis extent.

Surely, this crisis is very serious with consequences to whole planet. Models for risk measurements were wrong, even in their basic assumptions, annulling famous Keynes test that is „better to be aproximetalny correct, rather than completely incorrect“⁵. In that sense, risk models were imprecised and wrong, in other words incorrect, so 2008 year can be qualified as failure year for stress testing.

⁵ this quote was attributed to Keynes after his death, whilst origin of this quote is related to Carveth Read and sounds as follows: “It is better to be vaguely right than exactly wrong”.

Stress test as a complementary tool

It is very difficult to define the exact origin of stress testing, but in 2001 IMF released details of methodology for stress testing and experiences, which has been considered as the main contribution in the second technological revolution in risk management. New age started with simultaneous low risk and high return. Sub-prime mortgages market had a significant role in whole process, because people changed expectations regarding financial system efficiency, especially when system seems showed great results during period of high returns. When mortgage prices felt down as well as serious decrease of share market prices in banking industry (loss even more than 60% of value) initiated entire surge of negative events, the main question was related to efficient risk management. Namely, the most of financial institutions need to revise their procedures in the risk management area, due to real danger of enormous losses during financial turmoil.

Even before financial crisis began, Bank of England and Financial Services Authority (FSA) organized seminars about stress testing practice, with main intention to define different types of stress tests, which companies usually could use. At the same time, FSA made several very interesting and potentially useful suggestions for improvement of stress testing practice in financial institutions. Those suggestions could be categorized into following 5 categories:

1) stress scenarios definition – which means deriving multi-factor risk scenario by government bodies due to solving the problem of myopia in treatment of unexpected market events. The optimum could be achieved if those scenarios also include liquidity and solvency scenarios.

2) regular evaluation of stress scenarios – the aim is to provide comparable results between institutions, comparison between models and implementation of results based on stress testing for decision making.

3) review of stress testing effects – as a starting point for risk evaluation inherent to the system. Stress testing conducted by banks and decisions made by management initiate the second phase of stress tests, to whom are companies faced. Companies could adequately evaluate consequences of its actions as well as actions of competitors and in that way could create the framework for network effects monitoring.

4) transfer of stress testing results into the liquidity planning and the firm capital - results had to influence on management if they are treated as useful. Bank management periodically had to react on stress testing results and those results are inputs for decision making regarding liquidity and the firm equity.

5) transparency in relation with regulators and financial markets – banks regularly report to official regulatory bodies regarding equity and liquidity. Transparency significantly improves to exerting of higher level market discipline and more efficient functioning of whole market.

Although it seems that mentioned program is robust, it is very important because it exceeds all weaknesses with which are we faced in the process of using stress test techniques in period of financial crisis.

Basel II achieved very well results in area of recovery losses in a periods before, ongoing and after financial crisis. It could be concluded that countries which have not accepted Basel II yet, must do that in a shorter period. Beside this, one additional recommendation for Basel II modification in daily capital requirements area is related to shortening average day's number from currently 60 working days on for example 20 days. On described manner, capital requirements daily adjustment will be faster in compliance with VaR changes.

Considering period from 2008 to 2009 and financial crisis, volatility was 4 times increased and it was maintained on the extremely high level. Financial turmoil had changed risk measuring model for optimization of daily capital requirements. Various risk models were optimal in a period before and during crisis. Mixed use of different models for VaR evaluation is the basic and major strategy taken in crisis situations. Aggressive strategy for risk management gives the lowest average capital requirements and has the largest frequency of daily capital requirements due evaluation periods, but also has frequent limit excesses (that could bring negative publicity in the public and temporary trading prohibition). On the other side, conservative strategy of risk management is followed with a less number of limit breaches and higher average of daily capital requirements. It is consider that optimized strategy is those that combine alternative risk models for VaR evaluation and minimizing daily capital requirements.

In the background of financial crisis, implementation of Basel II Accord in many countries, as well as in Serbia, was slowed down due to lack of financial resources. Basel Committee suggested, at the beginnig of 2009, series changes which have to improve regulatory rules in crisis period. In first pillar, the most important change is related to resecuritization of assets for efficient risk management. As a part of second pillar, guidelines for concentration risk are predicted, while changes in the third pillar are related to increasing of transparency in risk management and market discipline. Major focus for banks in following period (i.e. period after global financial crisis) should be upgrading of risk management process, development of new instruments for client selection and increasing level of control and monitoring of loan portfolio.

Introducing Basel III, as the answer on some unresolved problems founded in a crisis period, has the main objective in strengthening the resilience of banks during crisis, emphasizing the importance of efficient risk management in banks and higher transparency in banking industry. The key changes are related to capital requirements in terms of larger amount and quality of capital which consists of Tier 1 and Tier 2 capital. Tier 1 capital include share capital and retained earnings, with minimum of share capital at 4.5% of risk weighted assets, whils total Tier 1 capital could not exceed 6% of risky assets. Also, through Basel III are introduced: capital conservation buffer, countercyclical capital buffer, leverage ratio and 2 separate minimum standards for liquidity, namely: liquidity coverage ratio – for short term liquidity and net stable funding ratio – for long term liquidity. Implementation of mentioned indicators represents a great challenge for banking sector, with a lot of demands in order to meet requirements and make banking industry efficient.

European Banking Authority (EBA), released in July 2011, the results of analysis in banking sector which undoubtfully showed that negative shocks caused a lot of problems for banks, in other words there is a need for prompt and significant regulatory reaction in order to achieve and later maintain financial stability. In that study, 8 European banks did not pass stress testing, because they did not succeed to reached desired level of capital adequacy set at 5%. Detailed analysis indicated that those banks have 2.5 billions euros lack in case of pessimistic scenario arrival. Capital adequacy between 5% and 6% was recorded in other 16 banks, whilst another 20 European banks will be in “trouble” if increasing capital was not allowed them after testing already began. An introduced figure tells us how much banking industry need more discipline and transparency in operating especially in a periods which follow financial crisis.

During May 2012, Basel Committee on Banking Supervision takes into consideration and proposes the possibility of scrapping VaR as the basis for modeling market risk capital requirements and their replacement with expected shortfall. One of the main arguments was found in encouraging false confidence in bank boards and

investors prior to the financial crisis. As an alternative method is observed expected shortfall, which measures the expected values of losses above a given confidence level and has an advantage in measuring of tail risk. It has been noted that expected shortfall requires greater computation power than VaR, but is more problematic to backtesting. Theoretical superiority of expected shortfall in comparison with VaR does not mean that it will make better results in practice.

Financial entities are obliged to measure risk applying portfolio theory, i.e. VaR as a product of portfolio theory, according to official legal act. In that sense, planning for the moment of crisis is more important than VaR technique implementation, so imperatively need to complement VaR with other methodologies: with stress testing, in first instance. New methodologies are the most appropriate answer on crisis in financial sector, while they also require development of new products and education of potential new members on the market, which are interested in implementation of new products. If we implement dynamic measures of risk defining, the whole market could be made less affected by financial crisis.

Conclusion

Value at Risk (VaR) has an important role in process of measuring bank's exposures to market risk. Although, it has some shortcomings, it also has a lot of advantages which are going in favor of VaR as an irreplaceable tool. In this paper, it must be pointed that VaR and other quantitative methods are necessary in risk management, but they are not sufficient for risk controlling. It is widely agreed that stress tests can address some of the shortcomings in VaR estimates, but stress tests have their own problems. Some of the problems with building good stress tests can be dealt with given sufficient resources. Financial turmoil caused a lot of distortions on financial markets worldwide and in the financial system generally. Subscribing the guilty for escalating financial crisis to VaR and other market risk techniques is too biased approach. VaR can not be blamed for efficiency during financial turmoil, because the concept of VaR was not designed to operate under extreme conditions, on the contrary it was created to help in measuring of market risk exposure under normal circumstances. So, it is wrong to put under the question mark the validity of VaR during crisis, although some poor results in that period.

During financial turmoil, some firms identified shortcomings in VaR assumptions about the scale of shocks or degree of market volatility they may face; how their holdings of instruments may behave in comparison with more established debt products when shocks strike markets; or how the accuracy of their VaR measure is affected by the accuracy of price estimates for less liquid or illiquid securities. Nonetheless, some companies emphasized that the dependence on historical data makes it unlikely that a VaR-based measure could ever capture severe market shocks that exceed recent or historical experience, highlighting the importance of supplementing VaR with other views on risk. Only acceptable approach would be focused on acceptance of all VaR limitations and using its advantages complementary with other market risk techniques in order to achieve objectives and get the most reliable results. Obtained results are major input for top management's decision making in banks confirming that VaR methodology (independently from latest information about scrapping VaR and replacing with expected shortfall) has the important historical role in risk management evolution.

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THE PLACE AND ROLE OF THE CONSUMPTION TAXES IN CONTEMPORARY TAX SYSTEMS

Abstract

The primary purpose of collecting the tax is financing the budget and financing of the prescribed State duties and its units. Taxes are the main source of budget and without them the state would not be able to operate and finance public goods and common needs, such as defense, protection of property and civil rights, public order, education, health, infrastructure and the like. Taxes on consumption are among the oldest forms of taxation. It is an indirect tax forms, which main characteristics are elasticity and the yield on the one hand, while on the other hand, they represent a regressive tax forms with distinct inflationary potential. Although these tax forms are one of the oldest, in modern tax systems they provide significant funding for the government budgets. Taxes on consumption represent forms of tax to be paid in connection with the operation of final goods and services in the country of consumption. The most important forms of consumption taxes are: sales tax, excises and customs.

Key words: Taxes on consumption, advantages and disadvantages of indirect taxes, regressivity and abundance of the consumption taxes...

JEL Classifications: E62, H20, O23

МЕСТО И УЛОГА ПОРЕЗА НА ПОТРОШЊУ У САВРЕМЕНИМ ПОРЕСКИМ СИСТЕМИМА

Апстракт

Основна сврха убирања пореза је финансирање буџета и прописаних надлежности државе и њених јединица. Порези су најважнији извор буџета. Без њих држава не би могла да функционише и финансира јавна добра и заједничке потребе, као што су: одбрана, заштита својине и права грађана, јавни ред и мир, образовање, здравство, инфраструктура и слично. Порези на потрошњу су један од најстаријих облика опорезивања. Ради се о посредним пореским облицима, чије су главне карактеристике издашност и еластичност с једне стране, док са друге стране они представљају регресивне пореске облике са израженим инфлаторним потенцијалом. Иако су ови порески облици једни од најстаријих, у савременим пореским системима обезбеђују значајна финансијска средства државним буџетима. Порези на потрошњу представљају пореске облике који се плаћају у вези са коришћењем финалних добара и услуга у земљи потрошње. Најзначајнији облици пореза на потрошњу су: порез на промет, акцизе и царине.

Кључне речи: Порези на потрошњу, предности и недостаци посредних пореза, регресивност и издашност пореза на потрошњу...

Introduction

Consumption taxes are taxes paid in connection with the use of final goods and services in the country of consumption. They are always indirect taxes who indirectly affect the tax power which is manifested in the actions of use and spending of income or assets. Consumption taxes are one of the oldest forms of taxation, as they are known in ancient times in the form of sales tax and excise duty. Also, they are always occupied, and still occupy, prominent place in modern tax systems and the structure of public revenues. Consumption can be taxed or through general sales tax or through a special taxes on consumption. As the most important consumption taxes we will mention: sales tax, excise and customs. Sales tax has the characteristics of a general consumption tax because it procedures the turnover of most of the products and services. Excises are the oldest form of consumption tax where is taxed consumption or use of certain products correctly (petroleum products, alcohol, tobacco, coffee). Customs are the kind of fiscal revenues, charged by the state when moving goods across state or customs border.

Concept and characteristics of the consumption taxes

In depth analysis of public finance position is that the manifestation of the economic forces that should be taxed or tax objects make:¹

1. revenues or income as the sum of net income,
2. property,
3. consumption.

Sales taxes are taxes that are indirectly affecting the economic strength of the taxpayer, occur exclusively in the transport and property tax for a consumption of certain goods and services. They are one of the oldest forms of taxation, known in ancient times in the form of sales tax and excise duties, and always have a prominent place in the structure of public revenues. The burden of the consumption tax borne by the final consumer of the product, ie, the buyer or recipient of services, so as to purchase a product or service that you receive, you pay the price and tax is included.

The aim of the consumption tax is to strike a good intended for personal consumption, on their way to the consumer. Therefore, except the fiscal importance, these taxes could be used for achieving certain objectives of economic policy (eg prices by industry, health, education, etc.). Their potential use as an instrument for achieving social goals are quite limited due to regressive effect.

Taxes on consumption are characterized as indirect, as opposed to direct taxes, for which a taxpayer personally bears the economic burden of taxation (the tax payer is also tax recipient), the consumer tax as a tax payer occurs entity that sells a product or provides a service, while recipient occurs as the ultimate consumer. indirectness of consumption tax is implemented through transferring of the burden of taxation from the taxpayer to the consumer as a tax recipient.

If all forms of taxes on goods and services grouped according to the usual theoretical criteria, it could be concluded that these taxes could be reduced to:²

1. taxes on goods and services (in its different modalities),

¹ Radičić M. and Raičević B., Public Finance - Theory and Practice, Faculty of Economics, Subotica, 2008., P. 145.

² Radičić M. and Raičević B., Public Finance - Theory and Practice, Faculty of Economics, Subotica, 2008., P. 145.

2. excise taxes (as a special type of consumption tax),
3. profits of fiscal monopolies,
4. other types of consumption taxes,
5. other duties (import and export duties and other duties).

From the standpoint of economic efficiency, taxation of consumption is generally more desirable form of taxation from direct taxes on income and profits because consumption taxes disrupt less the functioning of the economy and the behavior of economic factors, leaving less space for tax avoidance and have less impact on the competitiveness of the economy in the regional / global environment. Direct tax forms in turn enable the progressive taxation may be more desirable from the standpoint of tax fairness.³

Advantages and disadvantages of the consumption taxes

Advantages of the consumption taxes. Taxes on goods and services are the preferred form of taxation for each country due to its numerous advantages. First of all their abundance provides a steady, safe and reliable income to the state budget, which is of great importance in the planning of government expenditure. Convenience in paying taxes on consumption is reflected in the fact that the ultimate consumer is bearing the burden of taxation in the state “tax anesthesia” because he is paying the price for the product or service with the tax whom does not know the exact amount. In addition there is a depersonalized nature of the consumption tax because it provides its application without any discrimination to taxpayers personal property, ie, recipient. In line with this, while paying the consumption there are no any resistance, because the taxpayer pays the tax, but not bears it economically. The tax burden in this case bears the ultimate consumer (tax recipient) which can not be avoided because it is included in the price.

At the end, consumption taxes are characterized by low collection costs. Specifically, these costs are tax account, tax assessment, collection and control of taxes also are relatively low compared to other forms of tax, and because of the high value of taxation the product net effect is high.

Disadvantages of the consumption taxes. The shortcomings of the consumption taxes is regressivity and expressed inflationary potential. Regressivity is the weakest side of the consumption taxes, because in their collection is not possible to take into account the ability of tax recipient. Specifically, the tax burdens the proportionately more people with lower incomes resulting in unfavorable social effects. Regressive consumption taxes can be partially mitigated through tax exemption, reduced tax rates for products and services of the existential character, and so on., but it can never be removed completely. In addition, consumption taxes, during the introduction or changes in tax rates can have a powerful inflationary character.

Regressive effects of indirect taxes

In the finance literature, the sales tax as an indirect tax and general consumption tax, is considered a “market tax” because it is an integral element of the price of taxable product. Simultaneously, the sales tax is a “cost-tax “, because the size of the cost depends on the price of goods without sales tax and received tax burden. Therefore, the sales tax

³ Stojković A. and Gašić M., Application of value added tax in Serbia, *Ekonomika*, No. 4, 2012.

is appropriate to a modern state as it clings to all the joints and pores of the “economic” body. Nevertheless, the sales tax is regressive from a social point of view, given that the increase in household income declines average propensity to consuming although the economic power of tax recipient does not come to the fore in consumption.

In fact, indirect taxes are progressive taxes from in a negative sense, which strongly affect the poor. Since it pays under the so-called fiscal anesthesia, unsocial, regressive effect of indirect taxes is greater as the difference of the material position between taxpayer pronounced, if a wider range of products is subject to tax and if the tax rates are higher.

Regressive effect of the sales tax is evident, although its exact quantification is very difficult in practice. Thus, the literature has known Davis’s model (determination coefficient correlations rank between the effective tax rate and the group at the level of available funds) and Calmus’s model (index of tax regressivity in the lowest groups in level of available funds) measurements regressivity. Nevertheless, in the financial policies exist a number of measures to reduce and eliminate regressive effects of the sales tax:⁴

1. selection of the appropriate form of sales tax between overall, multi-phase and single-phase sales tax (in production, wholesale and retail trade) and value added tax;
2. differentiated treatment of certain products, the release of products of mass consumption taxes, reduced tax rates for other goods and increasing the tax rate for luxury goods;
3. application of progressive tax and income;
4. provide economic and social transfers;

Applying unique sales tax rate leads to a negation of the principle of taxation according to economic strength. Differential tax rates on products of mass consumption (lower) and luxury goods (higher) somewhat paralyze regressive effects of sales tax forms, such as the appropriate choice of the sales tax that is. preferences for single-sales tax in the retail trade and the value added tax in which regressive effects are less severe than other forms of taxes.

Application of progressive income taxation in general neutralize regressivity of sales tax in the form of so-called. compensatory progression. Total tax effect now reflects the fact that the overall economic strength of tax recipient is taxed using the proportional rate, or the progressive income taxation in complementation with regressive sales taxes converted into proportional taxation.

In order to occur taxation by economic strength, what we need is so called. absolute progression by which are taxed higher incomes at a higher percentage. Anti-cyclical fiscal policy implies progressive taxation, which, with complementary economic and social transfers now reduces side effects of unsocial, regressive effects of sales tax.

The introduction of indirect taxes provides the real size of direct taxes on the incentive effects of personal demand and consumption in the economic system. In general, the economic effects are evident in the transfer of funds (performance of the fiscal burden on the economic situation of economic subjects and the incidence of budgetary policy in the adjustment of prices of goods and factors of production and real output), and as an effective impact and percussion effects (increasing the income of the taxpayer for the amount of the subsidy) fiscal and tax and budget policy.

Shifting indirect taxes usually stops and locates the so-called. incidence (the incidence is decreasing of nominal income which is caused by the introduction of tax). Tax recipient finally bears the fiscal burden in the form of so-called. formal incidence, which involves a process of harmonization (the effective tax incidence or tax diffusion). In essence, we should

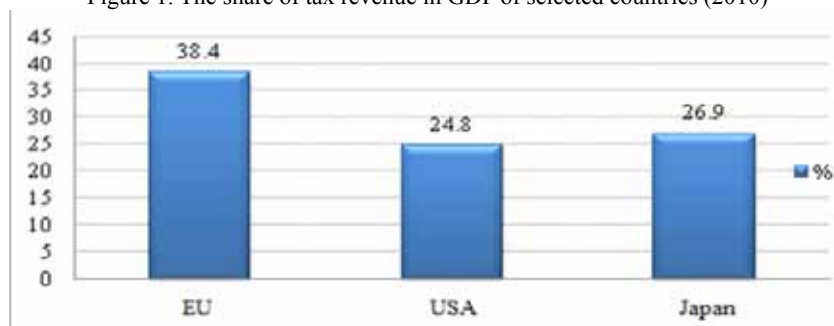
⁴ Garner C. A., Consumption Taxes, Macroeconomic Effects and Policy Issue Retrieved, 2010., P. 54.

distinguish the so-called. effective incidence (which nominates the change in the distribution due to the imposition of taxes or due to taxes substitution) of the so-called. percussive incidence (which nominates reduced income of the new taxpayers for the amount of tax cuts) since their distinction represent the so-called. result of shifting.

Consumption taxes in the European Union

Tax revenues in the European Union may be classified into three basic categories: the first comprises indirect taxes defined as taxes linked to production and imports, followed by direct taxes consisting of current taxes on income, property and capital gains, the third group consists of contributions that include actual social contributions. Sales taxes occupy a prominent place in the structure of tax revenues of modern state: less than 20% in the United States, Japan and Switzerland, 50% in Iceland, Ireland, in OECD countries over 30%.

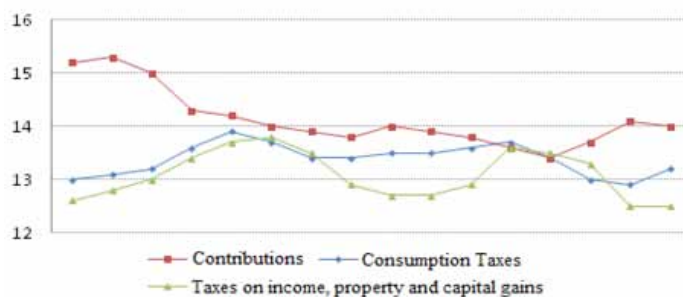
Figure 1. The share of tax revenue in GDP of selected countries (2010)⁵



Source: <http://ec.europa.eu/taxtrends>

Highest coefficient of consumption tax relative to GDP was recorded in Sweden 18.2% and Denmark 16.9%, a high share is also recorded in Hungary 17.2%. The lowest ratio of indirect taxes was recorded in Spain 10.6% and Switzerland 6.9%. The share of taxes on consumption rose slightly in the overall structure of taxation in 2010. (see Figure 2).

Figure 2. Evolution of the major components of the tax revenues of the EU⁶ (% of GDP)



Source: <http://ec.europa.eu/taxtrends>

⁵ <http://ec.europa.eu/taxtrends>

⁶ <http://ec.europa.eu/taxtrends>

The structure of tax revenue in the EU is still relatively evenly distributed between the social contributions, 35.1% of total tax revenue, taxes on consumption, 33.3% and the current taxes on income, property and capital gains 31.2%. The share of consumption taxes in the European Union is on average 1/3 of total revenue. The most important types of consumption taxes in the EU as well as in most of the modern tax system is non-cumulative turnover tax (VAT). In the European Union, VAT revenue consists 50% of total revenues from the consumption tax.

Table 1. The share in total revenue from taxes on consumption in selected countries of the EU (2010)⁷

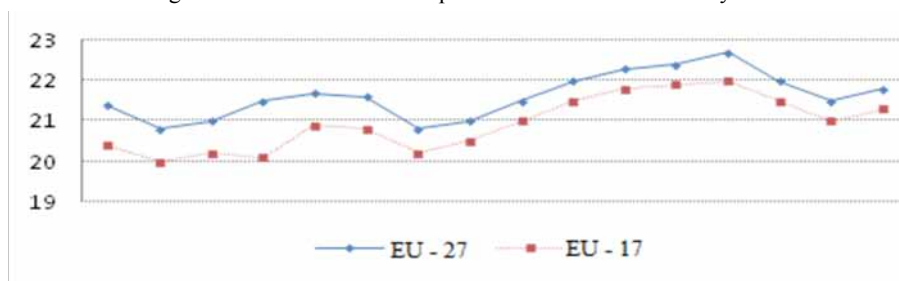
Country	Total Income (in mill. €)	Revenues from taxes on consumption (in mill. €)	In % of Total revenue
Austria	120.130,4	33.648,5	28,0
Belgium	154.488,5	33.648,5	21,7
UK	643.171,0	198.663,0	30,8
Greece	71.203,0	26.413,1	37,1
Denmark	112.706,0	35.711,9	31,6
Estonia	4.857,0	1.932,2	39,7
Italy	665.859,0	171.571,0	25,7
Germany	899.400,0	265.157,0	29,4
Slovakia	18.686,2	6.800,3	36,3
Slovenia	13.360,6	4.987,4	37,3
Portugal	54.031,7	21.385,9	39,5
Finland	75.959,0	23.944,0	37,3
France	828.459,0	207.343,8	25,0
Czech Republic	51.444,3	17.160,2	33,3
Sweden	181.620,0	53.491,8	29,4
Spain	336.834,0	89.936,8	31,5

Source: <http://stats.oecd.org>

The beginning of the economic and financial crisis had a strong impact when it comes to taxing consumption. The rate of consumption taxes which had a downward trend since 2007., have risen sharply in 2010. (see Figure 3). In 2010. The rate steadily increased in most Member States, compared to a year earlier, and only in eight countries the indicator decreased. In four cases (Denmark, Germany, Cyprus and Hungary) rates have decreased slightly, while in Estonia, Malta, Austria and Finland fall was relatively higher, about half a percentage point.

⁷ <http://stats.oecd.org>

Figure 3. Tax rates on consumption in the EU since 1995. by 2010.⁸



Source: <http://ec.europa.eu/taxtrends>

Consumption taxes in Serbia

Tax policy of Serbia implements the principle of fiscal federalism, which means that the public revenues and expenditures, defined and implemented in several levels of government as well as the republic, provinces, cities and municipalities. Basics of Serbian tax system are regulated by the basics of the tax system. This system law is an attempt to create the conditions for our single market works (especially in planning tax rates and exemptions) in order to reduce tax evasion into a minimum.

Indirect taxes, including customs and other customs charges are the most generous public finance revenue participated with 44.6% of consolidated government revenues. Individually, however, income from contributions for social security, is relatively highest 28.3%. This means that the revenues from contributions are greater than the sum of all direct income taxes, which make up 27.1% of total revenue.

Table 2. Standard taxes of the Serbian tax system⁹

Direct taxes	Indirect taxes
1. Corporate income tax	1. VAT
2. Personal income tax	2. Excises
3. Property tax	3. Customs

Source: S. Barac. & B. Stakic., 2008, p. 110.

If we look at the structure of the budget revenue of Serbia (2012) we will see that tax revenue have dominated with the total share of 90.4%. In the total revenues a largest share have consumption taxes (sales tax, excise and customs), ie 3/4 of the total revenue 86.6%. In our tax system share of the property tax is low 1.2%, and there is a tendency declining participation of income taxes 6.2%.

Indirect tax forms involved in the last five years, with about 80%, while direct tax forms belongs the rest. As the most bounty indirect tax we can single out value added tax (VAT), which contributes about 50% and makes up half of total revenue.

⁸ <http://ec.europa.eu/taxtrends>

⁹ Barac S., and Stakić B., 2008., p. 110.

Table 3. The share of consumption taxes in total tax revenue of Serbia (%)¹⁰

Year	Taxes	Consumption taxes	VAT	Excises	Customs
2007.	100	81,84	52,26	19,10	10,48
2008.	100	81,22	52,24	18,66	10,32
2009.	100	79,09	52,92	18,24	7,93
2010.	100	76,28	49,58	20,04	6,66
2011.	100	81,76	52,53	23,78	5,45
2012.	100	78,35	48,36	25,46	4,53

Source: <http://mfp.gov.rs/pages/issue1578>Table 4. The share of consumption taxes in total revenue of Serbia (%)¹¹

Year	Total Income (in mill. €)	Revenues from taxes on consumption	In % of Total revenue
		(in mill. €)	
2008.	639.600,3	484.352,8	75,7
2009.	698.756,2	506.428,1	72,5
2010.	655.971,0	500.481,0	76,3
2011.	726.400,0	556.500,0	76,6
2012.	750.100,0	587.800,0	78,3

Source: <http://mfp.gov.rs/pages/issue1578>

Conclusion

Consumption taxes always occupied and still occupy, a prominent place in tax systems and the structure of public revenues. They appear in the form of general sales tax and taxes on individual goods and services. Their key advantages are: bounty, elasticity, greater comfort of paying with almost no resistance to the payment, low collection costs. Disadvantages of consumption taxes are regressivity and expressed inflationary potential. When you look at the balance sum of income in modern tax systems, it is not difficult to conclude that the share of consumption taxes is much higher in countries with less developed economies, where consumption taxes take up 3/4 of total income. than in developed countries, where the share is considerably less 1/3. Increasing importance of indirect taxes in the countries in transition in accordance with giving the advantage to economic benefits in relation to social goals in these countries. Giving priority to the economic objectives (fast growth, reduce unemployment, etc.) maintains intent of these countries to eliminate the gap in the level of development in relation to the EU.

¹⁰ <http://mfp.gov.rs/pages/issue1578>¹¹ <http://mfp.gov.rs/pages/issue1578>

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ECONOMIC JUSTIFICATION FOR USE THE GREEN FORAGE CONVEYOR IN PRODUCTION¹

Abstract

Modernizing of livestock production, it is necessary to create a quality base for production of quality green forage. In terms dictated by climatic conditions and market trends, it is necessary to switch to a different way to make enough food to feed farm animals. Accordingly, the use of green forage conveyor, shown many advantages over the traditional way of meadow-pasture utilization system of forage. In agronomic terms, stimulates fuller utilization of nutrients in fresh form, in economic terms reducing costs the processing and storage, as well as the use of machinery in the production process. The use of this method is the most cost effective way to create economic production and conservation of plant genetic resources.

Key words: *green forage conveyor, modern livestock production, economical production*

JEL Classification: Q10

ЕКОНОМСКА ОПРАВДАНОСТ УПОТРЕБЕ ЗЕЛЕНОГ КРМНОГ КОНВЕЈЕРА У ПРОИЗВОДЊИ

Апстракт

Осавремењавањем сточарске производње, неопходно је створити квалитетну базу за продукцију квалитетне зелене крме. У условима које диктирају климатски услови и тржишне тенденције, неопходно је прећи на другачији начин стварања довољних количина хране за прехрану домаћих животиња. Сходно томе, употреба зеленог крмног конвејера, исказује бројне предности у односу на класични начин пашино-ливадског система искористићавањем кабасте сточне хране. У агрономском смислу, постепује се потпуније коришћење хранљивих материја у свежем облику, док у економском смислу појефтиније процес прераде и чувања, као и употребе механизације

¹ The paper is part of research on the project III 46006: “Sustainable agriculture and rural development in function of achievement strategic goals of Republic Serbia in the Danube region” and as part of project TR 31016 “Improvement of production technology and cultivation of fodder crops on arable land and grassland”, which financed by Ministry of Education, Science and Technological development of Republic Serbia.

у процесу производње. Употреба оваквог начина је најрационалнији начин за стварање економичније производње и очувања биљних ресурса.

Кључне речи: зелени крмни конвејер, савремено сточарство, економичност производње.

Introduction

Modern and developed livestock are based on quality and rational production of quality forage in long period during one year. Possibilities for production and nutrition of domestic animals is first of all determined with species and cultivars of forage crops which can be used, and which has the following characteristics:

- high yield,
- good quality,
- short vegetation,
- high power of regeneration
- possibilities of using different edaphic – climatic conditions,
- growing in several deadlines throughout the year
- possibilities of procurement of seed at affordable prices.

In practice is not always possible to find all wanted characteristics in one plant species, and for this reason approach is to combined organization of plant production, i.e. combining two or more cultures which have the desired traits.

The question arises in what way to provide a stable base for the development of livestock production, which in the last decade saw a fall in total production, due to the devastation of permanently low subsidies in this activity. Climatic trend in recent years causes a drought in all regions due to the high temperatures and reduced rainfall, leading to extreme price increases of raw materials, which affects the growth rate of the concentrated feed, which then raises the price of the price of basic foodstuffs.

For this reason, in the developed countries, as a means of overcoming the crisis problems cited as desirable, the introduction of *green conveyor* in crop production. In this way, the choice of range forage crops and their varieties, their organization and the proper combination of sowing to the continuous arrival of food (green forage conveyor), forage production, and therefore feeding green fodder can be extended, even on the winter, and thus cheaper to make livestock production

Green forage conveyor system is a continuous (continuous) production of forage for livestock feed, to produce in the long run. Green fodder production is a specific form of roughage (organic matter) through the utilization of forage plants at the stage of technological maturity, and that your circle is closed by the exploitation of the animal nutrition into essential for human food (meat, milk, eggs, wool, etc..). Our country is so far-selected, as it is known, a number of different varieties of forage and other crops (cabbage canola, corn, soybeans, millet, etc..) Used for forage production, high yield and excellent quality. They provide the full sequence of anthesis conveyor. That is why we are able, by his own varieties, which is a comparative advantage of the country, to organize the production of forage for green fodder conveyor system. Of course, just to be irrigated forage production throughout the growing season.

Materials and methods

The objective of this paper is the presentation of the reasons why it should be wider representation of green conveyor in practice, as a way of organizing production plant. One of the conclusions of the work should show this kind of business as a way to get the economic situation in agriculture may affect the use of cheaper feed as the main raw material for further processing.

Results and Discussion

Green fodder has an effective impact on the digestive system, because consuming of fresh food the livestock utilize sufficient amount of carbohydrates, fats, oils, vitamins and other substances for their development. Also due to the reduction of certain costs (canning, preserving in losses) makes those food costs as low as possible. In this way, direct impact on reducing variable costs involved in the overall costs of around 60% and thus make to production to be as profitable as possible. At the same time the percentage of utilization than other types of food (hay, silage, etc.). Dietary green fodder, milk production increases, and the use of concentrate can be reduced by 16%.

Today there are three types of green conveyor as follows:

- natural grassland (meadow-land),
- culturally cultivated soil (limited),
- combined conveyor.

Cultural conveyor cultivated soil is most suitable for food because it can be planned that by time, and by the percentage of forage, while at the same time provides better utilization of arable land, Soil and proper crop rotation.

Planning a green conveyor requires intensive production method which implies agglomeration, irrigation system and a plan for decades and months feeding livestock.

When we talk about plants that can be grown in the green conveyor differentiate six groups. The **first group** includes: winter crucifers: cabbage canola, Turnip rape, Borecole, Collard greens, etc. The **second group** includes: winter annual forage legumes: *Pisum sativum*, *Vicia sativa*, *Vicia panonica*, *Vicia villosa*. The **third group** includes : spring annual forage legumes (early sowing, and the same in the mixture): cabbage canola, *Vicia sativa*, broad bean (*Vicia faba*) , Lupins (*Lupinus sp.*). Also in this group includes: spring cabbage (early sowing) forage kale (broadleaves).The **forth group** includes: forage species gajive several deadlines throughout the year: forage kale, forage mallow, Alexandrian clover, etc. In the **fifth group** is included: one year species of cereals: forage corn, forage millet, sudan grass, etc. The **sixth group** includes: one year forage legumes (late sowing, and the same mixture): soyebean, vigna, white lupines and etc.

In preparing the baselines, particular attention was paid to:

- possibilities of using some cultures even during the winter (forage kale),
- the nutrition value and digestibility of forage crops some plant species,
- the length period of use without significant decreases of quality,
- and of the consumption of green forage of the different forage plan species.

We recall that it is greater in the premises, on less pasture, and the best in the younger stages of plant growth.

In Table 1., will be show the basic characteristics of plant species which can be part of green conveyor, the time of their sowing, and also the time of their maturities for use.

Table 1. Green food from arable land, time of use and yields

Species	Time of sowing	Time of use	Yield, t/ha	Duration of use, days
Winter rapeseed	End of July	Middle of April	20	15
Winter rapeseed + winter rye	Beginning of September	Beginning of May	30	15
Winter rapeseed + forage kale	End of September	Middle of May	30	15
Spring oats + vetch + forage pea	Beginning of March	Beginning of June	32	15
Forage corn	End of April	Beginning of July	31	15
Sudans grass	Middle of May	Middle of July and August	31	15
Forage corn (after oil rapeseed)	Beginning of May	Middle of August	31	20
Forage corn (after oats with forage pea)	Beginning of June	Middle of September, October and November	31	30
Forage kale	Beginning of July	Middle of November	22	15
Alfalfa	Beginning of September	May, June, July	20	40

Source: Author's calculation, 2012.

Based on obtained data, can be concluded that with organizing of production the green forage by green forage conveyor, is been achieved that on field comes to change of qualitative species, which provides production of qualitative forage since April, in some areas until November.

Plant species which goes into structure of green forage conveyor characterized by intensive production of biomass, where the biggest amounts can be obtained by combining spring oats, vetch and forage kale (32 t/ha), and lowest amount of green forage obtained by growing the winter rapeseed or alfalfa in monoculture. Optimal period of use this cultures is different, and ranges from 15 days until 40 days (alfalfa), reducing the proportion of high-quality components in the green cabin.

In this way it can be achieved for long term utilization of green biomass, a reduction in costs involved in processing when a crop is harvested, and in its place must come the second crop. It can also be achieved by a significant reduction in the costs incurred in processing and storage of biomass obtained. Plant species included in applications have green conveyor characterized by a high percentage of dry weight, sufficient amounts of protein and energy. Use of forage can be obtained to provide a sufficient number of properly-balanced meals to eat.

Conclusion

Green conveyor organization, an increase in forage production on their own farms, induced reduction of costs proper organization of work, reducing nutrient losses during preparation. Is no room left for the introduction of new, advanced technologies and introduction into production of new and more profitable crops.

Using forage plants from the six groups of growth, creates the optimum areal coverage of arable land and nutritious crops, which can alternately provide sufficient amounts of biomass in the period from mid-April when the cattle grazing plays in high mountain regions, and even to November, when the cattle in lowland regions close to the stables.

Imposes itself question why green forage conveyor, despite a number of advantages, not the few, represented in domestic production practice. The answer to this question should be sought in the following: introduced several kinds of forage plants, which significantly complicates the production of plants, green forage conveyor needs a good organization, technical equipment, great dynamics and seamless operational and technological discipline. Adding to this the fact that the work of the Serbian society sufficiently stimulated, the shortage of staff, especially in forage production, it is clear why, even for modest estates, avoids the organization of production of forage for green fodder conveyor system. Added to this, a negative opinion of nutritionists, that the frequent changes in types of nutrients causes certain changes in the physiology of digestion of domestic animals, which are ultimately reflected in the next 1-2 days, the slight drop in milk production and daily gain. In doing so, forget it, just how central hinterland use of forage, when it comes to the medical service of livestock and how antibiotics are consumed to maintain it.

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NATIONAL DEBT AND BALANCE OF PAYMENT DEFICIT

Abstract

The author examines the problem of national debt. He is particularly interested in countries in transition where the national debt and budget deficit are interrelated. The problems of foreign debt servicing, export reduction, import increasing, poor balance of trade are the reasons which make a country over indebted. The author examines the causes of "capital flight". Poor management of the economy in the countries in debt which leads to foreign loans and their non-dedicated spending are also topics of interest of the author. The author indicates the reasons for debt crisis and the strategy of national debt management.

Keywords: *national debt, budget deficit, market conditions, management, central bank.*

JEL Classification: H68

ДРЖАВНИ ДУГ И ДЕФИЦИТ ПЛАТНОГ БИЛАНСА

Апстракт

Аутор истражује проблем државне задужености. Њега посебно интересују земље у транзицији у којима су државна задуженост и буџетски дефицит у узрочно последичној вези. Проблеми опслуживања спољашњег дуга, смањење извоза, повећање увоза, лош трговински биланс су разлози који чине земљу презадуженом. Аутор истражује шта све доводи до "бекства капитала". Лоше управљање економијом у земљама дужницима које резултира спољашњим зајмовима и њихово ненаменско коришћење су такође предмет интересовања аутора. Аутор је указао на разлоге дужничке кризе и стратегијом управљања државном задуженошћу.

Кључне речи: *државни дуг, буџетски дефицит, коњукура, управљање, централна банка.*

Introduction

Many countries face the problem of national debt. We are particularly interested in the transition countries and their problems. Their debt is caused by many internal and external factors. And the mentioned countries partially got into debt in order to cover the balance of payment deficit. Debtor financing of the state budget deficit is equivocal because it comes from many dubiousities derived from poor economy management, furthermore in countries such as Serbia the foreign exchange reserves are often partly spent for balance of payment regulation. It is often the case that the country gets into debt in order to open new firms, whereas it uses most of the funds to cover the budget deficit. Today many countries ask for debt reconstruction which includes changed conditions of

its servicing, which is also called reprogramming. This measure is required for both the debtor country and the institutions that gave the debt. In case of Serbia it is mostly the IMF. The problem with deterioration of the market conditions in the world economy caused interest increase which is often followed with slowing down of the economical growth. The whole problem was further complicated by so called “oil shocks”, which served as an instrument for income redistribution. Mechanisms for internal debt reduction such as debt purchasing, exchanging debt for capital stock, replacing current debtor obligations with new obligations are the measures whose efficiency depends on the skillfulness of the debtor. This is why it is insisted on building of institutional structures for state expenditure management.

The notion of the national debt

The number of the countries with big national debt and balance of payment deficit increases every day. The connection between internal and external debt has been noted. What is the national debt? The national debt represents “the total sum of the indebtedness of a government by the state securities holders which is equal to the sum of previous budget deficits (minus the rest of the budget)”¹. Internal national debt is “indebtedness of the country to its citizens, companies and institutions who are holders of the securities issued by the government”². We also need to define the external debt. It denotes the indebtedness of the country to foreign citizens, companies and institutions, while the general amount of the indebtedness of the nongovernmental sector to the securities holder referred to as private debt. The national and the private debt are elements of the relationship between income and expenditure. Generally speaking, when the income grows, the savings also grow. Those savings are meant to be used by domestic industry, companies and the Government. *Debt creation* is actually a mechanism by which the savings are given to those who make expenditure. If the consumers and the business are not prone to borrowing than private debt is not growing fast enough to absorb the growing volume of savings. That function is carried out by national debt increase. If this is not the case, the given economy moves further away from the state of full engagement of the resources.

Budget deficit

Budget deficit is the difference between national expenditure and income. We are interested in the problem of debtor financing of the budget deficit, because this is the weakness of all developing countries, especially ex socialist countries. Debtor financing of the budget deficit is present in those countries. The interest rates grow especially in the case when stimulating fiscal policy is performed by limiting money offers in order to control and decrease inflation. Debtor financing of the national budget deficit enhances demand for money, and the Central bank limits its offer. This combination of measures of economic policy stimulates fast growth of interest rates. The increase of interest rates on domestic market increases foreign demand of securities of the given country which causes capital inflow and increase of foreign debt. Servicing of the foreign debt demands giving away a part of the real production at the disposal to other countries, this can result

¹ T.A. Agapova, S.F. Seregina, Macroeconomics, Market DS, Moscow, 2009, p.342

² Ibid

in lower national production in the future. As the foreign demand of domestic securities grows, the demand for national currency required for its gaining also grows. This results in the growth of exchange rate of the national currency which leads to export reduction and import increase. The reduction of so called *clean export* has negative impact on the economy: the level of employment and production in the export branches decreases, and this inevitably leads to social and other tensions. Obviously the effects of the budget deficit that were stimulating at first later have negative effects on already mentioned clean export that worsens balance of payment conditions in the country in connection to the current operations. However the inflow of capital increases internal resources and serves the relative reduction of interest rates on the domestic market. Current operations deficit related to the poor balance of trade is financed on behalf of clean capital inflow that can result in international loans, in our case from the IMF or the World Bank or commercial banks abroad which actually increases external debt. The other possibility is to sell assets to foreign investors. The money received from selling assets is usually used for financing balance of payment deficit in relation to current operations. It is often the case that direct investments which assume import of foreign currency into the country in order to open new companies are used to cover budget deficit. Foreign exchange reserves in Serbia are often used for regulating balance of payment. Each of the mentioned measures leads to the reduction of clean foreign assets, actually balance of payment crisis and foreign debt crisis happen when the government increases the debt with foreign loans which exceed the deficit itself. If the borrowed funds are not used for investments in national economy, which is the case with Serbia, but for buying social peace and filling the budget, then the country is in real problem. Such countries have dire need for *debt reprogramming* which includes changed servicing conditions (interest rate, amount of money, debt returning deadline, etc). The reprogramming makes sense only when the country is not in condition to return the loan in accordance to the previously signed loan contract. This measure is forced for both the debtor country and the institutions that gave the loan. Balance of payment crisis and foreign debt crisis are deepened by the communication vessels principle. The foreign loan resources are used for financing private capital outflow from the country which becomes a kind of capital “escape”. Credit market in such countries is out of balance which limits the production activity. “Unrealized production potentials of the part of the participants in production is good for reduction of the level of efficiency and economic growth”³

All in all the macroeconomic policy that leads to this capital “escape” is not problem only in Serbia, but in the world also, since the foreign debt crisis showed signs as early as 1982. Many of the debtor countries stated that they were not capable to fulfill their debtor obligations. Having this in mind we have already mentioned the notion of and the need for *debt reprogramming*. We are particularly interested in discovering the reasons for foreign debt crisis! Namely, during the 1980's *the marketing conditions in the world economy worsened*. The real interest rates grew, the pace of economic growth slowed down, the commodities cheapened. With the increase of interest rates the debt servicing coefficient also increased. Reduction in commodity prices and slowing down of the pace of gross domestic product in debtor countries leads to reduction in exporting, thus to reduction of export incomes. Since this income is lacking, the country is no longer capable to service its debt regularly. Thus the debtor countries got new burden that becomes heavier and heavier. Surely, this is not the only reason for such situation. *Bad economy management in debtor countries* also can be seen from the budget deficit

³ Ю. В. Шараев, Теория экономического роста, Издательский дом ГУ ВШЭ, Moscow 2006, page 183.

and unrealistic high exchange rate of national currency. Currency speculation is mirrored in growing export and capital escape from the country. Foreign loans are not used as earmarked funds. They are not used as investments that would bring the growth of total income, but for financing less important projects and different speculative operations. The consequence of everything is also wrong macroeconomic policy that is financed by excessive credits from commercial banks. The banks approve new loan without paying attention to the fact that the debt is rapidly growing. There are several reasons for such type of crediting. First of all oil shocks from 1973/74 served as an instrument for redistribution of a share of world income in favor of the countries exporting oil. Short term accumulation was huge and it made possible huge investments to be made in its economy. Those countries allowed liquid credits, which served as a source for spreading resources for international crediting. Those new financial resources enabled allowing additional credits to the debtor countries, because at that time the investment policy in those industrial countries was rather inconsistent. Besides, debtor countries were using foreign interest-bearing loans without the right to control the property, which stimulated the growth of their foreign debt. On the other hand, commercial banks offered credits to “outrun” the competition. The IMF and the World Bank often give consultations and sometimes even partly finance operations for reducing debt and providing conditions and stimulus for increasing domestic investments, but also increasing foreign investments in the debtor countries. There are several different mechanisms for reducing internal debt, like repurchasing the debt, exchanging debt for equities, replacing existing debtor obligations with new ones etc.

The dynamics of the average annual indicators of the GDP growth, export and import in the debtor countries from 1987 till 2010, in %

On average for the whole group of countries that reconstructed their foreign debt from 1999 to 2003	On average			2003	2004	2005 ¹	2006 ¹	On average
	1987–1994	1995–2002	2003–2006					2007–2010 ²
Real GDP	3,6	3,2	6,1	5,8	6,6	6,0	5,9	5,6
Export volume	6,3	7,7	6,3	4,7	7,1	5,8	7,8	6,0
Import volume	4,4	4,1	9,8	6,3	11,5	14,2	7,4	6,2

1. Data for 2005-2006 are assessment

2. Predicted estimation

Source: World Economic Outlook, 2005, September, p.280

Efficient national debt management in both industrial and transition economies cannot be achieved isolated from other measures of budget and tax policy of the government, because it is a constituent of the national expenditure management system. Capital inflow achieved by increasing foreign debt suits the private investments, which calls for stimulating tax reform. And it is not possible without reducing tax burden together with spreading of the tax base. Expenditures for servicing national debt are the least flexible item of the expending part of the national budget. This is because the flexibility of the transfer payouts is not big, so limiting the rate of growth of other items of national expenditure and increasing their efficiency in transition economies is actually an important factor for reducing tensions in the budget and tax sphere. It is necessary

to avoid quasi fiscal operations when regarding national budget, because this is the only way to establish confidence in the economic policy of the government and the Central bank. Naturally, this has to be followed by building appropriate institutional structures for national expenditures management. When we say management, first of all we think of budget management whose function is also servicing national debt.

Structural adjustment

The debtor country is not the only one to blame for great indebtedness, but also the institutions that allow loans. It is interesting that – although the bank is without a doubt the main strength for promoting structural adjustment and sending that message to the whole industrial sector – the concept itself is actually not its child, but of the IFM, because the IMF since the 1940 encouraged and forced countries to “adjust” one way or another... Thus, it is not surprising that the bank accepted enthusiasm for structural changes from IFM⁴. Obviously the IMF is rather present in financing in transition countries. “Its task is to supply the member countries with the money that helps them overcome short term problems with balance of payment, but such money is available to the receivers only upon making an obligation to implement economic policy reform, or in other words, when they comply to undergo structural adjustment. Strict control of putting in motion these often devastating reforms is an integral part of the deal.”⁵ The IMF is organized, as far as management structure is in question, the same as the Bank, because the strength of a vote in the IMF is equal as in the Bank. This is where the interests of the big countries, especially the USA, come from. For example, financial participation of the mentioned countries is as follows: “USA (19,14%), Great Britain (6,63%), West Germany (5,79%), France (4,81%), Japan (4,53%)”⁶. These data illustrate the best the relationship between the IMF and the big countries, especially the USA. Transition countries, like Serbia are slowly entering debtor obligations by the carrot and stick strategy. Actually, what happens is this: if you are not a member of the IMF you will not be admitted to the World Bank. The rule is that the World Bank does not give help for development if a country doesn’t meet the conditions imposed by the IMF. That is why many researchers stressed the way the IMF and the World Bank share the same goals. Structural adjustment is promoted by both the IMF and the World Bank. The Governments are forced to subdue their policies to the reform. All this does not happen without the influence of the rich countries, but that is topic for another story. It is obvious that “real contradiction demands its solution on the basis of exploring the causes, the content, the character and possible consequences”⁷. Thus the IMF, the World Bank, the USA and other great powers have their common goals, but also interests that make small and poor countries dependent on them, because they are sunk into debts they cannot service.

⁴ Graham Henkok, *Gospodari siromaštva*, Plavi krug, Beograd, 2002, p110.

⁵ *Ibid*, p111

⁶ IMF Annual Report 1987, International Monetary Fund, Washington, DC.

⁷ Ю. В. Вертакова, О. В. Согачева, *Исследование социально-экономических и политических процессов*, Кнорус, Москва 2009, р330.

The reasons for debtor crisis and strategies of national debt management

The reasons for foreign debt crisis are the following:

1. Worsening of the market conditions in the world economy:

During the 1980s the real interest rate started rapidly to increase. Among other things the most noticeable was slowing down of the pace of the economic growth and reduction of commodity prices. The increase of the real interest rates lead to increasing the coefficient of the debt servicing. Commodities price reduction and slowing down the pace of GDP growth in the consumer countries which import from the debtor countries lead to decrease of export and export profit in debtor countries, and the export is basic source of debt settlement. The result of this was increased debt of the debtor countries as the export profit was reduced, and the cost of debt servicing grew.

2. Unsatisfactory economy management in debtor countries:

The practice of constant budget deficit and artificially maintained high exchange rate of national currency is sort of speculation whose long term result is currency devaluation. This is what happened in Serbia. In this case foreign currency speculations are taking shape of import enhancement, or so to say, capital escape from the country. Such situation worsens balance of payment situation, because external loans are not earmarked: one part of the funds is used for servicing the budget, while the other part goes missing, which is characteristic of the countries with poor legal system. Those funds usually end up on different private accounts of some members of political and economic elite. This means that the loans are not used for investments that would lead to the growth of total income, but for financing suspicious projects and for speculative operations. The point is that countries like Serbia hugely increase their foreign debt, and the results of that indebtedness are not smart investments, but different disbalances which can be devastating for economies like Serbian.

3. Wrong macroeconomic policy

Wrong macroeconomic policy is in essence any economic policy that is over-financed by commercial banks' credits. It often happens that commercial banks, when asked for a new credit, do not pay attention to the current indebtedness of the loan-taker. Why was that so?

A. During the 1970s and 1980s there was an important redistribution of the world income in favor of the oil-exporting countries and the short-term tendency towards saving was formidable. Since savings were accumulated for big investments in their own economy, those countries allowed liquid credits which strengthened the resources for international crediting. It is obvious that oil shocks from 1973-1974 and 1979-1980 served as an instrument for redistribution of the mentioned incomes. This relates to Serbia less, but it certainly had indirect influence on it.

B. Those new financial means were additional credits to the debtor countries since the climate for investments in industrial countries at that time was rather undefined. At the time direct foreign investments into debtor countries were limited. Without serious plans, they started to use foreign loans that were approved with interest without the right to control the ownership which stimulated the growth of their foreign debt.

C. The biggest commercial banks certainly wanted possibilities for similar operations to outrun the competition. The reason for periodical repetition of the foreign debt crisis is, besides the mentioned ones, in relation with the world's market conditions. The debtor country can take foreign credits up to the moment when the amount of the credit exceeds the amount of capital outflow for servicing the accumulated debt in the shape of interest payoff and amortization of its basic sum. Then, the payment termination is announced. International practice showed

that payment termination usually occurs in cases when it is economically the most suitable for the debtor country, not only when the country has no resources to service the debt. It is not a coincidence that the IMF and the World Bank offer consultations to such countries, and sometimes accept to finance operations for reducing indebtedness and creating new stimulations for increasing internal investments, as well as increase of foreign capital investment into a debtor country. And this is not without tensions, diplomatic but also economic and others. External debt as a limit for development is more that obvious in transition countries. Although foreign investments in such countries have profound economic sense, there is a paradoxical situation “developing countries pay off debts from national incomes more that they are able to receive from new investments... Balance of payment deficit includes capital inflow from abroad and is almost normal phenomenon in the process of development. It stands to reason that some activities may develop in unwanted and unexpected directions. Indebtedness crises and collapse of many banks in developing countries during the 1980s are the best proof of this possibility.”⁸ We would not agree with the conclusion that it is logical for some activities to develop in opposite direction than expected. On the contrary, economic and political elite of the country would have to anticipate the mentioned possibility and thus to readily await crashes that happen on the financial market. We have already mentioned the mechanisms for reducing foreign indebtedness which include debt repurchasing, exchanging debt for equities (swopping), changing existing debtor obligations with new obligations etc. Having this in mind, it is interesting to see average indicators of foreign debt servicing in different groups of countries from 1994 to 2010. This can be seen from the following chart

Average indicators by groups of countries	Year							
	1994	1998	2002	2003	2004	2005 ¹	2006 ¹	2010 ²
1. The countries of Central and Eastern Europe								
Balance of the account of current operations of the balance of payment	4,2	-8,5	-8,5 127,8	-10,1	-10,6	-10,3	-10,3	-8,1
The overall volume of external debt	135,2	118,4		124,9	114,9	105,9	102,3	88,0
Payment to service the external debt (total) ³	19,1	24,2	26,7	26,1	21,6	21,3	22,1	18,0
Payment of interest	6,3	10,1	8,0	8,4	7,3	6,9	6,7	5,4
Amortization	12,8	14,0	17,9	17,7	14,3	14,4	15,3	12,7
2. CIS countries and Mongolia ⁴								
Balance of the account of current operations of the balance of payment	2,4	-7,6	18,0	16,0	20,8	26,5	26,5	9,7
The overall volume of external debt	132,8	175,2	111,9	106,6	92,3	72,8	71,0	91,0

1. Data for 2005-2006 are assessment

2. Predicted estimation

3. Interest payments and the overall volume of the debt (long term loans) amortization. Servicing the debt towards the IFM is excluded.

4. Mongolia is not a member of CIS countries, but is included in this group of countries due to geographic position and similar economy structure

Source: World Economic Outlook, 2005, September, p281

⁸ Др Диана Драгутиновић, Др Милорад Филиповић, Др Слободан Цветановић, Теорија привредног раста и развоја, Економског факултета у Београду, 2005, р 588.

National debt servicing expenditures are the least flexible item of the expenditure part of the national budget. Since the flexibility of transparent payments is small, then limiting the pace of growth of other expenditure items and increasing their efficiency in Serbia and other transition economies is key factor of reducing tension in the budget and taxes sphere. Eliminating quasi-fiscal operations and making an order in the national budget system reestablishes trust in the economic policy of the government and the Central bank, especially if this is implemented together with creating appropriate institutional structures of market economy which refer to national expenditure management, where we can now enumerate national debt servicing.

Conclusion

Today a great number of countries in the world are over indebted. Different countries deal differently with the problem of indebtedness. International capital mobility is related to the interest rates policy, but also with other problems following investments. Countries like Serbia are over indebted and have constant problem with national debt and balance of payment deficit. It has been noted that there the external and internal debts are interrelated. Debtor financing of the national budget deficit enhances demand for money, whereas the Central bank limits its offer. Such economic policy stimulates rapid growth of interest rates. "Increasing interest rates on domestic market increases foreign demand for securities of the given country, which results in capital inflow and increase of the overall volume of foreign debt". Servicing the foreign debt is a problem for small and undeveloped countries, because it reduces national production on long term basis. Unsatisfactory balance of trade in such countries is financed on account of net capital inflow that is taking the shape of international loans, selling assets to foreign investors, spending reserves etc. Balance of payment crisis and foreign indebtedness crisis are mainly interrelated. They are a result of poorly managed economic policy. A country cannot service its debt obligations, which requires debt restructuring, meaning agreement with official creditors.

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STRESS - TESTING IN BANKING

Abstract

The purpose of this paper is to analyze the negative impact of “mundialisation” on the banking sector. It is evident that the global banking system has become more fragile. As a response to progressing instability in financial architecture, policy makers have become interested in better understanding of high sensitivity in the financial sector, particularly in banks. One of the basic techniques for calculating banking fragility is stress - testing. In order to estimate the potentially harmful and unpredictable effects on their transactions, banks have created stress - testing models, which turned out to be an indispensable tool in the bank supervision process. Banking regulators have started using improved stress - testing methods for estimating aggregate risk and for defining the adequate capital level in the banking sector.

Key words: banking sector, control risks, stress - test

JEL Classification: G21

СТРЕС - ТЕСТИНГ У БАНКАРСТВУ

Апстракт

Сврха овог рада јесте да анализира негативан утицај „мундијализације” на банкарски сектор. Евидентно је да је глобални банкарски систем постао фрагилнији. Као одговор на прогресивну нестабилност у финансијској архитектури, креатори политика постали су заинтересовани за боље разумевање високе осетљивости у финансијском сектору, посебно у банкама. Једна од базичних техника за израчунавање банкарске фрагилности јесте стрес - тестинг. Како би проценили потенцијално штетне и непредвидиве ефекте на њихове трансакције, банке су креирале моделе стрес - тестинга, за које се испоставило да су неизоставан алат у процесу супевизије банака. Банкарски регулатори почели су да користе побољшане методе стрес - тестинга за процењивање агрегатног ризика и за дефинисање адекватног нивоа капитала у банкарском сектору.

Кључне речи: сектор банкарства, контрола ризика, стрес - тест

Introduction

The stress - testing is a common instrument of the monetary and crisis management. The prolongation of crisis has encouraged banks and supervisory agencies to review the validity and quality of the stress resistance test practice, that is, business resistance to changeable market shocks. Looking back, test results of bank stress resistance did not fully indicate the seriousness of the current financial crisis. Moreover, it is even possible that the global crisis was

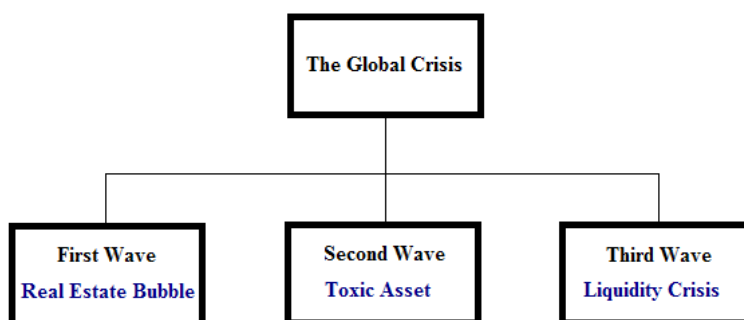
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deepened and accelerated due to the drawbacks in general stress resistance testing practice. It is essential to update the stress resistance testing framework. Stress resistance tests should be realistic, objective, comprehensive, far-reaching, multi-dimensional. Their purpose should be to properly understand, deduct and forecast. Results obtained from business “endurance” testing should be in the service of anticipatory decision making, planned and systematic reactions. Stress-testing results should also point to the adequate level of capital i.e. to suggest how much capital is necessary for the loss absorption, in case of oversized market “impacts” or overflow of banking “contagion”. Stress-testing is particularly important for providing ex-ante risk evaluation, overcoming limitations of the model in which only historical data are used, for spurring the development of risk minimization strategy and behavior in troublesome situations, for the whole set of various crisis scenarios.

The “casino” economy and unknown risks

The US mortgage market used to be regarded as one of the most developed and safest markets, where profit was almost guaranteed with a minimal risk. Owing to low interest rates, the US real estate market was flourishing. In a constant run for more profit and due to extensive cheap cash flow from abroad, American banks began uncontrollable placement of free reserves and taking over new risks. Consequently, it led to a total degradation of mechanisms for credit and portfolio risk management as well as to range of drawbacks in defining and realization of measures for regulating the financial sector and financial institution supervision. Banks and other financial institutions have started to apply new financial instruments that is, financial derivatives. *Hybrid financial instruments* also involved *unknown risks* (“Ponzi scheme”² and money multiplication, financial “Russian roulette” and speculative “bubbles” and dangerous financial “tailoring”). In order to invest and multiply as many free reserves as possible with the aim of increasing their revenues, financial institutions have reduced criteria for granting mortgage loans. After sublimating main reasons for the emergence of the global crisis and the transfer of the financial meltdown to the real economy together with the velocity of the financial “infection” spread of the US crisis on the European economy, three global crisis “zones” appeared.

Figure 1: Three global crisis “zones”



Source: <http://www.cb-mn.org>³

² http://en.wikipedia.org/wiki/Ponzi_scheme, (April 17, 2012)

³ http://www.cbmn.org/slike_i_fajlovi/fajlovi/fajlovi_publikacije/radne_studije/globalna_finansijska_

The crisis, that is, depression refers to a low level of absolute values, employment and domestic production, while the recession refers to the decrease in the level, that is, to the relative change of these values within at least two successive periods.⁴ Different phases of the crisis spread are mutually interdependent and overlap, so they have a sinuous form. Therefore, individual or periodic measures are hardly sufficient for the prevention and stopping of crisis. In the first phase of crisis, the mortgage “bubble”, that is, the consumer loan “bubble” burst. In the second phase, the banking system began to suffer huge losses caused by “poisonous assets”.⁵ These financial losses destroyed the reputation of banks as most reliable and professional institutions. The third phase was a logic consequence of the first two. The liquidity crises also emerged forcing banks to stop their core function: provision of loans to citizens and legal entities (retail and wholesale banking). This resulted in a drop in consumer demand which affected production and service companies. The economic “vicious” circle was then closed and the recession began. On the European continent, the financial-economic dependence spiral was similar to the one in the United States of America. The American sub-primary mortgage market had created the “financial contagion” and then spread it across the globe via “mutated” financial instruments. The result of suspicious financial transactions were “toxic assets” and “creative accounting”. The liquidity crisis paralyzed the global banking system.

The “spread” of the recession outside the US border was a result of a high level of connection and interdependence among global world financial markets and global economy in general. Under the influence of globalisation process, the wave of crisis spread over the planet easily, quickly and violently, like tsunami.⁶ The first to be affected were highly developed countries. However, the crisis spared neither countries in transition nor underdeveloped countries. The economic doctrine argues that the flaming wave of recession firstly overtakes the most developed countries, and then less developed ones. It remains in the most developed countries for the shortest period, while it spends more time in less developed countries in order to stay the longest in the most underdeveloped countries.⁷

Crisis management and stress resistance test

Due to a strong financial integration, that is, a possibility for the crisis to be transferred “instantly” from one country to countries on the opposite side of the planet, it is necessary to build an efficient mechanism which will ensure a financial stability. Proactive crisis management comprises activities which are directed towards the prevention of crisis occurrence. *Proactive crisis management has an offensive character*; it focuses decisively against potential and latent crisis. An adequate anti-crisis policy should involve effective measures of the crisis management, as well as system measures.⁸

kriza.pdf, (April 13, 2012)

⁴ http://www.cbmn.org/slike_i_fajlovi/fajlovi/fajlovi_o_nama/nagrada_cbcg/diplomski_marijana_scekic.pdf, (April 14, 2012)

⁵ Barjaktarović M., *Tržište kreditnih derivata - uspon i pad*, Ekonomika: Društvo ekonomista „Ekonomika“ Niš, (April - June 2012, No. 2), page 89

⁶ <http://news.bbc.co.uk/2/hi/7687101.stm>, (April 16, 2012)

⁷ http://www.cbmn.org/slike_i_fajlovi/fajlovi/fajlovi_o_nama/nagrada_cbcg/diplomski_marijana_scekic.pdf, (April 14, 2012)

⁸ http://www.cbmn.org/slike_i_fajlovi/fajlovi/fajlovi_publikacije/radne_studije/globalna_finansijska_

The stress - testing estimates the impact which the movement of relevant variables has on bank assets and liabilities, which, in turn, has an impact on its capital position.⁹ The stress - testing represents an analytical technique, which gives a quantitative estimate of the “vulnerability” of a bank portfolio. However, the stress - testing is a lot more than just a mere application of set of mathematical and statistical formulae. Therefore, it also includes a series of assumptions which may be essential for precise interpretation, obtaining of realistic results and drawing wise conclusions. The stress - testing uses a wide range of methodologies, from highly simplified “sensitivity” analyses, which study the influence of one risk factor only, up to complex scenario analyses, which are used for studying the cumulative impact of various factors on a financial situation of a credit institution. The stress - testing should establish whether the bank, due to certain unfavorable events, can normally and unobstructedly carry on its regular operations, whether it can settle its obligations timely that is, whether its available risk management funds are sufficient and whether it should engage additional sources of funding. Stress - testing techniques are also applied in a more comprehensive macro-context, with the aim of “the embodiment of sensitivity” of a group of financial institutions or a complete financial system to external shocks. Most frequently used variables in the scenario analysis process are: gross domestic product, unemployment rate, inflation, real-estate price, credit risk and profitability of certain industrial branches. After establishing values of these variables, at least two macro economic scenarios are created: real (basic) and pessimistic (extremely negative scenario), with stringent assumptions as compared to the previous year.¹⁰ Furthermore, such hypothetical conditions, bank loans, deposits and cash flows are tested. These indicators provide a wide insight into a liquidity situation and bank solvency, in case of stressful situations on the market. For example, in the liquidity risk management, the most analyzed scenarios are:

- panic “bank rush” (mass deposit),
- progressive growth of loan demands,
- disturbance on domestic and international financial market which blocks or causes difficulties for the access to fresh source of funding,
- degradation of credit rating, which has a detrimental effect on borrowing capacity.¹¹

The global financial crisis has only additionally intensified drawbacks of common stress resistance testing practice in the following four segments:

- in the manner of application of stress - tests and their integration in the risk management concept,
- in stress - testing methodologies,
- in the selection of scenarios,
- in the stress - testing for certain risks and products.¹²

kriza.pdf, (April 13, 2012)

⁹ <http://www.webcitation.org/60CfdC0TN>, (April 13, 2012)

¹⁰ <http://www.vijesti.me/kolumne/stres-test-banaka-kolumna-32115>, (April 13, 2012)

¹¹ <http://www.vibilia.rs/srpski/izvestaj/0508/Otpornost%20bankarskog%20sistema%20na%20sokove%20likvidnosti.pdf>, (April 13, 2012)

¹² <http://www.hnb.hr/supervizija/papiri-bazelske-komisije/h-tesatiranja-otpornosti-na-stres-i-supervizije.pdf>, (April 14, 2012)

A dedicated participation of bank management is crucial for provision of proper implementation of stress - tests in the risk management and capital planning. This comprises defining the goals of stress resistance testing, formulating various scenarios, discussing obtained results and estimation of possible alternatives for activism and mature and final decision making. Unfortunately, most banks do not go further from initial premises, that is, most banks do not deal with deeper “under surface” research and review. Also, the financial crisis has also revealed drawbacks in the organizational sphere. Prior to the beginning of crisis, stress resistance testing was most commonly carried out isolated from the risk management concept and insignificant interaction with other business functions. In certain banks, stress-tests were carried out completely mechanically. The routine approach does not take into account turbulent conditions of business activity, nor does it incorporate the latest qualitative knowledge. In many banks, stress resistance testing was carried out by separate units, focusing solely on certain business lines and risk types. This led to organizational barriers due to the efforts to permeate and integrate quantitative and qualitative results of the bank stress resistance testing. Although the stress resistance test related to the interest and market risk has been carried out for several years now, stress resistance testing for credit risk (whose movement has seen significant discrepancies in regular distribution and which has the highest degree of “obliqueness”) has appeared only recently. The most advanced forms of stress resistance testing are still in their initial phase of development. The consequence of insufficient comprehensiveness and unity was a fatal inability to recognize risk concentrations and exposure correlations. In most cases, frameworks for risk resistance testing were not flexible enough and thus not able to react quickly as the crisis was spreading. Risk resistant testing programmes should become an *integral part of the bank management structure*. Banks have to update and tighten existing frameworks, both from the detail aspect, and from the aspect of comprehensiveness. Undoubtedly, investments in the information technology infrastructure are also necessary for the provision of better access to risk information, which will further enable timely analysis and situational approach.

The stress resistance testing can be carried out on **different degrees of aggregation**, from individual instrument up to institutional level. The stress resistance testing is carried out for different types of risks, including market, operational, liquidity and credit risk. Most of the stress resistance tests carried out by banks were not designed to comprise extreme market events, the consequence of which was that obtained results not even closely matched reality. Various scenarios usually forecasted only minor shorter shocks. However, more sophisticated, more advanced models analyze the influence of stronger and more persistent shocks on several parameters simultaneously. The following risks were not comprised with enough detail in majority of stress resistance tests:

- behavior of complex-structured products,
- “pipeline” / security risk,
- “warehousing” risk on the market of derivative financial instruments,
- third party risk,
- unknown risks and modified protection strategies.¹³

Looking back, the common stress resistance testing practice did not recognize *dynamics of new risk development*. This significantly decreased the success of previous stress resistance tests. In numerous cases, the stress resistance tests dealt exclusively with the risk of main movement direction of crisis. However, they did not include analyses of

¹³ <http://www.hnb.hr/supervizija/papiri-bazelske-komisije/h-tesatiranja-otpornosti-na-stres-i-supervizije.pdf>, (April 14, 2012)

crisis “branching” and side causal relations, which had a negative impact on their logic and effectiveness. Nevertheless, the latest series of stress-tests has been assessed as the most complete and strictest than previous ones. Earlier banking stress - tests were usually regarded as too mild, due to the fact that some banks went bankrupt soon after passing the test.¹⁴

Minimizing fragility in banking sector

The interbank market plays a significant role in ensuring banking liquidity and efficient functioning of monetary policy. However, the interbank market can also represent a channel of “financial contagion”, which is used to transfer liquidity and solvency problems from one bank onto another (“*domino-effect*”), thus creating a risk of banking crisis. Using simulations and stress - tests, financial analysts (“*rocket scientists*”¹⁵) tend to estimate potential losses which would occur in case of direct “financial contagions”. However, more often than not it happens that stress - testing gains importance only after the crises has aroused, ex - post. Nevertheless, as stress - testing awareness increases together with changes, the stress - testing credibility, as an additional tool for risk management and capital planning, increases with time.¹⁶ Results of simulations and stress - tests show that the scope and direction of “financial contagion” depend on the characteristics of interbank market and/or structure and size of the interbank exposure. An assumption for the simulation is the collapse of each bank individually. If it is confirmed that a downfall of one company will not lead to the downfall of another, then there is no “financial contagion”. Otherwise, the “financial contagion” occurs and the simulation is continued, investigating further the impact that the “infected” bank might have on other, healthy banks. The simulation should last until it comes to a stage in which “financial contagion” does not occur. When carrying out a simulation, it is firstly necessary to determine the interbank exposure matrix, which reflects bilateral obligations and demand. The next step is an actual simulation. In order for “financial contagion” to appear, losses which result from interbank exposure at least in one bank, should surpass its capital. As opposed to the simulation of “financial contagion”, which presumes that the initial downfall of a certain bank was caused due to a specific, that is, idiosyncratic shock which was specific only for that bank, there are also simulations of “financial contagion” which presuppose that the initial downfall of a certain bank or banks was caused due to a macroeconomic shock which the whole banking sector is exposed to. The second assumption is closer to the reality since available data indicate that most downfalls are the result of shocks which several banks are simultaneously exposed to. This model observes the impact of various macroeconomic shocks: fluctuation of foreign currency, interest rates and financial instruments prices.¹⁷ The Law on Banks obliges all banks to continually perform risk planning and to provide adequate risk management mechanism, which should involve identification, measuring, monitoring and analysis as well as ex-ante risk control, which is adjusted to the bank size, exposure of its products and services, its geographical dispersion and assumed risk level.¹⁸ Pursuant to the Law on Banks, all banks shall test its “fragility” not only to certain individual types of risk,

¹⁴ <http://www.24sata.rs/vesti/ekonomija/vest/eu-planira-da-spasava-banke-koje-ne-poloze-stres-test/7390.phtml>, (April 13, 2012)

¹⁵ <http://visions.iop.org/v4.html>, (April 15, 2012)

¹⁶ <http://www.vijesti.me/kolumne/stres-test-banaka-kolumna-32115>, (April 06, 2012)

¹⁷ <http://www.hnb.hr/publikac/istrazivanja/i-023.pdf>, (April 14, 2012)

¹⁸ http://www.paragraf.rs/propisi/zakon_o_bankama.html, (April 14, 2012)

but on a summary basis as well. The stress - tests also include the estimate of the bank's ability to withstand a negative scenario without a recapitalization. The stress - test result is regarded as positive if the bank shows resistance to 70 percent of tested scenarios, while the testing period usually lasts from 6 to 18 months. Credit institutions which are on the verge to pass the stress - test should be placed on the "monitoring list", in case their situation worsens further. If a certain bank jeopardizes wider stability, the justification of efforts for its rehabilitation should be re-examined (above mentioned syndrome "too big to fail").¹⁹ Out of the banks with branch offices in Serbia, the Austrian Bank "Volks" and Greek bank "Eurobank EGF" failed the stress - test in 2011. On the other side, with the deposit guarantee up to 50,000 EUR, the state protects interests of depositors and prevents the panic of citizens (eases the "crisis of mistrust"), but at the same time it also reduces costs of "rescuing" jeopardized banks.²⁰ When talking about stress - testing, banks consider *future improvements* within following fields: permanent reviewing and finding futuristic scenarios, more careful study of new, unknown risks, improvement of abilities to identify and aggregate correlated risks, drawing conclusions on the interaction between market, credit and liquidity risks as well as forecasting the "timing" of the crisis and feedback estimate.²¹ As a response to global crisis, the European Union has established three new supervisory institutions: for banks, securities and for the field of insurance. The European Banking Authority was established at the end of November 2010, as a successor of the Committee of European Banking Supervisors. This Agency carried out a stress - test comprising 90 banks that is, 65 percent of the European banking sector. The bank with the adequacy capital ratio of at least 5 percent of risk assets passed the test. The stress - test from 2011 is much more rigorous as compared to previous ones, which should contribute to regaining the trust in testing of banks and in seriousness, transparency and responsibility of the European Union. It was agreed that the stress - test results should be as follow: "pass", "not pass" and "barely pass". The goal was to force the weak banks to recapitalize i.e. to increase their loss reserves.²² The key element of the **stress testing practice reform** is to end Basel II auditing, which means the implementation of set of rules which are a lot more comprehensive than the original Basel principles. The Basel committee on banking supervision has also issued new guidelines in the form of regulatory framework Basel III, with the goal of strengthening banks ability to absorb shocks which arise from financial "pressures", that is, strengthening their power to adjust to given circumstances. Consequently, the danger of the financial risk "overflow" and expressing the impotence of the real sector is reduced, the concept of risk management and strategic management in general is improved, and the level of banking transparency is also increased. Looking from the aspect of fixed capital and reserve capital, the new regulatory framework Basel III has tightened the requirements, thus influencing the creation of more **conscientious, cautious and sustainable banking**. Requirements tightening is planned for 2013 and new rules should completely be met by January 2019.²³ Therefore, the purpose of banks is not to avoid the risk, which is impossible, but to professionally manage all risks. The professional risk management does

¹⁹ <http://www.24sata.rs/vesti/ekonomija/vest/eu-planira-da-spasava-banke-koje-ne-poloze-stres-test/7390.phtml>, (April 13, 2012)

²⁰ <http://www.politika.rs/rubrike/Ekonomija/Evropske-stresne-banke-ne-prete-Srbiji.sr.html>, (April 13, 2012)

²¹ <http://www.hnb.hr/supervizija/papiri-bazelske-komisije/h-tesatiranja-otpornosti-na-stres-i-supervizije.pdf>, (April 14, 2012)

²² http://www.cb-mn.org/slike_i_fajlovi/fajlovi/fajlovi_publikacije/radne_studije/globalna_finansijska_kriza.pdf, (April 13, 2012)

²³ http://www.ubs-asb.com/Portals/0/Casopis/2011/1_2/B01-02-2011-Ekoleks.pdf, (April 16, 2012)

not mean that the bank should choose only low risk activities. Professional risk management by a bank means optimization of relationships between accepted risk and accompanying returns.²⁴

Concluding remarks

Carrying out the stress - testing is particularly important after a long period of expansion, that is, the period of favourable economic and financial conditions, in periods when faded memories of negative conditions and a lull in the ostensible perfection can lead to a feeling of leisure and thus underestimation of risk. The stress - testing is a main instrument for the risk detection and risk management during the period of intensive and rapid growth, when innovations are easily transformed into speculations and when “financial snowboarding” occurs, when the number of “disguised” and “cancerous” risks is increasing thus creating an immense chance for “injury” and damage. The stress - testing should be more comprehensive and should include the most pessimistic scenarios in order to obtain as objective results as possible and develop an adequate, protection system of the new millennium. The Basel board has recently reviewed the stress resistance testing practice and its aim is to improve it. The stress resistance testing cannot cope with all the risk management problems on its own. However, as a part of the integral approach it holds a leading role in developing the banking management concept and strengthening their resistance. The unpredictability of the economic world points to the imperative of regular implementation of stress - testing in banking and to the need of its continuous improvement in order to prevent the “contagious” crisis or mitigate its negative effects.

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²⁴ Milutin Ćirović, *Bankarstvo*, Beograd: European Center for Peace and Development, 2006, page 333

**ПРОТИВОДЕЙСТВИЕ НЕЗАКОННОМУ ОБОРОТУ
НАРКОТИЧЕСКИХ СРЕДСТВ, ПСИХОТРОПНЫХ,
СИЛЬНОДЕЙСТВУЮЩИХ И ЯДОВИТЫХ ВЕЩЕСТВ:
УГОЛОВНО-ПОЛИТИЧЕСКИЕ, ИСТОРИКО-ПРАВОВЫЕ,
УГОЛОВНО-ПРАВОВЫЕ И МЕЖДУНАРОДНО-ПРАВОВЫЕ
АСПЕКТЫ - КНИГА ПРОФЕССОРА А.В. ФЕДОРОВА**

Анотация

Научная общественность России и в целом мирового поля с интересом встретила труд российского правоведа и общественного деятеля, профессора Александра Вячеславовича Федорова, посвященный всестороннему рассмотрению проблемы противодействия незаконному обороту наркотиков. Ценность данной книги состоит в том, что впервые в формате одной работы предпринимается попытка представить вдумчивому читателю большую палитру суждений по вопросам не только уголовно-политической, уголовно-правовой и международно-правовой плоскости, но также криминологии и социологии наркопреступности, истории наркологии в России. Данная работа имеет громадное научно-практическое значение в условиях колоссального обострения проблемы наркопреступности во всем мире и, безусловно, в Российской Федерации и странах Балканского региона. Несомненно, что „наркобизнес“ и обслуживающая его преступность, „трансформировались в одну из форм транснациональной организованной преступной деятельности“. Как пример, напомним нарко-террористическое государство „республика Косово“. Книга разделена на четыре тематических блока: 1) государственно-правовая антинаркотическая политика Российской Федерации; 2) история развития российского законодательства об ответственности за деяния с наркотическими средствами, психотропными, сильнодействующими и ядовитыми веществами; 3) международное сотрудничество в борьбе с наркопреступностью; 4) памяти выдающихся ученых в сфере наркологии. В российской науке еще в дореволюционное время рядом авторов высказывались мнения о выделении самостоятельного научного направления, называемого правовой политикой (Л.И. Петражицкий, М.П. Чубинский и др.), поэтому подход автора полностью согласуется с идеей эмансипации правовой политики в системе наук. Автор делает вывод об этом что современная российская государственно-правовая антинаркотическая политика есть „комплексной (межотраслевой) содержания“. Также, автор делает вывод: „Ответственность за деяния с относимыми к зелью наркотическими средствами, психотропными, сильнодействующими ядовитыми веществами в Древнерусском государстве устанавливалась с принятием христианства в соответствии с нормами византийского права.“ Большой блок книги

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посвящен вопросам международного сотрудничества, гармонизации и унификации законодательства, в сфере борьбы с наркопреступностью. Книга имеет большое научно-практическое значение и, несомненно, может быть использована не только в сфере формирования практики противодействия наркотизму, но и применяться в качестве учебного пособия для сербских криминалистов и криминологов.

Ключевые слова: *Противодействие незаконному обороту наркотических средств.*

**СПРЕЧАВАЊЕ ИЛЕГАЛНЕ ТРГОВИНЕ НАРКОТИКА,
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КРИВИЧНОПРАВНИ И МЕЂУНАРОДНОПРАВНИ АСПЕКТИ –
КЊИГА ПРОФЕСОРА А.В.ФЈОДОРОВА**

Абстракт

Руска и међународна научна јавност, са великим интересовањем је дочекала књигу професора Александра Вјечеславовича Фјодорова која је посвећена проблемима борбе против илегалне трговине наркотицима. Први пут у једној свеобухватној научној студији разматрана су питања превенције илегалне трговине наркотицима са становишта кривичног права, међународног права, криминалне политике, криминологије и социологије нарко делинквенције и историје наркологије у Русији. Наведена монографија има огромно теоријско-практично значење у условима екстремног међународног развоја наркобизниса у целом свету, као и у Руској Федерацији и државама Балканског региона. Данас, „наркобизнис“ и његове противправне форме имају карактер „транснационалног организованог криминала“. Као пример, наводимо наркотерористичку државу „република Косово“. Књига је подељена на четири главе: 1) Државноправна антинаркотичка политика Руске Федерације; 2) Историјски развој руског законодавства о одговорности за кривичне деликта са наркотицима, психотропним, јаким и отровним средствима; 3) Међународна кооперација у борби са нарко криминалом; 4) Теорије познатих научника у домену наркологије. У руској науци, пре совјетске октобарске револуције, постојали су научници који су говорили о потреби развоја криминалне политике као самосталне научне дисциплине (Л.И.Петражицкиј, М.П.Чубински и други), и зато се аутор књиге у потпуности саглашава са овим научним становиштем. Аутор изводи закључак да је савремена руска државноправна антинаркотичка политика „интердисциплинароне (мултинаучне) садржине“. Такође, аутор закључује да је кривичноправна одговорност за деликте у вези са наркотичким, психотропним и отровним супстанцама у древној руској држави установљења са пријемом Хришћанске религије и нормама Византијског права. Велики део књиге посвећен је питањима међународне кооперације, хармонизацији и унификацији законодавства, у свери борбе против нарко делинквенције. Књига има велики научно-практични значај и, несумњиво, може бити коришћена како у домену формирања практичних форми борбе против нарко криминала, тако и као уџбеник за српске криминалисте и криминологе. Кључне речи: Спречавање илегалне трговине наркотика.

**Противодействие незаконному обороту наркотических средств,
психотропных, сильнодействующих и ядовитых веществ:
уголовно-политические, историко-правовые, уголовно-правовые
и международно-правовые аспекты – книга профессора, д.ю.н
А.В.Федорова³**

Научная общественность России и в целом мирового поля с интересом встретила труд российского правоведа и общественного деятеля, профессора Александра Вячеславовича Федорова, посвященный всестороннему рассмотрению проблемы противодействия незаконному обороту наркотиков. Ценность данной книги состоит в том, что впервые в формате одной работы предпринимается попытка представить вдумчивому читателю большую палитру суждений по вопросам не только уголовно-политической, уголовно-правовой и международно-правовой плоскости, но также криминологии и социологии наркопреступности, истории наркологии в России.

Данная работа имеет громадное научно-практическое значение в условиях колоссального обострения проблемы наркопреступности во всем мире и, безусловно, в Российской Федерации и странах Балканского региона⁴. Несомненно, что «наркобизнес» и обслуживающая его преступность, «трансформировались в одну из форм транснациональной организованной преступной деятельности»⁵, что вызывает особую актуальность научного обращения сербского читателя к данной проблематике через призму своевременных научных выводов профессора А.В. Федорова.

В Балканском регионе основано нелегальное, нарко-террористическое государство „Республика Косово“, которое СФР Югославии было АО Косово и Метохия в составе Республики Сербии. Это квази государство, одним из направлений деятельности которога является легализация нарко-бизнеса и торговля человеческими органами, международно признано со стороны 9 ведущих государства ЕС, США и Великобритании. Международный военный трибунал по бывшей СФРЮ в Гааге подтвердил легализацию нарко-террористического государства „Республика Косово“ вынесением освободительного приговора, т.е.

³ А.В.Федоров: Спречавање илегалне трговине наркотика, психотропних, опојних и отровних супстанци: криминално-политички, историјскоправни, кривичноправни и међународноправни аспекти. Зборник радова, издавач „Правник“, Москва, Русија, 2011.г., 406стр.

А.В.Федоров: Противодействие незаконному обороту наркотических средств, психотропных, сильнодействующих и ядовитых веществ: уголовно-политические, историко-правовые, уголовно-правовые и международно-правовые аспекты. Сборник статей. М.: Издательство «Юрист», 2011.г., 406 с.

⁴ Так, например, по данным ООН, балканские и северные маршруты являются основными героиновыми коридорами, связывающими Афганистан с огромными рынками России и Западной Европы. Балканский маршрут проходит через Исламскую Республику Иран (часто через Пакистан), Турцию, Грецию и Болгарию по Юго-Восточной Европе на рынок Западной Европы (объем рынка составляет около \$ 20 млрд. в год). Северный же маршрут проходит в основном через Таджикистан и Кыргызстан (или Узбекистан или Туркменистан) в Казахстан и Россию (объем рынка составляет около \$ 13 млрд. в год) // <http://www.unodc.org/unodc/en/drug-trafficking/index.htm>

⁵ Федоров А.В. Указ. раб., С. 15.

освобождением от уголовной ответственности за геноцид, албанского террориста Рамуш Харадиная – организатора и лидера террористической организации „Освободительная армия Косово“, потенциального премьер-министра квази государства „Республика Косово“. Этот же трибунал не освободил от уголовной ответственности за геноцид сербских осужденных д.ю.н. Войислава Шешеля, Милана Лукича и др. Ставится вопрос о необходимости существования как военных трибуналов, основанных для ведения судебных процессов над отдельными государствами, такими как СФР Югославия или Руанда, так и существование постоянного Международного уголовного трибунала. В таком случае, тогда необходимо осуществить ревизию международных уголовных процессов в Нюрнберге и Токио, и решений принятых по этим процессам.

Следует отметить, что на суд читателя предлагается сборник научных исследований, подготовленных в течение последних лет (с 2006 по 2011 гг.) и опубликованных в ведущем российском журнале „Наркоконтроль“, главным редактором которого является сам автор книги. Данный журнал уже на протяжении многих лет является единственным российским научным изданием, на площадке которого с разных позиций обсуждаются проблемы наркотизма, прежде всего, его криминологическая и уголовно-правовая феноменология. Неслучайно, российские специалисты признают профессора А.В. Федорова в качестве одного из ведущих ученых в области противодействия наркомании и наркопреступности.

Обратимся к структуре книги. Совершенно справедливо, по нашему мнению, она разделена на четыре тематических блока: 1) государственно-правовая антинаркотическая политика Российской Федерации; 2) история развития российского законодательства об ответственности за деяния с наркотическими средствами, психотропными, сильнодействующими и ядовитыми веществами; 3) международное сотрудничество в борьбе с наркопреступностью; 4) памяти выдающихся ученых в сфере наркологии. Книга основана на огромном массиве нормативно-правового материала и фактически воспроизводит всю хронологию поэтапного формирования правовых основ противодействия наркотизму в России.

С первых строк автор концептуальным образом выстраивает собственное понятие «государственно-правовая антинаркотическая политика», представляя ее в качестве самостоятельного и комплексного элемента правовой политики. В российской науке еще в дореволюционное время рядом авторов высказывались мнения о выделении самостоятельного научного направления, называемого правовой политикой (Л.И. Петражицкий, М.П. Чубинский и др.), поэтому подход автора полностью согласуется с идеей эмансипации правовой политики в системе наук. Правда, указывается, что учение о правовой политике предстает в качестве составного элемента системы теоретико-правового знания. Такой подход научно обосновывает формирование наиболее эффективной системы противодействия наркотизму.

По мнению автора, современная российская государственно-правовая антинаркотическая политика находит свое сущностное воплощение в: специфической системе государственных органов; своеобразии уголовно-правового, уголовно-процессуального, оперативно-розыскного и административно-правового подходов в борьбе с наркотизмом, а также особой практике их реализации; широкой профилактической работе и иных направлениях государственного и общественного контроля. Это позволяет сделать вывод о ее «комплексном (межотраслевом) содержании»⁶. По нашему мнению, и в условиях формирования сербской государ-

⁶ Федоров А.В. Там же, С. 37-38.

ственно-правовой антинаркотической политики российский опыт может оказаться достаточно востребованным.

Безусловную ценность книги составляют обширные материалы по истории развития законодательства о противодействии незаконному обороту наркотиков. Впервые в российской науке автором проводится широкий историко-догматический анализ правовых основ противодействия наркотикам в период с X по XVII. Профессор А.В. Федоров делает важный и для славянских специалистов вывод: «ответственность за деяния с относимыми к зелью наркотическими средствами, психотропными, сильнодействующими ядовитыми веществами в Древнерусском государстве устанавливалась с принятием христианства в соответствии с нормами византийского права»⁷.

Большое внимание в работе отведено принципиальным вопросам борьбы с криминальным наркотизмом. Акцентируется внимание на невозможности ее эффективной реализации вне соответствующей организационной и, прежде всего, финансовой поддержки.

В книге мы находим очень интересные суждения об узловых проблемах уголовно-правовой антинаркотической политики. Например, глубоким образом отталкиваясь от обширного сравнительно-правового материала, поставлен вопрос о современных возможностях установления уголовной ответственности за немедицинское потребление наркотиков. Напомним, что в России в настоящее время ведутся большие дискуссии о целесообразности подобной криминализации⁸. Автор книги отмечает, что от того, каким будет решение по данному вопросу, «во многом зависит дальнейшее развитие практики противодействия незаконному обороту наркотиков»⁹.

Большой блок книги посвящен вопросам международного сотрудничества в сфере борьбы с наркопреступностью. Выявляются проблемы гармонизации и унификации законодательства Содружества Независимых Государств¹⁰. Приводятся интересные факты о роли функционирования международных организаций в сфере противодействия незаконному распространению наркотиков.

Книга профессора А.В. Федорова имеет большое научно-практическое значение и, несомненно, может быть использована не только в сфере формирования практики противодействия наркотизму, но и применяться в качестве учебного пособия для сербских криминалистов и криминологов, интересующихся проблемами правового и организационного сопровождения российской антинаркотической политики.

⁷ Федоров А.В. Там же, С. 124.

⁸ Федоров А.В. Там же, С. 83-84.

⁹ Федоров А.В. Там же, С. 84.

¹⁰ Содружество Независимых Государств (СНГ) - международная региональная организация, регулирующая отношения сотрудничества между рядом государств, ранее входивших в состав СССР.