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LOGISTICS, SUPPLY CHAIN MANAGEMENT AND CONCEPTUAL PERSPECTIVES OF THEIR RELATIONSHIP

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Abstract*. The aim of this paper is to analyze evolutionary, managerial and conceptual dimensions of logistics and supply chain. First, the impact of certain events on the evolution of logistics and supply chain and an increase in their importance for the competitiveness of businesses are presented. Then, the importance of supply chain management in integrating core business functions of different companies into a single high-performance operating system is explained. Also, we evaluate the role of traditional logistics, lean logistics, lean manufacturing and informational technologies in efficient and effective conversion of partners' resources in a supply chain. Finally, we assess the business implications of the four conceptual perspectives of the relationship between logistics and supply chain management.*

Keywords*: logistics, supply chain, traditional logistics, lean production, lean logistics, conceptual perspectives*

Introduction

Logistics and Supply Chain Management (SCM) are challenging areas we encounter on a daily basis. Although these areas became popular in the mid-1980s, their roots originated much earlier. Regardless of the fact that logistics theory and practice originate from the manufacturing sector, we are witnessing their increasing and very successful application in the business sector but their significant use is also in the nonprofit and the public sector. The aim of this paper is to analyze the evolutionary dimensions of logistics and supply chain management from the

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perspective of contemporary theoretic insights as well as to present the four conceptual perspectives of the relationship of logistics and supply chain management.

From the perspective of structure, the paper comprises four logically structured and conceptually interdependent parts. The first part of the paper points to the evolutionary dimensions of logistics and supply chain. It also emphasizes that the notions of logistics and supply chain management are not synonymous and that they are not absolutely independent. Moreover, the paper emphasizes the impact of major events on their development as well as the growth of their importance for the competitiveness of companies.

Management supply chain forms the second part of the paper. It points to the fact that the management of supply chain revolutionized certain business spheres, that it is much more complex both in contemporary literature and business practice, and that it is the notion used more than the notion of logistics management. Supply chain management encompasses all activities related to procurement of resources, and the conversion of these resources with coordination among all partners in the supply chain, with the aim of integrating the major business functions of the company in a high-performance business model.

The third section analyzes the interdependence of traditional logistics, lean logistics, lean manufacturing and supply chain management. Certain information technologies and the basis of integration processes that determine the success of supply chain management are also presented.

The focal point of the last part of the paper are the four conceptual perspectives of the relationship of logistics and supply chain management. Bearing in mind the broadness and depth of the concept of supply chain management, the conceptual perspectives differ significantly.

1. Logistics and Supply Chain – the Evolutionary Dimension

From historical perspective, the term "logistics" originates from the Greek word *logistiki* (λογιστική) that is referred to as "the art of calculation." However, the modern interpretation of the term "logistics" is related to the activity of supplying troops located at the front, with ammunition and material resources. Therefore, the initial conception of the term "business logistics" was based on a military analogy, and mainly concerned with the physical movement of goods.

During the 1960s, the engineering perspective is emphasized in context of logistics management. So, logistics has become one of quantitative science. The principles of analysis of logistical support were set up. However, different functions, which included logistics as a scientific discipline in the 1960s and early 1970s, treated separately and differently.

The systemic approach was applied in logistics in the 1970s and 1980s. Logistics, as an art and science was viewed as a set of many interrelated activities. However, until the mid-1980s the main concern of logistics managers was to ensure that goods reached their destination in good condition and at the lowest possible cost. The shortening of the transit time was pursued, but only when it came to perishable products, or in the case of emergent supplies when additional costs were justified.

However, for the most of products the long transit time was acceptable. During the 1980s and 1990s, business logistics, treated as a very important process that aims to meet consumer's needs has become a significant area of corporate strategy. Managers of companies have increasingly sought to shorten the transit time.

In the early nineties of the 20th century high quality became a standard and organizations have begun to differentiate themselves based on the performance of their own logistics activities. The explosive growth of research in the field of logistics manifested itself and importance of organizations was emphasized. Logistics began to apply new information technology to develop the capacity and protocols for efficient and responsive flows of materials and ultimately to meet the growing consumer's needs. Also, the treatment of functions that logistics comprises is radically changed, because the company began to realize the importance of integration and cooperation.

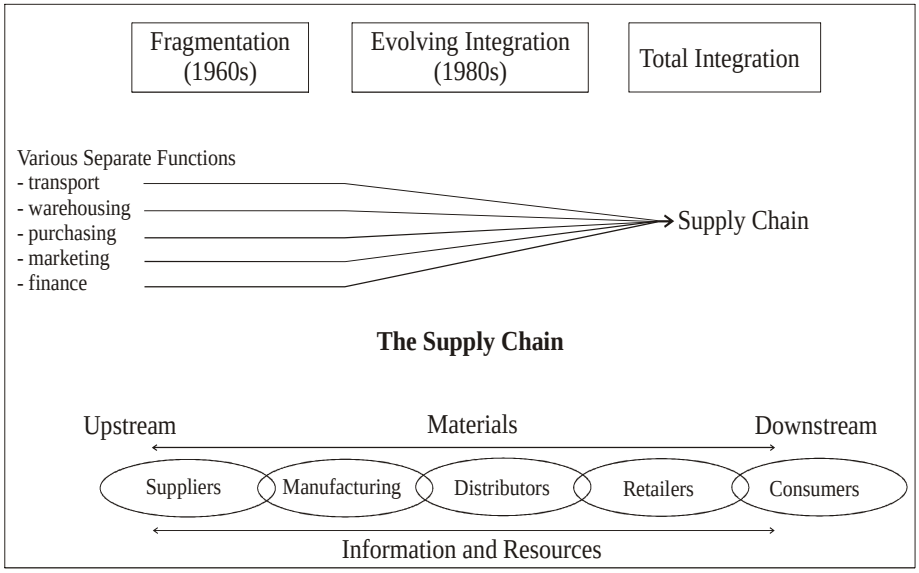
Understanding of the term logistics has evolved. Today, its broad meaning is frequently encountered. This term includes not only all the activities associated with the physical movement of goods, both in the upstream segment (supply) and downstream segment (sales), but also the management of certain relationships with suppliers and customers. The term logistics covers the transformation of quantity, type and characteristics of goods and the handling of goods. It covers all the activities that are planned, implement and control the space-time transformation properties.

The concept of supply chain as a result of interconnection of organizations to increase levels customer services, market shares and profits emerged in the 1980s. Supply chain comprises sequentially related stages and activities which are involved in creating and as well as ensuring product availability to customers. Also, we can consider the supply as a value chain due to all stages of supply chain adding value. If the same activities observed in upstream segment than the supply chain and demand chain are treated identically.

Martin Christopher, professor of marketing and logistics at the Cranffild School of Management, considers supply chain as a network organizations that are involved, through upstream (from the original supplier) and downstream (to the end user) connections, into the different processes and activities that create value (products and services) in order order to meet consumer demands (Figure 1).

Christopher Martin argues that instead of the usual linear representation (as in Figure 1) supply chain appears as a multidimensional network of entities which cooperate within. Such network can be more fully understood if it is treated as a system, since the systemic approach emphasizes the interaction between different entities. In theory of the logistics supply chain, these different entities are marked as links (e.g. transport services) and facilities (e.g. warehouses). Links and nodes can, at the same time, play different roles in several supply chains. Similarly, the term "echelon" is sometimes used to refer to different parts of the supply chain.

Figure 1: Evolution of an Integrated Supply Chain



Terms of integrated supply chain and integrated logistics are often used as synonyms. However, an integrated supply chain is broader term than integrated logistics. The essence of integrated logistics is to integrate procurement, production and delivery to meet consumer needs, because they are crucial in marketing business concept. Integrated company supply chain has evolved from integrated logistics as a form of internal supply chain and its relationships with suppliers and consumers who are kind of external supply chain. Since the supply chain includes not only the purchase and sale but company relationships to suppliers, intermediaries and consumers, one can argue that supply chain management consists of activities outside the scope of logistics.

In the supply chain different flows are present, which make its bloodstream. The following are key flows in the supply chain:

- Physical material, flows,
- Information flows,

- Flows of equipment, financial and human resources,
- Flows of intangible resources - for example, good relations between the companies are very important ingredients of effective supply chains.

In relation to the concept of logistics, supply chain concept has a broader meaning. The concept emphasizes the importance of supply chain relationships between companies and the company influence on the elements and processes of the external environment (boundary-spanning). The relevant literature is present or the broader understanding of the concept of supply chain. However, we often meet broader version in practice and mutual benefits from information exchange and coordinated up and down decision making in supply chain.

2. The Revolution of Supply Chain Management

It is difficult to precisely define the term supply chain management, given that it is relatively new in the world of scientific literature. It is believed that the term was first used by Keith Oliver (2003), president of the London office of international consulting firm Booz Allen Hamilton in 1982. Keith Oliver is the term used to develop a vision for the demolition of the so-called concept of functional silos which involves the separation of production, marketing and distribution. The concept of supply chain management Keith Oliver has applied for the first time while he was working with the Dutch electronics giant - Philips (Booz Allen Hamilton 2004).

Martin Christopher makes a distinction between supply chain management and vertical integration. He regards the term supply chain management as relationships. He regards the term supply chain management as managing relationships with suppliers and consumers in order to deliver added value, under lower costs across the whole of supply chain. The concept of vertical integration assumes ownership, or at least control over upstream suppliers and downstream entities, while the concept of supply chain management does not assume compulsory ownership or controlling partners in supply chain with suppliers and consumers in order to deliver added value, under lower costs along the whole supply chain. The concept of vertical integration assumes ownership, or at least control over upstream suppliers and downstream entities, while the concept of supply chain management doesn’t assume compulsory ownership or controlling partners in supply chain.

In the late 1990s, many universities in the U.S. (e.g., Arizona State University) introduced the subject titled "Supply Chain Management" as part of their Master's studies program. Also, in the late 1990s manifested itself in the increasing number of companies that implemented the concept of supply chain management. Wal-Mart has perfected the concept of developing a worldwide network and relationships with suppliers in order to increase the reliability of

material flow by reducing inventories. Many managers and researchers state that the company Wal-Mart is a pioneer in implementing supply chain management concept, because the company proved that it is able to build a global network of suppliers, warehouses and retailers that operate almost as one company with the flow of information in real time (Webster 2008, 7; Friedman 2006, 151).

In the last decade there have been a growing number of companies that have nominated high executive chairman in supply chain. This trend has manifested itself in companies of all sizes, regardless of region and country of origin.

Supply chain management implies “end-to-end” logic application. The essence of this logic in the managing of all flows from upstream to downstream part in supply chain. Depending on the industry and the supply chains belong to, the following terms are used to describe their "end-to- end " logic: "From farm to fork, and "From cradle to grave".

Global presence and revolutionary role of supply chain management was described proficiently by Thomas L. Friedman. In the book “The World is Flat”, supply chain management and the revolution in information technology, which he initiated, Friedman considered the basic changes in the global economy. He called efficient Wal-Mart global supply chains “symphony in few poses – without final”

The reorganization of international professional organizations which are dealing with problems of supply chains, occurred in January 2005. At same time, the Council of Logistics Management has changed its name to the Council of Supply Chain Management Professionals (CSCMP). Then the logistics is treated as part of the supply chain and focused to the following activities: transportation, warehousing, material handling, fulfilling deliveries, designing logistics network, inventory management, planning supply and demand at an enterprise level and managing outsourcing strategies.

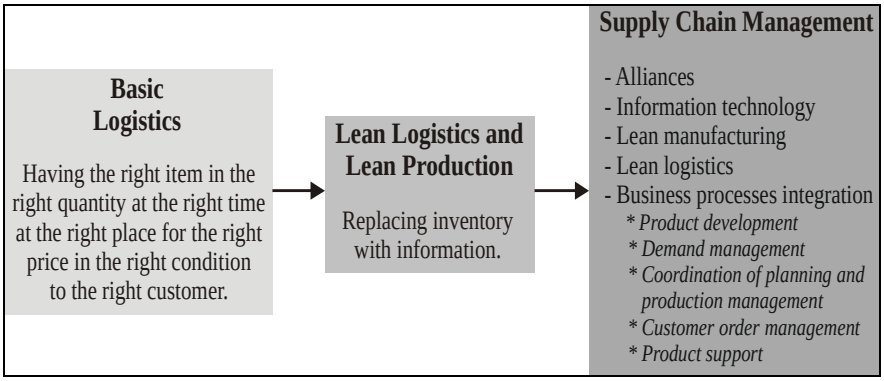
3. Logistics Management and Supply Chain Management

Logistics management is the process of strategic procurement management, materials and parts transport needed for production and storage and distribution of finished products through marketing channels so that the profit is maximized through effective system orders (Cristopher 2005, 4). An important part of this process is information management which is related to all logistics operations within the company.

Supply chain management is a much broader concept than logistics management. Unlike the logistics management, supply chain management is primarily directed towards consumers. Also, it expresses the marketing relevance because it represents a new philosophy and strategy in which the planning of all segments of the movement of goods and information in the process of distribution predominate.

Figure 2 presents the transition from the concept that refers to classical logistics to the concept relating to supply chain management as well as key components of supply chain management. Classical logistics deals with the procurement, storage and distribution of materials to the right buyer get the right product, the right quality, in the right way, at the right time, the right place, in the right condition, in the right quantity and at the right price.

Figure 2: Evolution of classical logistics, lean logistics and lean manufacturing in supply chain management



In today's economy, wholesalers, distributors, manufacturers, retailers, suppliers and all the members of the supply chain want to reduce their costs, shorten the time of execution of orders and reduce inventory levels in order, while meeting the requirements of its customers, be profitable. The best way to achieve this is to implement lean concept the essence of which eliminates all activities that do not add value. This concept is best applied when demand is relatively stable and when the demands of their customers are similar. Lean Logistics is focused on eliminating wastes from internal and external supply chain through: reducing excess inventory, shorten the time of fill and eliminating unnecessary costs. Fill with lean inventory supply chain is based on a pull logic. Lean Logistics is an especially *big* challenge for the global-oriented company, given that their shipments are transported to remote destinations and more organizations may be involved in the transfer of each consignment. Implementing the concept of lean logistics in extended multi-transaction chains in such companies is very complex, because activities that do not add value appear and therefore inevitably cause wastes.

Lean Logistics is the logistics dimension of lean production. The term lean logistics is applied in the field service (Baudin 2004, 30). The concept of lean production involves constant efforts to reduce waste and elimination of all activities that do not add value in the planning, production, distribution and customer service. The concept was developed by Taiichi Ohno (1912-1990), executive manager of Toyota during the post-war reconstruction of Japan. For its

popularization of a particular importance is the book "Lean Thinking" (rational thought) written by J. P. Womack and D. T. Jones in 1996. Shortening lead-time can be enough to lean manufacturing.

Supply chain management seeks to incorporate elements of lean in the entire supply chain. For example, supply chain management encourages training employees, meeting internal customer requirements, product movement through the manufacturing system, the exchange of information on end customer demand and production planning in supply chain. In addition, management is trying to optimize inventory levels in the entire supply chain. All of these elements, incorporated by lean supply chain management, are supported by lean manufacturing.

Without the use of information technology, supply chain management cannot be imagined. Information technology acts as an integrator of supply chain. Functional areas within an enterprise use a common database. Partners in the alliance share data. Accuracy, flow rate, relevance, accessibility and availability of information to determine the success of the supply chain. Supply chain management, among others, provides: electronic coding technology products, software for enterprise resource planning (ERP), electronic data interchange (EDI) and software to evaluate and improve supply chain performance.

1. The technologies of electronic product coding (EPC) are: bar cording, optical scanning and radio frequency identification (RFID). These technologies are used to uniquely identify and track products, boxes, pallets and vehicles in the supply chain using radio frequency identification. EPC structure is defined by EPC Tag Data standard which can be downloaded for free from site EPCglobal, Inc. (Internet izvor). EPC has a resemblance to today's bar code, but offers much more potential uses of bar codes. Today, the use of electronic encryption product is limited to boxes and pallets. With increasing accessibility to this technology and the benefits it provides, its application to individual containers can be expected. EPC is designed as a flexible network that can support many existing coding schemes, including many encoding schemes that are now used with barcode technology. EPC tag will never completely replace the full text and bar coding, given that manufacturers require robust and sufficiently secure tags. Until December 2010 there were no cases identified completely substituted by other RFID tag labeling. MIT Auto-ID Center was created by EPC, a consortium of over 120 global corporations and university laboratories. EPC identifiers are designed to identify each manufactured product, unlike bar codes that identify manufacturer and product class. EPC system managed by EPCglobal Inc., a subsidiary of GS1. As one of the industry standard for the global use of radio frequency identification, EPC is a core element of the EPCglobal Network

2. Enterprise resource planning software – enables processing all over transactions in every functional area as well as access to enterprise data base in real time. ERP stands instead of traditional informational systems that were created for years swiftly and cobble together by manufacturing, finances, marketing, engineering, supply, etc. Traditional information systems were limited, hard to be associated with other functional areas and couldn't follow changes in supply chain.
3. Electronic Data Interchange (EDI) and the Internet facilitate creating business environment that enables partners to exchange information relevant for decision making in supply chain.
4. Supply Chain Analytics (SCA) is software for supply chain performances evaluation and improvement. It can evaluate misbalance between capacities, inventory, and consumers demand, or to establish the most responsive transporters and distribution centers

About twenty years ago, one of the main obstacles to organizations cooperation was hardware incompatibility, whereas today it is software incompatibility. There are two possible solutions for software incompatibility. The first one implies that all relevant software applications for, e.g. supply management, transport management and warehousing management, to be delivered by one vendor (single integrator approach). An example is using Microsoft Office or some other programme from the same complex of Microsoft Company. One advantage of this solution is that there is coordination between the various applications (Wisner et al. 2005). The other solution involves selecting the best applications for a specific function (best-of-breed approach) (Wisner et al. 2005). It means, for example, that the organization of transportation management uses software by one company but for warehouse management uses software by other company. However, integrating these different applications is often impossible without additional software packages. Also, non-integrated different applications often cause serious business problems. For example, Hershey Foods, a company known for producing sweets from Pennsylvania, didn't succeed to integrate several specialized software packages for supply chain and so manage inventory and warehouse successfully in 1999. Simply, the company Hershey didn't implement the ERP system worth about 115 million dollars, most marketable time of year about the Christmas time and famous holiday Halloween. The company has also implemented all modules extremely complex ERP system of the company SAP from Germany, together with the CRM (customer relationship management) with package company Siebel, and with a package of logistics company Manugistics. When such a system failed, the company was unable to fulfill customer requirements. The company faced with increasing delivery times and higher inventory level as well as consumer's disturbance (Murphy, Wood 2008, 43) which resulted in a decline in sales for about $ 150 million (Sidhu 2010). Volkswagen Company had similar problems in implementing ERP programs (Stedaman 2000).

Business process integration, both within and between one of several companies, is crucial for supply chain management. Business process integration is a complex category and includes: product development, demand management, coordination of planning and production management, management of customer orders and product support aftersale (Figure 2).

Improving present products and faster development of new ones manages business processes integration. It is especially important for development and complex products successful market presentation as: plains, cars and computers.

Modern supply chains are called pull systems as driven by consumer demand. Ability of the focal firm in terms of supply must be reconciled with the known and predicted patterns of consumer demand in the downstream segment of the supply chain. Management of all business processes and functions in such a supply chain is based on data on demand in real time or on current forecasts. Therefore, this significantly reduces supply chain uncertainty, promotes responsive material flows in all its segments and creates conditions for improving customer service while reducing inventory.

Manufacturing planning and management coordination in supply chain is based on business plans exchange and inventories and demand information exchange in real time. Also, collaborative planning and forecasting integrated business processes functioning in supply chain. Therefore, a conclusion is that supply management concept requires the abandonment of the of industrial economy concept, whose maxim "produce store" and acceptance of the information economy concept, which implies that production at all levels reflect the balance of supply and demand.

Data exchange, continually insight in supply quantity and location, and modality and intensity cooperation advancing between supply chain members allow more flexible and efficient customers orders management. Modern supply chains enable developing system for continuous replacement and fulfilling orders that can satisfy or overcome customers expectations.

Effective and efficient customer service with class products and services is a key aim of supply chain management. To achieve that goal, it is vital to develop activities network for responsive post-sales product support. Though, that kind of support is not possible without: providing adequate spare parts, warranty procurement, up keeping and product calibration and setting up conditions for returning products.

4. Logistics and Supply Chain Management Relationship Perspectives

Experts in the field of logistics and supply chain management have often focused on their own views about the differences between these fields, which caused numerous debates among them. We appropriate four conceptual

perspectives analyses, that, based on international logistics and supply chain management surveys of experts in the field of international logistics and supply chain management, have been identified by Larson and Halldorsson (Figure 3, Figure 4, Figure 5 and Figure 6) (Larson, Halldórsson 2004).

Supply chain management has evolved in many ways, from logistics and therefore was treated as a subset of logistics, i.e. SCM is just one small part of logistics (Figure 3) by *traditionalist school*. Logistics has engaged a "supply chain analysts" to focus on cross functional and interorganizational problems. According to Stock and Lambert the logistics specialists have tended to view supply chain management as a "logistics outside the firm" (Stock, Lambert 2001).

Figure 3: The traditional perspective

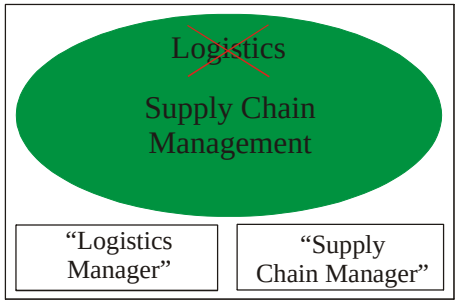
For traditionalists the supply chain management is a strategic aspect of procurement. They stress the need to develop partnerships with suppliers at the first and second levels. In addition, they add supply chain management to procurement and supply management and/or procurement management. They emphasize that corporate department for procurement can hire a "supply chain analyst" to study the relationship with suppliers of other levels.

The traditional approach, which included procurement segmented treatment, was developed during the period of relative stability of the business environment. Increased internationalization, which has significantly increased the level of political, social and market uncertainty and uncertainty in supply has imposed the need to go beyond the traditional concept of procurement (traditional procurement) and introducing the concept of integrated supply management.

Traditionalist's attitudes are conservative and narrow. Peter Kraljic, McKinsey consultant, in his article entitled "Purchasing Must Become Supply Management", indicated in 1983 that the purchase (purchasing) as a tactical function, must be transformed into a strategic function integrated throughout organization, i.e. in supply management (Kraljic 1983). This change in organizational terms enables companies to quickly respond to changes in the environment. Noting that the procurement function should leave the role of back office and to gain a strategic role, i.e. to ensure optimal supply, Kraljic laid the basic principles of modern strategic supply. Indeed, 27 years later, we witness the reality of his vision. However, supply management is not just about changing the name of the department, as some companies still understand.

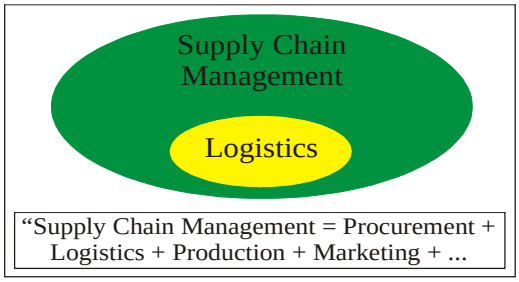
Some authors have advocated for renaming (re-labeling - new labeling) logistics into supply chain management (Figure 4). Sometimes the term transport and logistics term are used as synonyms. For example, the vehicles of some companies for transportation of heavy products, the word "logistics" is written above the words "transportation"! However, a company that has acquired a professional status in the field of logistics, it must do more than just date change, the term transport into logistics. Also, some authors put an equal sign between terms supply chain term and logistic network (Simchi-Levi et al. 2000).

Figure 4: New labeling perspective



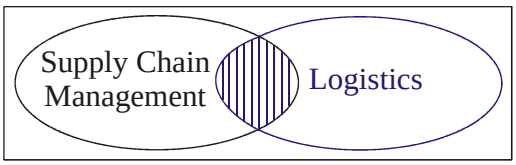
The attitude of some authors is that the logistics part of a larger entity, i.e. supply chain management (Figure 5). For example, Mentzer J. and others include in supply chain management all the traditional business functions: marketing, sales, research and development, forecasting, production, procurement, logistics, information systems, finance, customer service (Mentzer et al. 2001, 1-25).

Figure 5: Union perspective



The following figure indicates the overlap of logistics and supply chain management (Perspective of intersection). However, logistics and supply chain management have parts that are separate and different.

Figure 6: Perspective intersection



Supply chain concept is much broader than the concept of logistics due to focuses on the relationships between the companies and highlights the company's connection with its external environment. If look with more detail at the definition of logistics and supply chain management, listed in newest papers in these areas, such statement will be clear to us.

Supply chain management takes into account the strategic, integrative elements from several functional areas (logistics, procurement, production and marketing). However, it does not deal with tactical elements, such as withdrawn from inventories in the warehouse in order to fulfill orders.

Despite the popularity of the concept of supply chain management in literature some confusion is still present when it comes to its meaning (Mentzer et al. 2001, 2). Also, it seems that there is no consensus among theorists on the relationship between logistics and supply chain management. More than decade ago, Cooper, Lambert and Pagh concluded that researchers and practitioners understand the concept of supply chain management as an extension of logistics, as well as logistics, or as a comprehensive approach to business integration. These authors stated that the management of the supply chain can involve managing all business processes (Cooper et al. 1997, 1, 5).

These four perspectives vary according to the width and depth of the concept of supply chain management. Perspective union and the perspective intersection are broad concepts, since there is the concept of supply chain management which includes more features. The traditional perspective and the perspective of the new labeling are narrow concepts as they stress adjustment of supply chain management with a single function - logistics. As for depth, it is small in the case of the traditional perspective, as supply chain management is understood as a subset of logistics. The opposite is the case of new labeling perspective, because it implies that the concept of supply chain management encompasses all elements of logistics. Union depth is large because it implies that the management of supply chain includes all the elements (strategic and tactical) for a number of functions. Finally, the depth perspective intersection is small because it includes only the supply chain focusing on strategic, integrative elements from more than one function.

Table 1: Width and depth of supply chain management concept

	Width	
Depth	**Small**	**Large**
Small	*Traditional perspective*	*Intersection perspective*
Large	*New labeling perspective*	*Union perspective*

Table 1 shows the width and depth of the concept supply chain management through four conceptual perspectives. In discussions about the scope of the concept of supply chain management logistics are mainly sought by its broad (multi-function) and deep (strategic and tactical activities) understanding (union perspective). Given the strong connection of logistics with procurement, manufacturing operations and marketing, it is not surprising that it provides a broad view of supply chain management.

Conclusion

The terms of logistics and supply chain are not synonymous. Supply chain is more complex category than logistics. Events that have decided their evolution confirm that the first term is older, but simpler than the other.

Besides the fact that in the last three decades it came to serious conceptual and organizational changes in business logistics, logistics manager's role in essence remained the same: to ensure that wanted goods with adequate quality, safely, on time, under acceptable price get to the destination by efficient managing logistic activities (transportation, package, storing etc.). Supply chain management focuses on inventory, information and resources flow management within upstream and downstream organizations network, which enables adding value in shape of product and/or services.

In contrast to the individual companies and products, today there are more and more competing supply chains. This indicates a change in the traditional paradigm in the treatment of the global business environment.

Lean manufacturing, as business philosophy, enables to eliminate wastes and creates additional value. Company that focuses on the global market must form a project team to create a lean logistics system. Such a system would be cost effective because it will help everyone involved in the supply chain to understand the needs of the company to eliminate potential wastes in the supply chain.

Regardless of its depleting, in literature there is still confusion regarding the understanding of the concept of supply chain management. There is a lack of a consensus among theoreticians about relationship between logistics and supply chain management, too. Nevertheless, the identification of relevant conceptual perspectives might contribute significantly to the complex recognition of similarities, differences and connections between logistics and supply chain management.

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LOGISTIKA, MENADŽMENT LANCA SNABDEVANJA I KONCEPTUALNE PERSPEKTIVE NJIHOVIH ODNOSA

Rezime: Cilj ovog rada je da se analizaju evolutivne, menadžerske i konceptualne dimenzije logistike i lanca snabdevanja. Najpre se prezentira uticaj određenih događaja na evoluciju logistike i lanca snabdevanja kao i njihov značaj za konkurentnost kompanija. Zatim se obrazlaže značaj upravljanja lancem snabdevanja za integrisanje glavnih poslovnih funkcija različitih kompanija u jedan poslovni sistem visokih performansi. Takođe, analizira se uloga klasične logistike, lean logistike, lean proizvodnje i informacionih tehnologija u efikasnoj i efektivnoj konverziji resursa svih partnera u lancu snabdevanja. Konačno, procenjuju se poslovne implikacije četiri konceptualne perspektive odnosa logistike i menadžmenta lanca snabdevanja.

Ključne reči: logistika, lanac snabdevanja, tradicionalna logistika, lean proizvodnja, lean logistika, konceptualne perspektive.

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POSSIBILITIES OF APPLICATION OF COST-BENEFIT ANALYSIS TO ENERGY EFFICIENCY PROJECTS IN BUILDINGS

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Abstract: *The huge losses of energy in buildings in Serbia, have negative impact on the economy and standard of living. The solution could be greater use of energy efficiency measures in the whole country. Each project of energy efficiency in buildings can bring significant benefits to both, investors and the community. With proper implementation of cost-benefit analysis, the costs and benefits resulting from implementation of projects of this type, can be recognized and measured from the standpoint of the community.*

Keywords*: Cost-benefit analysis, energy efficiency, buildings, projects.*

1. Introduction

In recent years, the domestic and international public has often mentioned the concept of energy efficiency. Some of the global problems such as exhaustion of nonrenewable energy resources (oil, gas, coal, etc.), the insufficient level of economic viability of "clean" technologies for energy production, increase environmental pollution and the impact of global warming and frequent economic crisis on regional and global level are responsible for the growing importance of energy efficiency. Serbia is affected by these already mentioned global problems, still there are a few of "its" reasons why it should increasingly turn to energy efficiency. In the first place, Serbia is highly import-dependent country when it comes to high-quality fuels. Also, energy consumption in buildings is among the highest in Europe (Agency for Energy Efficiency of the Republic of Serbia 2011),

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which significantly affects efficiency of the economy and standard of living. In addition, the electro-energetic system survives on the verge of endurance, because there are not enough funds to build new and maintain existing facilities, which brings to frequent failures in the system and huge losses in electricity transmission. Do not forget the air pollution, which is especially pronounced in large cities.

What is the definition of energy efficiency in buildings? This is a set of technical measures and behavior, with the ultimate goal of minimum energy consumption in buildings with the same or greater level of comfort for end users of these buildings (The Project "Energy efficiency in Montenegro" 2011). The concept of energy efficiency is usually found in two meanings, one is related to devices, and the other to the actions and behavior. Under the power-efficient device is considered to be one that has a high degree of efficiency, and small losses during the transformation of one form of energy into another. When it comes to measures, the energy efficiency means measures applied to reduce energy consumption. No matter, are they technological or non-technical measures or changes in behavior, all measures include the same or even higher degree of comfort achieved. The results of increased efficiency in energy use are significant savings in financial terms, but quality of working conditions and natural environment is also important (Agency for Energy Efficiency of the Republic of Serbia 2011).

Substances which include and describe building management are buildings, the most widespread form of objects, which human builds for many of his/her activities and life functions (Popovic 2002, 5).

With analysis of energy consumption in Serbia (Agency for Energy Efficiency of the Republic of Serbia 2011), it was concluded that the highest energy consumption is in buildings, and that there is a great scope for achieving savings. Implementation of measures for energy efficiency in buildings is often very complex, so for successful realization it is necessary to apply project approach. This will ensure quality of implementation of measures for energy efficiency by achieving the minimum of cost and maximum of benefits for investors and the community.

Projects of energy efficiency in buildings have a great social significance. Many benefits which are realized by implementation of the project are not of material nature, but they are very important for the community. If you want to measure these benefits, you must use cost-benefit analysis. This analysis is used to properly assess the validity of each project of energy efficiency in buildings.

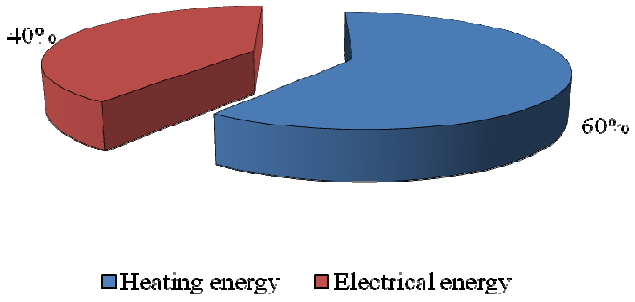
2. The State of Energy Efficiency in Buildings in Serbia

Serbia is one of the countries with very low energy efficiency. The reasons for this are the use of outdated, energy inefficient technologies in industry, building sector and infrastructure, inadequate legislation in this area, low standard of living and low awareness of population for environmental. The scope and structure of

energy reserves and resources in Serbia are very unfavorable. Reserves of high quality energy such as oil and gas are symbolic and represent less than 1% of the total balance reserves of Serbia, while the remaining 99% of energy reserves are various types of low-quality coal, which is dominated by lignite with an estimated share of about 90% of the total balance reserves (Ministry of Mining and Energy of the Republic of Serbia 2005, 6). Total annual final energy consumption in Serbia is about 8.2 Mtoe (one toe - the amount of energy that is released by burning one ton of oil, 1 toe = 41.868 GJ = 11.63 MWh) (Ministry of Mining and Energy of the Republic of Serbia 2009, 10). The share of building construction in the total final energy consumption is 48%, which 65% refers to the residential sector (Agency for Energy Efficiency of the Republic of Serbia 2011). The rest is related to the tertiary sector (commercial, industrial and public buildings). Serbia has 2.7 million housing units, of which 54% are in urban areas (Agency for Energy Efficiency of the Republic of Serbia 2011). Total area of residential buildings in Serbia is 190 million m^2 and the average floor area is 60-65 m^2 (Agency for Energy Efficiency of the Republic of Serbia 2011).

Commercial and public buildings in Serbia spread to over 40 million m^2 (Ministry of Mining and Energy of the Republic of Serbia 2005, 21). Calculation leads to the conclusion that the final energy consumption in the building sector is about 3.93 Mtoe. Structure of energy consumption in this area is given in Picture 1.

Picture 1. Structure of energy consumption in buildings



Source: Oka et al. 2006,6

Data on adverse energy situation should direct the attention of the state and people to rational consumption of energy. However, according to the criteria of energy efficiency, Serbia is among the last countries in Europe. Energy consumption in buildings in Serbia, was on average over 200 kWh / m^2 (Agency for Energy Efficiency of the Republic of Serbia 2011). In buildings built under the new regulations in Poland, a country with a more severe climate than ours, specific energy consumption amounts to 90-120 kWh / m^2 (Agency for Energy Efficiency of the Republic of Serbia 2011).In Sweden, with the colder climate and longer heating season, the fuel consumption is 120 kWh/m^2, and in the newest buildings with the lowest requirements for power generation it does not exceed 60-80

kWh/m^2 (Agency for Energy Efficiency of the Republic of Serbia 2011). The electricity consumption per household in Serbia is 6.000-7.000 kWh per year (Electric Power Industry of Serbia 2011), while consumption in the EU amounts to 3.500 kWh (Europe's Energy Portal 2011).

3. Measures of Energy Efficiency in Buildings

Measures for improving energy efficiency are the procedures which increase the degree of efficiency and reduce losses in the work with electrical appliances and installations for heating, and prevent leakage of heat in buildings.

Some of the primary areas in buildings where it is useful to apply the measures of energy efficiency are shown in Table 1. Opportunities of savings that are presented in the table are typical for Western Europe. The assumption is that the savings in Serbia, because of the age of buildings and equipment, will be higher.

Table 1. Opportunities of energy saving measures in public buildings

Sector of energy consumption	Economic potential savings
Heating	up to 35%
Hot water supply	10% - 30%
Lighting	up to 30%
Electrical appliances	up to 40%
Internal measures	about 25%
Air conditioning	about 10%
Ventilation	10% - 30%

Source: Ministry of Mining and Energy of the Republic of Serbia 2007, 85

According to the amount of funds required for implementation of energy efficiency in buildings there exist (Ministry of Mining and Energy of the Republic of Serbia 2007, 85-88):

- Measures of the host energy management (most often free, but sometimes implies a low cost, usually up to 100 euros).These measures include: closing the doors and windows in rooms that are heated/cooled, reducing the room temperature from 22 to □□ ° C during the heating season, improving the tightness of joints of windows and doors, turning off the lights in the room when it is not needed, a work of machine laundry/dishes when they are full, etc.
- Low-cost measures of energy efficiency (include measures that cost up to 1.000 euros).These include: installation of thermostatic valves for heating bodies, insulation of pipes and tanks for hot water, reducing heat loss through windows by installing shutters and additional windows, use energy efficient light bulbs, buying electrical appliances energy class A, etc.

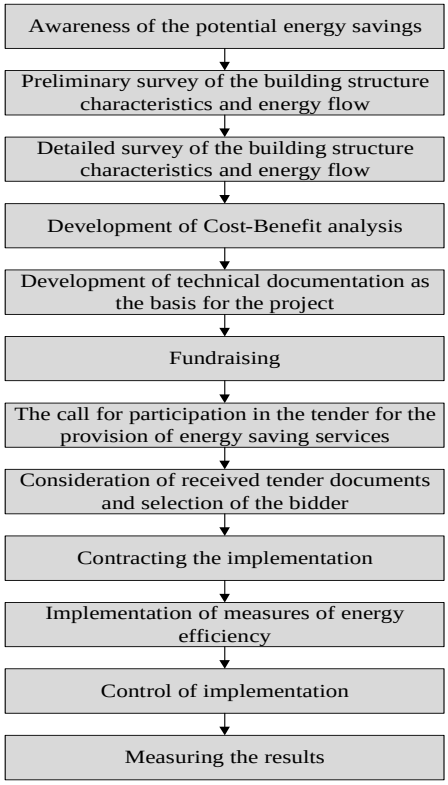
- Big-cost measures of energy efficiency (include measures that cost over 1.000 euros).These measures include: replacement of boilers or furnaces with new, gas heat recovery boiler, replacement or reconstruction of joinery (windows, doors), add a layer of insulation to external walls and the pitched roof, the use of phase regulator lighting, installation of solar collectors for heating sanitary water, etc.

4. Projects of Energy Efficiency in Buildings in Serbia

The project of energy efficiency in buildings could be defined as a complex, unique enterprise of application of energy efficiency measures on the current building, which is implemented within the stipulated time and with projected costs, with a view to saving energy with the same or better living conditions for users of the building. Projects of energy efficiency are in the group of investment projects. They are characterized by single or rarely multiple investments funding at the beginning of the project and often a series of effects during the long period of the project exploitation.

Most projects of energy efficiency are implemented in a similar manner (Picture 2).

Picture 2. Phases of the project of energy efficiency in public buildings



The main reasons for the development and preparation of projects of energy efficiency are (Ministry of Mining and Energy of the Republic of Serbia 2007, 80-81):

- Economic reasons (high expenditures for energy and the high costs of current and capital maintenance);
- Achieving a higher quality of comfort (temperature, lighting, humidity, etc.);
- Technical reasons;
- Environmental protection (reduction of greenhouse gases and solids);
- Legal restrictions.

5. The Definition and Procedure of Application of Cost-Benefit Analysis

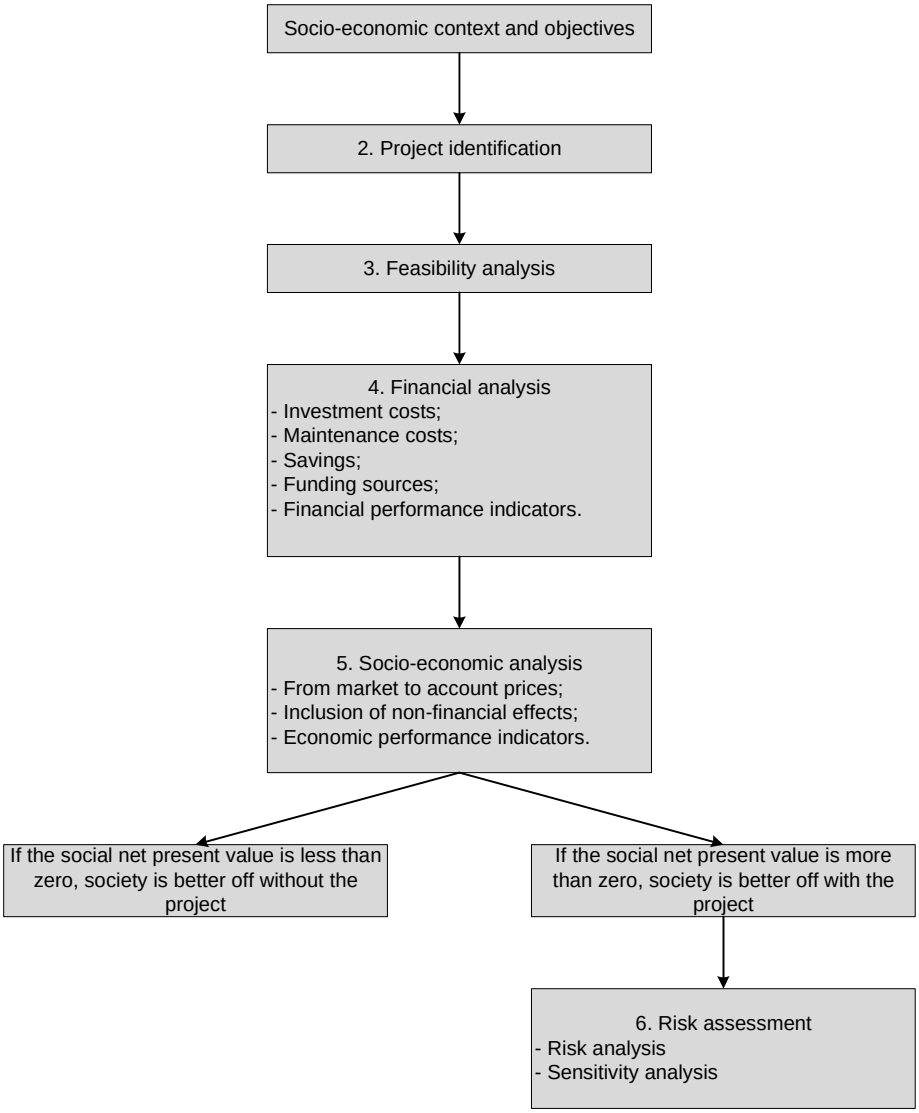
Investment process is characterized by single or multiple investments, which are made in the present, and usually a series of effects that are expected in the future. In order to really, examine and evaluate the justification of the project of energy efficiency, it is necessary to identify and analyze the overall effects that will be made by implementation of the project.

The most common classification of effects which bring implementation of projects of energy efficiency is on economic and non-economic effects. The economic effects of investments of this type are expressed through savings in energy consumption; the most common are term results of exploitation and the easiest to measure and display. Realization of projects of energy efficiency, in addition to economic, brings non-economic effects that in some cases may be more important than economic effects. Also, the effects which are brought by the project may be important not only for investors but also for the whole country.

This method of evaluation allows the cost-benefit analysis, which takes into account all social benefits and costs which one project brings for realization. Cost-benefit analysis is a method that is used in making investment decisions, which exert influence on the development of the wider community - a certain region, the economy, the country in general. The basic idea of cost-benefit analysis is to be taken into account and calculate or estimate all the social benefits and costs of a project, and on basis of the comparison of overall cost-benefit, assesses the profitability of projects. Only those projects, whose total benefits exceed total costs, will be acceptable to implement (Jovanovic et al. 2005).

Cost-benefit analysis is a complex and often quite extensive analysis, with a lot of estimates, calculations, predictions and comparisons. Therefore, the application of cost-benefit analysis in evaluating the validity of one or more often the choice between more projects of energy efficiency required to comply with certain procedures based on several basic phases or steps. One of the most common procedures in the last ten years is the procedure of the European Union (Picture 3).

Picture 3. The procedure for applying cost-benefit analysis of the methodology of the European Union



Source: updated, European Commission 2008, 27

Below, each of the phases will be further explained.

5.1 Socio-Economic Context

The first step in assessing the validity of the project of energy efficiency in buildings is the understanding of social, economic and institutional context in which the project is implemented. The possibility of credible estimates of future

costs and benefits of the project largely relies on the accuracy in estimating the macro-economic and social conditions in the region or country. It is important to determine does project affect only on the immediate area or on country as a whole. Another option is that project accomplishes the international effects (Jovanovic et al. 2009). The assessment of socio-economic context of projects of energy efficiency in buildings should include data on the BDP of the municipality, region or country, the number and structure of buildings, environment, transport and energy infrastructure, energy consumption per unit of measure, national and international regulations in the field of energy, natural resources, unemployment, demographic situation, average wages, structure of education and the prospects of further economic development.

5.2 Project Identification

In this stage the most important is to determinate the specific variables of project of energy efficiency in building construction, such as vision and mission of the project, specific objectives, shape and type of project, stakeholders, measures of energy efficiency which are suitable for implementation, etc.

5.3 Feasibility Analysis

Feasibility analysis aims to examine the possibilities of the project of energy efficiency, and to compare the possible technical solutions, and measures of energy efficiency that would be applied in the project. Feasibility analysis of the project includes several types of analysis as follows:

- Analysis of investor's development potential;
- Analysis of project end users;
- Analysis of measures of energy efficiency;
- Analysis of project personnel, etc.

5.4 Financial Analysis

Financial analysis of the project of energy efficiency aims to assess the financial viability of the project from the standpoint of investors. This analysis should include the costs of the project, maintenance costs, energy savings and funding sources. Energy savings are calculated as the difference between the current and future estimated (lower) power consumption. Savings in the financial analysis are treated as income. Funding sources can be: their own resources, loans, donations and public-private partnership (Ministry of Mining and Energy of the Republic of Serbia 2007, 73-74). The analysis consists of financial flow, plan of the inflow and outflow, and calculations of financial indicators such as net present value, internal rate of return and payback period.

5.5 Socio-Economic Analysis

The inclusion of non-financial benefits and costs in the analysis is perhaps the most important feature of cost-benefit analysis.

Apart from financial, projects of energy efficiency may achieve many other benefits, primarily in the areas of environmental protection and improving the feeling of comfort for users of the facility. These benefits are recognized, quantified and included in the socio-economic analysis.

To measure the effects which the project of energy efficiency brings in buildings, cost-benefit analysis uses corrected market prices, which are commonly called accounting prices, and they are often significantly different from market prices. Market prices which are used in financial analysis are not able to accurately measure and express all the social effects of projects, and are not suitable for use in cost-benefit analysis. Accounting prices represent a way to correct distortions and imperfections that exist in market prices, either because of imperfect markets, poor economic policies of the country, the existence of monopoly or other reasons (Jovanovic et al. 2005). For the purpose of conversion of the market prices in accounting prices conversion factors are used. Accounting price is reached by multiplying the market price of project inputs with the appropriate conversion factor (European Commission 2008, 50-57).

Beside input prices, in practice it is often necessary to adjust interest rates for the loans, because some investors have the opportunity of favorable loans from international funds, which would not be the case if they borrowed on the domestic market (European Commission 2008, 50- 57).

The basic principle used in the evaluation of projects of energy efficiency using cost-benefit analysis and defining appropriate criteria for evaluation is that, regarded from the standpoint of the community, the overall benefits of the project must exceed the total project costs, that would have positive assessment (Jovanovic et al. 2005). Some of the most commonly used criteria for socio-economic analysis are (Jovanovic et al. 2005):

- The criterion of present value of net benefits;
- The criterion of economic rates of return;
- The ratio of benefits and costs;
- The criterion for time of the return of investment.

5.6 Risk Assessment

Risk is inherent in every project and represents the possibility that the goal/ objectives will not be reached because some unforeseen event occurred. Risk management is the process of identifying potential risks; assess their potential impact on project, development and implementation of plans to reduce the negative

consequences of risk events. Risk management plan should include the type of risk, risk description, probability of occurrence, impact, importance of risk and plan of responses to risk (Jovanovic et al. 2007, 123). Some of the most present risk in the project of energy efficiency in buildings are: the delay work on the implementation of measures of energy efficiency, failure to achieve anticipated savings, the occurrence of additional costs, the occurrence of the "rebound" effect in the behavior of users (users are prone of greater consumption, as a response to the application of measures of energy efficiency), etc.

Sensitivity analysis of success criteria of the project of energy efficiency is a computational procedure that examines how changes in some input size, due to poor forecasting or other reasons, affect on the value of certain criteria and evaluating the whole project (Jovanovic et al. 2007, 50-52). Some of the input variables that can affect the criteria of success are the discount rate, electricity prices, fuel prices, the costs of the project, non-financial benefits, prices of greenhouse gases on the stock exchanges, etc. For the ease of observation and interpretation of results of sensitivity analysis, presentation of results is done in tables and diagrams.

6. The Analysis of the Costs to Energy Efficiency Projects in Buildings

Projects of energy efficiency in buildings are among the investment projects. In some cases, the project required significant financial resources. The amount of those assets primarily depend on the type and number of measures of energy efficiency which are used, the characteristics of the building, climate, available energy infrastructure, etc. If it is an implementation of a measure of energy efficiency, costs can be, depending on the object, of several thousand, to tens of thousands of euros per property. When one object applies a variety of measures, the cost can reach several hundred thousand euros.

The costs of projects of energy efficiency can be divided into:

- Costs of project implementation;
- Maintenance costs;
- Lost benefits.

The following is a detailed description of these groups of costs.

6.1 Costs of Project Implementation

The costs of execution of the project have the biggest share in total costs, which are related to energy efficiency project in buildings. The costs of execution of the project include:

- The costs of preparation and making of project documentation;

- Costs of obtaining approvals and permits;
- Material costs (equipment, materials);
- Labor costs;
- Insurance costs;
- Consulting services;
- Financial costs;
- Costs of promotion.

Technical and project documentation that is used as the basis for implementation of energy efficiency projects typically includes:

- The daily records of the energy system of the building;
- Floor plan of the building;
- Wiring, heating, cooling and ventilation systems;
- Pipe and channel distribution of energy in the building;
- Project schedule;
- Plan of resources, etc.

The preparation and design of technical and project documentation can be realized by the investor in accordance with his/her human resource capacities. Also, this part of job can be finished by consulting organizations which provide those kinds of consulting services.

Some of measures of energy efficiency in buildings are covered by the Law on Planning and Construction of the Republic of Serbia. Measures of energy efficiency which are related to the installation or replacement of complex equipment for heating, and replacement windows and doors, include the capital maintenance facility, and therefore under the article 145 of the Act, it is necessary to obtain a decision approving the implementation of these activities. The application for the decision shall be accompanied by proof of ownership, preliminary design and proof of payment of administrative fees. On the other hand, placing thermal insulation on external walls is one of the activities of the reconstruction and for that is necessary a building permit. According to article 135 of the Act, the application for a permit, shall be accompanied by proof of ownership, the project in three copies, the location permit, proof of relationship regulation in respect of payment of compensation for construction land and proof of payment of administrative fees. The biggest part of financial funds is necessary for preliminary and final project design (Official Gazette of the Republic of Serbia, no.72/09).

The material costs are different types of materials and equipment used in the project of energy efficiency in buildings. Material costs in these projects are almost always variable. The amount of equipment and material always depends on the characteristics of the structure. For example, the amount of insulation material required for building insulation depends on the surface of the outer walls. The

material costs would include costs of transportation of materials and equipment, as well as the cost of the electricity needed for assembly or installation of equipment.

Given the low level of energy efficiency, Serbia requires huge resources for every building to apply some of the measures. For example, for replacing windows in all buildings in Serbia, the following funds are needed (Agency for Energy Efficiency of the Republic of Serbia 2011):

- 936 million euros for the multi-family residential buildings;
- 1,326 million euros for the one-family residential buildings.

When it comes to improving the thermal insulation of buildings, it is necessary to invest the following amounts (Agency for Energy Efficiency of the Republic of Serbia 2011):

- 341 million euros for the multi-family residential buildings;
- 498 million euros for the one-family residential buildings.

The quality of implementation of certain measures of energy efficiency largely depends on skilled workers. In some cases, the manufacturer or distributor provides the work force, with the cost deducted from the total cost of supply. A good example are companies for production and installation of PVC joinery or thermal insulation, which in addition to materials and equipment, provide workers. In such cases it is not necessary to separate the costs of materials from labor costs in the analysis. They may be integrated as costs of realization measures of energy efficiency.

The implementation of projects of energy efficiency may lead to unforeseen events that may lead to a significant increase in costs. Equipment needed for successful implementation of certain measures of energy efficiency is often very expensive. The achievement of project objectives may be ensured by providing the following types of insurance: insurance of equipment, materials, installations, equipment and works against the risks or accidents such as fire, breakdown of equipment, prefabricated accident, design fault or works, the choice of materials, accidents during the probationary period, etc. Investment is ensured on the sum of insurance, which should be equal with estimated value of project. The Insurer undertakes to reimburse the actual cost of works and materials necessary to achieve the same state of project that was before the damage occurred (DDOR Novi Sad 2011).

Investors rarely have adequate knowledge about measures of energy efficiency and their implementation, and therefore for this type of projects are necessary to engage relevant experts. Consulting services in this area carried out an expert or a team of experts with complementary skills in the field of civil engineering, mechanical engineering and energy.

Providers of consulting services are:

- Companies specialized in providing consulting services in the field of energy efficiency;
- Companies specialized in providing energy services (Energy Service Companies - ESCO);
- Banks which offer consulting services and loans for improving energy efficiency.

The financial costs of projects of energy efficiency in buildings date from the annual interest on their loans. Interest rate loans for projects of energy efficiency in buildings inefficiency in Serbia amounted to 6.75% fixed or variable from EURIBOR 3M+5.75% to EURIBOR 3M +7% per year, with a repayment period of up to five years, including a grace period of up to two years (Banca Intesa Belgrade 2011).

As part of energy efficiency project a number of promotional activities are usually implemented in public buildings. These activities are usually part of a wider campaign to raise awareness on the benefits of energy efficiency.

6.2 Maintenance Costs

This type of expenditure is characteristic for measures of energy efficiency that include installation of equipment and installations. For efficient operation of equipment, it is necessary to review the power system and carry out certain checks, replace worn parts and make some adjustments at least once per year.

6.3 Lost Benefits

Electric Power Industry of Serbia (EPS) produces about 36,000 GWh of electricity per year (Electric Power Industry of Serbia 2011) which is its production boundary. This amount meets the needs of the domestic market for most of the year, but electricity shortages often happen during winter. This is caused by rapid obsolescence of equipment and constant increase in electricity consumption. It is estimated that demand for electricity in Serbia, in the year of 2015, will reach 39,047 GWh (Ministry of Mining and Energy of the Republic of Serbia 2005, 29). This amount exceeds the current production capacity of EPS, a disadvantage can be offset by reduced consumption or construction of new capacity for electricity generation. For some of these facilities project documentation has already been prepared, including hydropower plants on the Drina, a new thermal power plant blocks, etc. The construction of these facilities would create new jobs, which would lead to significant economic benefits for the community. With energy saving, there is no need to build new capacity for electricity production, and therefore there is no possibility for new jobs in that area.

7. The Analysis of the Benefits to Energy Efficiency Projects in Buildings

7.1 Economic Benefits

For most investors economic benefits are the most important reason for the implementation of projects of energy efficiency. These kinds of benefits are tangible and easily measurable. In addition, they carry the largest share of the total benefits of the project.

Implementation of measures of energy efficiency in buildings is aimed at the rational consumption of heat and electricity. Measures aimed at stopping excessive leakage and improving energy efficiency of electrical appliances and heating systems.

7.1.1 Reduction of Energy Consumption

Electricity is consumed in buildings for the needs of appliances and lighting in households and other buildings. One part of the electricity in some facilities is spent on heating, but this aspect will be addressed in a separate section.

The average household in Serbia spends about 7000 kWh of electricity (Electric Power Industry of Serbia 2011).

Annual electricity production in Serbia in 2009 amounted to 36,112 GWh (Electric Power Industry of Serbia 2011). It had been almost entirely produced for the domestic market. During the heating season (October-March), occasionally comes to importing electricity. It should be noted that EPS engages in the limit of their technical capabilities of electric power system. Electricity savings in households, which would be achieved through the concerted application of appropriate measures of energy efficiency in Serbia, amounted to around 3.7 TWh per year (United Nations 2007, 109). Just replacing the bulbs in all buildings in Serbia, would be realized annual savings in the amount of 701 GWh (Agency for Energy Efficiency of the Republic of Serbia 2011). Households and users of public and commercial buildings would also realize significant benefits. Each household can replace old inefficient appliances and light bulbs with new efficient, to achieve significant savings on an annual basis. Consistent application of measures of energy efficiency, the domestic market for power would be fully met, and there would be no need for imports. Also, there would be a significant surplus in production, which could qualify for the export.

Selling price of electricity in Serbia was about 6.5 € cents/kWh in 2011 ar (Electric Power Industry of Serbia 2011). The price of electricity in Serbia is heavily influenced by socio-economic situation in the country, and adapted to the population living standards. The actual economic cost of electricity is close to the price in other Balkan countries and some European Union countries, ranging between 9 and 10 € cents/kWh (Europe's Energy Portal 2011). At this price it would be possible to export electricity to all the surrounding countries, as well as in

the European Union. Application of measures of energy efficiency could compensate for the lack of electricity in the system and achieve a surplus, of which exports would be a profit of several hundred million euros per year.

The first step in calculating the economic savings can be collecting data on the current consumption of each electrical device in particular. By the measures of energy efficiency in this area, all equipment is replaced with new equipment less power, but the same or greater efficiency. The new devices, which are recommended to be energy class A, achieve up to 45% less power than class D devices (The project "Promoting energy efficiency in Croatia" 2011). The difference in consumption, which is expressed in kWh per year, multiplied by the price of electricity, and in this way results in total annual economic savings are expressed in monetary units. For example, the substitution of one "regular" bulbs (with carbon fiber) with fluorescence realized annual savings of 13.8 €. If every household replaced one half of ordinary light bulbs with energy saving, it would save enough energy for a complete street lights in the country (Savic, Dimitrijevic 2010, 73).

Cost-benefit analysis should contain one more form of economic benefits. Specifically, it dealt with the lack of energy in Serbia. This disadvantage can be offset by building new power plants or application of measures of energy efficiency. It is estimated that to build the capacity to generate electricity was more expensive than the application of measures of energy efficiency in buildings. This would achieve an economic benefit of giving up the construction of electric power plants and therefore no exposure to unnecessary expenses.

7.1.2 Reduction of Energy Consumption

Citizens of Serbia are heated in two ways, they are own heating and using a remote system. In Serbia, in 2009, in heating plants 125,000 tons of oil fuel, 95,000 tons of light distillate oil, 484 million m^3 of natural gas and about 190,000 tons of coal are consumed (Ivosev, Vesovic 2010). There is no precise data on the amount of energy required for self-heating. It is well known that the consumption is dominated by wood, coal and electricity. Quantities of wood in fully meet domestic demand, while crude oil, natural gas, and even coal have to import (Ministry of Mining and Energy of the Republic of Serbia 2009, 2-5).

Depending on the type of building and of the applied measures, it is possible to decrease total heating energy consumption for up to 50%. In addition to large benefits for investors, it is possible to achieve significant economic benefits to society as a whole. For example, if the whole country carried out replacement of existing windows and doors with PVC windows, it would lead to the following annual savings of energy used for heating (Agency for Energy Efficiency of the Republic of Serbia 2011):

- 4.05 TWh for multi-family buildings;
- 3.35 TWh for one-family buildings.

If all sites in Serbia improved external walls' isolation, the savings would amount to (Agency for Energy Efficiency of the Republic of Serbia 2011):

- 1.9 TWh for multi-family buildings;
- 1.6 TWh for one-family buildings.

Reducing these values to amount of energy consumed in Serbia would lead to reduced imports of crude oil and gas and increased exports of coal and wood.

The calculation of economic benefits in this area is done in accordance with the method of heating the building, its own system or remotely. At first it is necessary to collect data on current energy consumption required for heating. The following step would be the estimation of future expenditures which might occur after the use of measures of energy efficiency.

The difference in energy consumption before and after implementation of measures of energy efficiency is the quantity of energy saving. This difference is then multiplied by the price of this energy in the market that would gain monetarily savings in energy consumption.

7.2 Environmental Benefits

The vast majority of world scientists in the field of ecology, agree that human activities are the main causes of climate change and global warming.

According to their claims, carbon dioxide, methane, sulfur and nitrogen oxides, that are emitted by burning fuels in industrial plants, power plants, power stations, residential buildings, public buildings and cars, lead to the greenhouse effect, which results in increase of average temperatures in the atmosphere. Also, fuel combustion creates some other harmful by-products such as ash, mercury toxicity, and other compound in smaller amounts.

One way to achieve reduced emissions and particulate matter is the application of measures of energy efficiency wherever it's possible. In Serbia, the energy is mostly produced by non-renewable resources. It is natural to expect that the reduction of energy consumption leads to reduction of pollution. Table 2 compares products of fuel combustion.

Gases and solid particles, in addition to contributing to the greenhouse effect, lead to many other adverse effects on human health and the ecosystem.

Greenhouse gases like carbon dioxide, nitrogen and sulfur oxides, and solid particles have their market value. This value does not depend on their use value, but is formed in a specific way.

Throughout the world there are specialized emission trading schemes for air pollutants. For example, within the European Union Emission Trading Scheme for harmful gasses pollution, the European Union issues special permits for the

level of pollution of the members states in order to meet the obligations undertaken by the Kyoto Protocol. Then, the states establish quota to certain industries that emit the most greenhouse gases into the atmosphere. Companies that emit smaller quantities than those specified in permits, may trade the differences in the market with companies that exceed given limits, which provides a favorable financial treatment to any company that takes care of environmental pollution (Rakic 2008, 2). Similar exchanges exist in the United States, Canada, Japan, Russia and others.

Table 2: Specific emissions of harmful gases and particles during fuel combustion

Fuel	Products of combustion			
	CO_2	SO_2	NO_x	Particle matters
Lignite	2.3 kg CO_2/kg	51 g SO_2/kg	3.5 g NO_x/kg	92 g PM/kg
Wood	1.4 kg CO_2/kg	0.2 g SO_2/kg	1.4 g NO_x/kg	15.3 g PM/kg
Oil	3.2 kg CO_2/kg	18.8 g SO_2/kg	5.6 g NO_x/kg	1.2 g PM/kg
Natural gas	1.92 kg CO_2/nm^3	0 g SO_2/nm^3	4.48 g NO_x/nm^3	0 g PM/nm^3

Source: U.S. Environmental Protection Agency 2011

Prices on the exchange are formed on the basis of supply and demand. However, as a basis for pricing, are estimates of the cost recovery of future air pollution and the ecosystem in general, violations of human health, adverse impact on tourism, etc.

Calculation of environmental savings in heating space starts with the assessment of reduction of energy consumption used for heating the building using some of the measures of energy efficiency (in measurement units of energy). The difference in the amount of energy consumed is then multiplied by the values of specific emissions given in Table 2. In this way, we get the total quantity of stored gas and solid particles. In the next step, this amount is multiplied by the current gas price per unit in the global market of pollutants. In this way, a total energy saving generated by reduced emission is expressed in material units.

Serbia, in 2009, produced 36,112 GWh of electricity. Greater part, namely 25 019 GWh (70%), is produced by work of thermal power plants which use coal as fuel (Ministry of Mining and Energy of the Republic of Serbia 2009, 6). Combustion of one kilo of coal in a power plant produces about 2 kWh of electricity (U.S. Energy Information Administration 2011). With the help of Table 2, it can be concluded that during the production of 1 MWh of electricity in a power plant emits 1.15 tons of carbon dioxide, 25.5 kilos of sulfur dioxide, 1.75 kilos of nitrogen oxides and about 46 kilos of particle matters. It is recommended that all quantities of gas emissions multiplied by 0.7 (30% of energy is produced in hydro power plants, which do not emit harmful gases and particles).

The first stage in the calculation of ecological savings by rational use of electricity is the collection of data on total consumption, and consumption of the devices in the building (in kWh or MWh per year). The next phase is calculation of the difference between the annual electricity consumption before and after implementation of the measures of energy efficiency. This difference, which is expressed in kWh or MWh is then converted to the amount of greenhouse gases, which would be emitted if the given quantity of electricity would have been produced. The total quantity of stored gas is then multiplied by their price on world markets.

7.3 Social Benefits

Many public buildings and households are faced with the problem of low temperatures in the building during the winter, and too high temperatures during the summer. These buildings, consume relatively large amounts of energy for heating or cooling, and yet fail to achieve the optimum room temperature. Realization of the energy efficiency projects leads to savings in energy consumption, but also improves comfort in the building where the project has been implemented. The project of energy efficiency often results in raising the room temperature, eliminating drafts and roof leaking, and ease of handling the heating system. The effects of measures of energy efficiency applied to the end users are:

- Better comfort for users of the facility;
- Impact on the health of users;
- Impact on employee productivity;
- Feel of comfort in the house.
- Raising public awareness about rational consumption of energy.

7.3.1 Impact on Health

Inadequate conditions in the facility are often the cause of a number of health problems among users of the building. Low temperature, humidity and draft are suitable for the development of respiratory infections and inflammation of joints and other internal organs. Most patients consult a general practitioner seeking medical help and each medical examination in public health facilities and prescribed medicines are a burden on the Republic of Serbia's budget.

Serbia has not yet done the analysis of correlation between the inadequate conditions in the facility and the number of cases of some of the above-mentioned diseases. Therefore, in order to make a quantitative assessment of influence of conditions in the facility on the users, only empirical data from the past can be used, and based on them an assessment to reduce the number of patients after implementation of measures of energy efficiency can be made.

When the schools concerned, if the temperature in them does not exceed 5 °C, it's possible to claim that a large number of absences is the direct consequence of inadequate thermal conditions. General practitioner in the treatment usually prescribes rest for a period of one week. During the week these students make about 30 absences. If the cost of treatment is 5 € (medical examination + prescribed medications), we can say that one absence will cost the state € 0.16.

When the difference between the current and the average number of absences in schools is multiplied by the cost of absence, the total potential savings of this type in the school is calculated, which would be the result from application of measures of energy efficiency.

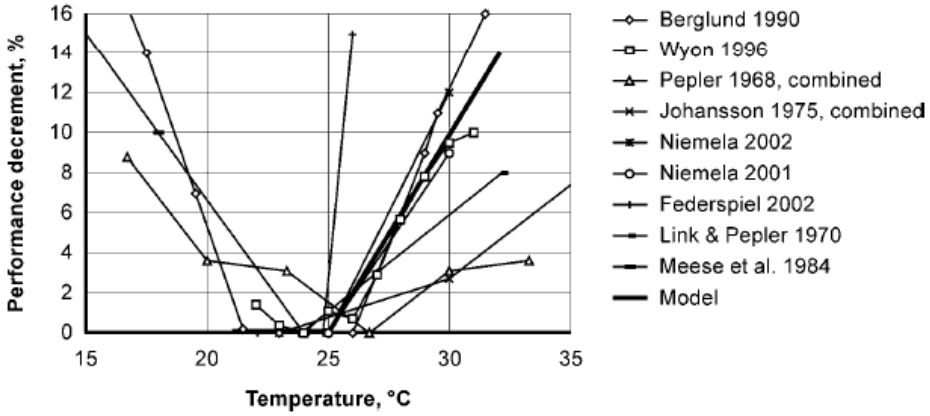
When the assessment of the prevention of other diseases is in question, there is a need for cooperation with experts of safety in the assessment of influence of poor conditions. For example, how many employees are in the drafty office, and how many of them can in the foreseeable future, be absent from work due to stiffness and pain in the muscles. If the number is multiplied with the cost of their treatment, the saving resulting from implementation of energy efficiency measures would be expressed in material units.

7.3.2 Impact on Productivity

Numerous studies have shown that the temperature in workrooms have a significant impact on employee productivity. Too high or too low operating temperature causes the increase in error, slower realization of work, frequent injuries and etc.

There have been several studies in the world of the impact of temperature on productivity. The results of these studies are shown in Picture 4, where the right side indicates the authors and year of study.

Picture 4: Effect of temperature on productivity



Source: Seppanen et al. 2005, 683

By implementation of measures of energy efficiency the optimal thermal conditions in the facility are achieved. Productivity gains that would arise in such circumstances, depends primarily on the nature of the work which is performed in the building covered by the project.

7.3.3 A Sense of Comfort

It is believed that for a pleasant stay in the facility room it is necessary to achieve temperature of 20 °C to 22 °C. Failing or exceeding this temperature would make the room in the house at the very least unpleasant. It is possible to say that the comfort level is an important reason why customers implement measures of energy efficiency.

Comfort is the psychological state of satisfaction with thermal conditions in the facility. In addition to thermal conditions, comfort in the case of projects of energy efficiency may include the feeling of satisfaction due to the reduction of environmental pollution.

Benefits such as the comfort of the one who lives in the building and the satisfaction because of environmental protection are difficult to quantify because of their subjective and intangible nature. Therefore, for the purposes of monetary expression of subjective feelings it is necessary to apply the method of consumer surplus (Friedman 1986, 109-112). The basis of this method lies in the theory of utility. According to this theory, the utility indicates satisfaction, subjective pleasure or benefit that the user has by consuming a good or service (von Neumann, Morgenstarn 1953, 15-30). Users, depending on the situation in which they are located, have a different subjective feeling of the same material goods. Plastic showing, it would mean that a glass of water has a different utility to man in the desert and a man who is drowning in the sea. If users do not have a material good, they may be asked, how much they are willing to pay for the possession of it (willingness to pay - WTP) (Hanemann 1991, 635). In the case of projects of energy efficiency, WTP means the amount of funds that users of building are willing to set aside for implementation of measures of energy efficiency. The amount of these funds is usually different from the market value of measures of energy efficiency. This deviation can be positive or negative. If it is a negative deviation, then market value is higher than the WTP, and it is not reasonable to implement the project. When a WTP is higher than the market value, a positive deviation in this case is of additional value for customers, and represents an intangible benefit that potential users will enjoy after the project is implemented.

For larger projects, it is desirable to carry out this analysis and include it in the assessment of project feasibility. Swiss Federal Technology Institute from Zurich and the University of Lugano, conducted in 2005 the similar research on a sample of 305 households. The findings, presented in Table 3, show the amount of funds (expressed as percentage of the value of property) that the users in Switzerland are ready to set aside to implement some measures of energy efficiency.

Table 3: WTP for measures of energy efficiency in Switzerland

Measures of energy efficiency	WTP (expressed as a percentage of market value of property)
Insulation of windows	1%
Installation of new windows	13%
Thermal insulation	7%
Painting of facades	3%
Modernization of ventilation	8%

Source: Banfi et al., 514

WTP values obtained by the survey are quite high. Specifically, the market value of the offered measures of energy efficiency is much smaller than WTP. High consumer surplus in Switzerland is due primarily to higher aspirations for comfort because of harsh climate, and developed environmental awareness. The assumption is that Serbian citizens are less willing to pay for measures of energy efficiency, primarily because of lack of awareness about the benefits of measures of energy efficiency, poorly developed environmental awareness, low purchasing power and mild climate.

7.3.4 Raising Awareness of Energy Efficiency

The realization of projects of energy efficiency can positively affect on the population's awareness of rational consumption of energy and environmental protection. Each project implemented with proper promotion can be a step closer to achieving energy-efficient society.

The current practice of implementation of projects of energy efficiency in Serbia is followed by certain promotional activities. They were usually part of a wider campaign to raise awareness on the benefits of applying measures of energy efficiency. Some of the promotional activities used for this purpose are the placing of information to the media about the implemented projects of energy efficiency in public building, setting up a table in front of the building with a description of the applied measures, lectures in schools about energy efficiency, etc.

It is difficult to assess the effects of promotional activities for total raise of awareness on energy efficiency. The reason is the synergistic effect which is achieved by using a several types of promotional activities at the same time. The benefits of raising public awareness are manifested in the form of increased number of implemented projects of energy efficiency. The influence of certain promotional activities within a specific project can be measured solely on the basis of empirical estimates.

8. Conclusion

Energy efficiency in buildings is a set of measures and ways of behaving aimed at lowering power consumption with similar or better living comfort of building occupants. This concept is known over three decades in Western Europe. In Serbia, the projects of energy efficiency in buildings began to be increasingly realized only a decade ago. Therefore, it is not surprising that Serbia is among the last countries in Europe in this field. First steps toward the improvement of energy efficiency in Serbia have been made, but there is still much to do to become an energy efficient country. In the next decade an intensive application of measures of energy efficiency in a large number of housing and tertiary sector is expected and therefore large investment funds are needed. In order to spend these funds more efficiently, but also to comprehend all the financial and non-financial effects of the implementation of projects of this type, it is advisable to use a project based approach and cost-benefit analysis.

In a world where non-renewable resources of energy are rapidly depleting, and pollution is a growing threat, mankind is forced to embrace rational consumption of energy for its own survival. With increasing frequency and deepening of economic and environmental problems, implementation of projects of energy efficiency becomes more valuable for the community. For this reason cost-benefit analysis will be more applicable in this field in the future.

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MOGUĆNOSTI PRIMENE COST-BENEFIT ANALIZE U PROJEKTIMA ENERGETSKE EFIKASNOSTI U ZGRADARSTVU

Rezime: Ogromni gubici energije u zgradarstvu u Srbiji, u velikoj meri negativno utiču na stanje privrede i životni standard stanovništva. Rešenje problema bi mogla biti veća primena mera energetske efikasnosti na nivou čitave zemlje. Svaki projekat energetske efikasnosti u zgradarstvu može doneti značajne koristi kako investitoru, tako i široj društvenoj zajednici. Valjanom primenom cost-benefit analize moguće je sagledati i izmeriti, sa aspekta društvene zajednice, sve troškove i koristi koje nastaju realizacijom projekata ovog tipa.

Ključne reči: Cost-benefit analiza, energetska efikasnost, zgradarstvo, projekti.

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ZERO-BASED BUDGETING AND ACTIVITY-BASED BUDGETING AS ALTERNATIVE SYSTEMS OF BUDGETING

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Abstract: *New business environment and the driving factors in terms of the information revolution, technology and globalization lead to significant changes in business enterprises. Among other things, changes have begun to question traditional approaches to accounting planning as the basis for successful business management. The paper analyzes the zero-based budgeting and activity-based budgeting, as well as alternative accounting budgeting systems adapted to new business conditions.*

Keywords*: budget, activities, costs, rates of resource consumption, the activity consumption rate, zero-based budgeting, activity-based budgeting*

Introduction

The planning process involves defining the goals, mission and vision of the organization, its strategies and directions of development, as well as ways and means to achieve them. If plan, as the primary phase of management process, is performed properly, it is necessary to provide relevant and reliable information support, which is the responsibility of accounting planning. The task of accounting planning is reflected in the preparation of periodic plans. Budgets are prepared for different time periods and thereby may use different approaches. Namely, the accounting techniques for planning have evolved over the years in accordance with changes in the environment and the needs of the management process.

Traditional budgeting systems are based on the allocation of overhead costs by more specific organizational units and objects with a basis of spending

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related to the physical volume of production, regardless of whether it caused it. Traditional budgeting systems for the allocation of overhead costs use direct labor costs, labor hours or machine hours. Under new business conditions, which are, among other things, characterized by increased masses of overhead costs, whose formation is not caused by the physical volume of production, this approach to budgeting is considered inadequate. In this sense, it has explored the new, so-called alternative systems of budgeting, the most important being the zero-based budgeting (Zero-Based Budgeting - ZBB) and activity-based budgeting (Activity-Based Budgeting - ABB).

Accordingly, in this paper, first, we will talk about accounting planning as the basis for successful enterprise management. It will then be pointed to the traditional accounting approach to planning, which shows some weaknesses, as the basis for successful planning of the modern enterprise. Special attention will be devoted to the zero-based budgeting and activity-based budgeting as alternative budgeting systems, in order to draw attention to their significance and eligibility for management of the company in the changed conditions.

1. Accounting Planning as the Basis for Successful Management of the Enterprise

Budgeting is an important instrument of enterprise management. It translates general and specific objectives and strategies of the enterprise into quantitative projections that become a starting point and a significant help to managers in carrying out their activities. In this sense, budgeting is a process of preparation of data for careful directing of activities of the enterprise and tracing its path toward the desired goals, directions and global development strategies (Novićević 2005, 18). As effective management requires reports based on future information, budgeting moves a manager perspective from the present to the future. In this way, managers are in the position to better exploit the offered opportunities, anticipate problems and take necessary steps to solve them. Many enterprises have adopted the following budget cycle (Brihmani, Hongren, Datar 1999, 467):

- preparing plans for the entire organization and for its parts,
- providing a framework for comparison expectations with actually occurring events,
- researching changes of plans and corrections and
- replaning including feedback and changing business conditions.

Budgeting, then, represents a projection of the most appropriate source of financial funds by which the defined goals and strategies of enterprise should be realized.The result of the budget is a budget that represents the "quantitative expression of the proposed plan of action undertaken by management in the future period of time and helps in the coordination and implementation plan" (Horngren,

Foster, Datar 2002, 210). Managers who work without plans do not have clearly defined goals, but without goals they will not have defined directions of development. Budgeting is closely linked with the delegating authority and responsibility in the enterprise, as well as system of motivation and reward. Top management is directly responsible for the implementation of the budget of the enterprise which they manage, but also must understand and support the budget in all its aspects. As the budget is standard for performance, it would be a good measure of employee achievements and significant help in the motivation for the efficient performance of delegated tasks.

For the successful realization of the budgets, it is necessary during the budgeting process to meet the following requirements (VanDerbeck 2007, 294):

- managers must clearly and precisely define the goals of the enterprise,
- the goals must be realistic and possible,
- Because of the future orientation, managers must take into account the impact of external factors on business operations (assumed economic growth, business climate etc.)
- the budgets must be flexible enough to adapt to the changes and
- responsibility for planning must be clearly defined.

Time period for which budgets are drawn up is not precisely defined, but depends on the technological characteristics of the enterprise, the ability of managers to predict future economic conditions prevailing in the economy ect. Whether you are prepared for a period of one year or longer period of time, the role of an effective budget management of the enterprise is great. It is reflected in (Merchant, save 2007, 329):

- planning,
- monitoring of managers,
- evaluating the performance of enterprises,
- the allocation of limited resources,
- communicating with external stakeholders.

Budgeting process provides a proactive control, thus reducing the risk of potential problems in the business. As the budget process provides a significant incentive for managers of enterprise that will enable them to better understand the opportunities and threats in the environment, strengths and weaknesses of the enterprise and on this basis to draw up budgets that correspond to the reality.

An effective budgeting process requires the preparation of the budget for the organizational units and for the enterprise as a whole. Thus, top managers will be in a position to control the managers at lower levels through constant review.

The values stated in the budget represent the criteria for comparison with the achievements and for assessing business performance. Any deviation in the values shows the success of managers in planning and enterprise in performing defined activities. As the resources that the enterprise has are limited, budgets allow targeting of resources towards the most attractive investment and encourage the most productive use of resources.

All stakeholders require projections of future operations in order to find enough arguments to testify about the justification of the investment. Budgeting, in this sense, is an instrument of effective communication with external enterprise stakeholders.

In preparing the budget different approaches can be used. Some enterprises implement a system of continuous budget (rolling budget). Basically, this approach is budgeting for a certain period, say one year, and then when one month expires, adds a new month at the end of the budget, so that at any time in the organization there is budget for the next 12 months (Growthorpe 2009, 195). It is also possible to apply an incremental approach to budgeting. For the basis of the new budget, the previous budget is taken, which is corrected in accordance with the general rate of inflation in the economy. In addition to the advantages this approach has, and which are reflected in the simplicity and reduced amount of time spent in the budgeting process, we can state the following shortcomings (Growthorpe 2009, 195):

- Such a wide and general approach to applying the same level of increase in a variety of budget items may result in an unfavorable position of the same department or activities.
- Applying an incremental approach to more than one budget period can lead to serious discrepancies of some parts of the budget with conditions in the real world.
- This approach requires slight control of the budget, which can lead to the fact that the inefficiency is repeated over a long extent of years.

In any case, the basis of budgeting represents the accounting information. Historical data about revenues and costs can be a good starting point for managers to define future goals. In this regard, effective budgeting requires well-built accounting information system of the enterprise. Accountants transform the plans to managers in the periodic reports that provide the basis for measuring performance and comparing the actual with planned.

2. Traditional Accounting Plan as a Basis of Enterprise Management in the New Business Environment

Under the new business conditions, the role of accounting, as the information base of budgeting is complicated. The conditions under which enterprises do business, are subject to more frequent and more intense changes.

Significant changes are taking place in the enterprise and its environment. The business environment of modern enterprises is significantly changed, and the literature often referred to as the new business environment and examines the factors driving it. The following three most critical factors in driving new business environment are most often pointed to: information revolution, technology and globalization (Coulter 2010, 49-55).

Information revolution, which is the maximum extent opted a new business environment does not cease, because research shows that the amount of information generated, absorbed and transferred into digital format is growing at a rate of 57% per annum (Coulter 2010, 49). The vast amount of information is available to anyone, without the space and temporal limitation. The possibility of immediate access to information has made the same critical success factor and the preservation of competitive advantages. The application of new production and information technology significantly affects the improvement of efficiency and competitiveness of enterprises. At the same time, the fall of prices, growth performance and ease of application make them available to the enterprise. With their application the enterprise achieve strategic goals, more quickly solve everyday business problems, respond to consumer demands faster and with more quality, etc.

Globalization as a process that includes in addition to economic, other spheres of social life as well is a phenomenon of the late 20th and early 21st century. Holders of globalization are the most developed countries with their multinational companies. Under these conditions, the traditional division into local, regional and national markets is lost and the whole world becomes a big potential market.

General implications arising from these driving factors are: constant changes, decreased need for physical assets, overcoming space and temporal limitation and vulnerability (risk exposure) (Coulter, 2010, 55-56). If an enterprise wants to successfully operate under the changed conditions, it must accept change, be creative, be innovative and flexible, and successfully respond to the demands of consumers and other stakeholders.

These changes made traditional accounting approaches to planning, as the basis for successful management of the enterprise, show some weaknesses. The traditional approach to budgeting works well in activities where there is a clearly defined relationship between inputs and outputs, so that the consumption of resources changes in proportion to the change in volume of final products or services (Kaplan, Norton 2001, 289-290). Otherwise, traditional budgeting is used only as an approval of certain level of consumption for each cost item.

Traditional budgeting systems are oriented primarily on inputs rather than output. In modern operating conditions such orientation is not adequate. The necessary activities and resources must be in focus, but the output must be planned starting from the demands of customers. Budgets, which are produced by the

traditional budgeting systems, are difficult to connect with the enterprise's strategy and its goals. Although, top managers are responsible for the enterprise's strategy, employees must be familiar with it because they are the ones who create value in the enterprise. Another criticism of the traditional system of budgeting refers to a lack of cooperation between the organizational parts of the enterprise, which prevents the exchange of knowledge and information and leads to a feeling that some organizational units are not useful in achieving defined goals and strategies.

Much more important for traditional budgeting systems is cost reduction rather than the tendency of creating value. This leads to the neglect of requirements of customers. Costs are allocated, but they are not associated with the activities that caused the costs.

Orientation to the effects, not causes, as well as the inability to timely determine the places where resources are unnecessarily spent, is some more shortcomings of traditional budgeting systems.

3. Zero-Based Budgeting as an Alternative System of Budgeting

In order to adapt the planning process accounting to contemporary business conditions the new, so-called alternative approaches to budgeting were found. One of the alternative systems of budgeting is zero-based budgeting.

3.1. The Concept and Essence of Zero-Based Budgeting

The zero-based budgeting, first applied in 1969 in Texas Instruments, quickly became an important tool of management (Grasso 1997, 23). The focus on zero-based budgeting are the activities and programs carried out in the enterprise. This system of budgeting is not based on the results achieved for the year, but from the zero level. Zero-based budgeting ignores all the previous budgets and from the managers demands justifcation for every item of cost in the budget. This approach of budgeting starts from the premise that there are costs and activities which should be included in plans for the next accounting period, because of these costs and activities exist as elements of the past and current period. Namely, what should be included in the budget must be reconsidered and justified. This system of budgeting can be very complicated for the managers of the enterprise just because it interrupts the continuity of its activities, and because there are no activities that are "sacred" in the enterprise. From the deference of the traditional system of budgeting, which in that the focus have a function, zero-based budgeting are oriented towards activities and programs carried out in the enterprise. This focus on activities and programs of the enterprise is very important for planning and controlling costs. First, identify the activities that are associated with the corporate goals for which are carried out, and then calculates the value added by each activity.

Preparation of zero-based budgeting implies the following (Grasso 1997, 23):

- appreciation of the planned development,
- making decisions and discussing activities in the units,
- preparing "decision packages",
- ranking "decision packages",
- allocation of resources based on the ranking of the "package of decisions" and
- assessment of performance using measures in the adopted "decision packages."

An enterprise is a system, which consists of a large number of subsystems and there is the problem of harmonizing the goals of companies with the goals of its subsystems and provision of resources to achieve all goals. In this sense, if there is a problem in defining the priorities it is difficult for zero-based budgeting to find its place there. In any case, it is necessary that the aims and tasks of the enterprises are set up in the function of development, and then developed and explained to all employees. Clearly defining goals and tasks that should be performed in the enterprise as a prerequisite for future development and explaining the tasks for achieving the goals to the employees are especially recommended if the zero-based budgeting is first introduced.

After defining the future development of enterprises that are the responsibility of top managers, making individual business decisions should be delegated to managers of a lower hierarchical level. This ensures that the lowest level which participates in achieving the tasks of enterprises, are familiar with the activities to be carried out and the purpose they served.

Many of the activities of the enterprise exceed the limits of production departments in the traditional system of budgeting. For this reason, when it comes to zero-based budgeting, units for making decisions are formed. Decision-making units will prepare a "decision package" that will relate eather to existing activities and those that should be done in the future. "Decision packages" are brought by managers at the lowest hierarchical level such as the production manager etc. Within the "decision package" one should consider the benefits of each activity, alternative for performing certain activities and performance measures, as well as the consequences if an operation is not performed. "Decision packages" must (Grasso 1997, 23):

- describe the activities,
- formulate the goals of the organization which are realized by described activities,
- explain the most acceptable approach to activities,
- analyze the consequences for non-performance program,
- define performance measures for the assumed development and
- assess the resources required for performing activities.

After defining the "decision packages" managers further develop and rank these packages by priority with the help of cost-benefit analysis. This ranking of “decision packages” is usually done at higher hierarchical levels. Senior managers rank "decision packages" in accordance with the defined objectives of the organization. The problem occurs when in one enterprise there is a large number of "decision packages" which should be ranked. Therefore, it is suggested that "decision packages" which contain the same activities should be reduced to one "decision package” and then send for a score to higher level managers. Senior managers can set up a system that would immediately approve high-ranking "decision packages", while those of lower rank could return to lower hierarchical levels. In this way, senior managers will be able to devote more attention to more important "decision packages". In any case, first cost-benefit analysis of "decision packages" will allow getting answers to these questions (Innes 2004, 210):

- Are these activities really needed to enterprise?
- Can some of the activities be combined?
- Can activities be performed in any other way?
- Can some activities be eliminated?
- What is the minimum level of performance of each activity?

The importance of "decision packages" will depend on the outcome of cost-benefit analysis. If there is a large deviation in the range of individual "packets", senior-level managers need to explain it to the lower managers so that they can continue to do effectively their jobs. Certainly, it is desirable to give chance to a lower lever of managers to choose "decision packages" in order to make the analysis more comprehensive. The number of "decision packages" which should be ranked, and the time for analysis depend on the size of the enterprise and the number of organizational levels.

The priority list of "decision packages" is still used for the allocation of enterprise resources. However, resources of enterprise are limited, so one must take into account the adequacy of "decision packages". It is possible to divide the defined level of resources for performing the selected "decision packages", but also it is possible through acknowledging the minimum criteria of cost-benefit analysis to allocate the resources to all "decision packages". Efficient allocation of resources is based on real needs and benefits so it enables managers to find cost-effective way to improve their activities.

Assessing performance using measures in accepted "decision package" is the last step in the zero-based budgeting process. The aim of defining the measures for evaluating "decision packages" is to prevent false reporting about success of individual "packets". This is because the managers are expected to achieve a condition that they predicted.

3.2. Advantages and Disadvantages of the Zero-Based Budgeting

The system at zero-based budgeting has been developed for better control of direct and indirect costs. When applying this approach of budgeting, every manufacturing function is seen again, and all expenses must be approved by superiors, then ranked and finally increased. In this sense, the benefits of applying the zero-based budgeting are the following (Kaplan 2007, 73):

- helps in creating organizational environments in which the changes are accepted,
- helps managers to focus on enterprise goals and tasks,
- focus more attention on the future rather than past,
- helps in identifying inefficiencies and outdated business of the enterprise,
- provides a framework to ensure optimum utilization of resources according to priorities in terms of business activities,
- can help in motivating management at all levels,
- provides a plan by which the work will be available when there is more financial resources and
- determines minimum requirements for departments.

An important feature of the zero-based budgeting refers to the fact that the existing activities of the enterprise reexamined in detail to propose new activities. In this sense, all activities are associated with the defined strategy and corporate objectives. The largest contribution to the zero-based budgeting is reflected in the possibilities of finding new ways to perform activities of enterprises and the achievement of defined goals. With better communication, managers at different hierarchical levels achieve a clearer insight into the spending of enterprise resources based on defined priorities of "decision packages", and also help is provided in assistance in defining the mission cost centers and linking these goals with the goals of the enterprise as a whole. The relation between initial and final elements of cost-benefit analysis ultimately leads to improved performance of the enterprise and individual managers.

Disadvantages of zero-based budgeting are the following (Accounting for Management, 2011):

- difficulties in defining the units for decision-making and "decision packages",
- focusing on the justification of every detail related to costs,
- the need for training of managers,
- comprehensiveness of data in large enterprises can lead to the neglect of important information and
- the honesty of a manager in assessing the achieved results is questioned.

The time that managers spend in preparing zero-based budgeting is far longer than is the case with the traditional system of budgeting. This is because all management activities are based on a zero base, so it is necessary to study them well. Given that some activities cross the boundaries of production units, it is difficult to determine individual responsibility for problems that happen in the enterprise, because those responsible for these activities are in more units. Also, much more work is needed to define "decision packages" for different levels of performance activities. Ranking of "decision packages" and their connection with the organization's goals on first sight seems simple. There is often no adequate information which will provide reliable cost-benefit analysis.

Finally, a great amount of time is necessary to pass to see the benefits and improvements from the use of zero-based budgeting. Its focuse on the short-term aspect disables managers to spend more time on it and support it.

4. Activity-Based Budgeting as an Alternative System of Budgeting

Activity-based budgeting is one of the alternative systems of budgeting, appropriate for new business conditions, which primarily takes into account the costs of activities necessary to produce the products and services. Activity-based budgeting is based on forecasting the number of products and services, the number of customer and level of services offered to them.

4.1. Concept, Process and Models of Activity-Based Budgeting

According to some authors (Turney 2000, 46), activity-based budgeting has the potential to transform the management of costs, so radically in the 21 century, as it was done by calculating the cost per activity (Activity-Based Costing ABC) in the late 20th century. The power of this model lies in determining the target level of performance based on customer needs.

Kaplan and Cooper (Kaplan, Cooper 1998, 303) explain activity-based budgeting as a process that follows the vertical dimension of the ABC model. Budgeting based on activities starts from the plan of selling the enterprise, whose purpose is to evaluate the sale of products in the upcoming period in order to determine the volume of production. Although Kaplan and Cooper argue that ABB coincides with the vertical dimension of the ABC, it is different. The vertical dimension of the ABC concept refers to the allocation of costs. Key terms are the resources, activities and cost objects, but also the consumption of resources and activity drivers. It allows obtaining information which can give answers to the following questions (Turney 1997, 85):

- What activities are causing high costs?
- What are the possibilities for the development of products and services and to reduce costs?

- What are the possibilities for changing the focus from the non-profit on profitable products, services or customers?

However, activity-based budgeting has a wider range than ABC. This is because it fits, and faces with management functions, their requirements and outputs that must be taken into account when forming system ABB. ABB is a part of the process of strategic planning and the achievement of enterprise goals. This process is focused on improvements that should be done in the next accounting period. ABB is often called the reverse ABC. It starts to spiral upward through the vertical dimension of the ABC looking for balance between the resources that are necessary for the next phase of operations and resources that are currently available for the enterprise. In this sense, the original ABB model follows these steps (Kaplan, Cooper 1998, 303):

- estimates the expected level of sales and production in the next period,
- forecasts demand for organizational activities,
- calculates demand of resources to perform activities in the enterprise,
- determines the available resources to meet demand and
- determines the capacity of activity.

Assessing the expected level of sales represents a starting point for activity-based budgeting. Prediction refers not only to the products and services that will be sold in the future, but also to individual customers and groups of customers who will buy the products of companies.

The second step of the process of budgeting refers to the prediction of demand for organizational activities. Here, it is primary to predict the volume of activities which should be implemented in the enterprise to meet anticipated demand. Activity-based budgeting provides the demand for indirect and for supportive activities.

When managers know the volume of activities carried out in the enterprise, they can calculate the demand for resources to carry out activities in the enterprise. Effective performance of activities in the enterprise will be the basis for predicting demand for resources.

The next step of the activity-based budgeting process is the analysis of resources which is available in the enterprise. The assessment of available resources is done for each activity performed in the enterprise. Activity-based budgeting establishes the relationship between available resources and necessary resources for carrying out activities.

The last step in the activity-based budgeting is to determine the capacity of activity. ABB has two forms of capacity, one is at the level of activity, and the other at the level of resources. Orientation on the additional capacity to deal with a variety of mix and volume of activities and resources and allow the budgeting

process from forecasting sales to the impact on total resource costs to progress undisturbed is a significant feature of activity-based budgeting.

If the activity-based budgeting is carried out in an adequate way managers will be able to timely detect the problems and discrepancies, and to take appropriate measures to overcome them.

If the organizations realize the selected strategy and defined goals, it is necessary to establish the operating balance in the quantity required and available resources. This operating balance and financial balance can be achieved using an advanced activity-based budgeting model, which contains seven instead of five steps. The steps of advanced activity-based budgeting model are as follows (Bleeker 2001, 9):

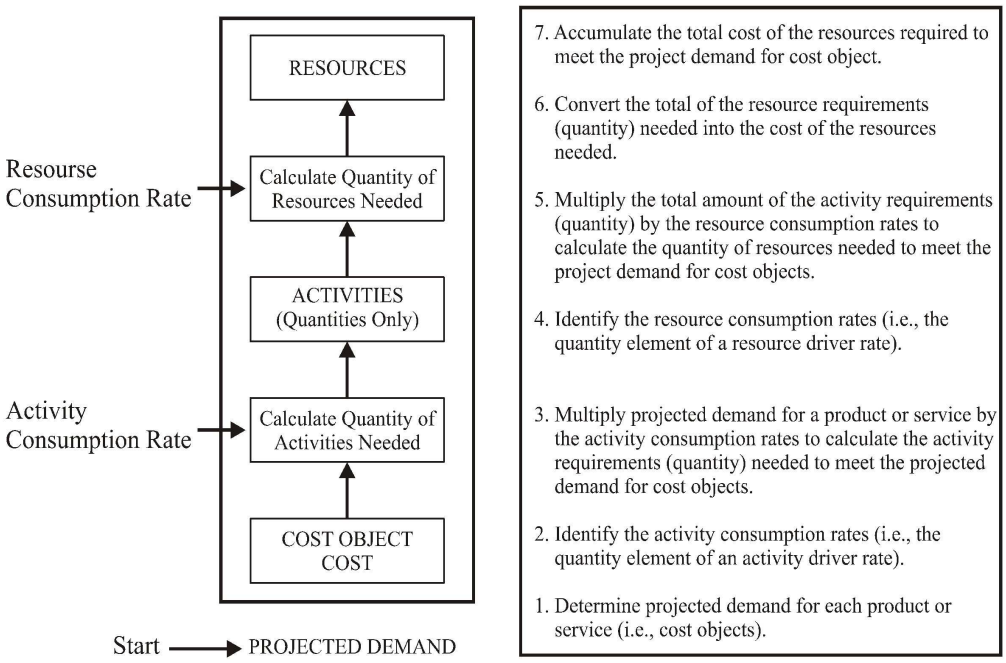
- determining the perceived demand for each product,
- Identifying rates of consumption activities,
- determining the volume of required activities,
- identifying rates of needed resources,
- determining the amount of resources needed,
- converting the total amount of resources needed in the cost of necessary resources and
- accumulating the total cost of resources required to meet the demand for the products.

This model is being hailed improved because of improvements that occurred in the fifth and the seventh step. Once set up, the budgeting system based on activities must be constantly reviewed and improved. Iteratively of this process made it possible by doing step by step, check the correctness of assumptions, and in case errors and discrepancies are detected it can be possible to go back to the beginning and start again with the process. Improved activity-based budgeting model is given in Figure No. 1.

The first step of an improved ABB model is determining the assumed demand for each product and service of production and sales range. Products and services are cost objects, and endpoint on which the costs of activities are being transferred. The assessment of assumed demand for each product and service from the production and sales range means the evaluation of the characteristics of customers who will buy products from companies. The assessment should include details about the process of ordering products. Before moving to the second step of the process of activity-based budgeting, i.e. on the determination of rates of consumption of activities, it is necessary to determine which activities are performed in the enterprise. Some companies use consulting agencies for help in determining the activity, while some enterprise's managers are responsible for carrying out this task. The choice of activities to be carried out in an enterprise is determined by the organizational structure of the enterprise, its size and type of

activity engaged (More on the choice of activities see: Novićević, Antić 2010, 245). After defining the activities carried out in the enterprise one should begin with determining the rates of consumption of each activity because certain actitivites are in the several production departments. For such an activity, it is necessary to define activity costs pulls.

Figure No. 1. Improved ABB model



Source: Bleeker 2001, 10.

Determining the activity consumption rate is the second step of an improved model. Activity-based budgeting estimates the expected volume of activity for each driver of activity. In this way, managers know either assumed volume of production and sales, as well as activities that will be the production and sales achieved. In defining the costs object of activities, it is necessary to comply with the following criteria (Innes 2004, 221):

- activity drivers should be supportive of desired behavior of employees,
- activity drivers of each activity must correspond to the real situation,
- activity drivers of each activity should be measurable and
- should choose the best criteria of capacity of each activity.

Activity drivers for cost of activity preparing are the hours of preparing, for the costs of quality that is control number, for the activities of procurement and receipt that are orders etc.

Multiplying the assumed demand for products and services with the activity consumption rate the scope of required activities will be given. Determining the scope of required activities is the third step of an improved activity based budgeting model.

When you get all the information about the activities that will be carried out in the enterprise to meet perceived demand, managers remain to determine the rate of required resources and their quantities and costs required for performing these activities. Forecasts of the necessary resources are based on the assumption of efficient performing of activities. In this context, the central place in the activity-based budgeting system have the resources of enterprise, that which the enterprise has, and those which are necessary for the production process. Managers need to determine a satisfactory level of resources to achieve defined objectives. They must know that the amount and type of resources they need for the assumed volume of activity. Costs of resources are changing with the changing volume of activities. Activity-based budgeting defines three ways of behaving of resources to the change of volume of activities: variable, fixed and mixed (Innes 2004, 308). Variable resources (e.g. energy required to operate machines) are linear with change of volume of activities. Fixed resources such as the production hall does not change if the volume of activities of the enterprise is changed, while mixed resources increase or decrease in defined areas when the volume of activity increases or decreases.

The fifth step of an improved model is to determine the amount of resources needed. The amount of needed resources is obtained when multiplying the volume of activity with the rate of needed resources necessary to ensure that products and services are produced by enterprises. The fifth step was taken as the first improvement of the model. In this regard, in order to achieve operational balance, it is necessary that needed amount of resources for carrying out activity is continuously compared with the amount of resources that is available to the enterprise. Accordingly, activity-based budgeting establishes a link between the demand for activity and demand for the resources necessary to carry out these activities. As resources are the basis for carrying out the activities, managers must continuously compare the resources they need to perform activities of enterprises and the resources available. In the final, a comparison of resources will lead to finding the optimal amount of offered resources for the next period. Comparing necessary and available resources managers will be able to assess the expected changes in the consumption of resources in the future. The based of comparisons of resource is the model based on activities. In this way, model-based on activities is becoming a major tool for planning and control execution of plans. If it happens that the amount of required resources is not at the amount of resources currently

available to the enterprise should add or eliminate some of the resources. If it is determined that there is a lack of resources, managers must find additional funds for providing those resources. However, if it is determined that there is an excess of resources, it is necessary to reduce them, or redirect them to other production departments in the enterprise. To achieve this, we should go back to the start and reset inputs, to obtain the level of appropriate resources that the system will return to balance. Comparison of the resources needed with the currently available resources continues until the managers are not satisfied and confident that the changes in the level of resources are economically viable (Bleeker, 2001, 11).

If the amount of needed resources is equal to the amount of currently available resources in the enterprise it is believed that the resources are in balance and moving to the sixth step is proposed. In the sixth step, the total amount of needed resources to carry out activities is transformed into the costs of necessary resources.

In the last step of this model the total cost of the needed resources to meet anticipated demand are accumulated. In this step, some improvements have also been achieved. To determine the financial equilibrium of the system part of the ABC system is used for allocating costs and vertical dimensions of the ABC concept. Total cost of the offered resources that were identified in the fifth step, apply to activities and cost object. Thus, calculated costs will be deducted from the profits of enterprises, and the results are compared with defined objectives. If it turns out that the defined objectives are achieved, this system is in equilibrium and it is considered reasonable to use it. If not, it is proposed to go back to step five and correct input and offered resources to achieve financial balance of the system.

4.2. Advantages and Disadvantages of Activity-Based Budgeting

Activity-based budgeting extends the application of activity-based costing. This in the sense that ABC, primarily determined for the calculation of the costs of individual products and pricing, can be used for a comprehensive system of planning and control of the enterprise. ABC produces detailed reports on the past and current costs of the enterprise and expanding its base to ABB system, the relevant data for estimating future costs are received.

Activity-based budgeting represents a sort of business technology planning that allows managers to balance between the required and available resources, and to identify resources that are needed. Access to ABB forecasts and the allocation of overhead costs is more suited to the new business conditions than when the direct labor costs, hours of work and machine hours are used. This system is equally clear to managers and direct executors who are directly responsible for carrying out business activity and the consumption of resources.

Practical application of activity-based budgeting has shown that these systems can (Innes 2004, 222):

- better identify the necessary resources,
- identify deficiencies in budgeting,
- associate costs with the products and performance,
- enable the participation of employees in preparing the budget,
- clearly indicate the relationship between costs and responsibilities of employees and
- provide valid feedback.

Activity-based budgeting directly fits into the total quality management program. It associates the cost of activity with the level of provided services. This system makes it easier to make decisions about the allocation of resources because of the disposing with information on the costs of activities. Determining costs for each product finally can provide monitoring of the trend of costs over time. Taking into account the effects of level of activity on the resource costs supports a program of reducing costs and provides better business results.

The introduction of activity-based budgeting assumes software development and training of managers for their use. High cost and complexity of installing the software is considered one of the main defects of activity-based budgeting. Although under modern business conditions, the technology has advanced and is available to users, however, the price and complexity of technology are determining the choice of managers whether to apply it in the enterprise. Be sure that small businesses that produce one or a small number of products will not be interested in expensive systems of budgeting and they will deem them unnecessary waste of limited resources of the enterprise.

Also, the system spends too much of the organizational resources of analytic functions. There is primarily considers the time that managers spend on making this budget. Although it is major improvement compared to the traditional budgeting system, ABB is resented for ignoring long-term aspects. The focus of the activities that are currently performed in the enterprise may have negative long-term consequences on the enterprise.

Conclusion

Budgeting is the process of preparing the data for the careful guidance of the enterprise's activity, or following its path to the desired goal. It forces managers to think in advance through the formulation of planning their tasks and responsibilities, determining the final expectations, providing the best instruments for assessing the performance and coordination. At the end of the period for which budgets are prepared, the control of the execution of the budget is carried out, the

possible deviations are established and corrective measures are proposed. Traditional budgeting systems, are primarily oriented to inputs, costs reduction, the effects, rather than on causes. As such, they can not respond fully to information requirements of managers in the new business environment. New business conditions demanded the finding and application of new approaches of budgeting. Among them the most significant are zero-based budgeting and activity-based budgeting.

Zero-based budgeting ignores all the previous budgets, and starts from the zero level and requires the managers to justify every item of cost in the budget. This system forms the so-called "decision packages" which help managers in planning. The basic idea is to encourage managers to think about priorities, and considering the current and future activities. The time that managers spend in preparing this budget is too long, but finite, positive effects of applying this approach of budgeting are significant. The contribution of this system of budgeting refers to either the establishment of a range of "decision package" and on the grounds of that deployment of limited resources.

The goal of activity-based budgeting is to anticipate the needs of businesses in the coming period, whereby the needs are determined by expected demand for products and services. In this way, companies approve and control the resources necessary for caring out activities, based on anticipated demand for the activity. Activity-based budgeting system connected the overhead costs of the enterprise with pulls of the costs of actions and with the cost objects. For the allocation on the cost objects activity-based budgeting is used by activity drivers, among which there is that those are connected, and those who have nothing with the physical volume of production. Although its implementation requires a lot of time, the reality of the budget, which it produces is far more significant. Specifically, identifying the need for resources and their comparison with available resources, linking costs to the performances of management and participation of employees are a significant contribution of the activity-based budgeting system to the business enterprises.

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BUDŽETIRANJE NA NULTOJ OSNOVI I BUDŽETIRANJE ZASNOVANO NA AKTIVNOSTIMA KAO ALTERNATIVNI SISTEMI RAČUNOVODSTVENOG PLANIRANJA

Rezime: Novo poslovno okruženje i pokretački faktori u vidu informacione revolucije, tehnologije i globalizacije dovode do značajnih promena u poslovanju preduzeća. Između ostalog, promene su dovele u pitanje tradicionalne pristupe računovodstvenog planiranja, kao osnove za uspešno upravljanje preduzećem. U radu se analiziraju budžetiranje na nultoj osnovi i budžetiranje zasnovano na aktivnostima, kao alternativni sistemi računovodstvenog planiranja prilagođeni novim uslovima poslovanja.

Ključne reči: budžet, aktivnosti, troškovi, stopa potrošnje resursa, stopa potrošnje aktivnosti, budžetiranje na nultoj osnovi, budžetiranje zasnovano na aktivnostima

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TRANSFER PRICES IN THEORY AND PRACTICE OF MULTINATIONAL COMPANIES

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Abstract: *Transfer pricing is considered important by both multinational companies and tax authorities. The majority of today's trade is global and involves multinationals, giving cross-border transactions the potential to create transfer pricing issues and affect both the involved countries' tax revenues and the TNC's net income. The authors discuss transfer prices particularly in the context of their application in developing countries. Evidence is provided by examining transfer prices practice used by a multinational corporation operating in the Republic of Serbia.*

Keywords: *Multinational companies, transfer prices, tax, factors.*

Introduction

Globalization is one of the most important features of contemporary business conditions. In order to achieve competitive advantage in the global market, companies begin to expand their business beyond the borders of one country. With the establishment of entities outside the country of origin, the companies grow into multinational companies, and become more serious "players" in the modern, highly competitive market. Multinational companies achieve a competitive advantage thanks to the use of all the advantages the geographical dislocation offers, such as production organization where the production resources are the cheapest, and product placement where business opportunities are the biggest. Such a strategic focus is motivated by the main goals of any company - creating added value for shareholders. The rates at which the exchange of goods

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and services among its subsidiaries is performed, or transfer prices, are a very important factor in the business of multinational companies. The choice of methods for determining transfer prices is a crucial step in defining the financial strategy of multinational corporations, because it defines the economic relations between the branches and directs resource allocation within multinational company as the entity. The chosen method largely depends on the company's orientation towards short-term or long-term business goals.

What makes transfer rates a particularly interesting topic in economic theory and practice is their use in the profits schifts between countries in order to minimize taxes. This aspect is controversial since the fact that the income tax is one of the most important sources of the state revenues, and its avoidance directly threatens the budgets of the countries in which multinational companies operate. Under such circumstances, in order to maintain the social, economic and political stability, countries are forced to find new ways to protect their income. In addition to legislation in the area of corporate income tax, the states resort to more stringent revisions of multinational companies' operations. An increasing attention to this area is paid by global organizations, which, by the adoption of guidelines and frameworks for transfer prices determination, tend to establish a more harmonized approach to this problem.

In accordance with the above mentioned, the subject of the author's research are the transfer prices as a factor of the business of multinational companies. The first part examines the types and methods of transfer prices determination, with a special emphasis on the strategic orientation of companies as a factor of transfer prices. The second part deals with the fiscal aspect of the use of transfer pricing by multinational companies, and gives a review of measures employed by the state and some multilateral organizations in order to reduce tax evasion by applying transfer prices. Having analyzed the factors determining the choice of transfer pricing in developing countries, in the final section the authors outline the institutional framework for the application of transfer pricing in the Republic of Serbia and examine its application in a multinational company that operates in the domestic market.

1. Types and Methods for Transfer Prices Determination

Transfer prices are prices at which goods or services are exchanged between the two entities within the same company (group). This means that the transfer prices are used in the exchange of goods and services between the parent company and its subsidiaries or between two branches of the same company. Transfer price can be defined as "the opportunity cost of a product or service, or a neglected value by non-use of a transferred product in its next best alternative use" (Figaro 2007, 224). An important feature of transfer prices is that they are largely immune to the influence of market forces. Since the purchase transactions between

the branches are performed according to the transfer pricing, their definition establishes economic relations between the subunits of multinational companies and also directs the allocation of resources. Here arises their relevance and a great interest in the phenomenon of transfer pricing. The results of numerous studies in which transfer prices are ranked as one of the most interesting area in international accounting (Sands, Pragasam 1997, 187-202) illustrate that the transfer prices are quite actual topic in modern corporate finance. The economic theory and practice recognize different types of transfer pricing and methods of their determination.

OECD (*Organization for Economic Co-operation and Development*) recommends that Member States use the following methods to determine transfer prices (Bekaert, Hodrick 2009, 687-689):

1. Comparable uncontrolled price method,
2. Method of retail prices,
3. Cost-plus method,
4. Comparable profit method.

According to Plasschaert (1994), the two most widely used methods in business practices of multinational companies are the method of market transfer prices and the cost-plus method. Comparable uncontrolled price method can be applied in cases where the good that is a subject to transfer between branches is at the same time a subject to sales by multinational companies on the external market, or if this good is an item of buying and selling of two independent companies. Problems regarding the application of this method are related to difficulties in identification of identical transactions of buying and selling goods, particularly when it comes to selling goods on order. The method of retail prices suggests a reduction of a certain amount of retail sector profit (or distributor profit) from the retail price. However, if the retail sector largely impacts the selling of given product (e.g., post-sales services it offers), it is difficult to determine the appropriate amount of profit that should be deducted from final sales price to determine the appropriate transfer prices. According to the cost-plus method the appropriate amount of profit is added to the costs of producing goods. It is mainly used for the exchange of finished products. The amount of profit is, whenever possible, determined by comparison with the corresponding uncontrolled price. As based on real costs, the cost-plus method is recommended by the tax authorities, because it fits most to market price from the previous classification. Comparable profit method involves comparison of the profitability of the company conducting the same or similar activities with the profitability of a branch using transfer prices, and it is most often used in combination with previous methods of determining transfer prices.

Transfer prices define the economic relations between the two branches of multinational company, by directly determining the income of the branch that sells those products, and the level of costs for the branch that buys the products.

Therefore, the choice of transfer pricing models, by which the exchange of goods or services within multinational companies is realized, directs the allocation of resources and profits within the group and thus affects the achievement of the objectives of individual branches and the company as a whole. This is one of the reasons why transfer prices are referred to as strategic tool for achieving competitive advantage in the economic literature (Sakurai 2002, 196). Transfer prices are indivisible part of the managerial, organizational and cultural characteristics of a company, which is closely linked to overall corporate strategy and performances.

In the selection of transfer pricing models it is essential to define whether the objective of the company is profit maximizing in the short term or creating values in the long run. The answer to this question is directly related to the transfer pricing model that will be used for the exchange of goods or services. In defining the limits between which the transfer prices can move, it is necessary to start from the level of utilization of existing capacity (Anthony, Govindarajan, 2007). When the branch that sells products fully utilizes the capacity, the opportunity cost of unit product presents the market price. It represents the upper limit for transfer costs, because the branch that purchases has no interest to pay for products at a price that is higher than the market. If the branch is working at a level lower than full capacity utilization, the opportunity cost of unit product equals its marginal cost. Marginal cost is the lower limit for the determination of transfer prices, because it would not be worth for the branch to sell products at prices that are below marginal cost.

In the case the branch that sells realizes cost savings due to procurement within the group (multinational company) and not from external markets, and then sells these products to another branch by the transfer prices that are equal to market prices, the entire previously achieved savings go in its favor. Conversely, if the branch sells products to another branch by the transfer pricing based on marginal costs, overall savings go in the benefit of branch which buys products.

Apart from the transfer prices based on market prices or marginal costs, there are many possible variations of these alternatives. So, it is possible that in the case of full capacity utilization, the branch sells products at a price that represents the market price reduced by the savings realized from inter-company purchase. For the branch that sells the same effect will be achieved as with sales on the external market, while the branch that buys would be allowed to purchase at a lower price than the market price. When capacity utilization is less than full, a branch may sell at prices above marginal costs. This choice of transfer prices leads to a reallocation of profits to a branch that sells, while for the branch that buys it is still a cheaper option than buying in the external market, for the difference between the transfer prices and market prices (Adams, Drtina 2008, 411-417).

Which of the aforementioned two models of transfer prices multinational company will opt for depends entirely on whether the company is focused on achieving short-term or long-term goals. The relation between the transfer prices models and the objectives of multinational company can be summarized as follows:

- Transfer prices based on marginal costs lead to profit maximizing in the short term for the branch that buys and the company as a whole, but prevents the investment in the expanding capacity of the branch that sales, which could lead to the fact that the branch that buys must settle some of its needs on the external market. This leads to the loss of future inflows which would be generated from the new investments.
- Transfer prices based on market prices provide the realization of long-term values for the branch that sells and the multinational company as a whole. In this way, the resources for investment and capacity expansion are provided in order for the branch which sells to meet all the requirements of the purchasing branch, and there would be no need to realize the purchase outside the group. Thus, for the branch that buys the effects are the same as if it has purchased on the external market, while branch that sells ensures that future inflows will be generated by new investments.

It is clear that these alternatives exclude each other. There is no single model of transfer prices which would enable the achievement of short- and long-term goals at the same time. If the multinational company chooses the first alternative, its value will increase over the long term with the possibility of further investments at the expense of short-term profits. In case of choosing the other alternative, the company will maximize profits in the short term, with no possibility of long-term value creation. The choice of transfer prices in the final depends on the business aims of multinational company. Starting with the generally accepted view that the primary objective of business corporations is the achievement of long-term values for shareholders, the transfer price, based on market price, is imposed as a choice. It allows the formation of long-term shareholder value and provides sufficient funds for future investments, which are a source of future cash inflows and the initiator of further company growth.

A particular problem which is related to the existence of transfer prices is the impact of their application to the work of branch managers of multinational company (Petrović, Denčić-Mihajlov 2010, 61). Transfer prices that do not reflect the real costs of transactions between branches, as profit centers by multinational companies do not provide an adequate picture of the profitability of branches, and thus influence the motivation and commitment of their executive managers. If the transfer prices are used at the level of multinational companies to manage working capital, or for the tax purposes, it is necessary to modify the system of performance evaluation of individual branches to reflect their actual profitability.

2. The Application of Transfer Prices in Tax Management

The business goal of every corporate enterprise is creating long-term values for shareholders. One way to increase the value for shareholders is to minimize income tax. To this end, the multinational companies use various mechanisms. Multinational companies can influence the international allocation of the profits expressed by accounting, by arranging the financial structure of the branches. The aim is financing through loans at higher interest rates in the branches that operate in the regime of high tax rates, which has as a result the minimization of the total paid tax on the group level. Second, it is possible to reallocate the common costs (from the multinational company as a group, such as research and development costs, marketing, etc.) into countries with high taxes on profits, thus reducing profits for the taxation of the branches that operate in those countries. The mechanism of transfer prices is also used to shift profits from countries with high tax rates to countries with low tax rates, through the cost maximizing in the first and the incomes in the other countries. In this way, the minimization of income tax and maximization of after-tax profits at the level of multinational company are provided.

The possibility of profit transfer from states with high to states with low tax rates originates from the 'freedom' to determine transfer prices, which is due to the company subjectivity in the costs allocation process. Minimizing taxes by exporting capital to the 'best location' allow differences in the rates of income tax between the states as well. Each state independently determines the amount of tax rates. They differ considerably from country to country, so the income tax rate in the U.S. is 35%, in the UK 28% in Germany 15.8%, 12.5% in Ireland, etc. American Tax Notes reported that Ireland is the most profitable country for U.S. corporations. The profit made by the U.S. companies in Ireland has doubled since 1999 to 2002, from 13.4 billion to $ 26.8 billion. On the other hand, in the same period, the U.S. corporate profits in Canada, France, Germany, Italy and the UK fell by 25%. That it is all about the profit moving through transfer prices show the data that in these five countries in 2002, the U.S. corporations accounted for 44% of foreign sales, possessed 44% of facilities and equipment and paid 56% of salaries to the employees in foreign branches, and they recognized the profit of 25% of the total profits abroad. In addition, there is the fact that, in countries where the income tax rate was reduced, the U.S. corporate profits would be drastically increased. After the Danish income tax rate decreased from 23.9% to 7.6%, the U.S. corporate profits increased by 200%, while in Belgium with a reduction in tax rate from 26.6% to 12.5% the profit increased by 84%. Similarly, with the reduction in tax rate from 26.1% to 12.7% in Spain, the U.S. corporate profits in this country jumped by 26% and the decrease in the tax rate from 21.5% to 9% in Portugal has resulted in profit growth of 65%. Increasing the profits of the U.S. companies in New Zealand by 200% was caused by the lowering of tax rates in the country with 36.7% to 10.3%. American companies state “in their defense” that the

income tax rate in the U.S. is too high, and that the profit realized in foreign branches is legitimately channeled primarily to improve the financial position and achieve values for shareholders (source: www.finfact.ie).

Since the differences in the rates of income tax between the countries are one of the major stimuli of shifting profits through transfer prices mechanisms, there were suggestions for the establishment of the uniquie tax rates in all countries. Of the many reasons why it is almost impossible to put in practice, eliminating differences in tax rates would significantly reduce the mobility of capital, manpower, resources and so on.

The studies show a correlation between the size multinational companies and their intensity of using transfer prices to minimize taxes paid (Conover et al. 2000, 189-211). An analysis of these relations is important for several reasons. First, it shows which companies (in terms of size) intensely transfer profit for the sake of lower tax, which may focus the state and tax authorities to the solution of this problem. Second, the analysis suggests that the ability of companies to respond to changes in tax rates depends on their size, which should be taken into account when assessing the impact of new legislation on future fiscal revenue. In addition, the potential trade-off is shown in an indirect way between tax and non-tax factors that influence the amount of profit on which the financial report is made. The relocation of the profit between branches determines the internal performances of the branches, and thus the amount of bonuses for managers. The potential problem is that a wide range of users of financial statements of the branches can not make the difference between the planned transfer of profits to minimize taxes and the real decline in profitability.

Surveys conducted in the U.S. suggest that large multinational companies increasingly use transfer prices to minimize profits in relation to small companies. The higher volume of transfers and the greater the difference in tax rates, the companies have more incentive to shift profit between countries through transfer price and therefore the effect of profit transfer is larger. This in turn leads to higher differences in profitability between the branches of the same multinational company.

2.1 Measures of Individual Countries to Prevent Tax Avoidance through Transfer Prices

As the income tax is one of the most significant state incomes, its avoidance directly violates the balance of the state budget. More intensive process of globalization and the associated growth of multinational companies have made the problem of tax evasion even more relevant. It has been shown that transfer prices are not just an accounting technique, but the method of allocation of resources that directly affect the distribution of income, wealth, risk, and thus determines the quality of life. Transfer prices are said to be "the most problematic

area of international taxation." There are three reasons for this opinion. First, globalization creates an integrated business with a high level of international transactions, while tax systems continue to operate at the national level. Second, the government considers that globalization offers multinational companies a lot more opportunities to manipulate transfer prices and the minimization of taxes, than it was possible in the past. Therefore, it is necessary to pass more stringent regulations to govern this area. Third, the tax authorities also require stricter regulation of transfer prices to protect income from income tax (Eden et al. 2001, 1).

Developing countries, as a rule, avoid introducing any control of transfer prices, fearing a negative impact on foreign direct investment inflows. Another reason is the experience in the implementation of control mechanisms and procedures to prevent arbitrariness in the use of transfer pricing. The simplest way for the states to prevent income tax avoidance through transfer pricing manipulation is the adoption of relevant corporate income tax laws. Necessary step in this process is the establishment of appropriate enforcement mechanisms.

Many countries have resorted to new pieces of legislation that will allow the tax authorities subsequent correction of financial statements in the case of incorrectness in relation to transfer prices and on that basis additional tax collection. Thus, the tax authorities in the U.S. are allowed, in accordance with section 482 of the *Law on Internal Income*, to make an additional sharing revenue and cost between the controlled entity if it is necessary to prevent tax evasion (Sikki, Willmott 2010, 343). In 2009, U.S. tax authorities hired 1200, and in 2010 800 additional persons working on detailed control of transfer prices. In the UK, due to subsequent adjustment of transfer prices, the tax authorities made 1724 tax calculation corrections in the period from 2005 to 2006. In the period from 2005 to 2007, subsequent adjustments have resulted in an extra amount of 1.1 billion pounds of tax paid, while from 2007 to 2009 additional 2.1 billion pounds were paid. Thanks to the revision of transfer prices, from 2001 to 2005, the Australian government billed an additional $ 2.5 billion for taxes (Sikki, Willmott 2010, 343). The Chinese government announced on its official website the fact that 60% of the total multinational companies' tax is not collected over transfer prices. Therefore, China has introduced a much more aggressive audit of multinational companies, which gave very good results.

2.2 Measures of Multilateral Organizations Applied to Prevent Tax Avoidance through Transfer Prices

A generally accepted view is that the adoption of uniform regulations of transfer prices on the global level was a crucial step towards the solution of this problem and also towards the harmonization of the international accounting practice. The implementation of new directives should be flexible enough not to affect adversely the global business, and at the same time strict enough to minimize the risks that the use of transfer prices implies. Globally accepted methods of

determining transfer prices are the comparable uncontrolled price method, the method of retail prices and the cost-based methods. Theoretically, the correct transfer price is the one which is calculated by the use of one of these methods to allocate profits from the transfer, so as to ensure fair recognition of taxable income of each party (Borkowski 1997, 322). To narrow the freedom in defining transfer prices, global organizations, such as OECD and UNCTAD, have resulted in many frameworks and guides for the formulation of transfer prices. Special attention should be paid to *OECD Guide for Multinational Enterprises and Tax Administration* (2009 This guide was originally approved by the OECD in 1995. In the period 1996-1999, the guide has been supplemented with additional instructions, regarding international services, intangible property, *Advanced Pricing Agreements* - APA and so on. In 2009, an edition of the amendments to chapter IV was published, concerning the latest trends in this area. The OECD is working on substantial revision of Chapter I-III, with a focus on the analysis of comparability and methods of profit distribution. (OECD 2010).

OECD Guide for Multinational Enterprises and Tax Administration in 2009 is based on the so called *arm's length approach* to determining transfer prices. *Arm's length approach* is being developed in the U.S. as a principle which should provide a fair allocation of income and expenses between related parties. The approach assumes that the transfer prices should correspond to the prices which would be used in transactions between two completely independent parties. The easiest way to determine these prices is to comply with the following principles during the defining moment of transfer prices:

1. Prices should be comparable to prices for the same or similar products which have been agreed between two completely independent parties in the same or comparable circumstances, and
2. Prices must at least be comparable with the prices at which some of the branches of multinational companies sell the same product to an independent third party under the same or comparable circumstances.

Following these principles, the comparable uncontrolled prices method is actually applied, which is recommended as the most preferred by the tax authorities. However, it is difficult to apply it in practice, because there are often no comparable transactions in the market. It is, therefore, necessary to use other methods for the determination of transfer prices in accordance with the *arm's length principle*, which usually requires considerable time.

As one of the ways to stop transfer price manipulation, the OECD states a full disclosure of details regarding transfer prices in the *Notes to the Financial Statements* as an integral element of the annual financial report. According to the OECD, this disclosure should exceed the disclosure requirements prescribed by IAS 14 - *Segment reporting*, and, IFRS 8 - *Operating Segments*, by which IAS 14 has been replaced.

Even though there is a large number of studies on responses of multinational companies in the existing or potential regulation in the field of transfer prices, one of the studies of UNCTAD from 1995 deals with the opinions and suggestions of the states, regarding the decision of the mentioned problem. The study has been based on responses collected in the questionnaire about the current developments in the field of accounting and reporting of transnational companies and other enterprises, which was sent to all member states of the United Nations. Selection of persons who answered the questions depended on the decisions of the governments of those countries, so that some of them were members of various ministries, representatives of the institutes for certified public accountants, university professors and so on. Some of the most interesting observations are the following (Borkowski 1997, 324-336):

- Manipulation of transfer prices completely distorts the picture presented in the annual financial statements (Belgium);
- Instead of charging income tax in the country, transfer prices manipulation lead to an outflow of profit from foreign operations outside the country (Grenada);
- It is important that multinational companies accurately disclose the results of their operations. Transfers at prices below market prices increase the risk for the lenders and creditors and the losses for the country (Zimbabwe);
- Each country should adopt policies and procedures to ensure the application of reasonable and fair transfer prices (Cyprus);
- An international criteria for transfer prices on a multilateral basis should be established by the global organizations such as the OECD (Japan);
- A higher degree of disclosure of transactions should be required in order to ensure transparency and the reduced suspicion in the transfer of profit (Zambia);
- The OECD transfer prices model should be adopted. The employees in the tax authorities must have sufficient experience and permanently improve themselves (Finland).

A common attitude of all countries is that it is necessary that the transfer prices are at reasonable levels in order to protect the state's right to taxation and to prevent tax evasion.

3. Factors Determining the Choice of Transfer Prices Methods in Developing Countries

In the economic literature there are a number of studies that analyze factors that influence the choice of methods for determining transfer prices in developing countries (literature review given by: Chan et al. 2004). Before analyzing the factors, we should recall the essential features of methods of market transfer prices

and transfer pricing method based on cost, as two conceptually completely different methods applicable in developing countries. Market transfer prices are assessed to be less manipulative and as the prices which due to its objectivity minimize disagreements between the branch managers of multinational companies. They are also considered fair prices and prices that the tax authorities have less interest for. On the other hand, the application of the method based on cost, due to its arbitrariness, gives much more space to maximizing after-tax profit and minimizing operational risks.

Several factors have been evaluated by management as components for the selection of transfer price models in the multinational companies operating in developing countries (Chan et al. 2004, 1994):

- The differences in the income tax rates,
- Minimization of the customs,
- The interests of local partners,
- The control of the exchange rate and the associated risks,
- Restrictions regarding repatriation of profits,
- Risks from expropriation and nationalization,
- Good relations with the local government.

The differences in the income tax rates. As previously analyzed, by defining the appropriate transfer prices, multinational companies use the differences in the tax rates in different countries for the minimization of income taxes and, thus, for the maximization of profits after tax. As income tax is more considered by management a significant variable, the transfer prices are used more as a means for its reduction, especially the method of transfer prices based on costs.

Minimization of customs. The customs are one of the areas where, with the application of appropriate transfer prices, the operating results of corporations may be directly affected. As in most developing countries a relatively high tariff rates are applied, the using of a lower transfer prices may affect the reduction of tariffs in nominal terms. If this variable is considered more important by the management, the companies will more often apply the transfer prices method based on cost.

The interests of local partners. The greater participation of local partners in the capital of multinational companies means lower participation of foreign investors in the capital of the same. This directly leads to the transfer of small amounts of profits outside the national borders and to the retention of larger profits in the country of origin. Therefore, to protect their interests, local partners must be actively involved in creating the policy of transfer prices, which reduces the impact of foreign investors. If management of corporation considers important the role of local partners, it will plead for the reduction of the conflict between the two sides using market transfer prices (as the method that is more objective and fair and that provides less room for manipulation).

The control of the exchange rate and the associated risks. The control of the exchange rate which is applicable in developing countries is the stimulus for the application of transfer prices and their use in order to transfer profits. The use of transfer prices allows the exchange rate risk management by reducing the level of liquid assets in the branches which operate in the countries where there is the control of the exchange rate. In the case multinational companies use transfer prices based on costs as a method that provides greater flexibility in achieving the control of the exchange rate.

Restrictions regarding repatriation of profits. In order to ensure faster progress, developing countries generally apply a very strict limit when it comes to the repatriation of capital. As restrictions on repatriation of capital, the limits for the amount of profit that may be transferred to the country of origin are generally used, as well as high tax rates on all types of transactions with the capital to the country of origin. Such restrictions prevent multinational companies from achieving their goals. One of the effective ways to overcome these barriers is the application of transfer prices based on costs.

The risks arise from expropriation and nationalization. Multinational companies are often faced by political risk in developing countries, and the associated possibility of expropriation and nationalization. That is the reason why multinational companies seek to achieve as rapidly as possible the return of investment, where transfer prices are used. China, for example, enacted a number of laws attempting to secure the rights and interests of foreign investors. China has signed bilateral investment agreements with over 40 countries, by which it guarantees that it will not implement the expropriation of the property. However, as far as the possibility of expropriation or nationalization is reduced to a minimum, the states still retain the right to extraordinary circumstances in which it is possible. For this reason, multinational companies tend to remit as many resources as possible from branches located in developing countries, where the political risk is generally more expressed. An effective mechanism in achieving this goal is the application of transfer prices based on costs.

Good relations with the local government. In order to avoid the various bureaucratic obstacles and to be in a position to negotiate and influence the government measures to create business conditions in the country, multinational companies tend to keep as close relations as possible with the local government and its organizations. If the companies give this factor more significance than the others, they are opting for market transfer prices as a more objective and fair version with which they prevent any possible misunderstandings and conflicts with state institutions.

4. The Application of Transfer Prices in the Republic of Serbia

The area of transfer prices application is regulated in the Republic of Serbia by the *Law on Corporate Income Tax* (The Official Gazette of the Republic of Serbia no. 25/2001, 80/2002, 43/2003, hereinafter referred to as the Act). By the Law, related parties perform the adjustment to expenses on the basis of transfer prices based on the difference (if any) between the billed charges for transfer prices and the calculated expenses at market rates. This correction, which aims to prevent reduction of the tax base, affects the taxable income only if the transfer prices are higher than market prices (The Association of Accountants and Auditors of Serbia 2010, 29). The Law also specifies that a party connected with the taxpayer is the individual or a legal person whose relationship with the taxpayer raises the possibility of controlling or a significant influence on business decisions. The possession of more than 50% or individually most of the shares or interests is considered to enable the control over the taxpayer. The influence on business decisions appears when the person associated with the taxpayer owns more than 50% or the biggest number of votes in the payee's management. A party associated with the taxpayer shall be considered a legal entity in which, as with taxpayers, the same individual or legal persons directly or indirectly participate in the management, control or capital. The status of the related parties is associated with the legal entities that are owned by the taxpayer's related legal entities (Article 59 of the Law).

The transfer price is defined as the price created in connection with transactions of funds or the creation of liabilities between related parties (Article 59). The law provides that the taxpayer is required to disclose the transactions between the related parties particularly in its tax balance by making the calculated costs based on transfer prices entered in the appropriate form of *The Tax Balance*. Also, the taxpayer shall be obligated, in the particular *Tax Balance*, to show transactions with related parties at prices that would be realized on the market of such or similar transaction that this was not about the associated parties (the principle of arm length). Calculated expenses at market prices are recorded in a special raw in the Tax Balance. The difference between the billed charges based on the transfer and market prices, if greater than zero, is shown separately in the appropriate line of Tax Balance. In the case where the difference is positive, which occurs when the transfer prices are lower than the market prices, one should not enter data (Association of Accountants and Auditors of Serbia 2010, 30).

According to Article 5 of the *Regulation on the Content of Tax Balances and Other Issues of Importance to the Method of Determining the Corporate Income Tax* (Official Gazette RS, No. 139/2004), for the determination of market prices comparable prices in the market are used, and when it is not possible, the prices determined by the method of cost plus normal profits or the prices determined by the method of the resale prices. Comparable price on the market is the price of the same or similar goods or services between a seller and buyer, or

between operators and customers of services, which are not connected parties in the sense of the Law, at, or about the same time, as the realized transactions between related persons. If this method can identify more comparable prices on the market, which are significantly different, the comparable price in the market is considered to be the lowest established price. The price determined by the method of cost plus normal profit is the price determined on the basis of actual total costs of production, or the cost of the services provided, plus the normal profit (margin), or commission. Common earnings (margin) or the commission are the earnings in the same or similar transactions between unrelated persons, at or about the same time. The price based on the method of resale prices is the price that the customer-related party realizes through the sale of the same goods to an unrelated person, reduced for the common profit (which is defined in the above sense).

The Law stipulates the correction of income from transfer prices based on the difference between income calculated at market prices and incomes calculated by transfer prices. This correction, which also aims to prevent the impairment of the tax base, affects the taxable income only if one starts from the assumption that the calculated incomes on the basis of transfer prices are lower than the income that would have been calculated had the transactions been carried out at market rates. Like the disclosure of costs, the Law requires that the tax income separately reveals income based on transfer prices and income based on market prices, as well as their differences, if the income based on transfer prices is lower than the income based on market prices.

We have analyzed the application of transfer prices by multinational companies operating on the territory of the Republic of Serbia on the example of the Company XY, which is among the top ten companies in the world by market share, operates in over 180 markets worldwide, and has 55 thousand employees and more than 40 factories located in 40 countries. The company is present in the Serbian market since 1996, and the production activity began a few years later, with the realization of international acquisitions. Under the applicable criteria of the Law on Accounting and Auditing (*The Official Gazette of the Republic of Serbia no. 46/2006*), this entity is classified as a large enterprise.

Like most multinational companies, the company XY is using transfer prices for the exchange of goods and services between its units. The dominant forms of exchange are the exchange of intermediates on the relation: produced unit - produced unit and the exchange of finished goods on the relation produced unit - commercial unit. Commercial units are entities specialized in the sale of products outside the group and only these units deal with selling products on the external market.

As a basic principle in determining transfer prices, the *arm's length* pricing is respected. To determine the transfer prices, the company XY uses cost plus method, which considers transfer price calculation based on the cost of products with included profit of 10%. The structure of transfer prices in the company XY is given in the following way:

1. Material costs,

2. *Manufacturing costs*,

I Product cost (1+2)

3. Profit (10% of the product costs),

4. *Transport costs to the buyer.*

II Transfer price (I +3 +4)

Transfer rates are calculated in the process of creating a financial plan for the next year (for example, transfer prices for 2011 are calculated in the period August-September 2010). Thus, transfer prices will be based on costs that will be found in the planned *Profit and Loss Statement* for the next year. The goal is that the projection of costs is as realistic and as accurate as possible. Cost calculation is based on the latest assumptions about all the elements which determine the costs, available at the time of determining transfer prices. Key elements are the sales and production volumes, foreign exchange rates (of all currencies in which production inputs are acquired), prices of materials for production, energy prices, planned operating mode and so on. As for the relationship between a production unit and a commercial unit, the XY model is set up so that the goal of the production unit is to manufacture products by as lower costs as possible, which will mean lower transfer rates. So, the basic measure of performance of the production units is the product cost or transfer price, not profit. On the other hand, a key measure of performance for commercial units is profit. The greater the difference between the transfer price (under which the commercial unit buys the product from the production unit) and market prices (at which the commercial unit sells products to external markets), the higher profit will achieve the commercial unit (and therefore the group as a whole)

Transfer pricing adopted in the financial plan are fixed and their application ranges from January 1 next year. They cannot be changed during the same business year, even in times of radical changes of starting assumptions. If the transfer prices were changed during the year, it would cause many problems in preparing the consolidated balance sheet at the group level. If during the fiscal year the production of new products, which has not been planned at the time of creating the financial plan starts, the transfer price is calculated just before the start of production and also remains unchanged until the end of the year. If there are changes in the product as a result of marketing activities (for example, changes in design for small series of products), the product is treated as an existing, or, the calculated transfer price is used for the basic variant of the product.

The company XY has two entities in Serbia. Due to the specific relationship between the production and commercial units, which are related to the inequality of legal and business entities in Serbia, the company does not use transfer prices in Srbia. The production unit sells products at market prices directly to the distributor. So, this transaction does not include the commercial unit, and it

is recorded as a purchase transaction between any two independent companies in the books kept by local regulations. However, to facilitate the consolidation of the balance sheet at the group level and make it more realistic, XY covers the same transaction under the transfer prices simultaneously in the group's books. Here we have the classic relationship between two entities of a multinational company. Therefore, the production entity sells products at transfer prices to the commercial entity, and the commercial entity sells them at market prices to the distributor. Since transfer prices are determined in accordance with the *arm's len*gth principle, and are based on real costs, it can be concluded that the XY company does not use transfer prices to shift the profit between the countries and to minimize the income tax. Speaking about the Serbian market, this possibility is excluded by the fact that the product exchange is still covered at market selling prices.

Conclusion

Limited and expensive resources in one country have resulted in the internationalization of business and the establishment of multinational companies. With business expansion beyond the borders of a country, multinational companies tend to overcome all the limitations typical of local markets. Thanks to the great financial strength, multinational companies are becoming an important factor of international economic relations.

The exchange of goods and services between the branches of the multinational company is done at transfer prices. Transfer prices are not a market category, and are often independent of the influence of market trends. There are several methods for determining transfer prices, and most widely used are methods recommended by the OECD: the comparable uncontrolled price method, the method of retail prices, the cost-plus method and the comparable profit method. The choice of methods for determining transfer prices is one of the most important steps in defining the financial strategy of a multinational company. First, it defines the economic relations between the branches, as well as the key measures of their performances. Second, it directs the allocation of resources within the multinational company, determining the level of income of the branch that produces and sells products within a group, and the cost level of the branch that buys goods and then sells them in the external market. Third, there is a tight causal connection between the method of transfer pricing and the company's orientation toward long-term or short-term goals. If the company's strategically opting to maximize profits in the short term, they apply transfer prices based on marginal cost, whereas in the case of the orientation towards profit in long term the companies resort to market transfer prices.

However, what qualifies transfer prices as one of the greatest challenges in international accounting is their use in profit transfers to the "tax havens" countries with the aim to minimize taxes and maximize after-tax profits at the group level.

This further strengthen the multinational companies, makes local companies non-competitive, and most importantly, it directly threatens social welfare and the quality of life in different countries by reducing state revenues. The states are struggling with this problem by making new laws that give power to the tax authorities to apply the additional checks of sale transactions between the branches and the subsequent charges of an avoided tax. Rigorous independent audits of financial statements are being introduced and detailed requirements for disclosures about transfer prices prescribed in the notes to financial statements. Multilateral organizations such as OECD and UNCTAD work on the adoption of methodologies and policies that will ensure a harmonized approach to the solution of this problem on a global scale.

All this suggests that the transfer prices must be seen as an essential factor, not only for the financial business operations of multinational companies, but also for the economic, political and social stability of countries where these companies operate.

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TRANSFERNE CENE U TEORIJI I PRAKSI POSLOVANJA MULTINACIONALNIH KOMPANIJA

Rezime: Primena transfernih cena važno je pitanje kako sa stanovišta multinacionalnih kompanija, tako i sa stanovišta poreskih vlasti. Veliki deo trgovine odvija se danas na globalnom nivou i uključuje multinacionalne kompanije kojima je omogućeno da u prekograničnim transakcijama putem transfernih cena utiču na neto dobit koju ostvaruju, ali i na fiskalni prihod rezidentnih država. Autori obrađuju problematiku transfernih cena, sa posebnim osvrtom na njihovu primenu u zemljama u razvoju. Ispitivanje teorijskih stavova učinjeno je na primeru primene transfernih cena od strane multinacionale kompanije prisutne na teritoriji Republike Srbije.

Ključne reči: Multinacionalne kompanije, transferne cene, porez, faktori.

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MANAGEMENT ACCOUNTING INFORMATION SUPPORT IN OPTIMIZING PRODUCT MIX USING LINEAR PROGRAMMING

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Abstract: *Adoption of business and financial decisions, as a key activity of the company's management and multi-disciplinary process, includes several interrelated stages and requires management to dispose of relevant and reliable information. The most common problem facing the management of company is the selection of production-sales program that enables the realization of maximum profit. When choosing the optimal production-sales mix one should take into consideration a number of constraining factors that determine the decision. By proper definition of the problem and introduction of linear programming, as an important quantitative technique, the problem of selection of production-sales program with the help of information technology is solved quickly with saving time and the company's resources.*

Keywords: *business and financial decisions, information, relevant costs and benefits, linear programming, objective function.*

Introduction

The contemporary business environment is characterized by dynamism and constant changes which require a management's timely reaction. The changes occur within and outside the company, so the management must reply to them, and make business decisions that allow the company to use opportunities and avoid threats. The adoption of business and financial decisions is causing great interest and includes a complete definition of objectives, criteria, conditions and constraints, collecting and processing of relevant information and the selection of method for decision making.

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In the process of making business and financial decisions one starts from the previously established company objectives to which decisions cannot contradict. The accounting information system that provides relevant information has a crucial role and importance in making business and financial decisions. The relationship between accounting information systems with the functions of the company and environment enables decision making which will be based on constraints, chances and market opportunities.

The paper aims to highlight the important role of information processed by management accounting and of the application of linear programming, as an extremely useful quantitative method in the process of making business and financial decisions regarding the selection of optimal production mix. To be precise, we have witnessed a number of market constraints, and because most of the problems in the economy can be formulated as the maximization or minimization of an objective function for the given limited resources and mutual constraints, method of linear programming can be used for their solution. In the paper for solving linear programming functions Solver will be used, because of its wide availability and because it quickly finds the optimal solution model.

1. The Role of Accounting Information System and Management Accounting in Business Decision Making

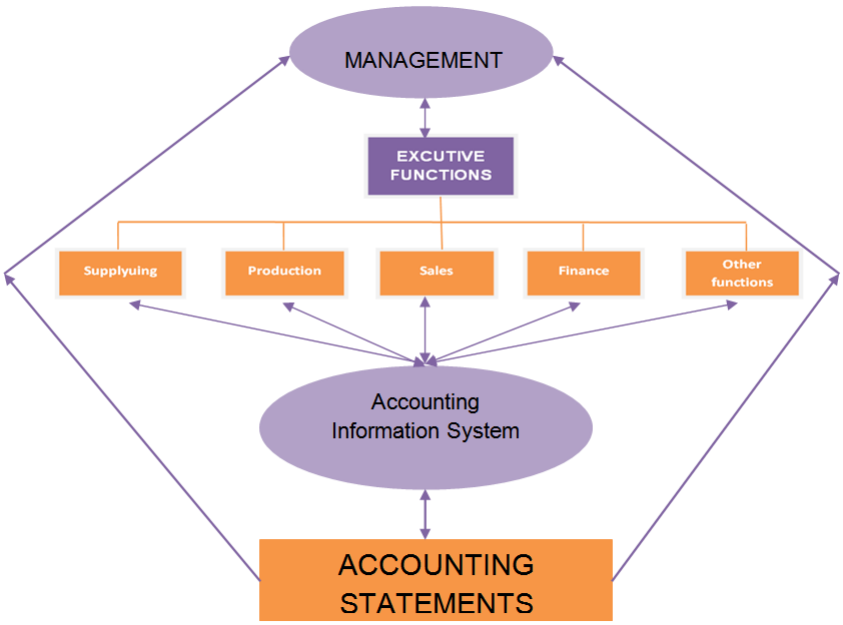
Accounting for decision making is a special approach of management accounting to information challenges of management activity in making individual business and financial decisions. It is the accounting analysis for demands of alternative business decision making in which accounting handles the future differential values (Stefanović et al. 2007, 35). The problem of business decision making exists in practice only if behind it stands the dilemma of choosing between at least two future competitive directions of activity. Solution to the problem is selection of the best alternative.

For making good business and financial decisions, and thus to effectively manage the company in the contemporary business environment, personal acumen, experience and intuition of managers is not enough. One needs to have access to and use a lot of information on relevant factors that act from the environment, as well as on the events within the company. Without relevant, reliable and timely information, contemporary company does not have many possibilities for survival and development (Antić 2008, 387). The information that is the only relevant for the decision is the one that changes as the planned procedures change. Costs, revenues and other factors that do not change with the changing of alternative procedures are not relevant to the decision (Meigs, Meigs 1999, 1195).

The source of relevant information necessary for making business and financial decisions requires creation of an adequate database, that is to say possession of information system that would integrate all data from the company

and environment. Frequently, the basis of company's information system makes Accounting Information System (AIS), which informs internal and external users of the relevant data, indicators and information especially in the part of divisional accounting for the needs of various and frequent cost-benefit analysis, motivation, internal, transfer prices and generally pricing policy and the like (Malinić 2001, 41). Satisfaction of various information needs of management, relevant to making business and financial decisions, is stressed as a fundamental task of AIS, and especially management accounting as part of the AIS. It is generally known that AIS is a part of information system and the system of company's management. In other words, it is considered the heart of informing system, since it is an integrator of information about the company, the verifier of their existence and guarantee of their relationship. In addition, it is the factor of company's management language unification. It is based on the coherence and integrity as the basic principles of information system organization and management system based on them. The principle of coherence indicates the correlation of data and information into a single database that is used for managing business system, where AIS includes common elements of company, to multiple criteria and multiple functions (Novićević 2009, 235). Many negative impacts would, without coherence, lead to the company power distortion.

Figure 1: Coherence of AIS with Executive Function



The successful managerial accounting support to business decision making requires establishment of an adequate continuous harmony and coherence between AIS on the one hand, and internal executive functions and external interest groups, on the other hand. By realizing their goals and tasks AIS establishes previously highlighted two-way relationship. It is necessary to accurately and precisely define the relationships, on the one hand to specify the requirements of AIS in relation to other segments, but it is also necessary for AIS to accept all their demands, to adapt to the maximum it can and implement them. In this way, continuous relationship and coordinated operation of all the functions within the company is established. Represented relationship of AIS with executive functions in the company can be shown as in Figure No. 1.

It is evident, from the figure, that there is a two-way connection between AIS and the executive functions of the company. Also, communication between the executive functions is required in order to promptly react to changes in the environment and to make good decisions at the right time. From the example of supply function the two-way relationship between it and AIS can be best seen. Supply receives information from financial accounting, analytical accounting and management accounting, and also provides information to the AIS that are further processed and made available to all interested parties in the company. If there is a high level of communication and connection, the company will be able to solve problems on the fly and to successfully achieve economic goals. Therefore, it should not be surprising that the more and more dominant attitude is the one in which information should be "knowledge" on which making the right business decisions should be based.

In any case, the activities of managers in the process of making business and financial decisions are conditional and limited in the first place by characteristics, structure and relations in the company, as well as by the environment in which business activities take place, and conditions that act in them and processes that take place (Lalević-Filipović 2009, 297).

2. Business and Financial Decision Making Using Linear Programming

In addition to relevant and timely information in the process of business and financial decision making, the use of quantitative methods is needed, which will facilitate and accelerate the process, by respecting all constraining factors. One of the most commonly used quantitative methods in business and financial decision making is linear programming. Most problems in accounting for decision making may be formulated as the maximization or minimization of an objective function for given limited resources and mutual constraints. If the objective function can be defined as a linear function of certain variables and if we can set constraints on resources as well as equality or inequality of these variables, then the problem can be solved using linear programming. Linear programming is a tool that can be used

in the problem of rationalizing limited capacities and the problem of rationalizing resources among many alternative uses, in a way to bring optimum benefit. It tries to find possible combinations of production that will maximize or minimize the objective function. The objective function is related to the quantification of objective and usually takes the form of profit maximization or cost minimization (Drury 2000, 1031). Nowadays it is a standard tool that has saved much money of many enterprise or medium-sized enterprises in various industrialized countries, where its use spreads quickly in all sectors of society.

The majority common type of application of linear programming includes the general problem of allocation of limited resources to competitive activities, in the best possible, that is to say, optimal manner. Linear programming includes planning the activities to obtain optimum results, i.e., the one that will among all feasible alternatives choose the best for the company while respecting the constraining factors. Symbols that are mostly used to mark different components of a linear programming model are listed below, along with their explanation for the problem of allocating resources to activities.

Z = value of overall measure of performance;

x_j = level of activity j (for j = 1, 2,..., n);

c_j = increase in Z that would result from each unit increase in level of activity j;

b_i = amount of resource i that is available for allocation to activities (for i = 1,2 ,..., m);

a_{ij} = amount of resource i consumed by each unit of activity j.

There are numerous examples in practice that demonstrate the impact of linear programming to the profitability of companies in the world. Example of PONDEROSA INDUSTRIAL (Hillier, Lieberman 2005, 60-63) plywood manufacturer based in Anhuac, Mexico shows that the impact of linear programming is “tremendous” in the selection of product mix on a monthly basis. Ponderosa linear programming system was interactive, so management received an answer to their “what-if questions” about the influence of encountering parameter values that differ from those in the original model. Management effectively used the technique of linear programming to come to better decisions than the “optimal” product mix from the original model. Increase of general profitability by 20% is attributed to improved product mix decisions. Other contributions of linear programming included better using of raw material, capital equipment and personnel.

3. Optimization of the Production Mix with the Application of Linear Programming

One of the most common business decisions in the practice of modern business is related to the problem of selection of the optimal product range, that is, production-sale mix. The right choice, given its implications on the financial result, is a complex and at the same time very important task of company's management. The problem comes to establishing optimal relations between the products of the range, that is, those relationships that will ensure achieving maximum financial results (Malinić 2008, 255).

As today's business world is dominated by multi-production companies, the number of potential combinations of products and services in production-sale mix is great. In scattered production-sale program managers must very carefully manage, in order to find the optimal program that will allow companies to maximize business profits. In search for such a combination, managers are faced with numerous constraints.

Discussion on the problem of establishing optimal relations between the existing products within the production-sales program assumes a clear recognition of at least three situations in which business of enterprise, in addition to bandwidth market, that is to say demand (Stefanović et al. 2007, 419):

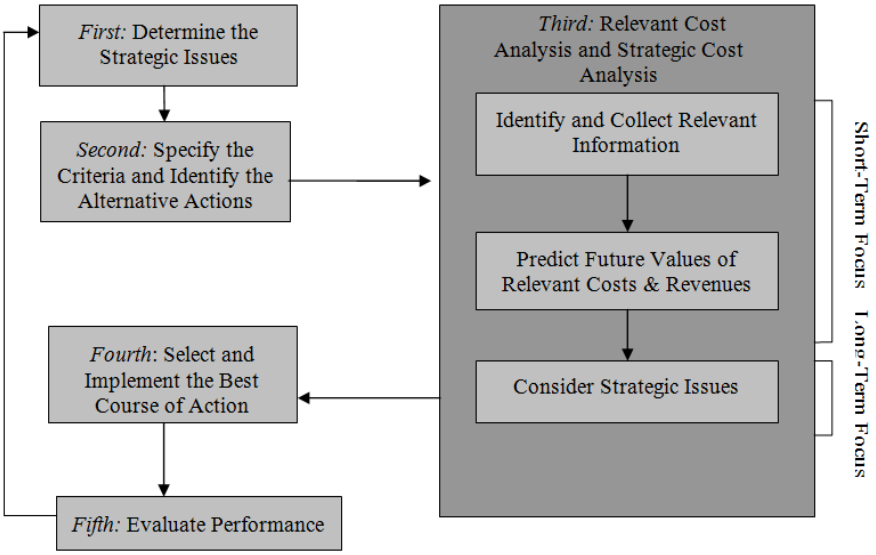
- is not exposed to the effects of any other internal constraining factors,
- is exposed to the effect of at least one internal constraining factor and
- is exposed to the simultaneous effect of larger number of internal constraining factors.

Given that the first two situations are very rare in the companies and their solution does not require a lot of time, in the further text emphasis will be placed on the third situation in which the optimal solution for the production-sales program is searched through a set of simultaneous equations shaped in linear programming technique.

When choosing the optimal production-sales program with the application of linear programming, we should also follow the usual procedure applied in the process of making business and financial decisions. In deciding between alternative choices managers often use the five steps listed in Figure No. 2 (Blocher et al. 2008, 317).

The *first step* in making business and financial decisions is, by many, the most important and refers to the proper definition, or setting of a problem. In the setting of problems in linear programming we begin by defining the decision making variables. After identifying clearly the decision variables, objective function is formulated. From the aspect of the company, it is very important to avoid decisions which would be good only for short term and which would not take into account all variables of decision making.

Figure 2: The Decision-Making Process



Source: Blocher, E., Stout, D., Cokins, G., Chen, K. (2008) *Cost Managment A Strategic Emphasis*. New York: McGraw-Hill/Irwin, 317.

The *second step* relates to the specification of criteria with which the decision will be made. Frequently it seems that the main objective is easy to quantify, but manager is often forced to reflect on more strategic objectives at the same time, and how to maximize profit, increase investment reimbursement, and reduce costs and so on. This step in linear programming refers to the specification of all constraints that affect the objective function. For a proper formulation of linear programming problem, it is necessary that all the constraints are given in the form of equality or inequality. If it is about the choice of the optimal production program with the application of linear programming, the objective is to choose production-sales program that will achieve maximum result, i.e. the objective function will be max Z.

In the *third step*, manager performs analysis in which he/she develops and analyses relevant information, using the relevant cost analysis and strategic cost analysis. This step involves three sequential activities: the manager (1) identifies and groups the relevant information in connection to the decision, (2) makes predictions about the relevant information and (3) considers the strategic issues of the decision. In linear programming this step includes:

- clustering of all constraints related to the model in one place,
- selection of methods for solving[1] and

[1] For details on methods for solving linear programming problem, see: (Hillier, Lieberman 2005).

- solving problems with the chosen method of predicting the future value of the objective function.

Fourth, based on the analysis of relevant costs and strategic cost analysis, manager selects the best alternative and implements it. In linear programming this step involves determining the values of variables that will give the best result in the objective function while respecting all constraints. In the case of selection of the optimal production-sales program that means determining product mix that will maximize the result of the company.

In the *fifth and final step*, manager evaluates the efficiency of implemented decision that serves as the basis for feedback for a review of this decision and the elimination of possible mistakes in the future.

3.1. Definition of Linear Programming Problems in Selecting the Optimal Production Mix

Linear programming is particularly useful when the decision about production mix consists of three or more constraints. For correct, that is, optimal selection of production-sales program, using linear programming, one of the major issues is certainly the proper setting of the problem, which allows manager to focus on the objective function, respecting all constraining factors. Way of defining and setting the problem is given in the hypothetical example of a manufacturing enterprise that has four products in its production-sale program, for which we need to find the optimal product mix.

Example: Let the production company has in its production-sale program, four different products, product A, B, C and D to achieve the following marginal result per unit as follows: A = 100 €, B = 10.000 €, C = 400 € and D = 800 €. On the basis of technical-technological process it was determined that for the production of product A it takes *1* machine hour, to produce product B it takes *2* machine hours, to produce product C it takes *3* machine hours and for the production of D it takes *5* machine hours, and maximum capacity of this company is 50.000 machine hours. Based on a market research, it was found that the market can sell a maximum of 2.500 units of product B, with the condition to supply market with at least 10.000 units of product A. To keep the demand for all products on one of the major markets, it needs to produce and market at least 1.000 pieces of product C. Bearing in mind the capacity of machines and connection between process of production of C and D products, for the production of these two products, it is possible to consume a maximum of 20.000 machine hours. Purchase price of materials to be spent for the production of product A is 70 €, for the product B is 6.000 €, for the product C is 200 € and for the product D is 400 €, while available funds for the purchase of the company material are at the maximum amount of 20.000.000 in monetary units. Bearing in mind the market demands and constraints concerning capacity and costs it is necessary to determine the combination of products that will bring maximum marginal result to the company.

In accordance with the assumption of linearity, we start from the fact that the contributions per unit for each product and use of resources per unit are the same, regardless of the amount of produced and sold output within the range under consideration.

The procedure that follows the definition, setting and solving of this problem is the following. First, it is necessary to formulate the problem algebraically by assigning variables. Variables are assigned in accordance with the terms of the problem by "personal discretion", but once assigned variable must have the same meaning in criteria (objective) function as well as in each of the given constraints.

In this example, the logical assignment of variables or of unknown values would be:

X_1 - The amount of produced product A,

X_2 - The amount of produced product B,

X_3 - The amount of produced product C and

X_4 - The amount of produced product D.

As the goal is maximization of marginal result, the criteria function will feature the following form:

$$\max (Z) = 100X_1 + 10.000X_2 + 400X_3 + 800X_4$$

However, in order to achieve this goal, it is necessary to maximize marginal results respecting constraints that are placed before the company by the market, capacity and financial service.

The first constraint - A common constraint for all the four products is the maximum capacity that company has, which is 50.000 machine hours, which means that company within given capacity has to make productive combination of products, so the first constraint is:

$$1X_1 + 2X_2 + 3X_3 + 5X_4 \leq 50.000$$

The second and third constraint - The company can sell a maximum of 2.500 units of product B in the market, provided that the market is supplied with 10.000 units of product A, and as for the production of the product B takes 2 machine hours, and for the product A takes 1 machine hour, the following constraints are performed from this:

$$2X_2 \leq 5.000$$

$$X_1 \geq 10.000$$

The fourth constraint - As for the production of products C and D can be consumed up to 20.000 machine hours, the following constraint is performed:

$$3X_3 + 5X_4 \leq 20.000$$

The fifth constraint - Another constraint imposed by the market is that it must produce and market at least 1.000 units of product C, for which is needed 3.000 machine hours, and it is possible to perform the following constraint:

$$3X_3 \geq 3.000$$

The sixth constraint - The last constraint is imposed by financial service of company, and is related to costs, and funding available to the company, which are planned for supply and which amount to 20.000.000 monetary units. As the purchase price of materials spent for the production of products A, B, C and D is known, the last constraint is performed which states:

$$70X_1 + 6.000X_2 + 200X_3 + 600X_4 \leq 20.000.000$$

Summing up all represented, the problem defined with terminology of linear programming is:

$$\mathbf{max\ (Z)\ = 100}X_1 \mathbf{+ 10.000}X_2 \mathbf{+ 400}X_3 \mathbf{+ 800}X_4$$

with constraints:

$$\begin{aligned}
&\mathbf{X_1 + 2X_2 + 3X_3 + 5X_4 \leq 50.000}\\
&\mathbf{2X_2 \leq 5.000}\\
&\mathbf{X_1 \geq 10.000}\\
&\mathbf{3X_3 + 5X_4 \leq 20.000}\\
&\mathbf{3X_3 \geq 3.000}\\
&\mathbf{70X_1 + 6.000X_2 + 200X_3 + 600X_4 \leq 20.000.000}
\end{aligned}$$

subject to: $\mathbf{X_1, X_2,...,X_4 \geq 0}$

3.2. Solving Linear Programming Problems Using Excel

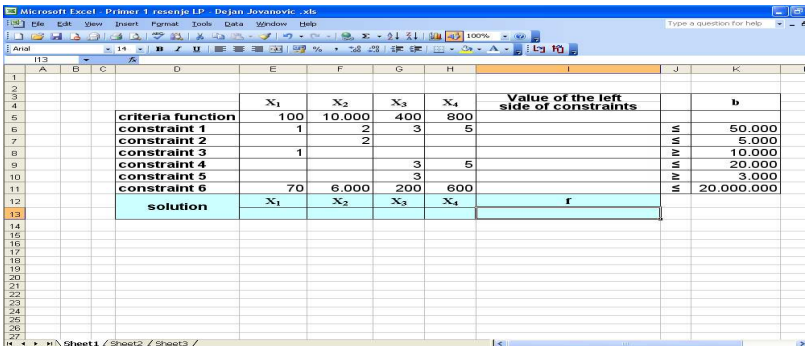
Excel is a easily accessible tool for analyzing and solving linear programming problems. The main features of a linear programming problem, including all its parameters, can be easily displayed on a spreadsheet in Excel. Excel can do more than just show data. If we include some additional information, the spreadsheet calculations can be used for quick analysis of potential solutions.

For example, a potential options can be checked, and if it is feasible we can see what is involved in the realization of Z value (max profit or min cost). In addition, much of the force of Excel lies in its ability to instantly show results, in the solution, of any changes made in the model.

In solving the named example, function Solver, Microsoft Excel, will be used, because of its wide availability and because the Excel Solver can fast apply the simplex method to find an optimal solution for the model. This tool can be easily installed when we install Excel, Solver will appear as an option in the Tools menu (Blocher et al. 2008, 337).

The first step is to enter data related to a given problem. Figure No. 3 illustrates one of the possible ways to enter problems in the Excel spreadsheet. The main motive is to present the problem in a format that will suit the problem and satisfy specific demands of the Solver procedure.

Figure 3: Entering the Problem in an Excel Spreadsheet



	X_1	X_2	X_3	X_4	Value of the left side of constraints		b
criteria function	100	10.000	400	800			
constraint 1	1	2	3	5		≤	50.000
constraint 2		2				≤	5.000
constraint 3	1					≤	10.000
constraint 4			3	5		≤	20.000
constraint 5			3			≤	3.000
constraint 6	70	6.000	200	600		≤	20.000.000
solution	X_1	X_2	X_3	X_4	f		

As shown in the table, criteria function and all constraints are entered, where the cells, E13, F13, G13 and H13 are provided for solution, that is, after applied Solver procedure, the amount of products A (X1), B (X2) , C (X3) and D (X4) that company should produce will be shown in them, respecting the constraints and which will bring him maximum marginal result which will be located in the I13 (selected cell in Figure No. 3).

After we enter data to the right of the appropriate data cells (to the right of the column H) and to the left of the constraints (column J) we enter equations in column I and rows from 6 to 11. Excel equations for these six fields are:

I6 = E6*E13+F6*F13+G6*G13+H6*H13,

I7 = E7*E13+F7*F13+G7*G13+H7*H13,

I8 = E8*E13+F8*F13+G8*G13+H8*H13,

I9 = E9*E13+F9*F13+G9*G13+H9*H13,

I10 = E10*E13+F10*F13+G10*G13+H10*H13 i

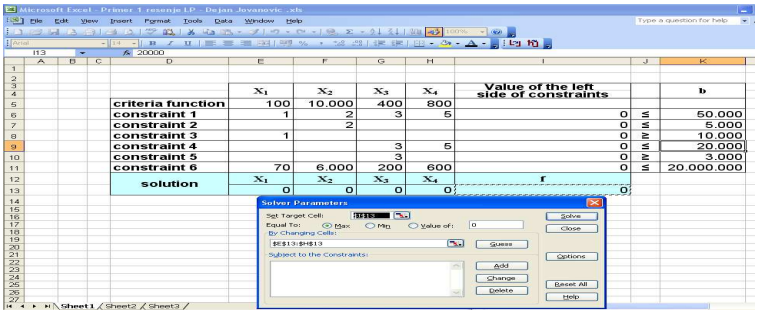
I11 = E11*E13+F11*F13+G11*G13+H11*H13,

where each asterisk indicates multiplication. In addition to these Excel equations and in a cell provided for the solution (selected cell I13), it is also required to enter the Excel equation as follows:

I13 = E5*E13+F5*F13+G5*G13+H5*H13,

After the entered data and Excel equations, the next step begins by choosing the Solver procedure in the Tools menu. Choosing Solver opens Solver dialog box ("dialogue box" Figure No. 4). As can be seen in Figure No. 4, procedure requires the cell address in which the phrase, whose value is optimized, is typed in (cell I13 in which marginal result will be shown), then, the cell addresses in which the variable values that they want to calculate are stored (quantities of products A, B, C and D) in the example of cell E13-H13, and since the goal is maximization of marginal result, option max should be selected.

Figure 4: Running Solver Procedure from the Tools Menu



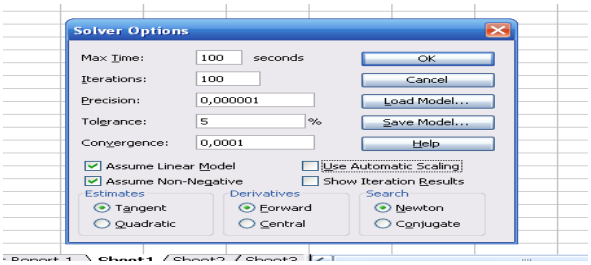
The next step is to enter the cell addresses, which contain phrases related to constraints, in the *Subject to the Constraints* "dialogue box" with the *Add* option. It is important to emphasize that it is not allowed to enter the phrases, in Solver, that represent constraints but only the cell addresses that contain phrases related to constraints. That is why the spreadsheet, in Figure No. 3, contains the column Value to the left side of constraints. With its name it is suggested that it contains typed phrases that are on the left side of each of the constraints of the problem. It may be noted that their initial value is zero, because the value of variables x_1, x_2, x_3 and x_4 is

not given, while the limits are given in the column of free members b (column K). Cells which contain functional constraints should be specified in the Solver dialog box by choosing the *Add* button in the *Solver parameters* "dialogue box".

If there are more functional constraints to add, we need to click on the *Add* button to bring up a new *Add Constraint* dialog box. When completed the entry of constraints, the next step is choosing the *OK* button to return to the Solver dialogue box.

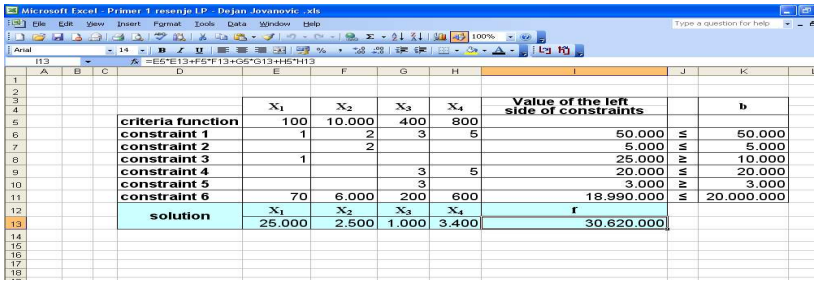
Before we "ask" Solver to solve the model, we need to take another step. Clicking on the *Options* button brings up the dialog box shown in Figure No. 5. This box allows us to specify a number of possible solutions to the problem. The most important of all the options are the *Assume Linear Model* and *Assume Non-Negative*. Both options are checked, which means that it is a problem of linear programming and that values in the changing cells need to satisfy non-negativity condition. Once we accept the default values by clicking on the *OK* button the program returns us to the Solver dialog box.

Figure 5: Determining Possible Solutions



Finally, we should choose the option *Solve* in the Solver dialog box to start the process of solving the problem in the background. After a few seconds Solver will indicate the outcome. If the model has no feasible or optimal solution, the dialog box will state that "Solver could not find a feasible solution" or "The set cell values do not converge". When the Solver finds a solution to the problem and chooses the optimal product mix, the solution will be shown as in Figure No. 6 (Render et al. 2009, 280-320).

Figure 6: Solution to the Problem



	X_1	X_2	X_3	X_4	Value of the left side of constraints		b
criteria function	100	10.000	400	800			
constraint 1	1	2	3	5	50.000	≤	50.000
constraint 2		2			5.000	≤	5.000
constraint 3	1				25.000	≥	10.000
constraint 4			3	5	20.000	≤	20.000
constraint 5			3		3.000	≥	3.000
constraint 6	70	6.000	200	600	18.990.000	≤	20.000.000
solution	X_1	X_2	X_3	X_4	f		
	25.000	2.500	1.000	3.400	30.620.000		

3.3. The Economic Interpretation of Solution

Linear programming model had a goal of maximizing the total profit of all products in range. The model's constraints included the various resource constraints as well as other relevant restrictions such as the minimum sum of a product that must be provided to regular customers, the maximum sum that can be sold, the maximum utilization of capacity, and the maximum savings in raw material costs. The given model represents a simplified picture and includes 4 variables of decision making and 6 functional constraints, as opposed to models that are applied in practice.[2]

What should be pointed out is that when we get the result it is important to give proper interpretation and explanation of the resulting solution. The proper interpretation depends on how much the analyst, manager is conversant with the problem itself, that is, we need to know the objective function, constraints and consistent with that, to give the economic interpretation of the solution to the problem of linear programming. The results obtained using the Solver, shown in Figure No. 6, can be interpreted as follows.

The given production company, with respect to constraints dictated by market, financial situation and the available capacity, will maximize marginal result if it produces 25.000 units of product A (X_1 = 25.000), 2.500 units of product B (X_2 = 2.500), 1.000 units of product C (X_3 = 1.000) and 3.400 units of product D (X_4 = 3400). Bearing in mind the marginal result per unit, the company will achieve maximum marginal result in the amount of 30.620.000 €.

Following the given constraints and the solution, given in Figure No. 6, we can give the interpretation of the obtained result for each of these constraints.

The first constraint is respected and the company will use available capacity of 50.000 machine hours in full.

The second constraint is also respected and refers to that that company can sell a maximum of 2.500 units of product B in the market, which is also the most profitable, and company will use the opportunity that market provides and produce 2.500 units of product B.

The third constraint is connected to the second and is related to the fact that if company wants to produce product B, that is the most profitable, it has to produce and market at least 10.000 units of product A. In order to maximize marginal result, company will need to produce 25.000 units of product A, which is 15.000 pieces more than the minimum set by market and with it the third constraint is also respected.

[2] Selection of a product mix of Ponderosa industrial company had 90 decision variables and 45 functional constraints. Details can be seen in (Roz et al 1982).

The fourth constraint relates to the production, capacity and technical and technological features of the products C and D and it indicates that it is possible to spend up to 20.000 machine hours to produce the two products. This constraint is also respected and company will have to spend all the 20.000 machine hours if it wishes to maximize marginal result.

The fifth constraint is imposed by market and refers to the fact that if company wants to keep one of the largest markets it must produce and place at least 1.000 units of product C, for which is needed 3.000 machine hours. The solution given in Figure No. 8 indicates that this constraint is respected and that company will produce 1.000 units of product C.

The sixth constraint is imposed by financial service of company and refers to the limitation of funds available to the company, which are intended for supply and which amount to 20.000.000€. As the purchase price of the used materials for the production of products A, B, C and D is known, it is observed that company will not use all the means at its disposal but the amount of 18.990.000 €. Unused amount of 1.010.000 € company can use for any other purpose.

This system of linear programming is *interactive*, so management receives an immediate response to its "What-if questions" about the impact of encountering parameter values that differ from those in the original model. What if we carried out quick purchase of raw materials necessary for production of the higher purchase price? What if product prices were to fluctuate in a certain way? A variety of such scenarios can be investigated. Management can use this power to reach better decisions in the event of changes in market and company business.

Two factors can be singled out that help this application of linear programming do so successfully. The first factor is that a *natural language* of financial planning system integrated with the rules for finding an optimal solution for the linear programming model. Using natural language preferably than mathematical symbols to display the parts of the linear programming model and its output made the process understandable and relevant for managers making the product mix decisions. Reporting to management in the language of managers is essential for the successful application of linear programming.

The second factor is that this system of linear programming is *interactive*. As mentioned earlier, after having obtained the optimal solution for one version of the model, it is possible to ask a variety of "what-if" questions and get responses. We often come to better decisions by exploring other plausible scenarios and this process also gives managers more confidence that their decisions would perform well under most foreseeable circumstances.

It should not be further emphasized that the processes in real life are somewhat more chaotic and less precise. Managers invest considerable time and effort in trying to predict future events and trends, but information on such matters

are, of course, extremely speculative. Even understanding of current events and trends can be a great challenge. Managers work in environments that change rapidly and are filled with difficulties and uncertainties. It may be necessary to change plans at the last minute to react to unforeseen events. Information systems that serve managers need to be efficient and to meet the needs that are changing rapidly, but it is not always the case in the real world. Management accounting systems in practice can often be very rigid, and managers can be forced to quickly make decisions based on inadequate information at their disposal. Luck and favorable circumstances may subsequently confirm (or perhaps disprove) the correctness of decisions, (Growthorpe 2009, 10). New approaches to contemporary business decision making, with contemporary integrated information systems enable the extraction of relevant information necessary to make the right decisions. They include new research directions via Data warehouse and data mining (knowledge discovery). The basic idea of these approaches is to reveal interesting phenomena of system behavior from the large amounts of data, in order to conduct the same toward correct business and financial decision (Čupić, Suknović 2003, 210).

Conclusions

Satisfaction of various informational needs of management in connection with making of individual business and financial decisions is emphasized as fundamental task of differential accounting, which involves comparison of costs and benefits of individual business alternatives. Because of the great importance of information in the process of business decision making, management expects to dispose of relevant, accurate, timely and quality information in order to be able, based on them, to create adequate action directions aimed at achieving the company objectives. Information should be regarded as knowledge which is necessary to direct the activities of company in the right way and to right business and financial decisions. Therefore, in contemporary business, information becomes key premise of the company's accounting information system.

Selection of the optimal production-sales program that will maximize profit or minimize costs has the key effect on company profit, in a dynamic market environment in which managers are faced with numerous constraints. Bearing in mind that the problem can be reduced to objective function of profit maximization, linear programming is a powerful tool that can be applied in such a way that optimum benefits can be derived with the help of the mathematical technique. Interactive linear programming system and application Excel to solve problems allows management to receive response to their questions about the impact of encountering parameter values that differ from those in the original model.

By linear programming procedure we can obtain enough reliable data for optional analysis and making the right and timely decisions at all levels of company management, especially in the current era of integrated computer technology and developed software that reduce these procedures to the level of routine.

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UPRAVLJAČKO RAČUNOVODSTVENA INFORMACIONA PODRŠKA U OPTIMIZACIJI PROIZVODNO-PRODAJNOG ASORTIMANA PRIMENOM LINEARNOG PROGRAMIRANJA

Rezime: Donošenje poslovno-finansijskih odluka, kao ključna aktivnost menadžmenta preduzeća i multidisciplinarani proces, obuhvata više međusobno povezanih faza i zahteva od menadžmenta da raspolaže relevantnim i pouzdanim informacijama. Najčešći problem sa kojim se suočava menadžment preduzeća je izbor proizvodno-prodajnog asortimana koji omogućava ostvarivanje maksimalnog profita. Pri izboru optimalnog proizvodno-prodajnog asortimana treba uvažavati niz ograničavajućih faktora koji determinišu odluku. Pravilnim definisanjem problema i uvođenjem linearnog programiranja, kao važne kvantitativne tehnike, problem izbora proizvodno-prodajnog asortimana, uz pomoć informacione tehnologije, se rešava brzo štedeći vreme i resurse preduzeća.

Ključne reči: poslovno-finansijska odluka, relevantni troškovi, koristi i informacije, linearno programiranje, funkcija cilja

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CERTAIN ASPECTS OF MEASURING PERFORMANCE IN PUBLIC SECTOR ORGANIZATIONS

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Abstract: *The process of improving public sector efficiency by its nature is very complex, demanding and time consuming. This improvement requires the creation of opportunities for rationalization of public spending, reducing budget deficit and public debt, establishing of sustainable social functions of the state (through the reform of pension, health and social protection system), raising the efficiency of public organizations through privatization, better management, more productive use of resources and their depoliticization. Therefore, the network of organizations (institutions) in the public sector requires effective and efficient performance management system. Such a system should not only adequately monitor and measure performance and provide appropriate reallocation of resources, but also identify the key factors that are obstacles for the improvement of public sector efficiency and eliminate their negative effects on living standard and quality of public services. The aim of the paper is to explore some key aspects of managing performance in public sector organizations, especially the quality measurement problem and monitoring the effects of their activities.*

Keywords: *public sector, reform, public sector management, performance management, public sector organizations.*

Introduction

Public sector organizations have different goals. Depending on the area of their activity, every organization in the public sector defines its objectives. For the most of the public organizations, the following goals may be relevant: maximizing

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the volume of public services provided from the resources available, the targeted (predetermined) use of resources aimed to better meeting the broader social needs, maximizing revenues and financial surpluses, complete cost covering and subsidies minimizing, maximizing potential funds for achieving defined goals, maximizing customers (services and goods users) satisfaction, as well as creating the image of a socially responsible organization in public. Problem of the reform necessity in the public sector arises precisely because organizations do not achieve their goals in an effective and efficient manner.

In most public organizations, there is almost slight possibility to determine optimal levels of spending budgetary funds. In such situation, responsible persons in public organizations tend to spend as much as the approved budget allows, although the projected budget amounts may be higher comparing to objectively needed. For this reason, many public organizations are marked as inefficient, so the need to change this point of view on public organizations is justified. For this purpose, great importance is given to budgetary control or to rational spending control compared to public organization's financial plan (budget). This is particularly pronounced in situations when certain public organizations, which are financed by the state, have difficulty to obtain higher fund volume in comparison to the previous year. This problem causes a policy of "tightening the belt" and increasingly emphasizes changes in the way of thinking of their management as well as of their "key sponsor" – the state.

Recently, professional circles have expressed the tendency to reform the traditional approach to the budgeting process in public sector organizations or its shift to results or performance based budgeting (Poister 2003, 11). Such budgeting systems require a more developed performance measurement system which includes, next to the input (spending) measures, outcome measures, quality of services measures, effectiveness and efficiency measures. Their proper application is very important as a support in the process of defining planned - budgeted goals or control of budget execution, because it is a prerequisite for adequate resource allocation in the future. Without adequate set of performance measures (criteria), the responsible persons in public organizations can allocate resources according to their personal attitude or feeling, personal ambitions or as a sort of response to the political pressure.

In the public sector, information about budgetary goals achievement are especially important for making decisions about the spending (investment) amount in the public sector as a whole and its particular parts. Governments may be particularly interested in evaluating realised investment effects in certain particularly important segments of the public sector. Similar information may be required by other institutions and individuals which provide funds for the other sorts of non-profit organizations, as their legitimate right is to know how economically their money is spent. All above mentioned confirms the relevance of adequate implementation of reforms in the public sector.

Public Sector Management Reform in the Function of Creating Rational Public Resource Allocation System

The functioning of the public sector has significant implications for the private sector efficiency, citizens' living standard and the performance of the economy as a whole. By creating an institutional environment for private sector transacting, the public sector affects the level of transaction costs in the economy. The state is the largest employer in the economy, the consumer of tax revenues (Thornhill 2006), and provision of public goods and services is regarded as a crucial task of the public sector. Among the most important categories of public goods, the literature has identified: environment, health, education, security and governance (UNIDO 2008). The level and quality of the aforementioned categories of public goods in one country have large repercussions on: economic development, in terms of strengthening the capacity of the economy, stability of the economic growth and its environmental sustainability; the citizens' quality of life, and thus indirectly the labour quality; the political stability, peace and prosperity at the national and global level. Therefore, the efficiency problem of public goods provision and distribution is recognized as one of the central elements of the public sector's reform.

For these reasons, the public sector is constantly exposed to pressures to increase rationality in the public spending, enhance the efficiency of public goods provision and improve the quality of public services (Webb 2010). Efforts to modernize and reform the public sector are present for the entire two decades, in the form of a unique platform for managing the public sector, the so-called "New Public Management" (Hood 1998). Although this is a wide range of different measures, all of them are based on aspirations to introduce the principles of market economy into the public sector, and to improve the efficiency and effectiveness of public administration, mainly through the application of management tools, applied successfully in the private sector. Measures taken to raise the efficiency of the public sector are based on (Hagen, Sitter 2006):

- Division of public organizations into the functional units and separation of functions of policy making, supervision and provision of public services;
- Introducing competition in public sector organizations, in the aim of achieving efficient outcomes and offering wider choice to the citizens;
- Emphasizing the motivating mechanisms of public employees.

As it is constantly emphasized that the objective of the reform is to reduce the public sector's inefficiency, to minimize the budget deficit, to stop the misuse of public funds, to improve the quality of public services and increase user satisfaction, it is clear that the modern states face a huge challenge, whose importance is increasingly described by the term "internationalization of public sector management" (Ohemeng 2010). This includes expanding the concept of reform from developed to developing countries and transition economies. This

way, the public sector's reform is becoming a global economic phenomenon, aimed at achieving a higher degree of accountability in managing public resources.

The initial problems in defining the necessary reforms are related primarily to the centrally regulated system of public service provision. Since the preferences of individual users of public services in one country differ in terms of intensity of need for a specific product or service (education, health care, social programs), ignoring the heterogeneity of demand for public goods is now untenable. It is necessary to transform the mechanism of public goods production into the system that would be adjusted to customer requirements. On the other hand, public employees have no special incentive to increase the quality of public services, since users of these goods - services are not regarded to be "customers", compared to profit organizations which are dependant on the satisfaction of the their products' users. Also, public employees are not motivated to reduce the production costs, given the presence of "soft budget constraints" (Kornai et al. 2003). One public organization in excess of its own budget constraints, or with chronic losses can always count on support from state authorities, who will intervene and use financial subsidies to "save" the organizations that spend more than they should. This affects the managers of public organizations to ignore basic economic principles.

In this regard, the reforms should serve as the basis for introducing elements of choice, incentives and competition into the public sector. The public sector's reform should take the following three directions (Brown, Waterhouse 2003): "transition from hierarchical to economic-based structures, from regulatory to economic-based processes and from legally based to economic-based values". In other words, the public sector's reform is focused on translating the centrally administered system to public systems that are driven by the desire to achieve better performance in public service delivery (Besley, Ghatak 2003). The main attributes of such management system are: the accuracy of roles and objectives; responsible management; incentives to improve performance; systems of performance planning and management-control systems aimed at the targeted, socially reasonable performance; accountability and transparency; adequate capacity of employees and a new value system compatible with the goals of the organization. Initiatives to reform public sector management especially emphasize the necessity of creating flexible, decentralized and specialized public organizations, whose performance will be easier to manage.

The new concept of public sector management emphasizes the role of competent managers in public sector organizations in providing high quality services valued by citizens, while insisting on the mitigation of control by government agencies. The performance-oriented system involves the measurement and analysis of performance in public institutions, and individuals within it, and rewards according to realized performance.

Principal-Agent Problem in Public Sector Performance Management

An important aspect of the public sector's reform includes the introduction of performance management system, aimed at measuring and improving performance of public institutions, strengthening the accountability of public servants and elected representatives (Kettl 2005). However, not all countries have with equal success achieved this transformation of public sector management. The introduction of performance measurement systems as a tool for assessing public sector efficiency under conditions of ongoing reforms is hampered by various factors.

In modern democratic states, making decisions of collective interest, which include the decision about producing adequate quantities of public goods, is governed by political means. Citizens, as beneficiaries of public goods and services, choose a number of their representatives in government, who then on their behalf directly participate in the work of state bodies in making decisions on public policies and laws. The government formed this way stands between consumers and producers of public goods, so it is clear that problems can occur firstly between consumers and their elected representatives (government), and also between government and producers of public goods. Namely, every organization is in fact a network of principal - agent relationships. Accountability structure defines the rules, i.e. the chain of command and control, as well as formal authorities that manage each individual member of this structure. In this network of interdependent relationships, problems of information asymmetry and monitoring activities occur, so that the key issues to be addressed in designing the organizational structure are in fact - to motivate the agents to act in accordance with the objectives of the organization and to coordinate the activities of numerous participants.

In the standard principal - agent model, there is only one principal, to whom all the agents are responsible for performing their activities. For example, in private organizations, all the agents are, in final instance, responsible to their owners, in terms of profit that the organization achieves. However, organizations in the public sector are different from this at least for the following three reasons: the presence of multiple principals, the obligation to achieve many different goals and difficulties in measuring the performance of the organization.

The first of these specific features of the public sector means that public employees are accountable for their activities to: users of public goods and services, those that pay for goods and services, different government representatives, professional organizations (Propper, Willson 2003). By its very nature, public goods produce direct external effects in production and consumption, so that the society as a whole can also be considered one of the principals.

The multiple principals problem creates the problem of multiple tasks for employees in the public sector, i.e. the fact that public employees should achieve different goals. They are often expected to achieve high efficiency, but also equity

in public goods provision. The conclusion is that it is difficult to create an adequate structure of incentives when employees have more goals. If the employees' salaries are tied to performance of those functions whose level of achievement can be measured easily, they will focus their efforts on that side, neglecting those activities which, although important, are not specifically measurable, which may result in a loss of efficiency.

Thus, we come to the third specific problem in the public sector, which refers to the difficulty in measuring its performance. As the services provided by the public sector are complex and multidimensional, the goals of public organizations are somewhat imprecise. Furthermore, due to the problem of multiple principals and objectives, the goals of public organizations can be contradictory, and thus aggravate the possibility of assessing already complex performance of the public sector, i.e. make them difficult to measure.

For these reasons, introducing performance management system requires recognition of the specificity of public organizations and adjustment of management tools to specific conditions. Although public organizations are not established with the aim of making profit, so the profit is not considered to be their performance, public sector organizations realize other kinds of performance, both financial and non-financial. A higher level of performance means a higher degree of fulfilling the purpose of establishing and functioning of these organizations. Therefore, the management structure of public sector organizations should manage the performance systematically and properly. The performance management of public organizations is not significantly different from performance management in private organizations, and includes the following phases:

- Planning the performance - defining their target levels,
- Measuring performance of public sector organizations (institutions), and of individuals at different levels and functions,
- Analysis of performance - identifying deviations from the objective and reporting on performance and continuous improvement actions.

The specificity of measuring performance in public organizations

The fact is that measuring performance of public organizations is different than in the commercial organizations in the private sector. Namely, the measurement in public organizations is much more complicated because it is associated with numerous methodological problems of expressing certain variables, as well as with specificities of public organization’s functioning.

Generally considering, the specific character of public organizations has led to the situation where it is not possible to use measures which calculation is based on profit (earnings), such as return on investment and a set of other financial indicators that are derived and based on accounting concept of earnings (e.g. EPS – earnings per share). That is why it has been pointed out that in most public organizations such performance measures are not used (Anthony, Govindarajan

2007, 628). In addition, many of public organizations have such goals, that success in their achieving can hardly be monitored by quantitative and financial measures. Within those organizations a serious control problem is an absence of unique, relatively satisfactory quantitative and aggregate performance indicator, such as the return on investment in profit-oriented organizations.

The specificity of performance measurement and control in profit and public (non-profit) organizations is reflected in different interpretation of realized net financial result in the income statement. In profit organizations larger net financial result – profit (earnings), generally means greater business success. In public (or non-profit) organizations, net financial result should usually be relatively small, or slightly above zero, since great net result can indicate to funders that such organizations failed to provide certain level of needed services or goods that were required and primarily took care of its earning interests. On the other hand, if a non-profit organization shows high loss (deficit), it did not justify the confidence of funder (state), which can lead to reduction of the objectives and programs. Although financial performances are not a dominant goal of public organization, their monitoring and measurement is necessary.

In addition, success of public organizations, in terms of effectiveness and efficiency, cannot be accessed according to the amount of surplus. Local health institutions (health centres and hospitals) can serve as an obvious example for that. Increased surplus (profit) of such an organization can reflect increased spread between income and expenditure, or growth of efficiency as performance indicator, but does not mean that effectiveness of operations has been realized and improved. On the contrary, it is even possible that such health care organization is ineffective, in terms of failure to meet certain goals, such as, for example, the extension of waiting list of the surgery, specialist examinations or, in turn, the deterioration of other indicators of the level of patient care. Therefore, the success assessment of such an organization must be made in the context of the wider picture based on various financial and non-financial measures.

Measuring the efficiency in profit-oriented companies and their units (profit and investment centres) assumes relating actual outputs with inputs. For these companies this is not a problem, compared to public organizations, where it can be a problem since outputs often don't have market value or are generally difficult for measuring. Apart from that, many public organizations provide services that are very difficult to calculate average costs for.

In fact, measuring performance of public organizations is quite complex because assessing their overall operating success is done in the context of achieving the mission of those organizations and of defined strategic (non-financial) objectives. Additionally, the performance measurement problem in public organizations, like in profit organizations, imposes the necessity of analysing the benefits of alternative investments or alternative directions in performing core activities (Merchant, Van der Stede 2003, 639).

Measuring Performance in Public Sector Organizations

Measuring performance in public sector organizations bears specificities which mainly come from the purpose of their existence and limitations (political, social, legal) in their functioning, since organizations should primarily achieve results that arise from their mission and that are not measured exclusively by financial criteria or quantified by some traditional financial indicators (Brujin 2007). Thus, relevant non-financial performance indicators are of much bigger importance within these organizations. One of the reasons for that is the fact that public organization's product or service is, in most cases, intangible and difficult to measure. Therefore, these organizations need comprehensive system of adequately selected and balanced non-financial and financial performance measures, which is usually different from the measurement system of commercial, profit-oriented organizations in the private sector. So, the system of performance measurement in public organizations should be designed considering four key dimensions:

- Alignment of objectives and resources for their accomplishment,
- Alignment of resources volume and their spending,
- Balance in satisfying the interests or needs of present and future generations of users,
- Sustainability of public sector organizations (provided if three previous requirements are fulfilled).

System of measuring performance of public sector organizations should include different quantitative and qualitative measures, as well as financial or non-financial indicators, which are selected according to type, sort and need of public organizations. Considering the differences in the areas of activity and specificities of public organizations (that determine the measurement process and system), the following groups of performance measures can be identified (Krstić, Sekulić 2007, 482):

- Input measures,
- Outcome measures,
- Service quality measures,
- Measures of effectiveness,
- Measures of efficiency.

Input measures represent a set of indicators that quantify objectively needed and actually used resources in public organizations. Those measures can be expressed in physical, i.e. natural measure units (number of teachers, number of hospital beds, number of classrooms etc.) or in aggregate and universal manner in financial expression – monetary.

Outcome measures (results or output measures) are used to express the results of the public sector organization activities in the form of provided goods (services) or specifically determined results of certain programs (for example,

number of training programs, number of seminars, number of patients examined, number of investigated criminal cases, etc.). The result can be also measured by the so-called measures which are designed according to the effects of particular service providing process in certain period (e.g. from the number of investigated criminal cases comes out the number of solved criminal cases, number of court processed or arrested persons etc.). In the field of academic education it can be a number of graduates, a number of graduates with excellent grade point average, etc. For example, in some local government bodies, number of served citizens in the sense of issuing certain documents can be taken. In hospitals, the effects of provided services are measured by the number of realised hospital days, number of completed specialist examinations, the number of implanted medical support devices etc.

Apart from measures that indicate quantity (volume) of services provided, it is essential to measure their quality. For this reason, a particularly important group of performance measures within public organizations – measures of quality services are pointed out. Services' quality can be measured from different aspects such as: reliability, time, i.e. speed, accuracy, security, continuity etc. Often, measures of service quality are based on operating procedure standards which are established for the process of service providing. In cases where it is difficult to express the output (service) in a more certain way, provided service quality cannot be measured directly[1]. Because of that, the evaluation of service quality is measured by user satisfaction. These measures of satisfaction are methodologically conceptualised and implemented differently (questionnaire, satisfaction index based on personal attitudes of users using different dimensions of service quality, number of user complaints etc.).

Measure of effectiveness is used to quantify the degree in realisation of a goal which is measured as ratio (quotient) of actual effect (result) and planned effect (result). In addition to this approach, measures of effectiveness are often used for evaluating the success of particular program for a certain public organization or organization specifically established and operated for a continuous realisation of that type of program. For example, program for juvenile delinquency can be evaluated based on the measure of effectiveness which is calculated as a percentage of the total number of young people who regularly attend school or a percentage of juveniles (of all registered offenders) who are rehabilitated and are not reperpetrators of criminal activity. Such specifically designed measure may be included in the previous group of measures – measures of effectiveness, which public organization ought to provide through its particular program.

Measures of efficiency are used for controlling the degree of resources (inputs) utilisation by quantifying the relationship between actual outputs (effects, results) and inputs (resources). Therefore, the efficiency of public organizations is

[1] This is the case, for example, when measuring the quality of services provided by primary schools where it is difficult, almost imposible, to measure quality trought the generation of students in improving the skils of writing, reading, mathematic knowledge, etc.

higher if they achieve larger outcome (value, quantity of public good/services) per unit of input (budget expenditure). The efficiency of a public organization is typically measured by productivity, but also by economical resource spending (Flynn 2007, 130). Productivity of public organization is measured by the volume of provided public services as an output per unit of resource (usually per employee). In public organizations, economy or economical spending of resources means appropriate use of resources. So, it is needed to measure cost efficiency by comparing actual and planned (approved) expenses and thus the degree of plan execution is measured. In addition, economy of public organization is calculated as the ratio of provided services quantity (volume) and costs of their provision. The intention is to provide the necessary volume of services (often standardized quality) with the lowest cost (expenses). These actual expenses per service (i.e. per user) should be at the level of objectively necessary, standard or the so-called allowable (approved) expenses.[2]

Practical Aspects of Managing Performance in Public Organizations on the Example of SMG

The specificities of public organizations and selecting a performance measurement system for strategic and operational control are illustrated by the example of "Seoul City Government" ("Seoul Metropolitan Government" - SMG), and two of its departments: "*Department of Economy and Industry"* and the "*Department for Environmental Protection"*. SMG has initiated the concept of performance management and creating systematic performance measurement and planning across all levels of Korean state administration. The performance measurement system consists of two parts: Management by Objectives - MBO and Performance based Budgeting (Kim, Kang 2002).

The purpose of introducing "*Management by objectives"* to rate the level of contribution of individual departments to the SMG goals. "*Planning and Budget Office"*, a separate institution within the SMG, which directly controls the mayor, is the key institution for performance monitoring of all departments within the SMG. In order to develop "MBO systems Seoul's" *the Office* has collaborated with experts from the „*Seoul Institute for Development"* in defining the primary objectives of SMG. Based on these objectives, the managers of individual departments define secondary goals. This way, the system only monitors the performance of the responsible persons at the department level.

[2] Considering the specific non-profit and public organizations, their variety of activities, one can ascertain that the design of performance measures – efficiency and effectiveness is a lot more difficult because it presupposes certain problems. First of all, this is a problem of output measurability, and also a problem of specificities in inputs. So, when designing specific measures of efficiency it must be taken into account which variables (categories) are put in quantitative relation in order to gain economicly understandable, i.e. meaningful measure.

The primary objectives are related to the implementation of the reform of all departments as well as improving core activities, while the secondary objectives relate to the execution of operative activities. The verification of goals is done using several criteria: *the goals adequacy, cost-benefit analysis, approval of supervisors and subordinates, compliance with the previously defined goals and timing of goals defining*. The contribution to achieving the objectives of SMG is identified by monitoring performance of managers of individual departments, based on a composite index of Manager Performance („Goal Management Score" - GMS) at the department level (Table 1). The level of achievement of individual goals, as evidenced by a formula, is determined by the *degree of achievement of objectives, weight* and *ratio manager contributions to the organization objectives*:

$$GMS = \sum (\text{degree of objectives achievement} \bullet \text{weight} \bullet \text{ratio})$$

The degree of objectives achievement is subject to objective verification with the aim of goal assessment and examining the level of their achievement. The weight represents the relative significance of the determined goals. In order to evaluate the level of achievement of objectives, the following five indices are calculated*: the index of output (based on the indicators of new roads construction), the index of efficiency as the ratio of inputs and outputs (such as the percentage of cost reduction per kilometer), the index of the quality of public services (such as meeting drinking water quality standards), the index of social change generated by public services and index of public services user satisfaction.*

Table 1. The Illustration of the composite index GMS

Goals		Individual goals			Weght	Ratio	Manager performance
		Level of achievement	Change	Total			
Primary goals	A	90	+5	95	1,2	30%	95x1,2x0,3=34,2
	B	80		80	1,1	10%	80x1,1x0,1=8,8
Secondary goals	C	90		90	1,0	30%	90x1,0x0,3=27
	D	80		80	1,0	20%	80x1,0x0,2=16
	E	70	-2	68	1,0	10%	68x1,0x0,1=6,8
Composite index						100%	92,8

Source: Kim, Kang 2002

"The Department of Economy and Industry" has defined active encouraging of developing new industries in Seoul and effective policies to reduce unemployment as its primary objectives. Secondary objectives are to attract foreign investment, institutional and financial support to small and medium sized enterprises, protection of the interests and rights of consumers, stable supply of energy, encouraging organic production of agricultural and marine products,

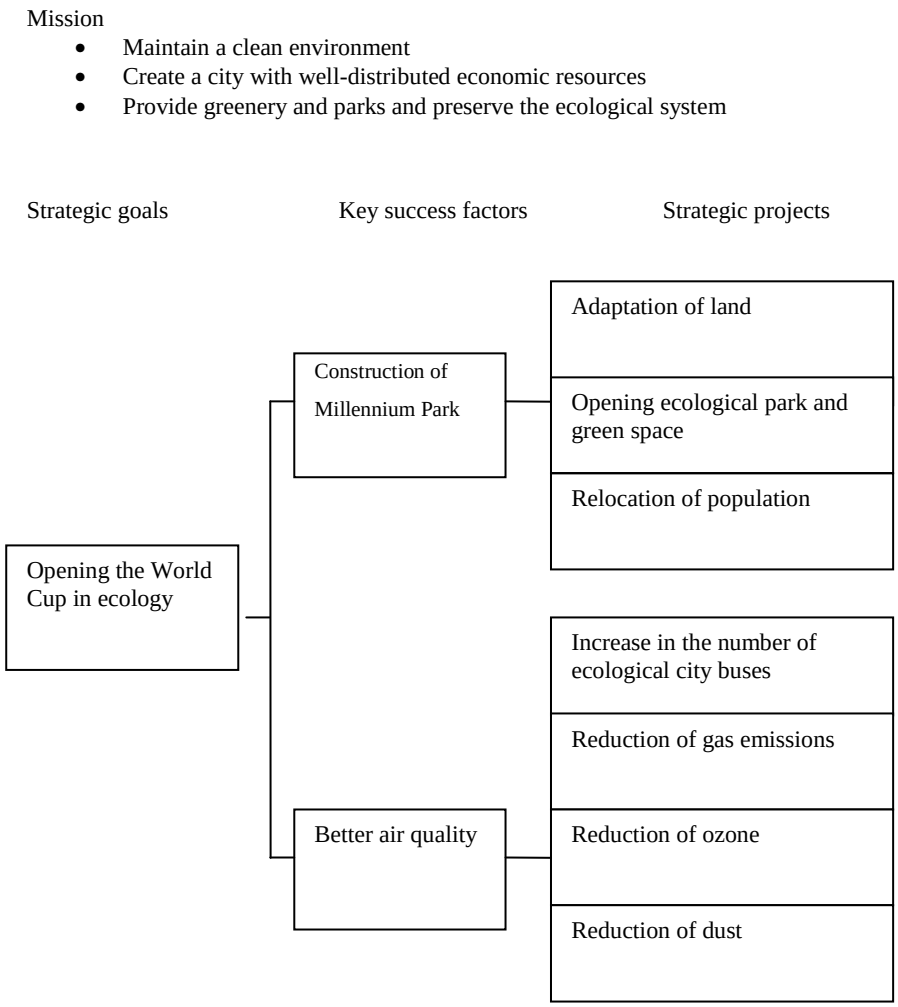
promote the construction of the wholesale trade center for agricultural and seafood products in the southwest area of Seoul and harmonization of relations between employees and management. The level of objectives achievement of this department is determined by the degree of achievement of objectives, weight and ratio, where the degree of objectives achievement is established for each objective within globally defined objectives and their sum must be equal to one. So, for example, the overall objective of effective policies against unemployment involves performing public works, supporting employment programs and training and reducing unemployment rate, with the respective share of 0.4, 0.4 and 0.2.

"Government Performance and Result Act – GPRA" provides the integration of performance measurement and budgeting process by introducing the obligation of approving the budget for the next year based on actual performance of the previous year. "*Performance based Budgeting Systems"* have the dual objective: efficiency of budget execution and responsible financial management. The basic elements of "*Performance based Budgeting"* are individual departments' mission and strategic goals, preparation of business plans, design and management of budget and performance assessment within the SMG. Based on the mission of each department, offices and bureaus define strategic objectives, priorities and target performance, as well as strategies for achieving those goals. The next step consists of preparing business plans for achieving objectives and defining indicators for evaluating the achieved level of goal realization. Based on business plans, the plan of necessary funds for the realization of goals is made, followed by the implementation of specific projects, for target performance to be achieved. Finally, the last step is the assessment of performance and the level of achievement of the defined goals, determining the deviations and giving proposals for corrective action.

Figure 1 presents a close link of the mission, strategic goals, the corresponding key success factors and key strategic projects necessary for the successful realization of the objectives of the "*Department of Environmental Protection"*. In accordance with the formulated and developed strategy, this department determines the appropriate system of performance measures that will assist in monitoring the success in realization of chosen strategy.

Starting with a clearly defined *mission*, based on the following aims: to preserve a clean environment, to create a city with well-distributed economic resources, to provide greenery and parks and preserve the ecological system, the "*Department of Environmental Protection"* set as a *strategic goal* the preservation of clean environment. *Key success factors* for achieving this goal include: *the construction of Millennium Park* and *better air quality*. In close connection with the first key success factor are the following strategic projects: the adaptation of land, opening ecological park and green space and relocation of population, and with another increase in the number of ecological city buses, reduction of gas emissions, reduction of ozone and reduction of dust.

Figure 1. Performance Plan for Department of Environmental Protection



Source: Kim, Kang, 2002

SMG is investing substantial resources and time in order to develope performance measures system in accordance with determined objectives and chosen strategies. Integral elements of the performance measuremant system are determined depending on the key success factors and introduced strategic projects. Accordingly, the *„Department of Environmental Protection"* chose *the degree of land adaptation, the number of newly built parks and population size in the targeted location*, as the measures of appropriate monitoring of the construction of Millennium Park and *the number of city buses using natural gas and the percentage of reduction of the presence of undesirable particles*, as the measures of air quality.

Conclusion

As a special segment of the comprehensive reforms to which the public sector organizations have been subjected to for the last two decades, measuring and managing public sector performance is increasingly regarded as a basic mechanism for improving efficiency and effectiveness of public sector organizations. Considering that one of the essential roles of public sector is provision of public goods and services, which has broad repercussions on the functioning of economic, political and social aspects of society, the problem of efficiency of public services provision is especially important. In this sense, public organizations are pressured to introduce the market principles, competition and management systems and principles that are features of profit organizations in the private sector. The introduction of planning and performance measurement that are based on the results of public sector organizations is an essential step in the transformation of hierarchically structured and legally regulated public organizations, to systems that are driven by the aim for achieving better economic performance and the rational use of budget funds.

The main problem in creating a system of performance management in public organizations is the very character of these organizations, in the sense that they are essentially non-profit, and that their goals are set taking into account the wider social interests. Also, it is difficult to determine the optimal level of resource spending and force the organization to the economical use of budgetary resources, given the frequently applied solution of "providing shelter" by the state, in terms of "soft budget constraints". The paper points out the key specificities in the functioning of public organizations, in terms of problems of collective decision-making in the political process, the presence of multiple principals and therefore more goals, often mutually opposed, and finally, the problem of measuring performance that results from the preceding facts. For these reasons, it is concluded that the introduction of performance management system in the public sector requires recognition of its specific characteristics organizations and application of management tools that will respond to their specific objectives, functioning and funding sources.

In this sense, the paper suggests a possible conceptual framework of the performance measurement system in public sector organizations, which includes both quantitative and qualitative, i.e. financial and non-financial measures adapted to the type, nature and need of the public organizations management. The specificity of various public sector organizations, their purpose and function, determines the different systems of performance measures in them. The proposed conceptual framework should serve the public organizations management as the initial framework for selecting performance measures that will adequately serve their control and management needs.

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Bojan Krstić, Tatjana Stevanović, Marija Džunić

ODREĐENI ASPEKTI MERENJA PERFORMANSI U ORGANIZACIJAMA JAVNOG SEKTORA

Rezime: Proces unapređenja efikasnosti javnog sektora po svojoj prirodi je vrlo složen, zahtevan i dugotrajan. To unapređenje zahteva stvaranje mogućnosti za racionalizaciju državne potrošnje, smanjenje budžetskog deficita i javnog duga, uspostavljanje održivih socijalnih funkcija države (kroz reformu penzionog, zdravstvenog i sistema socijalne zaštite), podizanje efikasnosti javnih preduzeća kroz privatizaciju, kvalitetniji menadžment, produktivnije korišćenje resursa i njihovu depolitizaciju. Zbog toga je mreži organizacija (institucija) u javnom sektoru potreban efektivan i efikasan sistem za upravljanje performansama. Takav sistem ne samo što treba da adekvatno prati i meri performanse i vrši adekvatnu realokaciju resursa, već i da identifikuje ključne faktore koji su prepreka povećanju efikasnosti organizacija u javnom sektoru, tako i da usmerava otklanjanje njihovih negativnih efekata po društveni standard i kvalitet javnih usluga. Cilj ovog rada je da istraži neke ključne aspekte vezane za upravljanje performansama u organizacijama javnog sektora, posebno za problem kvalitetnijeg merenja i praćenja efekata njihovog funkcionisanja.

Ključne reči: javni sektor, reforma, menadžment javnog sektora, upravljanje performansama, organizacije javnog sektora.

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THE ROLE OF TRADE IN THE IMPROVMENT OF SERBIAN FOREIGN EXCHANGE

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Abstract: *In recent years, the retail trade has been experiencing major changes and shifts from a passive intermediary to taking an active role in relations between producers and consumers. Along with the wholesale trade, which is revitalizing its intermediary role, retail has been taking a growing part in the foreign trade of countries, including ours. Consumer goods are sold through retail sale to end users, while agricultural and primary products are sold through wholesale, as evidenced by the current statistics. The aim of this paper is to determine their place in the trade of our country through modern trends in retail trade and wholesale, primarily through internationalization, foreign direct investment in the trade sector and the growing importance of trademarks. In accordance with the set objective, the research will be divided into four parts. The first part shall apply mathematical and statistical methods to examine Serbian trade with foreign countries. The second part analyzes the features of retail trade in our country and their importance for foreign trade. The subject of the third part is the wholesale and flows that characterize it. In the last part, an attempt is made to project the exposed retail and wholesale flows through the prism of improvement and prospects of further development of foreign trade in our country.*

Keywords: *trade, internationalization, foreign direct investment, trademark, visible transactions*

Introduction

Trade is the primary market institution and a channel through which various products are placed in the market. Viewed in terms of type and quantity of products, there is a difference between the wholesale and retail trade. Thus,

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consumer goods are sold through the retail, while the agricultural products and raw materials are placed through the wholesale trade. In the past, trade used to be considered a classic intermediary between producers and consumers, while now it takes an active role, establishing strong cooperative relationships with both sides. In addition, in recent decades the trade sector has undergone significant changes expressed in creating added value for consumers through a wide range of products and services. Proceeding from this, it is logical to expect the active participation of retailers and wholesalers in the scope and structure of visible transactions of any, as well as our country. However, despite the growing role of trade as an intermediary in the foreign trade of a country, theorists and practitioners often disregard the role of this sector. It is the aim of this paper to "lift a shadow" from the trade as an intermediary of consumer and other goods, in the context of Serbian foreign trade, especially because of the importance of this issue in creating future foreign-trade policy. Focusing on the role of trade in visible transactions is intended to provide a better basis for assessing the impact of market liberalization on the trade sector. In this context, first the trends and characteristics of the retail trade will be analyzed, based on internationalization, which acquired its form of expression by the arrival of well-known international retail chains and foreign direct investment, and particularly by the growing importance of trademarks, given the tendency of increasing its participation in the structure of the assortment of many companies. Special place in the work shall be occupied by an analysis of the wholesale trade, bearing in mind that its revitalization as intermediary is necessary. The importance of retail and wholesale trade will be observed through the prism of Serbian foreign trade. The ultimate goal is to chart the future directions and prospects of development of foreign trade of Serbia, as an indicator of national competitiveness.

1. An Analysis of the Level of Serbian Foreign Trade

In order to comprehend the role of trade in Serbian foreign-trade transactions more completely, we shall start with the analysis of its level, based on actual statistical data. First of all, we will point out the balance of visible transactions (Table 1), exports and imports in terms of development level of countries (Table 2) and in terms of affiliation to certain sectors (Tables 3 and 4).

Table 1: Balance of foreign trade

Year	Value in mill. US$		Net trade balance	
	Export	Import	Export minus import, mill. US$	Export, % of import
2006.	6428	13172	-6743	48,7
2007.	8825	18554	-9728	47,5
2008.	10973	22875	-11901	47,9
2009.	8344	16056	-7710	51,9

Source: Statistical Yearbook of the Republic of Serbia 2010, 289

We can see that in the period from 2006 to 2008 a trend of increasing both exports and imports was registered, but that difference was negative, resulting in a deficit in foreign-trade balance. In 2009, there was a decrease in imports and exports, but there is a deficit in foreign trade.

Table 2: Exports and imports of commodities, relative to development level of countries

	Export, in mill. US$				Import, in mill. US$			
	2006.	**2007.**	**2008.**	**2009.**	**2006.**	**2007.**	**2008.**	**2009.**
Total	6428	8825	10973	**8344**	13172	18554	22875	**16056**
Ind. countries	3509	4620	5504	**3968**	6928	10146	11939	**9102**
- EU	3361	4452	5304	3797	6293	9207	10811	8194
- EFTA	61	72	115	92	172	267	270	263
- Others	87	96	85	79	463	672	858	645
Developing countries	2919	4205	5469	**4376**	6245	8408	10936	**6954**

Source: Statistical Yearbook of the Republic of Serbia 2010, 290

Table 2 shows that Serbia from 2006 until 2008 increased its export and import of goods from industrial and developing countries. Certain reduction of exports to other industrial countries (excluding EU and EFTA) was recorded in 2008, as compared to 2007. 2009 records the reduction of the import and export activities to these countries.

Table 3: Export of commodities by sectors, in millions of US dollars

Year	Total	Food and live animals	Drinks and tobacco	Raw matters	Mineral fuels and lubricants	Animal and vegetable fats	Chemical products	Processed products	Machinery and transport products	Other
2006.	6428	1065	114	278	225	31	650	2418	711	936
2007.	8825	1355	176	409	231	98	915	3085	1246	1292
2008.	10973	1484	250	457	373	149	1111	3607	1902	1640
2009.	8344	1509	249	291	390	122	661	2182	1477	1336

Source: Statistical Yearbook of the Republic of Serbia 2010, 297

It can be noticed that, in view of the observed commodity sectors, the period from 2006 to 2008 showed an increase in exports from our country. Decrease in exports was recorded in 2009.

Table 4: Import of commodities by sectors, in millions of US dollars

Year	Total	Food and live animals	Drinks and tobacco	Raw matters	Mineral fuels and lubricants	Animal and vegetable fats	Chemical products	Processed products	Machinery and transport products	Other
2006.	13172	650	160	627	2595	40	1867	2743	3377	1113
2007.	18554	841	159	679	3195	43	2605	4049	5341	1641
2008.	22875	1107	179	896	4671	61	3166	4544	6228	2024
2009.	16056	751	117	461	2383	45	2036	2646	3239	1315

Source: Statistical Yearbook of the Republic of Serbia 2010, 298

It is noticeable that, in view of the observed commodity sectors, the period from 2006 to 2008 showed an increase in imports, with slight decrease related to the imports of drinks and tobacco in 2007 compared to the year of 2006. Reduction of imports was recorded in 2009.

2. The Implications of Retail Trade Development in the World and in Serbia

In the nineties of the last century, the process began of fundamental retail trade restructuring in the EU countries. The restructuring is expected to be continued in the future, with implications for European countries and the primary influence on the entire European market. The retail trade restructuring includes not only changes in horizontal relationships among retailers, but also new forms of relationships with suppliers, as well as expansion of activities beyond national markets, which is ultimately reflected in changes in strategies, relationships and business operations. Thus, retailing takes an active role in relations between producers and consumers, it becomes an integral part of the supply chain by coordinating all its activities, from production, transport and logistics, to distribution and finance. For many consumer goods, retailing is a leading entity in the supply chain, which also affects the changing trends in international trade, which will be discussed later.

In an attempt to systematize the basic changes in the retail trade sector, a famous scholar in the field of trade, commercial management and marketing, Dowson, pointed to four basic changes in this sector: (Dawson 2001, 68)

1. Faster growth of large corporations in relation to the sector as a whole. - In recent years, major European retail chains have recorded a high growth rate, through entering new markets, diversifying, their supply "packages" and increasing sales volumes. Positive examples in this respect are the companies *IKEA*, *Carrefour*, *H & M*, *Schwarz*, etc.
2. Strategic approach to managerial decision making. - Strategic approach to decision making has consistently been recognized in the sector of trade. While there is a visible difference in strategies, the general business

strategy is still widely present with its operationalization through functional marketing strategies, assortment, procurement, branding, human resources, finances and so on. A broader strategic approach is reflected in the mission, market positioning and formalized approach to relationships in the sales channels.

3. Increased complexity of the organizational structure. - With the new role of retail trade and increased size of companies, the organizational structure becomes more complex. This is particularly evident in the area of international activities of companies, thus requiring different organizational structures in different countries in order to meet various demands of consumers.
4. Higher degree of coordination in the value chain. - In recent years, with changes in retail trade, the nature of the value chain is changing as well. The emphasis is on coordination and establishment of cooperation between trade and its suppliers. The aim is to reduce costs and give consumers more value.

Previously exposed changes in the retail trade sector have their implications, which are reflected in the following: (Dawson 2001, 70-71)

1. Increase in market concentration. - The emphasis is placed on large commercial companies, which are practically bearers of the process of concentration in trade. Thus, numerous empirical studies have shown that in the 15 largest EU countries first five trading companies which sell food lines control 53% of the entire retail market. (Howe 2006, 188-210) Finland had the highest degree of concentration of food retail trade (93%). Sweden followed with 78%, while the lowest level of concentration was in Italy, making 12%.
2. Reducing the number of smaller firms. - It is a direct consequence of the market concentration and the growing role of large trading companies.
3. Changing the balance of power between retailers and suppliers. - Trading companies in developed market economies become the agents of economic growth because of the evident migration of capital, knowledge and information from the sphere of production into the sphere of trade. Therefore, the opinion that "retailer is the king" and that a real trade revolution is underway can often be seen in the literature. (Lovreta 2005, 8)
4. Increase in the international activities of retail trade. - Given that national markets have a high degree of saturation, large commercial firms decide to seek sources of generating revenue in foreign markets. In this way, internationalization becomes the business pattern of large trading companies.
5. Increasing the volume of sales under the trademark. - With decreased purchasing power of consumers, as a result of the global economic crisis, trade companies introduce products with trademarks in their assortment, with the increased sales volume of these products.

As they grow and develop, many trading companies are more and more forced to compete in foreign markets, which provide them with new opportunities and possibilities for generating revenues and increasing competitive advantage. Therefore, the presence of trading companies in international markets is risky and challenging, but it can potentially contribute significantly to their growth and development. On the other hand, suppliers are given the opportunity to export to new markets, which is important for the definition of international trade flows, so this issue will be considered separately. In addition, the subject of special analysis in this section will be the question of trademark, taking into consideration the products to which it applies and their participation in export-import operations.

Internationalization, as a strategy of growth and development of trading companies, reached its peak at the turn of the century (Dawson, Larke, Mukoyama 2006, 2). Powerful and integrated trading companies have the necessary financial resources, information and human resources to successfully manage their businesses. They have met the demand of national markets and achieved maximum benefits from mass production. Owing to information technologies, they are well informed about their foreign customers whose behavior and expectations are more and more similar to those in the domestic market. This allows them to homogenize a group of consumers, which is one of the conditions for faster internationalization of trade (Ćuzović, Sokolov-Mladenović, 109-121).

With regard to internationalization, the practice has shown that this strategy is largely immanent to big trading companies. This is undoubtedly proved by the results of recent research on the turnover volume of the largest trading companies. The analyses included the following: (www.deloitte.com/consumerbusiness) 1) in the list of 250 (Top 250) largest trading companies, there are the companies that have internationalized their operations; 2) trade companies which had business dealings with more than 10 countries in the period 2004-2009 recorded average annual growth rates that were by 2% higher as compared to those having operated in only one or two countries; 3) in 2009, the profit margin for those companies that operated in several countries was 3,5%, while it was 2,3% for the trading companies that made business in one or two countries.

With the liberalization of the Serbian market after 2000, an opportunity was created for faster entry of foreign trade companies, that is, for the internationalization of their activities. On the other hand, it has exerted influence on domestic trade and domestic trade companies, which were encouraged to change and modernize their business models, as well as to satisfy the needs of consumers more fully. From the aspect of international trade flows, the supply of domestic suppliers was instigated and their share in exports to countries where international trade companies have their headquarters was stimulated.[1]

[1] Thus, many companies saw Serbia as an opportunity for further growth and development through the internationalization of business. Currently, the following foreign trade companies (from the segment of foodstuff sales) are operating in the Serbian market: a) IDEA d.o.o. (from the Croatian

The importance of the arrival of these companies should be reflected in the intensification of trade flows between the countries where these companies have their headquarters and our country. Such expectations are due to the common practice of leading retail chains, which are primarily focused on a limited number of local suppliers in the process of internationalization of their activities, but eventually intensify cooperation and purchase products mainly from a greater number of local suppliers, encouraging them in this way to export to new markets, especially those in which the incoming company internationalizes its business dealings. One of such examples is the U.S. retail chain *Wal-Mart* which, having entered the Mexican market, developed cooperation with local suppliers of soaps and detergents to the extent that the Mexican suppliers became significant exporters to the U.S. market. (Javorcik, Keller, Tybout 2006, 25) Another positive example is related to the British retail chain *Tesco* which, upon entering the market of Thailand, stimulated the expansion of exports from Thailand to Great Britain. This confirmed the hypothesis that international trade chains stimulate exports from the host country to the countries from which these companies come, but also to the countries where they expanded their business.

The assumption is that this practice also exists in the Serbian market, where several foreign retail chains are running business. We will try to illustrate it through the example of the company *Metro*. Namely, it is the third company from the Top 250 list that operates in our market. Then, it entered our market by means of the strategies of foreign direct investment, through investing huge amounts of funds and hiring a significant number of workers from our labor market. The company is known for its long-term relationships with suppliers and customers, with such practices being fostered in our country as well. Below we give an example of the Company *Metro Cash & Carry*, with a focus on developing relationships with local suppliers and encouraging their inclusion into the international market.

Metro Cash & Carry is the world leader in the wholesale with 600 wholesale stores located in 28 countries worldwide. *Metro Cash & Carry* operates within the fourth retailer in the world (by turnover volume), German *Metro Group*, which realized a turnover of 60 billion euros in 2006. *Metro Group* consists of five trading members who independently operate in the market: the wholesale *METRO/MAKRO Cash & Carry*, which is the biggest member of the *Group*, *Real Hypermarkets* - retail food chains, *Media Markt* and *Saturn* - European market leaders specialized in the retail of media and other electrical devices and *Galeria Kaufhof* - modern department stores (www.metrogroup.de).

Metro Cash & Carry started with its operations in Serbia seven years ago. Currently, the company manages five distribution centers in Belgrade, Novi Sad,

market), b) INTEREX (from the French market), c) MERKATOR (from the Slovenian market), d) METRO Cash & Carry (from the German market), e) VEROPOULOS (from the Greek market), i f) TUŠ (from the Slovenian market).

Kragujevac, Niš and Subotica. *Metro Cash & Carry* cooperates with more than 1,000 suppliers and manufacturers in Serbia, and its facilities offer over 25,000 different products. Up to 80% of the foodstuff range consists of products of domestic manufacturers. Since the start of its operations in Serbia, the Company *Metro Cash & Carry* has been conforming to the highest international standards and applying the strictest quality control measures. The procedure of receiving goods and quality of goods and services are equal in all the *Metro Cash & Carry* stores, all over the world.

When it comes to relationships with local suppliers, the Company *Metro* offers its most successful producers in the Serbian market opportunities for placement of their products in the markets of other countries where it operates. The company's modest contribution to encouraging domestic suppliers to approach foreign markets can also be illustrated through statistic data that indicate a tendency of increasing the participation of Germany (the country of *Metro* headquarters) in the export policy of Serbia. This tendency can be seen in the Table 5.

Table 5: Participation of Germany in the exports of the Republic of Serbia

Year	Value of total exports in mill. US$	Value of exports to Germany in mill. US$	The percentage share of Germany in total exports
2006.	6428	637	9,9
2007.	8825	937	10,6
2008.	10973	1142	10,4
2009.	**8344**	871	10,4

Source: Statistical Yearbook of the Republic of Serbia 2010, 291

In the above table we can observe a slight tendency of increasing the participation of Germany in the export policy of Serbia, with the expectation that this trend will continue in the coming period, with higher intensity.

Contribution of the *Metro* Company to encouraging exports of our country may also be seen in its participation in the Project "Support to Enterprise Competitiveness and Export Promotion" (SECEP) (www.siepa.gov.rs; Progressive Magazine 2010, 8). The aim of this project is to assist suppliers of international companies that are present in the market of Serbia, especially to small and medium-size enterprises. This help is reflected in evaluating the efficiency of current business activities and advising on changes that should be implemented in these enterprises to enable competitiveness of their products in the markets of EU countries. Specifically, through this project *Metro* has the intention to allow its suppliers to improve their manufacturing processes and overall business operations and comply with the requirements of foreign markets.

Based on the said, we can see the impact of internationalization and foreign direct investment into our commercial sector on the flows of international trade, or on the stimulation of exports to the markets where incoming market chains are operating. The internationalization of trade is closely related to the increased volume of sales under the trademark, developed by both foreign and domestic retail chains. On the other hand, for the purposes of our analysis, the question arises of the effect of this trend on our country's trading with foreign countries.

In an attempt to answer this question, we will start from the research of the well-known consulting firm *ACNielsen*, which studied the development of trademarks on the sample of 36 countries and came to the conclusion that the increased sales under the trademark reduces imports of food products (www2.acnielsen.com/site/index/html).

In the context of analyzing the trademark, it is important to note that in circumstances where commercial enterprises are becoming more powerful in the market, branded products, that is, trademarks are created by the trade. Trademark (private label, own label, dealer brand, store brand) represents a distinctive sign or name designed by a certain trading company, a name that is more profitable for the trading company, leading to customer loyalty.

There are many reasons why a trading company decides on its own brand of products: (www.acnielsen.com)

- increase in sales volume (for example, in the U.S. and Canada sales of products with the trademark makes 20% of the total sales volume),
- price reduction, increased coefficient of the turnover of stocks and increased profits,
- recognizability among consumers (in the U.S. for example, 80% of products with trademark are recognized by consumers),
- increased share of branded products in the overall profit of the company,
- protection from aggressive competition,
- increased reputation of the company,
- increased bargaining power in relation to producers,
- consumers' loyalty to the brands that directly reflects on the loyalty of consumers to the trading company, etc.

Contemporary theory and practice indicate that the intense competition in the domestic and international market stimulates trading companies to include their own trademark or brand in the structure of their range of products. This business orientation involves the creation of a brand, which has the following characteristics: (Alexander, Doherty 2009, 310)

- it is different from the competition,
- it reflects the image of good quality at a low price,
- it exists independently from the company,
- it provides significant value for consumers.

Every creation of a successful brand by a trading company implies respecting the principle of differentiating the products from the competition. In this regard, companies that are characterized by orientation to brands have to regard their entire organization as an entity that is focused on creating a brand. This may be illustrated by the observation of Bridson and Evans (2004, 403) who regard the brand orientation, in the context of trade, as a multidimensional synthesis which includes organizational values, beliefs, behaviors and practices. Consequently, creation of a brand requires capacities such as diversity, functionality, quality, added value and symbolic value for consumers.

Trademarks tend to increase their market share in countries across Europe. Thus, in Germany, France, Belgium, Austria and Spain the market share of trademarks was 40% in 2009, while with us, this share was 20%. Specifically, the retail chains in the Serbian market develop trademarks for different categories of food and non-food products. Good practices of store brand development have been elaborated by domestic retail chains *Delta Maxi*, *Familija*, *DIS*, as well as by foreign retail chains, such as *Interex*, *Mercator*, *Idea*, *Metro* (Market 2009, 34).

From the viewpoint of trade between Serbia and foreign countries, a particularly important aspect is the trademark development by the international retail chains because of their focusing on domestic producers. Following the practices of developed market economies, this should contribute to reducing the import of products made under a trademark, in particular food categories, bearing in mind that these products are most often sold under the trademark, which is also witnessed by business policies of known foreign retail chains in our country.

To test the hypothesis about the impact of trademark on reducing imports of food products, we will use the official statistics, which can be seen from Table 6.

Table 6: The trend of imports of major food products

Year	Food import in mill. US$	Import of vegetable and animal fats in mill. US$
2006.	650	40
2007.	841	43
2008.	1107	61
2009.	751	45

Source: Statistical Yearbook of the Republic of Serbia 2010, 298

Based on the above Table, we can see that in the period from 2006 to 2008 there was an increase in imports of major food products, which is contrary to the established practice in developed market economies following the trend of trademark development. Practically, it tells us about the low level of trademark development and the need to work more intensively on this segment in the next period. It is encouraging that 2009 recorded the decline of imports of major agricultural products.

3. The Implications of Wholesale Trade Development in the World and in Serbia

Wholesale trade represents an important item in the distribution system of a country. The key role of wholesale pertains to a commercial and/or logistic mediation in the trade of goods from supply to demand, in the segment of distribution flow related to the wholesale trade. Its role is particularly manifested in the creation of added value by providing services (Coughlan, Anderson, Stern, El-Ansary 2006, 484).

In the second half of the last century, there was a substantial restructuring of the wholesale sector in the distribution system of developed market economies, which, on the other hand, opens the question of justification of the existence of wholesale and its distinction from retail trade. In addition, due to a rapid development of the retail sector, in many cases the wholesale is avoided as an intermediary in the distribution system. All this has opened a theoretical discussion of (un)justification for the existence of wholesale, observed through the terms disintermediation versus reintermediation (Rosenbloom 2007, 327-339). Thus, disintermediation points to the elimination of wholesale as an intermediary in the distribution channel, while reintermediation emphasizes the reformulation and re-engineering roles of wholesale in the distribution channel. Which situation will take precedence depends on the efficiency and effectiveness of performing the wholesale functions. In the event that wholesale cannot provide the superior level of services at lower cost than other members of the channel, there is disintermediation, otherwise reintermediation appears, but with the use of innovative and flexible business operations.

Contemporary theory and practice emphasize the concept of reintermediation, because of two key advantages of wholesale dealers, compared to the other members of the channel (Rosenbloom 2007, 330):

1. economies of scale - as they purchase large quantities of goods from producers, wholesale dealers are able to reduce fixed costs per unit;
2. strategy of focus and specialization - due to providing specialized services and focusing on the distribution system and supply chain, wholesalers are able to find innovative ways to create added value in the distribution system;
3. the use of strategic supply - it is to provide customers with the efficiency of the buying process, resulting from the following activities: a) the concentration of purchasing to a smaller number of producers; b) maximizing the reduction, through standardization of products and purchase of brands; c) achievement of the lowest prices in all locations; d) automation of the procurement process and reduction of human intervention.

The thesis of reintermediation is supported by the concept of "new trade", developed by the renowned scholar Dawson. In order to make the role of wholesale in the distribution system more completely comprehensible, Dawson pointed out the key features of the new trade: (Dawson 2001, 73)

1. Traditional role of producers, retailers and wholesalers are beginning to overlap, with the coordination of their functions;
2. Non-price factors of competition vary more widely, so that trust, reciprocity, loyalty, and the like become important for the operation of distribution channels. Socially responsible relationships become as important as market relations;
3. Horizontal and vertical networks and alliances are becoming the basis of organizational structure;
4. Companies are increasingly operating within multiple distribution channels;
5. The convergence of information and communication technologies becomes important for the functioning of the whole distribution channel;
6. Economy of scale takes the primary place;
7. International activities are becoming the standard of business operations.

In the context of the previously defined new economy, wholesale trade has experienced its transformation to assume the role of coordinator of the entire supply chain. It performs its functions of mediation, but also of added value creation, alongside with the reengineering of the entire distribution system. Its legitimate presence (reintermediation) is the result of greater efficiency and effectiveness compared to other members of the distribution system.

For the purposes of our analysis, the question arises as to how the wholesale sector participates in the flows of trade between Serbia and foreign countries and what is its contribution. Starting from the common practice that wholesale trade sells agricultural products and raw materials, its participation in foreign trade of our country is reflected in export activities. Namely, the point here is the founding of export trading companies in the markets that have been accessed by our producers. Export trading companies, selling wholesale goods, represent independent entities in export markets, and they have considerable share in the practices of the U.S. and other developed economies (Peng, York 2001, 327). These export agents control the flows of distribution channel, implement marketing strategies, conduct market research and enter into contracts for the sale of certain product categories. Key performances of these intermediates are the following: 1) they undertake the sale of products made in the home country and render various services; 2) they are familiar with foreign markets and export procedures.

If we look at statistics that illustrates the export of agricultural and primary products in recent years (Table 7) we register a slight tendency of growth. This allows space for more active engagement of the domestic wholesale trade sector in the export activities of our country, but with a superior marketing performance.

Table 7: Export flows of agricultural and primary products

Year	Foodgrain products	Sugar and sugar cane	Rolled products
2006.	75.328	155.589	685.724
2007.	91.102	152.045	831.404
2008.	111.176	152.731	1.104.446
2009.	100.145	149.679	389.800

Source: Statistical Yearbook of the Republic of Serbia 2010, 301-303

The table shows that the export of major agricultural and primary products recorded a slight increase in the period from 2006 to 2008, with a certain reduction of the 2009. Since the wholesale is a sector through which marketing of these products is performed, it is expected to be more intensively involved in trade flows in the future.

4. Prospects for Further Development of the Serbian Trade Sector with a View of Improving Foreign Trade

Based on previous comments, it may be noted that the trade sector (wholesale and retail) represents a marketing channel of products in the foreign trade process. Relying on the practice of market-developed countries where many commercial companies are involved and the export-import policy of the country, the role of trade sector in our foreign trade is yet to reach its peak. Such expectations are the outcome of a certain degree of backwardness of our trade with respect to the trade in developed economies, as witnessed by the research results presented in the study *Strategy and Policy of Trade Development of Serbia in 2008* (2008, 45).

Bearing in mind the deficit in foreign trade of our country, as well as the observations presented in previous parts of this paper, we will make an attempt to trace the strategic directions of further development of trade sector aimed at improving the foreign trade of Serbia. They should reflect in the following:

1. Intensifying the internationalization of trade through the arrival of trading companies coming from different countries. - The arrival of foreign retail chains brings about the intensification of competition, the employment of various means of competitive struggle and eventual reduction in retail prices, of which the ultimate effect belongs to consumers for whom the price represents the essential instrument of purchase in the conditions of crisis. Viewed from a macroeconomic perspective, foreign trade companies need to develop a network of primarily local suppliers. As modern theory and progressive practice show, these companies initially maintain cooperation with local suppliers at the level of classical buy-sell relationships. In later stages, with the increased confidence among business

partners and with the compliance of standards by local suppliers, foreign trade companies encourage them to export these products to the markets where they come from, as well as to the markets where they have internationalized their business. Such business practice was implemented in our country by the company *Metro*, with the announcement that the companies *Interex* and *Mercator* will follow. Given that trading companies from neighboring countries are operating in our market (except *Metro*), it will be necessary in the future to intensify the arrival of foreign trading companies from other developed countries, which should contribute to improving the export policy of Serbia through the implementation of a local network of suppliers (Strategija za povećanje izvoza Republike Srbije 2008-2011).

2. Intensification of the arrival of international trading companies through the strategy of foreign direct investments that produce multiple effects on the economy of our country. - Foreign direct investment in the trade sector is important for our economy and society as a whole. Therefore, a substantial project should follow, designed by the state in the direction of arrival of foreign retail chains through FDI;
3. Further development of trademark. - Trademark is becoming a business pattern of trading companies, but since its development is at a lower level compared to developed market economies, its introduction will have to be intensified in the next period. In the process, this policy should be followed by both domestic and foreign retail chains, which should ultimately contribute to reducing imports of food products, which are most often sold under the trademark;
4. Well designed marketing approach of trading companies while appearing in target foreign markets, that is, overcoming the traditional foreign-trade operations, which should contribute to the improvement of trade (Table 8).

Table 8: Dimensions of classical foreign trade and international marketing

Dimensions	Classical approach to foreign trade	International marketing
Exponents	States	Enterprises
Term	Short term	Long term
Logic	Sell existing products abroad	Satisfy the foreign market requirements
Competitiveness	Price based	Price and non-price based
Marketing target	Maximization of trade	Stable marketing position
Information sources	Foreign trade statistics	Secondary and primary (all sources)
Investigation of environment	Neglected	Included and necessary
Market research	Seldom and incomplete	Continuous and comprehensive

Dimensions	Classical approach to foreign trade	International marketing
Market choice	Without systematic selection	Selection based on comprehensive research
Planning	Current, inertness	Comprehensive, projection
Alternatives	Neglected	Present and valued
Product development	Mainly for the domestic market	Recognizing the demands of all potential markets
Prices	Cost-oriented and supported by local prices	Target-oriented based on all factors
Sales channels	Independent and beyond control	Part of the marketing system and constantly in contact
Promotion	Rare, mostly personal selling and intermediaries	Continual and professional in all forms
Organization	Activities organized from the home country	Activities organized where the effect is greater

Source: Rakita 2002, 19

Realization of the above activities is just one segment of the overall set of measures that should be undertaken by our government towards the improvement of foreign trade. Domestic trade sector, using the opportunities and overcoming all the threats it is encountering, can represent a significant link in the entire chain of improving our country's export policy. This should be an important task for future economic policy makers, as well as for the managers of trading companies.

Conclusion

Trade is one of the most vital and most sensitive sectors of any, as well as our economy. The vitality and sensitivity of the trade sector is particularly visible in the process of economic transformation and movement towards European integrations, as is the case of our country. Throughout this entire process, a lot of sensitive and important questions have been raised, whose resolution is of strategic importance for the inclusion of Serbia in EU integrations, as well as for the creation and maintenance of national competitive advantage. One of them is the foreign trade deficit with which our country has been faced for several years. This paper is an attempt to highlight the contribution of the domestic trade sector in reducing this deficit through its participation in stimulating exports and export policies. For this reason, the analysis was separately made for the retail and wholesale trade sectors. Bearing in mind the significant changes that have marked the retail trade, the emphasis is placed on the internationalization of trade, especially the arrival of foreign trading companies through the strategy of foreign direct investment, which develop a network of local suppliers by encouraging them to export to the countries where the aforementioned companies are present. In addition, the trademark was also pointed out, because of the common practice in

developed market economies to reduce in this way the import of food products. As for the wholesale trade sector, there is revitalization and reengineering of its functions in the entire distribution system, which is determined in literature as reintermediation. Viewed from a macroeconomic aspect, it is necessary to intensify its presence in the export policy of our country. In the last section of the paper, an attempt was made to trace the directions for further development of the trade sector towards the improvement of foreign trade. This is only one of the elements for creating future policy of Serbian foreign trade development, in which the trade sector occupies an important place.

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THE ROLE OF TRADE IN THE IMPROVMENT OF SERBIAN FOREIGN EXCHANGE

Rezime: Poslednjih godina trgovina na malo doživljava krupne promene i od pasivnog posrednika preuzima aktivnu ulogu u odnosima između proizvođača i potrošača. Zajedno sa trgovinom na veliko, koja revitalizuje svoju ulogu intermedijatora, trgovina na malo ima rastuću ulogu u spoljnotrgovinskoj robnoj razmeni jedne zemlje, pa i naše. Potrošna dobra se plasiraju kroz trgovinu na malo krajnjim potrošačima, dok se poljoprivredni proizvodi i reprodukcioni materijali plasiraju kroz trgovinu na veliko, o čemu svedoče i aktuelni statistički podaci. Cilj ovog rada je da kroz savremene tokove trgovine na malo i veliko, pre svega kroz internacionalizaciju, strane direktne investicije u trgovinski sektor i rastući značaj trgovinske marke, sagleda njihovo mesto u robnoj razmeni naše zemlje. U skladu sa postavljenim ciljem, istraživanje će biti podeljeno u četiri dela. Prvi deo će kroz, matematičko-statističke metode, izvršiti pregled robne razmene Srbije sa inostranstvom. U drugom delu sagledaće se obeležja trgovine na malo u našoj zemlji, i njihov značaj za spoljnotrgovinsku robnu razmenu. Treći deo za svoj predmet ima trgovinu na veliko i tokove koji je karakterišu. U poslednjem delu rada učiniće se pokušaj da se izloženi tokovi u trgovini na malo i veliko projektuju kroz prizmu unapređenja i perspektiva daljeg razvoja spoljnotrgovinske robne razmene kod nas.

Ključne reči: trgovina, internacionalizacija, strane direktne investicije, trgovinska marka, robna razmena

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FOREIGN INVESTMENTS AS A DETERMINANT OF STABLE ECONOMIC GROWTH AND DEVELOPMENT IN SERBIA

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Abstract: *Foreign investments attract special attention of foreign legal and physical persons - potential investors, but also of the countries benefiting from foreign capital. Faced with the problems of economic reforms, the former socialist countries turn to foreign capital in an attempt to overcome the encountered difficulties, Serbia being among them. Foreign investments are of strategic importance for the Serbian economy, because they are an incentive for industrial development, as well as for achieving technological independence and attaining higher competitiveness of our production in the international market. So, foreign investments become an important determinant in achieving the economic growth and development of our country.*

Keywords: *Foreign direct investment (FDI), growth, development*

Introduction

Thanks largely to the chosen privatization methods (sale of businesses by auctions and tenders) Serbia is undergoing transition with the growing inflow of foreign direct investments. The inflow of investments into Serbia has been significantly increasing since 2005, greatly boosted by the big international companies coming to Serbia, such as Telenor, Mobilcom, Philip Morris, and other foreign legal and physical persons who invested their resources in Serbia. Surely, the world economic crisis that has affected the entire world since its onset in 2008, had a significant impact on the inflow of foreign direct and portfolio investments into Serbia which was at its peak in the period 2005 – 2008. At the end of the first decade of the 21th century the inflow of foreign direct investments (FDI) in the

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Serbian economy is dissatisfactory, which is not only a reflection of the economic crisis, but also an outcome of a long-lasting instable political situation in our region, incomplete institutional and legal reform, large-scale unemployment, low levels of accumulation, shadow economy and corruption.

Bearing in mind that foreign direct investments have become an important determinant of the economic growth and development of Serbia, this paper intends to take into consideration the tendencies, forms and effects of foreign direct investments into Serbia and to make an overview of their role in achieving economic growth and development in the forthcoming decade.

1. Tendencies in the Inflow of Foreign Direct Investments into Serbia

Until 1970s the Serbian economic literature was marked by an attitude that foreign investments are actually the most sophisticated form of capitalist imperialism that narrows the space for the development of the domestic industry (Vojinović 1972, 47).

It was only in the last decade of the previous century that a belief prevailed that foreign investments actually play an important role in the technology transfer and achievement of economic development.

Foreign investments are important for the Serbian economy because they bring forth an array of incentives for industrial development, as well as for achieving technological independence and accessing the international market, i.e. contributing to the increase of international competitiveness of the Serbian industry. The factors serving as development incentives are:

- transfer of new technologies,
- inflow of the capital that does not affect the increase of the country's debts,
- stimulation of innovations at the level of local self-governments;
- networking of domestic and foreign companies,
- professional education of labor through training courses and specialized seminars,
- an access to the international goods and capital market,
- widening of the scope of industrial goods export,
- production costs decrease,
- growth of domestic industry productivity,
- strengthening of domestic producers' competitiveness, etc.

Aside from the positive effects of foreign investments on the Serbian economy, the foreign companies are also benefiting from a number of advantages given to them in order to invest in Serbia. The Serbian market is convenient for the placement of consumer goods, hence, the companies who are the first to invest are

likely to get a more favorable market position. The other factors that make Serbia attractive to foreign investors are: availability of natural resources, cheap labor, preferential treatment for exports to EU, Russian, CEFTA, EFTA and some Mediterranean markets, etc.

Beginning with the end of the previous century, there has been a noticeable increase of activities aimed at attracting foreign investments to Serbia. Particular significance is attached to the activities aimed to attract transnational corporations (TNC) willing to set up international production networks in order to exploit the advantages of new markets and production factors. The basic forms of setting up international production networks are mergers and acquisitions. They enable dislocation of production capacities via affiliates in foreign countries. Such processes have been enabled in Serbia thanks to privatization and liberalization of investments, with regional integrations[1] as special triggers of foreign investment as they facilitate setting up of regional production networks.

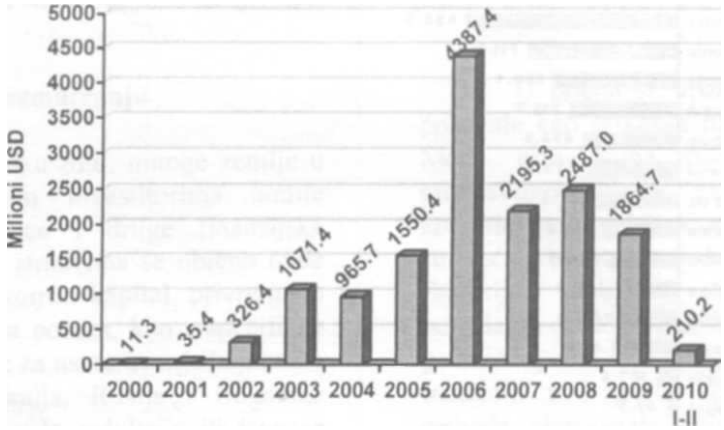
In order to attract foreign investments into Serbia, quite a few measures have been taken, such as:

- harmonization of the legislation with EU practices,
- carrying out privatization and structural economic changes,
- establishing relations with the Paris and London clubs of creditors,
- attempts to establish microeconomic stability through measures such as inflation suppression, stabilization of the exchange rate of the Serbian dinar, increase of foreign currency reserves and the like,
- participation in regional integrations within CEFTA and signing of the Feasibility study,
- revision of the regulations underlying the area of foreign investment, introducing VAT Law allowing for internationalization of legislation concerning conclusion of contracts and solving possible disputes,
- limitations and discriminatory business practices previously applied by transnational companies (TNC) were banned on the basis of standardized legislation in line with the standards of the World Trade Organization (WTO),
- requirements concerning the behavior of foreign partners and limitations of domestic companies in their cooperation with foreign businesses have lost their mandatory character,
- limits concerning foreign stake remained in place only for legal owners in the sectors of strategic significance for the national economy and defense or in the case of privatization of a part of country's monopoly.

[1] Regional integrations are: EU, NAFTA, MERCOSUR, APEC, ASEAN and others. A particular significance in Serbia is attached to the signing of Multilateral CEFTA Agreement in 2006.

However, statistical data reveal that our economy remained on the margin of foreign capital interest, even though the above measures were taken so as to provide for a more favorable milieu for FDI. In the period from the year 2000 to February 2010, the total FDI inflow into Serbia amounted to 15.1 billion USD. The following graph shows the expected net FDI inflow into Serbia for the period 2000-2010 in millions of USD:

Graph 1: Net FDI inflow into Serbia, 2000-2010 (in millions of USD)



Source: Serbian National Bank, statistics of the national accounts

A comparison of FDI inflows into the Western Balkan countries in the period 1970-2008, leads to a conclusion that Serbia is not the most attractive destination for the placement of foreign capital, as shown in Table no. 1 with the data on the total FDI inflow into the countries of the region for the mentioned period:

Table 1: Total FDI inflow into Western Balkan countries in the period 1970-2008 (in millions of USD)

Country	Total inflow of FDI (mil. USD)	Total per capita (USD)	Indices (Serbia=l)
Albania	11.349.9	3.783.3	1.7
Bosnia and Herzegovina	32.217,2	8.260.8	3.7
Croatia	160.623,2	35.641.6	16.1
Montenegro	3.234.4	5.390.7	2.4
Serbia	16.387.4	2.214.5	1
Macedonia	20.494.9	10.247.4	4.6

The above table reveals that the total FDI inflow into Serbia in the period 1970-2008 amounted to 16.5 billion USD which is the amount ten times lesser than

the amount invested into Croatia or two times less than the inflow into Bosnia and Herzegovina.

Such dissatisfactory FDI inflow into the Serbian economy is a consequence of:

- long-standing political instability in the region,
- macroeconomic disbalance in the sphere of employment factors (high unemployment, high interest rates on business loans, low level of domestic accumulation, etc.)
- unfinished institutional reforms (justice system reform, high level of shadow economy, pronounced corruption, etc.).

In order to become more attractive for foreign investors, Serbia must put an effort to simplify its legislation, reform the justice system, implement certain measures for the consolidation of the financial market, mobilize domestic financial resources and eliminate shadow economy and corruption.

In the last three decades, the largest FDI that came to Serbia originated from: Austria (2,982.3 million USD), Greece (1,755.7 million USD, Norway (1,556.0 million USD), Germany (1,537.0 million USD), Holland (1,332.2 million USD) and Italy (998.8 million USD).

Table no. 2 presents the twenty largest investors into Serbia[2] in the period 2001/2009:

Table 2: Twenty largest investors into Serbia in the period 2001-2009

Company	Country of origin	Line of business	Type of investment	Amount of investment (in mil. of EUR)
Telenor	Norway	Telecommunications	Privatization	1.602
Gazprom Neft	Russia	Energetics	Privatization	947
Fiat Group	Italy	Car industry	Joint venture	700
Philip Morris	USA	Tobacco industry	Privatization	630
Mobilkom	Austria	Telecommunications	Greenfield	570
Ali lnBc\	Belgium	Food industry	Acquisition	530
Banca Intesa	Italy	Banking	Acquisition	508
Salford Investment Fund	Great Britain	Food industry	Acquisition and Privatization	500
Slada	Germany	Pharmaceutical ind.	Acquisition	475

[2] Due to the lack of official data on the height of investment per company, the data presented above were acquired on the basis of a research carried out by SIEPA, and include both realized and planned investments. Although SIEPA tries to provide for the high level of data accuracy, the Agency does not accept responsibility for possible errors concerning the data. Source: SIEPA

Company	Country of origin	Line of business	Type of investment	Amount of investment (in mil. of EUR)
National Bank of Greece	Greece	Banking	Privatization	425
Eurobank HFG	Greece	Banking	Acquisition and Greenfield	400
Mercator	Slovenia	Retail trade	Greenfield	300
Credit Agricole	France	Banking	Acquisition	264
Fondiaria SAI	Italy	Insurance	Privatization	220
U. S. Steel	USA	Metal industry	Privatization	220
Lukoil	Russia	Energetics	Privatization	210
Pepsi Co.	USA	Food industry	Acquisition	210
Alrica Israel Corporation i Tidhar Group	Izrael	Real estate	Greenfield	200
Blok 67 Associates	Austria and Serbia	Real estate	Greenfield	180
Holcim	Switzerland	Construction ind.	Privatization	170

Source: Gagović, N. 2010, 71

2. Basic and Special Forms of Foreign Investment in Serbia

Foreign investors can invest their capital into the domestic economy in two basic ways: by setting up a company or making an acquisition of stake or shares of an existing company. In both cases the foreign investor acts alone or with other foreign or domestic investors. The basic forms of foreign investment are regulated by the founding or investment contract concluded in writing, i.e. by the founding decision also in writing. The law does not make a strict distinction between direct and portfolio investments, as the term *foreign investments* applies to both of them („acquires a stake or shares of the basic capital“ and „any other property right by means of which the foreign investor accomplishes his business interests“). In regulating the field of application („activities with the aim of profit gaining“) and basic forms of foreign investment, the legislator had in mind foreign direct investments, i.e. capital investment on a proprietary basis, without excluding the investments on contractual-legal basis. The foreign investor acquires the property right over a company that he has set up in our country whether he has done it individually (and is, hence, the owner of his own company on the basis of investment) or together with other investors (joint venture). Both cases involve corporate capital investment.

The Law on Foreign Investments also sets forth two forms of foreign capital investment into the domestic economy, as special modes of foreign investment inflow. The first way is to grant a permit (concession) to the foreign

investor to exploit a natural resource and goods in general use or to conduct a business of general concern, in compliance with the law. The second special form of foreign investment is to grant the foreign investor a permission to build, operate and transfer (B.O.T.) specific facilities, installations or plants, as well as infrastructure and communication facilities. Special forms of foreign investment are regulated by the Law on Concessions, as well as issues such as financing of the projects based on the B.O.T. system that is recognized as a mode of concession in the mentioned law.

Just as it is the case with B.O.T.-based investment, the Law on Foreign Investments recognizes concession investment as a distinct form of investment. The issue of concession investment is regulated by a *lex specialis*, i.e. by the Law on Concessions. According to the Law on Concessions, concession is the right to exploit a natural resource and goods in general use or to conduct a business of general concern, granted by the competent government agency (the Grantor) to a domestic or foreign person (the Concessionaire) for a specified period of time, on the terms set by this Law and against payment of a concession fee. Investments based on the B.O.T. system, including construction or reconstruction, as well as financing of a complete facility, installation or plant, its operation and transfer of the title to it to the Republic of Serbia are understood as concession investment. Both the Law of Foreign Investment as a basic law and the Law on Concessions, as a specific law, in the field of foreign investments, enabled the presence of foreign investors in practically all fields of conduct.

A foreign investor can be granted permission to build, operate or transfer a certain facility, installation or plant, as well as infrastructure and communication facility. The relations among the participants in financing the projects based on the B.O.T. system are regulated by a contract on project implementation concluded between the Government and the concessionaire-investor (Vasiljević 1997, 277-279). A foreign investor can be granted permission to build, operate and transfer a B.O.T. certain facility, installation or plant, as well as infrastructure and communication facility.

3. The Effects of FDI on the Serbian Economy

The countries in transition, including Serbia, are characterized by a high level of technologically obsolete capital equipment. One of the priorities is modernization of their technological base, which is a field where FDI may play a huge role. The previous period has shown that the changes in the technological base were more intense in the countries with a greater FDI inflow. The experience of more progressive countries in transition show that with the first signs of recovery of industrial production (the middle 1990s), the production growth rates of more technologically advanced sectors were higher than the average growth

rate. At the same time, this caused positive changes in the structure of industrial production in such countries toward an increased participation of more technologically advanced sectors (electronic, electrical-engineering, car industries, fine mechanics industry) in the total industrial production. The mentioned sectors had previously (and simultaneously) undergone a change in the proprietary structure, as evidenced in the fact that the affiliates of big transnational corporations have significantly increased their participation in the total sales in the mentioned sectors (the percentage is different in different countries, but it is generally around 50 % and above, except for Hungary, where the percentage is significantly higher), thus enabling operations with new technologies (Gagović 2010, 69).

The introduction of new technologies is one of the essential elements in the process of restructuring the existing businesses in the Republic of Serbia. There are several positive effects that FDI can have in the mentioned process:

1) when purchasing existing businesses, transnational corporations usually bring forth new technologies that modernize and upgrade their operations. What is perhaps even more important is that foreign investors, as a rule, also bring forth modern managerial and organizational knowledge in the fields of marketing, finance and strategic planning that the Serbian companies, which are in the phase of adapting to the marketing conditions, generally lack.
2) the process of restructuring requires significant capital investments aimed at different advancements. One of the reasons that caused different dynamics of restructuring in specific countries in transition is the lack of financial resources as a result of poor domestic financial systems. Differently from the domestic businesses which might have problems in acquiring capital, foreign investors can get the needed capital from foreign banks in a much easier way and under more favorable conditions, or can simply invest a part of their own free resources, thus lowering the costs of acquisition of the needed capital.
3) usually, foreign investors already have a well structured global distribution network which provides an access to foreign markets to the privatized businesses, serves as a strong stimulus for an increase of the quality of business operations, of exports (direct and intercompany) and enables attaining of economy of scale effects.

Some researches of this issue show significant effects of FDI on the scale of restructuring. Introduction of new production lines, technological upgrading, reorganization, growth of productivity, employment, sales and exports is by far more present in the companies under foreign ownership then in the companies under domestic ownership, and particularly state companies. FDI may have an even greater effect on the process of restructuring of the economies in transition,

through their influence on the entire industrial branches (and not only on the privatized companies), namely: through a boost of competitive pressure in the domestic market, networking with domestic producers, advancement of the human capital in the country, „demonstration effect", effects on the balance of payments of the host country...

The inflow of FDI into certain branches can boost the competitive pressure and force the existing domestic companies to search for the way of improving their business operation. The effect of coming of transnational corporations is even greater for the local economy if the market position of the domestic companies had been satisfactory before TNC ever came (from their own point of view), so that their motives for the increase of productivity and introduction of new technologies were kind of small. This particularly applies to the markets of the countries in transition which were marked by extremely high barriers for entrance in the previous period. Differently from most domestic companies, TNC can easily eliminate the given barriers and boost the level of competition in such markets.

The effect of FDI on the competitiveness in the domestic market does not necessarily have to be positive because of the big risk that TNCs may eliminate domestic competitiveness due to their privileges. Coming of TNCs may cause a decrease of sales of the domestic, Serbian companies, which can exert a negative influence on the rate of utilization of their capacities and chances of using the economy of scale effects, which results in the decrease of productivity of the domestic companies as well as of their capacities for competition fight. Also, the presence of TNCs may affect the ability of the Serbian companies to provide for the financial and other necessary resources due to the growing competition in financial and acquisition markets. This can lead to a danger of creating monopolies which are, from the point of view of the domestic economy, even less favorable than the situation when a domestic company has a dominant position, because TNCs can transfer the acquired profit, on the basis of their monopoly position, to their motherland which leads to an outflow of domestic resources to a foreign country. The effect can be even worse if the TNCs use a transfer pricing mechanism to decrease their tax base. This negative effect will be even more pronounced if TNCs are protected from the competition of other foreign companies due to the protectionist foreign trade policy of the domestic authorities (which will be even more emphasized if the only motive for FDI was to avoid customs duties and conquer the local market). The domestic authorities may also cause negative consequences if they give too big benefits for FDI (which is a frequently used way of attracting FDI). That can cause uneven yields on the side of domestic capital and thus exert a negative influence on the competitive ability of the domestic companies, while the TNC affiliates are given a chance to operate with profit and improve their market position without any significant transfer of new technologies. Too strong competition from TNCs lowers the ability of the domestic businesses to

undertake new investments which has a negative influence on the level of investments in the country (crowding-out effect). Another thing that is essential to bear in mind is that FDI inflow may lower the level of concentration in the domestic market and strengthen competition in the beginning, but still the total (dynamic) effect can be negative if the mentioned incidents take place.

The effect of FDI inflow on the domestic economy may depend on the form of FDI at the point of entering.

Greenfield FDI, generally, increase the number of companies in certain sectors and intensify competition, although one should bear in mind that, due to the privileges they have against the domestic companies, these FDI may eliminate domestic businesses and increase concentration in the branch.

Aside from their positive effects (previously indicated), acquisitions of domestic businesses (through privatization) may exert negative effects as well. This is most often a case if acquisition enables the investor to acquire a monopoly position, which kills the incentives for more intensive transfers of technologies, know-how, etc. The example of Telecom in FR Yugoslavia, now Republic of Serbia, is the best illustration of the aforesaid. Acquisitions can, also, bring forth some negative effects when undertaken not in order to accomplish strategic, long-term objectives, but in order to eliminate competition and acquire instant profits (the examples of several companies in Hungary and other countries, which were purchased only in order to be closed, support the above assumption).

Strengthening of competition due to the coming of TNCs may also render positive effects on the national competition in cases when a part of domestic companies get eliminated. If inefficient domestic companies that would not be able to exist under normal market conditions vanish from the market, a competitive pressure of TNCs may liberate a part of domestic resources that have not been appropriately used and allow for a better allocation of domestic resources in future, which can be a solid basis for more permanent economic growth. The total effect of FDI on the domestic economy and its potential for economic growth can vary depending on the capacities of the domestic companies and the measures of economic policy of the country receiving FDI. If TNCs enter a market where domestic companies have technological, financial and other capacities to fight competition, the effect of heightened competition will be positive. However, if TNCs enter a market dominated by technologically and financially weak local companies, with opportunities for differentiation of products and realization of the effects of economy of scale, there is a big chance that TNC monopolies will be created and domestic companies limited to certain market niches. This may lead to a two-tier economic structure where big TNCs stand in opposition to small local entrepreneurship, a situation that significantly lowers resistance of the domestic economy. However, if the economic authorities of the country pursue the policy of

competition that involves liberalization of external flows, efficient antimonopoly legislation, lessening the barriers for accessing the market and if they have a strategic approach to FDI that involves their sector targeting and (temporary) limitation of their access to some sectors, it is possible to expect that the presence of FDI in the domestic market can yield positive effects on the domestic companies. Heightened competitiveness of domestic companies means that the technological gap between them and TNC affiliates is getting lesser, which can lead to a decreased demand for the TNC products, pushing them toward higher motivation for the transfer of new technologies.

According to the estimates made by most of the relevant institutions (WB, IMF, EBRD), Serbia has successfully overcome the first phase of transition reform. The next phase involves the so-called „institutional phase of the reform" that includes wider privatization and upgrading of the conditions for new greenfield investments, restructuring of companies, policies that stimulate competition, privatization of banks and development of the financial market. Besides, a special objective is maintenance of political stability and strengthening institutional capacities, state administration and judiciary in particular, aiming at increasing their efficiency, effectiveness, transparency and responsibility. Serbia is expected to continue to attract significant and increasing sources of long-term capital for investment into enterprises as economic and legal convergence continues in the medium to longer term (EBRD 2010, 25-32).

4. The Role of Foreign Investments in Attaining Stable Economic Growth and Development in Serbia

In the period 2000-2010, the inflow of foreign direct investments was motivated by the purchase of the local monopolies or oligopolies in the field of finance, retail trade, energy commodities, cigarette production, cement, etc. However, only a few of the above examples caused any increase in production by moving their affiliates to Serbia.

Foreign investment inflow should contribute to the strengthening of domestic investment potentials. In the period 2002-2009, the average FDI participation in Serbia amounted to 34.7% in the total capital investments. The same percentage applies to B&H, while in Macedonia it was 24.6%, in Croatia 22.5%, in Slovenia 10.4%, in Bulgaria 63.8%, in Romania 23.4%. Such a result in Serbia is an outcome of a relatively low absolute scope of FDI. The current situation in Serbia is dissatisfactory since the decreasing trend of foreign direct investments continues (the inflow dropped from 893 million of EUR in the first half of 2009 to 522 million of EUR in the first half of 2010). The height of foreign direct investments at the turn of 2010-2011 shall depend on the sale of Telecom,

realization of the plans for modernization of the NIS complex, reconstruction of the Fiat plants, coming of IKEA and the like.

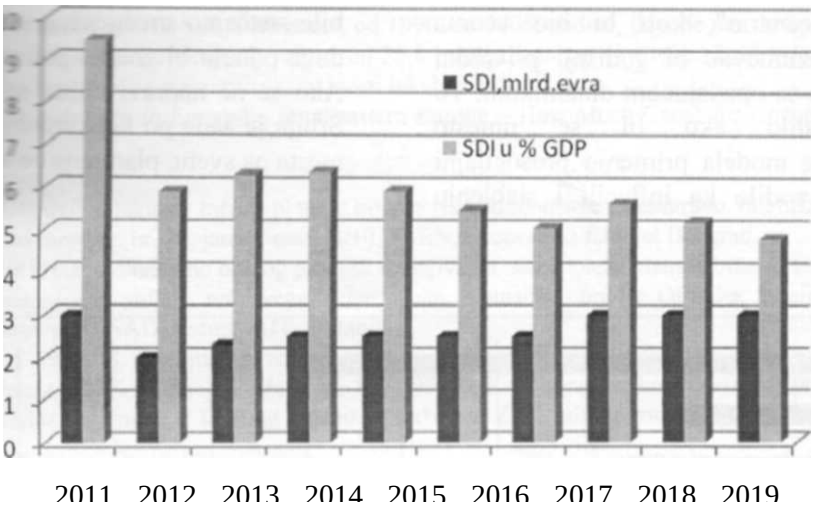
The inflow structure is particularly significant because it influences the effect of the inflow on the trade balance and total balance-of-payments of any country. In these years of crisis, in Serbia there was an increase of the share portion of processing industry in the total foreign direct investments from 12% in 2007 to 31.8% in the first quarter of 2010. As far as greenfield projects are concerned, Serbia is ranked as 44th destination in the world if the height of investments is taken into account, i.e. between 75th and 110th position if other criteria (population, GDP, import and export of goods and services) are also taken into account.

If one takes all the aforesaid into account, the focus in the forthcoming period should be on attracting foreign direct investments into the fields of processing industry and agriculture. During the last ten years, the decrease in the number of employees was the highest in industrial production; hence, it is necessary to invest into production and, on account of that, achieve higher export scope. A restrictive fiscal policy (salary and pension freeze, realistic depreciation of the dinar against euro and the like) enabled taming of imports and opened an opportunity to stimulate exports. All this should heighten competitiveness of the Serbian economy. Yet, whether it will happen or not depends on the trend of the dinar exchange rate, as well as on the rise of prices of food and energy products, span of inflation... Still, it can be asserted that the stabilization of the dinar and a mild increase of demand could be a recipe for attracting foreign direct investments in the forthcoming period.

„Serbian Post-Crisis Economic Growth and Development Model 2011-2020“ (FREN 2011) was made by the experts of the Faculty of Economics in Belgrade and the Fund for Development of Economic Science within the Faculty of Economics. It should be a base for the coming long-term strategy of development of Serbia in the forthcoming decade based on economizing, investments, modernization and restructuring aimed at creating sustainable economy and export increase. This model highlights three pillars of the future economic growth of Serbia in the decade to come: increase in investments (private and public), support for economy (particularly for its part involved in export production), and investments into infrastructure. The state must support processing industry and agriculture, because they constitute the part of economy that is capable of providing for the national export growth, generating economic development and helping Serbia to become competitive in the region, Europe and world.

In the given model, the key issue is to shift from consumption- to investment-driven growth. The authors expect a raise of the GDP investment rate to 25% in 2015 and 28% in 2020, and a decrease of the consumption rate from 92% in 2011 to 81% in 2020. Graph no. 2 shows a projection of the annual FDI inflow into Serbia in the period 2011-2020.

Graph 2: Projection of annual FDI inflow into Serbia in the period 2011-2020



Source: Nikolić 2010, 63

The post-crisis model also forecasts that exports of goods and services as % of GDP shall increase from 27.6% in 2009 to 65% in 2020, while the balance-of-payments deficit should be lowered from 7.1% GDP in 2009 to 3.3% in 2020. This is essential to do in order to achieve the average annual percentage growth rate of GDP of 5.8%. Until the end of the following decade, some 430,000 new workplaces should be opened, while the employment rate should go up by 16.9%. The model also anticipates the growth in industrial production to the level of 6.9% in the forthcoming ten years, but only if the investments increase from 4.9 billion of EUR in 2009 to 15 billion of EUR in 2020, and FDI reach an average annual amount of 2.3 billion of EUR per year. Also, fiscal deficit should decrease from 5% to 1% of GDP in the forthcoming five years, public consumption should be restructured toward public investments, uncontrolled growth of the public debt should be suppressed, and the growth of demand should be slowed down (from 5.8%, demand should go up maximum 4.7% in the specified period).

The alternative is the pro-social model, the so-called „populist scenario". Such a model involves the annual economic growth of 3% with a declining dynamics. It would lead to inflation and weakening of the national currency, and as soon as in 2013, the foreign exchange reserves would be significantly decreased. The payment of the external debt would take away 1/5 of the attained GDP.

In order to implement the post-crisis model, it is necessary to create favorable business milieu in Serbia in which the inflow of foreign investment functions as a key determinant in the attainment of the future economic growth and development.

Conclusion

The inflow of foreign investment into the Serbian economy gains on topicality with the approaching end of the transition and privatization processes. The inflow of foreign investments into Serbia was in the constant increase until the onset of the world economic crisis, mostly because big international companies like Telenor, Mobilcom, Philip Morris and other foreign legal and physical persons came to Serbia. The onset of the big economic crisis in 2008 interrupted the steady upward trend of FDI inflow into Serbia, so that the current situation is dissatisfactory (the inflow went down from 893 million of EUR in the first half of 2009 to 522 million of EUR in the first half of 2010). The foreign direct investments into the processing industry stand out in particular, and as far as greenfield investments are concerned, Serbia is ranked as 44th world destination if the height of investment is taken as a criterion. In the period 2000-2010 the total net inflow of foreign investment into Serbia amounted to 15.1 billion USD. Compared with the inflow of foreign investment into the Western Balkan countries, the amount is ten times less than the one invested in Croatia or two times less than investments in Bosnia and Herzegovina. Such an unfavorable FDI inflow into the Serbian economy is a result of: long-lasting instable political situation in the region, macroeconomic disbalance in the sphere of employment and unfinished institutional reform.

In order for Serbia to become more attractive to foreign investors, it is necessary to simplify its legislation, reform the justice system, implement certain measures for the consolidation of the financial market, mobilize domestic financial resources, eliminate shadow economy and corruption.

In the future, FDI should become an important determinant of the economic growth and development in Serbia. It would be desirable if FDI could be directed to the processing industry and agriculture. That would have a positive effect on the employment level, increase in exports and heightening of competition potentials of the Serbian economy. In order to attract FDI, it is, first of all, necessary to ensure stabilization of the national currency, mild increase of demand, and to suppress inflation. For the period 2010-2020, a „Serbian post-crisis economic growth and development model“ was made based on economizing, investments and restructuring. The model rests on three pillars: increase in investments, support for economy, and investments into infrastructure. This means that FDI are actually one of the key determinants of the future stable economic growth and development. The alternative is the pro-social model which would lead to modest economic growth, weakening of the national currency, a decrease of the foreign exchange reserves and increase of the external debt. That is a less desirable alernative, so in order to stabilize the Serbian economy, it would be better to embrace the post-crisis model and create such a business milieu which would allow for the best positive effects of FDI.

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STRANA ULAGANJA KAO DETERMINANTA STABILNOG PRIVREDNOG RASTA I RAZVOJA U SRBIJI

Rezime: Strana ulaganja privlače posebnu pažnju i stranih pravnih i fizičkih lica - potencijalnih investitora, ali i zemalja korisnika stranog kapitala. Suočene sa problemima u toku privrednih reformi, nekadašnje socijalističke zemlje okreću se stranim sredstvima u pokušaju da izađu iz nastalih poteškoća, a među njima je i Srbija. Strana ulaganja postaju značajna za privredu Srbije jer podstiču razvoj industrije, njeno tehnološko osamostaljivanje i doprinose porastu konkurentnosti naše proizvodnje na međunarodnom tržištu. Tako postaju značajna determinanta u ostvarivanju privrednog rasta i razvoja naše zemlje.

Ključne reči: Strana direktna ulaganja, rast, razvoj

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PHILOSOPHY AND ECONOMICS: PHILOSOPHY ON THE PYRAMID OF KNOWLEDGE (appendix to the critique of "economic imperialism")

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Abstract: *The subject of this paper is the relation between philosophy and the world of knowledge which is apparently obvious in the relationship between philosophy and economic science. From the critical discourse about this problem sprang the need for a more complete and deeper insight into this complex relation within the context of economic education. Attitude towards philosophy within scientific circles, which is significantly anti-philosophical, is reflected on the educational process itself and, thus, academic education (economic education as highlighted here) takes place within apparently dominant anti-philosophical spirit – philosophy is understood as something redundant and useless. Thinking about defiance and ignorance of the significance of philosophical education of economic experts, as far as economic practice and management are concerned, brings about the conclusion that this anti-philosophical attitude towards philosophy represents a dimension of expression of wrong kind of consciousness which economic-scientific thought is permeated by. "Economic-scientific imperialism" which is evident in the relation between philosophy and economic science significantly determines understanding of the importance of philosophy within the system of economic-scientific knowledge. Whereas the founding importance of philosophy for economic-scientific knowledge is ignored, which causes philosophy as a compulsory propedeutic discipline to disappear from curricula of educational processes intended to educate economic experts, on the other hand we witness so-called omnipresence of "philosophy" within economic disciplines themselves – boundless intellectual imperialism of economic utility and rationality principle which shapes the very economic-scientific knowledge which degrades the dignity of philosophy as much as possible.*

Keywords: *science, philosophy, economics, economic science, knowledge, education*

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What is the use of philosophy today? What is the meaning of philosophising and of philosophy itself today? What can philosophy offer a modern man? These are the self-imposed questions which appear as soon as contradictory truth – that anti-philosophical spirit, which dominates our everyday life and is opposed to undeniable human need for philosophy and answers to philosophical questions, becomes the object of our reflexion. Asking the question about the meaning and the reason of the existence of philosophy today becomes a serious philosophical problem if it is asked thoroughly, if it is also supposed to answer the question how significant philosophy is in the world of knowledge, for science and for scientific studies – especially scientific economic studies and, necessarily connected to it, academic education, production of educational staff and the process of education of new economists.

The meaning of the question about the need of philosophy today derives from the essential characteristics of philosophy, from what philosophy has always been. That is why the human need for philosophy, springing from his generic constitution, is the need for philosophical contents, which themselves represent: the universal cultural value, the thought of their time, the view of the world, the critical awareness, the utopian thought, the founding knowledge and the educational science. So, what is the use of philosophy today in these anti-philosophical times, as a universal cultural value, as the thought of its time, as a view of the world, as the critical awareness, as the founding knowledge in the world of knowledge? And, especially, what is the use of philosophy today in the educational process, on the pyramid of knowledge, as the educational science? More specifically – why does a future economic expert need any philosophical contents at the threshold of the world of work? We can also formulate this question like this: how can a future economist benefit from studying philosophical contents as a general theoretic, cultural, educational, human, propedeutic, funding, supporting and complementary discipline?

Discussing the reasons and meaning of the existence of philosophy, its significance for the humans and the social existence of today, for humanity as well as for the world of scientific knowledge which has the dimension of axiological approach since its value relation with philosophy, is always the discussion about reasons and meaning of philosophy as the "educational science". For, what philosophy can offer man as an intelligent, social, cultural and working being, can be done most adequately within institutional frames, in the first place, in the process of philosophical education. Precisely, in the case of economic education, within the shelter of university.

Cognitive interest, which derives from man's need of knowledge, is the most essential interest of human intellect. That interest can be most completely fulfilled in the educational process, on the level of university teaching. University – the micro universe, the universe of science, is the gathering space and the meeting point of sciences – natural, social, psychological, mathematical and philosophical; theoretical and empirical; fundamental and applied. It is also the universe of wide

range of scientific knowledge, traditional and modern. Gathered together under the same roof is the integral scientific knowledge whose existential meaning takes place in a unique process of systematic and thorough gathering and transfer. University is the place where studying, studious approach to science, scientific knowledge, thorough acquisition, adoption and conquest of knowledge take place. The kind of knowledge which is not shallow, inadequate, false, incompetent, wrong, full of imperfections and paradoxes, but just the opposite – relatively complete, wholesome, coherent, harmonised and comprehensive. But it is also a demand, actually the imperative of our times, of epic social-historical, especially economic processes, whose contemporaries we are. The role that human (political and economic) subject has given to himself in forming and reforming of social objectivism puts accent on the importance of knowledge, which means- the importance of university staff, the ultimate masters of understanding and changing of existing reality.

The choice of profession, of doing a job whose goal is to attain a certain social function, requires the awareness about the need to gain competence, as a successful functional linking of knowledge. Choosing to be an economist today means a choice, a personal decision led by the desire to accomplish personal ambition and affirmation. Education, the process of gaining a wide range of knowledge, as a threshold of the world of work, should prepare experts, precisely – economic experts, for successful management of economic affairs. The obvious flood of «instant» universities and the production of experts of narrow specializations and pragmatics and their involvement in society, in the management of business, deprived of vision and ability to perceive and predict the possible consequences of such engagement, add to the production and reproduction of crisis within the field of economics – the formation of reality as a frame and a cause of human discontent. If the lack of critical and self-critical awareness, ability to consider the wholeness of economic processes and long-term consequences of partial and pragmatic moves, inspired by shallow, highly specialised knowledge arrests economic development, which seems to be the case, then the "mission" to overcome crisis and shape a better, more prosperous and more promising social reality should be assigned to economists – intellectuals, highly and broadly educated experts, visionaries and true humanists.

Celebration of knowledge, so typical of new-era philosophy, has not been diminished yet. Just the opposite! Our contemporarity explicitly and more than ever shows and proves the power of knowledge, as well as the inability of ignorance in managing social affairs, especially economic. Knowledge is power! Those in possession of knowledge are in possession of power too – economic, political, ideological. The one who has the power rules the planet. He has the rest of the world in his hand. The processes of globalisation which have shaped the contemporary history only highlight that fact. Uncovering the phenomenon of knowledge as power, of use and abuse of power of knowledge in international

relationships is, in fact, the uncovering of the tendency to conserve the state of things: since the basis of economic development is applied scientific knowledge, it turns out that the wealthier and more economically developed a state is, the more money there is in the science development budget, which brings about even more rapid economic growth. And so, the circle closes here.

So, it is not about some kind of knowledge, but about scientific knowledge, applied scientific knowledge, since that is the very meaning and reason of the existence of science – the practical application of its results. The deeper humanistic meaning of science is to realise and objectivise the knowledge so that it becomes useful to man, to improve his well-being. Apart from being theoretical knowledge which explains reality, sciences tend to perform their practical function. Applied scientific knowledge is more significant if it is employed by economics.

How about philosophy and philosophical knowledge? Can philosophical speculation contribute to the well-being and welfare of people and thus fulfil its practical function? In particular, can we declare philosophy to be in service of economic practice? Dialectics of philosophy and social reality is reflected, on the one hand, in social reality as being a subject content of philosophy, and on the other, in the fact that philosophy is a part of social reality. Since the whole social life is essentially practical (Marx), the point is whether or not philosophical knowledge can be applied to concrete forms of social practice? Can philosophy, as knowledge, be regarded as "applied knowledge " in economic affairs, for example?

First-hand applied knowledge, as we can witness, except from providing well-being, also produces and reproduces problems, which, in a way, annul and decrease positive results. That is why different kinds of science, economic science as well, ethically speaking, have to share the guilt and accomplish the "saviour" mission by finding solutions to the problems of their own making. Anyway, the power of directly applied knowledge is proportional to the produced social well-being, to the obvious use people make of it in their everyday lives. Unlike scientific knowledge, applied philosophical knowledge cannot bring people such direct and obvious benefit. We can discuss the use of philosophy as knowledge for human life, in the first place, if it functions as a part of some particular scientific knowledge, such as the knowledge of a certain profession. Thus, business ethics cannot be conceived other than applied moral philosophy and the theory of rational deciding (or acting) as applied logic.

This is how we directly reach the conclusion that philosophy as knowledge, as philosophical education of economic experts, is in service of economics and, in the first place, economic success. Philosophy serves economics. Having on mind the domination of economics, economic practice in social reality and the science of economics in the process of its forming and reforming, as well as the dominant patronizing approach to philosophy, its importance and role in society, we might ask a question whether philosophy is solely meant to be the servant of economics. If we accept Peter Koslowski's opinion that, unlike other

sciences, philosophy is not the knowledge of control but the science of education (Koslowski 2003, 11) we can only emphasize the importance of this question which itself is the expression of radical change of position and destiny of philosophy today. Especially, as highlighted in this discussion, the position and destiny of philosophy on the pyramid of knowledge, in the process of education of economic experts.

The development of natural sciences, which has strongly marked the new era, at the very beginning was the expression and the consequence of changes within the society, of the birth of a new social and economic order. The emerging capitalism produced and reproduced the assumptions of its growth in space and time and the natural science of that time was faced with the task to learn completely the secrets of nature, to discover the natural necessity and the laws of natural phenomena. This way man was supposed to fulfil his wish to become the absolute ruler of nature. Mastering nature and its forces his growing needs and bring about the growth of social welfare. The goal of scientific research which was formulated in the 17th century- contribution to the human welfare, has not been abandoned since. Dialectics of the historical progress reveal that the process of making man's dream of complete mastery over nature, in order to satisfy his numerous needs, coming true is actually the basis of economic growth of human race.

The process of mastering nature as a goal, task and sense of natural scientific knowledge reveals man's aspiration for mastery. But, this aspiration is not only obvious in relation to nature, but also to other humans. The history of mankind has been the history of mastery with its various manifestations and it has marked the whole of man's historical existence.

Although the purpose of social scientific knowledge does not end with the mastery of its subject, it, as an intention, cannot be denied as its permanent characteristic. It is especially obvious in economic scientific knowledge. The knowledge of economic reality, it "subjective" and "objective" sides, as a complex phenomenon of processes, relations and acts, is supposed to explain and describe the sides of that objectivity but also to be useful in practical mastery over it – in introducing man's complete control over all segments of economic reality. Homo oeconomicus, not saving his reason and knowledge in everyday errands, fulfils his goal: as a superior being becomes a complete master of "situation". In other words, absolute control over everything – economic flows in general, market, prices, economic laws and human beings.

Language covers but also discovers – in the meaning of words there is the essence of what they signify. That economics is mastery is obvious to read: for example, "gospodarstvo" (mastery) ("gospodar-stvo" (master-y) - means in Croatian "ekonomija", "privreda" (economy, industry). Our word "gazdovanje" (mastery) ("gazda" (master) contains within itself the same meaning – gospodarenje (mastery). Also, the Russian word "gasudarstvo" = state (gosudar =

master) points to the fact that the social life of people takes place in the form of mastery. Economics as mastery contains within itself a relation, dialectics between a subject and an object, which takes place within the relationship of man and nature, man and economic phenomena and processes and man and man. The medium of economic practice fulfils the human need to subdue nature, economic movements and other people.

Contemporary economics is mastery actualized as man's need of absolute control of everything and as absolute management of all the aspects of economic life. Management is the key word of economic rhetoric, uttered in various contexts: "company resource management ", "human resource management", "performance management", "money flow management", "logistics management", "supply management", "distribution management", "development management", "growth management", "company management", "knowledge management", "cultural diversity management"... and even – "economic crisis management".(!) Management is a magic word which signifies the omnipotence of economic reason in the sphere of economic growth.

The knowledge of simple truths such as that consumption is the engine of production, or that production is the assumption of general social survival or that economic development is the prerequisite of general social advancement, has evaluated into a development of (scientific) economic consciousness which, at this level and with its term structure as a key to understanding the totality of economic life, starts overwhelming every single form of social reality. The process of self-awareness of modern homo oeconomicus took place during the growth of his awareness of the importance of the dominating economic sphere for the wholeness of human experience. That process was nothing but the reflection of the real process – the growing presence of economics in other spheres of social life.

Economics is the region where (economic) reason rules and makes it possible as such. Human micro-cosmos, which is a dominant, technicalized and economicalized world, rationally organised and managed, constantly reproduces itself due to objectifications of the technical and economic man. The consequence: everything human takes place within techno-economical modus Vivendi. Or, as P.Bubanja formulated this problem: "technical and economic terms of the human world become, in a way, mastering terms in theory and practice" (Bubanja 1999, 318).

The process of planetary spread of capitalism as global economic order which has been going on for centuries, with the variety of its manifest forms, the expansion of the "capital kingdom" which is marked today as "economic globalisation" in its dialectic movement and in its contradictory motion, shows one of its sides in the shape of imperialism. This planetary imperialism which has realised itself in modern human history as the process of unity of continuity and discontinuity and as the unity of its manifest forms, is not only exposed today in the shape of dominance, expansion and mastery as it was before, but is also exposed in the way suitable for contemporary level of scientific and technical development.

Economics, before and above everything. But not (only) as necessity for human survival, but also as a cause and a consequence, as a means and a goal, as a rule of profit, as "perpetuum mobile" - the continuous flow of production for the sake of consumption which is the essence of production, as trade with all that can be traded with, as buying and selling of all that can be bought and sold, as an endless spreading and presence within all which is social, as dominance in all spheres of social life and dominantly the most significant area for the destiny of human society, as permeating social practice present in all other spheres of social practice. Economic affairs are, thus, the most important ones and marketing and management, which celebrate homo oeconomicus and economic ratio, are the most interesting, the most wanted and the most powerful areas of work industry.

The unstoppable expansion of economics and its omnipresence within society, the totality of life covered by economic relations and the spheres of work and free time, of public and private, represent the process which marks our contemporarity which has necessarily been reflected in the economic, empirical, pragmatic and scientific consciousness.

Critical economic scientific thought states the dominance of economic science and the spread of its influence in the world of scientific knowledge. In the same manner, S. Manić in her rather inspiring book "Controversies about economic methodology" stresses that phenomenon and qualifies it as "economic imperialism" (Manić 2009, 143). S. Manić also perceives the importance of philosophy for the development of economic-scientific knowledge and pleads for the establishment of a new relation within philosophy – economic science. In addition, she reflects upon the existence of philosophy as an obligatory scientific discipline in the process of economic education. Opposite to the dominant negative and degrading thought of economic intellectuals in our region, there are thoughts which affirm the necessity of the existence philosophical content within the educational process of economic studies and bring back philosophy its dignity. We may understand as such the words of S. Manić, according to who " the study of philosophy might be reinforced as obligatory, as well as relevant parts of history of ideas of particular disciplines, etc." (Manić 2009, 152).

II

The more radical the problem of relation to philosophy in the world of knowledge of today becomes, be it science or academic education, the easier it is to conclude that its position is not stable at all. In the context of this problem, with the borrowed phrase "economic imperialism" we imply "economic scientific imperialism" by which I would like to highlight, indirectly, dominant anti-philosophical spirit of modern economic (economic-scientific) consciousness.

Evil fate doomed philosophy. Degrading treatment of philosophy, present within scientific circles, due to its alleged uselessness, reflected the educational system itself. Philosophy, if it has ever existed in the first place, slowly "disappears", vanishes, "is annulled" from non-philosophical curricula. The same doom happened to philosophy, as an academic discipline, at the departments educating future economists. At best, it was offered as an optional discipline. Why is that so? Why is philosophy, where it is present within economic studies, treated as just an optional subject? Why is its importance ignored and degraded? The reasons why philosophy as a scientific discipline does not participate in the process of economic education definitely are not cognitive or educational. They are "on the other side" of cognitive interest. And "on this side of bad and evil. "

The scheme of the problem is: actual social reality – science – education, or, to be more concrete, economic reality – economic science – economic education. Economic reality is the subject and the content of economic science, whereas economic science with its descriptive, explicative and anticipating statements on one side, and as a form of intellectual creation on the other, is a finished piece of work, the result of this creation, the content and the constitutive part of economic education. It is an undeniable fact that economic science achieves the purpose of its existence via educational process – in educational and pedagogical industry, that universities are places where scientific resource is produced and that education, with its educational contents, represents a part, an area of social reality. These reasons suffice enough for me to claim categorically that the system of economic education is an important determinant of growth in the sphere of economic reality. That is how we witness here this cause and effect dialectic as the dialectic of modern economic practice and of the process of transfer and acquisition of knowledge within the frame of academic teaching. A thorough vertical and horizontal comparative analysis of particular social realities and their own educational systems would confirm my statement. Contemporary "historical situation" has already confirmed it.

In the economics – education relation, economics is always the presumption of education. What is more, the character of economics is imprinted on education, shaping it. On the other side, as a feedback, education crucially influences the state of economics.

The massive growth of everything is a civilizational feature of today. The massive growth of the process of interiorising knowledge within university education is the imperative of our times. Contemporary, worldwide, economic society coming into shape constantly creates a massive need of economic experts. But, the massive production of highly-educated economic experts becomes a problem since there is a dimension missing in that process – general educational knowledge. Contents which offer that kind of knowledge are regarded as redundant and needless and, thus, useless. This is a planetary phenomenon.

"Economic (economic-scientific) imperialism" in the world of scientific knowledge and, above all, in economic education, is a representative characteristic of the "spirit" of our time. The present state of world economy directly indicates that. That is why the criticism of actual economic reality should be at the same time realised as the criticism of the incomplete and conceptually inappropriate system of economic education. However, it is not directed at educational environments whose programmes of studies contain general educational and humanistic, hence philosophical, disciplines. P. Bubanja clearly highlighted this fact when he said "it is enough...to fragmentary point at the level of general education of economic experts in the developed countries of the world: Italy, France, Germany, Brazil, Japan, the United States of America, the Russian Federation, Israel, China, and at their advance in educational curricula and programmes which provides information about the state of ideas in the world which are important for a relatively satisfactory meeting of culture and economic rationality" (Bubanja 1999, 386).

A complete renaissance of awareness of restoring dignity to philosophy on the pyramid of knowledge is needed. A complete return of philosophy and its adequate presence in the process of academic education is needed. However, those high-educational systems with the tradition of producing broadly (hence philosophically) educated economic experts could be paradigmatic in those environments which have forgotten the reasons why people need philosophy.

According to Kozlowski, "the state of thought today is marked by the return of philosophy" (Kozlowski 2003, 19). "This return", says Kozlowski, "opposes the thesis about the end of philosophy which, since Hegel, has been marking philosophy and science" (Kozlowski 2003, 19). According to him, the return of philosophy "took place... due to three reasons: a theory of wholesome reality is needed, applied ethics in science is needed and it is also necessary to answer the question about the relationship between the norms of particular sciences and different areas of culture, because particular sciences do not offer a satisfactory answer to that question" (Kozlowski 2003, 19).

The return of philosophy which Kozlowski discusses should be, of course, understood also as the return of philosophy into economic and scientific thought, i.e., as the reaffirmation of the importance of philosophy for economic science. But this is not evident in all scientific environments or, as its reflexion, in the process of academic economic education.

Taking a standpoint and representing the anti-philosophical point of view when the question of the importance of philosophy is discussed is what will doom the fate of philosophy on the pyramid of knowledge, since the phrases such as: "redundant", "useless", "futile", "boring", "not interesting" etc have been attached to it. Philosophy is conceived as ballast. That is why, being obligatory, independent scientific discipline with clearly defined boarder lines within the system of economic education, it is believed that philosophy should not exist at all. But this

attitude to philosophy is essentially opposed to the growing awareness, among economists themselves, that it is necessary to create broadly educated economic experts. Also, the importance of culture for economy is highlighted as well. What has been forgotten is, however, the most important thing – that philosophy and its contents has always been a constitutional part of the culture of mankind.

A significant contradictory of our times is evident in the obvious dominant presence of anti-philosophical spirit, in the repression of philosophy and its annihilation (of course, not philosophy as such, but philosophical cultural and educational content in educational process) at one hand and in flaring so-to-speak "omnipresence" of philosophy in our contemporary social reality, in economics in the first place, on the other. We could say that philosophy is present everywhere, in various economic affairs, and thus we could conclude that the character of economic management is "philosophical", i.e. intellectual, that economic management is intellectual and that economic praxis is organised on the same bases too. But it is just the looks. And only artificially, as intellectualism is repressed for the sake of anti-intellectualism, is the philosophical speech replaced by imposed "philosophy", by self-creations of "philosophical managers" which they promote as the secret of their success. The boundless imperialism of economic ratio which pretends to be intellectual, allowed itself to call philosophy for what is not or can ever be

Economics is the sphere of rationality. Valued from the perspective of the utopian mind, it is the kingdom of non-intellectual. The state of modern economy just reinforces this statement. The growing planetary problems such as: poverty and famine in the world, wars, violence, injustice, lack of equality, different forms of non-existing freedom, modern slavery, exploitation, reification, pseudo-humanism, men's irresponsible relation to nature, the manipulation of human needs and the global crisis as modus Vivendi of modern man are the strongest and the most valid evidence of the fact that modern world is not only not close enough to the accomplishment of the divine philosophical idea of the intellectual organisation of social life, but also that it has never been further from that goal. Economics, the kingdom of non-intellectualism, exists in the form of self-regeneration, i.e. exists as the self-reproduction of non-intellectualism. This is so because philosophy, which is human awareness and intellectual relation to the world, is not present in the world of economic reality. It exists solely in the world of economic rhetoric. Within economics, philosophy exists only as a word. The rhetoric of economic success inevitably contains phrases in which philosophy represents something inevitable for successful business. Philosophy is regarded as something which guarantees and maintains success. The secret of economic success lies in the philosophy (of success), which is the "product" of a successful economic subject. This is how a successful chocolate manufacturer claims that he has his own philosophy of making chocolate, and also a successful toy manufacturer, who exhibits his philosophy of making toys into a few points. And so on. Since every

philosophy is the result of the meditation of a philosophical subject, we could conclude that successful businessmen are, in fact, philosophers.

The use of a word presupposes knowledge of its meaning. Uttering the word "philosophy" within the sphere of economic practice thus presupposes the philosophical knowledge, presupposes the awareness of the term itself and demands previous grasping of the definition of philosophy. This way the relation between adequate and inadequate and meaningful and meaningless usage of the word "philosophy" is completely the same as the relation between knowledge and ignorance about what philosophy is and is not and what it cannot ever be.

Considering the multi-dimensional relation between philosophy and economic science through the medium of critical attitude towards "economic imperialism" presupposes stressing the multi-meaningful character of this phrase: first of all, imperialism is a real and objective process, as old as class society. In its contemporary meaning it is associated with capitalism. According to Lenin, imperialism is the highest stage of capitalism (Lenin 1960). It is a process apparent in various forms while the economic forms shape the essence of capitalism in a certain stage. These economic forms of imperialism can be identified as "economic imperialism", which is the basis of all other forms of imperialism (political, cultural, linguistic). The term imperialism is always determined by other phrases such as: expansion, conquest, enslaving, dominance, colonisation, exploitation, aggression, supremacy, war, violence, usurpation, mastery, instrumentalisation and manipulation. Critical thought about these contemporary globalising processes, which are nothing but planetary spreading of capitalism, labels them as "neo-imperialism" (Zuidervaart 2007, 128). This neo-imperialism also has its own economic dimension which is realised via various forms of economic enslaving; contemporary capitalism, however, does not exist only as a planetary and international system which is coming into being, i.e., as economic globalisation most of all (economic neo-imperialism), but also as an order, as an established, economical and political system. A significant feature of the contemporary capitalist society is the dominance of economy, the tendency to expand economy within the space of social totality, dissemination of the influence of economic systems on other non-economic forms of practices and institutions (Zuidervaart 2007, 120), the merging of other spheres of social life with economic relations, aggression of economy on politics, culture, media and education. In a word, the process of economic imperialism within capitalist society is taking place; the "conquest" of all other spheres of life, the "colonisation of the world of life" (Habermas) (Zuidervaart 2007, 128); this realistic process is reflected upon the level of economic consciousness as the consciousness of absolute power of economy and homo oeconomicus, who, using the power of its (economic) ratio suppresses all other types of consciousness. In the world of scientific knowledge the problem of the dominance of economics within the relation between economic science and other social sciences is considered a problem and is labelled with a

phrase “economic (economic-scientific, economic-theoretical) imperialism”; within the relation between philosophy and economics the problem present in the relationship between economic science and philosophy can be also labelled by the phrase “economic (and economic-scientific) imperialism”. What is more, seen from the point of view of the relation between philosophy and economics, hypertrophic economic ratio in its superiority and absolute freedom allows itself to use the phrase “philosophy” meaninglessly and according to its own discretion and in all possible circumstances since it pretends to be intellectual. But, in the sphere of economics there is only a surrogate philosophy, a word void of its real meaning, a shell without its content. Anti-philosophical and anti-philosophically practiced economics is propped

Creating the relation between philosophy and economics we face a problem evident in contemporary economic-scientific speech, much more than in everyday, non-scientific and the speech belonging to the realm of economic life. Paradoxically, there is no philosophy, it has vanished, it has been “abolished”, “erased”, because, so they say, it is redundant, useless and unnecessary for economic education. But philosophy is still here because its omnipresence is characteristic of economic-scientific literature. Is it a surrogate which is supposed to replace real philosophy? Or is it a hint of the renaissance of the awareness that economists need philosophy?

Uncovering the essential character of a complex relation between philosophy and economics shows that this relation in one of its dimensions manifests itself as a rare and specific case of “economic imperialism”. The relationship between realistic imperialism, which as a tendency becomes obvious in modern capitalism, and “economic imperialism”, which is the state of economic consciousness, has already been pointed out. What I have in mind here is, above all, the current, concrete and patronising attitude towards philosophy in the world of economic knowledge, also, the repression of philosophy, denying or ignoring the real importance of authentic philosophical contents for economic education and, at the same time, the “presence” of philosophy in economic– scientific contents which manifest themselves as frequent and random use of phrases in which “philosophy” is the key word, use of philosophical terminology, philosophical terms, names of philosophers, quotations from philosophical literature, also as “absorbing” philosophy, possessing and adopting it, instrumentalisation of philosophy and its “colonisation”, “merging” into economics (economic science), which gradually makes philosophy an economic discipline.(!)

My critical reflexions aim at the destruction of economic speech which easily and largely uses the word “philosophy” in different phrases, while those who utter these phrases do not care about their meaningful use at all. Identifying and criticising this manner points to the necessity to restore dignity to philosophy, which was lost due to its excessive and inadequate “presence” in economic reality and economic science. Destruction of economic speech teeming with the word

"philosophy" should be a kind of apology to philosophy and, in this way, a kind of criticism of "economic imperialism."

The "presence" of philosophical within economic disciplines itself suggests inner and functional attachment of economic science and philosophy and the fact that economic disciplines gain their theoretical dignity due to philosophy; thus, philosophy is necessary to economic theory. At one hand, it affirms philosophy itself. But at the other hand, as long as it has to fulfil the intellectual demands and to satisfy the interest in knowledge during the academic process of economic education, it cannot offer much because the thorough explanation of philosophical within non-philosophical (economic-scientific) contents is the aim and the task of philosophy. And this fact highlights the necessity of the existence of philosophy as an independent academic discipline within economic education.

Systematical study of logically ordered contents within the system of economic education, including philosophical ones since they are foundational and supportive, within its role, among other things, to educate for the sake of humanity, would prove that the educational process completely fulfils its purpose – creates widely educated experts, able to find answers to the challenges of their times and participate in the creation of a more prolific and more humane world.

The categorical standpoint which is being discussed here and which regards philosophical contents as generally-educational, generally-cultural, humane, founding, supportive and complementary also points at the fact that they should be necessary and constitutive parts of educational contents contained in the studies of economic faculties and demands argumentation and proof of these undeniable facts which support the thesis itself. However, what we have in mind here are the studies of particular authentic contents in the form of one or more separate educational disciplines, and not the philosophical contents within economic disciplines.

The role of philosophy on the pyramid of knowledge within the system of economic education derives from the task that philosophy has always had – to give a thorough explanation of what has belonged to her since its very beginning- of philosophical concepts. What is more, " philosophy is the only academic discipline which is focused on explaining concepts". (Earl 2005, 30) That is why it is necessary for other academic disciplines, economic ones as well.

The phrase "pyramid of knowledge" stands for thoughtfully and meaningfully built system of educational disciplines which in its unity forms the structure of a harmonious unit of knowledge, functionally connected and consistent. The "pyramid of knowledge" is a "model – performance" supposed to show the idea of a system of knowledge as a basis of educational process. It is a "building" made within the process of consistent realisation of the principle of systemacy (which is the basis of every educational process), due to methodically

achieved gradual and deductive way in classifying economic education, from the bottom to the top. The idea of the "pyramid of knowledge" is the basis of economic education and contains the thesis that philosophy is necessary within such education – philosophy as an independent discipline with precisely marked limits of its content, and is not supposed to be understood as pyramidal hierarchy of disciplines, but only as a thought about philosophical contents within economic education, a kind of non-economic knowledge with a purpose to derive economic (economic-scientific) knowledge.

Existing within economic reality, we live in familiar surroundings. But, if something is known, it does not mean that it is understood. That is the sole purpose of educational process – to make familiar understandable. The purpose of economic education is to take the known – actual economic reality, to the level of the understandable. Meanwhile, economic science accomplishes its task in the field of scientific knowledge – researches and explains economic reality. Within the pedagogical process which is realised as methodically organised and lead transfer of knowledge, economic-scientific knowledge fulfils its goal by becoming the content of the consciousness of the listeners, which represents internalised knowledge in the form of economic education

Gaining and having wholesome, precise and certain knowledge about something presupposes human reason. And "reason is generally", to cite Hegel one more time, "an important moment in education. An educated man is not satisfied with nebulous and undefined, but only with strictly defined subjects, whereas an uneducated man often wanders and floats in the undefined, and very often it is rather difficult to communicate with such a man and get him to focus on the point in question." (Hegel 1973, 162)

Following Hegel, we can conclude that during the educational process of future economists we should respect the demands of reason. It imposes on us the obligation to use every single phrase precisely, adequately and meaningfully in our educational contents, to avoid implied meanings and to use clearly defined and precise ones. In other words, it is important that every single term is precisely and clearly defined, according to the definition rules, which eliminates the possibility of ambiguous interpretations. This is, actually, missing in the "presence" of philosophy in professional economic literature.

Indeed, economic literature is full of phrases in which the word philosophy should suggest an intellectual management of economic affairs. Here are a few examples: "management philosophy", "marketing philosophy", "business philosophy", "new quality philosophy", "new corporative philosophy"... The answer to the question how meaningful or meaningless these phrases are lies in the "return to the beginning", in asking the question about the meaning of philosophy. It seems that here, in the context of professional speech, economic ratio has decided what philosophy is, as if the question what philosophy is and what it is not is not primarily a philosophical question since it is the subject of philosophers themselves.

Phrases in which "philosophy" is the key word and which are related to certain forms of economic practice, "philosophy" is used as a synonym of "concept", "conception", "understanding" or "theory". Here we have a scientific concept, scientific understanding and scientific theory, but not a philosophical concept, philosophical understanding or philosophical theory.

The difference between philosophical and non-philosophical (especially scientific) theories is obvious in the very definition of theory: "...while general theory is a relatively coherent system of attitudes or an organised set of internally linked kinds of knowledge and facts with the purpose to make possible to explain certain facts, areas of reality or the world as a whole, philosophical theories should be distinguished from narrowly-specialised scientific ones because they are of highly general character and all-embracing and thus their concepts are difficult or even impossible to verify .... Philosophical theory is a set of internally linked attitudes of the most general character which present certain knowledge about totality, in subjective or objective sense. Out of these attitudes we might create or we might use them to link and embrace less general attitudes, which brings about the establishment of a meaningful relation between philosophy and specialised science" (Zaječaranović 1992, 38).

Negation or ignorance of the relationship between philosophy and economics taking place in intellectual circles, and which has resulted in the denial of philosophical education within the educational system intended for economists, in my opinion, should be understood as the presence of "economic-scientific imperialism", a negative tendency within economic-scientific consciousness, which is the reflexion of the real, objective economic imperialism. The large-scale "presence" of most various kinds of philosophy, in phrases in which philosophy is the key word, does not deny this tendency. Just the opposite! It emphasizes it even more.

III

Arguing for the complete return of philosophy into thinking, and in accordance with it, for the necessity to reaffirm philosophy as "educational science" of today, in anti-philosophical times in which economic ratio has the absolute rule, is a counterargument for a wide-spread thesis that people and society are not at a loss because philosophy is completely repressed and replaced by science. At one hand, this statement is the result of development and application of scientific knowledge. At the other hand, it is the result of a kind of negation of philosophy present in the wing of positivistic thinking within philosophy. Positivist (and neo-positivist) understanding of philosophy narrows down the possible philosophical thinking, demanding philosophy to remain within the framework of science and use scientific criteria and methods. Thus we may conclude that "economic-scientific imperialism", which is evident in the relationship between

philosophy and economic science, is partially "supported" by "anti-philosophical" positivistic philosophy, i.e., by the influence which this movement has had on economic science.

Critical discussion about the relationship between philosophy and economic science starts with the assumption that philosophy simply is not the science among sciences, one of the sciences within the system of scientific knowledge since the essence of philosophy surpasses such classification. Philosophy cannot be reduced to mere science, because the questions it asks and provides answers to surpass the knowing powers of any scientific attempt to explain its content matter. On the other hand, something which belongs to economic science - an idea, theory, understanding, thesis, standpoint, concept etc., which in its character is essentially economic-scientific, cannot (and must not) be identified with and called philosophy. But, there is an (undeniable) relationship between philosophy and economic science and it can be discovered in the works of great theoreticians, both philosophers and economists.

The bond between philosophy and economics (economic ideas) can be followed, retrospectively, since the Antique onwards. This bond is the most obvious in the teaching of Karl Marx, but it can also be found in Hegel's philosophical system. While dealing with this issue, György Lukacs wrote in his book Young Hegel, trying to stress the historical dimension of the bond between philosophy and economy, that " it is obvious that the bond between economics, social science, history and philosophy did not start with Hegel ", and that "isolation of economy from other areas of social science is typical of the development of the descending period of citizenship. Important thinkers of from XVII to XVIII century included in their works all areas of social science, as well as the work of important economists such as Petty, Stewart, Smith, etc. and in their representations of this bond they managed to exceed the borders of economics in its basic sense" (Lukacs 1959, 353-354). Contemporary return to this problem should be understood as a reminder of something which was noticed long ago.

The effort which tends to show the necessity to return dignity to philosophy as an educational science of the pyramid of knowledge, is in fact the effort to highlight the essential relation between philosophy and economic science and the meaning of the existence of philosophical contents within educational processes of creation of economists. The question is not whether an economist-to-be needs philosophical education, but which philosophical contents should be represented, how much and in which year of study. Or, in other words, which philosophical contents should constitute knowledge which should fulfil its purpose of achieving the ideal of our times – a widely educated economic expert.

To remind ourselves that teaching within the educational process on the level of academic education should be a harmonious merging of knowledge (episteme), abilities and skills (techne) in which knowledge should "outweigh" is, at the same time, to remind ourselves what knowledge in form of theories offers to

people. The dominant atmosphere today is the one in which one may hear that theoretical knowledge is redundant because it is useless, or that it is over-accumulated within academic educational contents, whereas those contents which aim at the mastering of certain professional skills are under-accumulated. This is all typical of superficiality and shallowness of minds as far as the understanding of the reality is concerned. Scientific and philosophical theories explain the world, they are keys to the understanding of everything which exists. Economic-scientific and philosophical-economic theories, for example, being united and complementary, offer a relatively complete, finished knowledge about the totality of economic world of life.

The dominance of "economic imperialism" which exists within the relation between philosophy and economic science is possible to accomplish, in my opinion, in the form of the return of philosophy to the world of economic-scientific knowledge, due to the renaissance of awareness of its founding importance for science. The position that philosophy occupies within the system of knowledge determines its founding position within the system of educational disciplines. Since the disregard of this fact, present within scientific circles, reflects on the educational process itself, the argument for the return of philosophy into thinking, especially scientific one, as well as into economic-scientific one which is stressed in this paper, is at the same time the argument for the necessity of the return of philosophy as an academic discipline into the system of academic economic education.

In the system of academic disciplines which shape the process of economic education, philosophy, sociology and mathematics, as general educational disciplines, have the founding importance. Since being founding, these disciplines, as propedeutic ones, should be placed at the very bottom of the "pyramid of knowledge."

A thorough explanation of the relation between philosophy and economic science, as an attempt to oppose "economic imperialism", could reveal that this founding importance of philosophical (ontological, logical-methodological, philosophical-anthropological, historical-philosophical, philosophical-historical, ethical, etc.) contents for every single economic discipline. A close or distant, direct or indirect, inner or outer character of the relationship between philosophical and, especially, economic contents could be revealed. What is highlighted is the importance of philosophy, as philosophical knowledge, for strictly scientific, in this case economic, knowledge within educational process. The issue about functional knowledge is understood here, in the first place, as the issue about possibility of functionally applicable and applicable knowledge, i.e., on the level of interiorisation – understanding and appreciating philosophical knowledge, depending on its participation in economic knowledge, within the very process of gaining and acquisition of scientific economic knowledge. In other words, the

question is: what is the use of philosophy, of authentic philosophical contents, for the students of economic scientific studies, which are treated, within the complex of educational disciplines, as separate dimensions of unique economic issues?

The elaboration of the thesis about the bond between philosophy and economic science, and thus the necessary existence of philosophical contents as propedeutic ones (thus obligatory) within the process of economic education, should include a thorough analysis of presence of that which has always been philosophical in non-philosophical, more precisely-economic, literature. The presence of something philosophical in non-philosophical contents is itself an argument for this claim. Because, the presence of something unexplained which presupposes previous explanation definitely does not contribute to the accomplishment of pedagogical demands. To explain something philosophical is not a task to be accomplished within the non-philosophical, here economic, contents of educational process, outside philosophical educational system. Giving a previous thorough explanation of everything comprised within philosophy is the goal of philosophy itself or of philosophical education. It should not be otherwise. Interiorised economic knowledge which contains previously unexplained philosophical terms is incomplete knowledge. The existence of ample number of philosophical phrases within economic literature, such as : "ontology", "ontological", "gnoseology", "gnoseological", "epistemology", "epistemological", "logic", "being", "dialectical method", "metaphysics", "essence", "existence", "axiology", "axiological", etc. demand previous explanation within philosophical educational process, since these are not foreign words to be translated, but philosophical linguistic phrases. According to everything, economic science cannot do without philosophy, without "utterly" philosophical, and this fact provides economic science with the dignity of being theoretical one. But, if we overlook the necessity of their previous philosophical, thus professional, explanation within the context of educational contents, this will be detrimental not only to philosophy, but to economic education as well.

Finally, one more time, let us ask: what is the use of philosophy on the pyramid of knowledge, in the process of economic education? Or, to be more concrete, - what is the use of philosophical, as authentic philosophical content of a differentiated educational discipline, when the presence of philosophical within non-philosophical is evident? Identification of philosophical terms within professional economic literature is strong and irrefutable evidence of the unbreakable bond between philosophy and economic science, and, thus, of the necessity of previous philosophical explanation of these terms. Without it, their presence within economic contents is a mere "enrichment" and "decoration" with philosophy. Contents of economic educational disciplines become "enriched", "decorated", "embroidered" and "spiced" with philosophy. Again, only true and complete knowledge, previously obtained, and complete knowledge of philosophical terms, which is supplied by philosophy, makes their presence within economic disciplines meaningful.

It is clear, although often denied, that economic science cannot do without philosophy. But, are not the definitions of economic terms via philosophical ones or the presence of, for example, logic within the term logistics obvious examples of the unbreakable bond between philosophy and economic (economic science)? The dominant presence of the spirit of "economic imperialism" which determines economic thinking of the relation between philosophy and economic science, as something inferior, withdrawing and retreating, opposed to something superior, ebbing and spreading, blurs and slurs the real meaning of the use of term logic in the definition of a scientific discipline. The obvious everyday use of the words "logic logistics" on transport vehicles suggests a logical relationship between logic and logistics. On theoretical grounds, this idea is supported by one of the definitions of logistics: N. Barac and G. Milovanović in their book Strategic Management of Logistics offer a definition according to which "logistics, as an important expansion of physical distribution...certain logic manages the use of financial and human resources engaged in physical distribution, production support operations and supply operations" (Barac, Milovanović 2006, 6). A complete understanding of this definition presupposes the explanation of the term logic, and this belongs to philosophy. Here, "logic" is definitely not referred to as a philosophical discipline, as a science about thinking, but the word "logic" is used in its figurative meaning, signifying rational, reasonable, common-sense (Vujaklija 2002, 497). However, even in this case it is dealt with a philosophical term whose "birthplace" is antique philosophy. It requires "returning to the beginning", to antic Greece and its philosophy, Aristotle's in the first place. Also, in order to understand the term "logistics" in its original meaning, we need to return to ancient Greece, since the origin of "logistics" is associated with "logists", antique clerks who analyzed needs of the state (Vojna Enciklopedija 1973, 118).

Defining one term by the other, one presupposes, according to the definition rules, clear and unambiguous definition of the initial term. This leads to the conclusion that the presence of philosophical contents within economic education is necessary if these terms, which are used to define economic terms, are philosophical. However, the presence of phrases in which philosophy is the key word in professional literature implicates previous awareness of readers of philosophy as such, as well as of the fact that philosophy as a form of spiritual creation exists as a union of various philosophical ideas, theories, systems, schools, orientations and directions. Also, awareness of a huge number of philosophical disciplines is implicated. Anyway, the use of philosophical (ontological, logical, gnoseological, philosophical-anthropological, axiological, ethical, etc.) terms in economic-scientific discourse without previous philosophical explanation, within appropriate concepts of a separate discipline, does not accomplish the concept of integrity of education. The integrity principle is the foundation of every educational process and represents a process of realisation of certain system of knowledge.

Methodically organised and led educational process is a tool of spiritual development of people. Philosophical contents are supposed to contribute to that development. But, the statement about spiritual development via philosophical education does not answer the question about the use of philosophy on the pyramid of knowledge within the system of economic education. The answer to this question can be obtained as soon as we illuminate complex relations on the level of knowledge - between philosophy, as a specific form of knowledge, and economic-scientific knowledge. A deep, unbreakable bond between philosophy and economic science which can be observed and explained within the sphere of spiritual creation should be made as necessary and relevant within the sphere of education – on the level of academic disciplines, in the sphere of transferring, gaining and acquiring of philosophical and economic-scientific knowledge. The meaning of creating and illuminating this bond is the acquisition of knowledge about the bond itself, the growing awareness of people here, of future economic experts, about the justified existence of philosophical contents in economic education and, above all, the awareness of the founding importance of philosophical knowledge for economic-scientific knowledge itself.

Detection and development of a creative dimension of personality, cultivation of gifted people, education of their predispositions, for example for scientific research, which is considered, in the epoch of intellectual dominance of scientific knowledge and practically applied scientific research, the imperative and the goal of academic education which should be achieved by involving students into scientific work. This, however, presupposes their methodological qualifications for scientific research and their readiness to enter the world of science. This, on the other hand, represents the irrefutable argument for incorporating philosophy into economic education. The character of philosophy compared to scientific knowledge is expressed both as logical and general methodological knowledge since it, as previous knowledge and previous philosophical (logical – methodological) education, makes possible the existence of concrete, economic-scientific, methodological knowledge. Logical and general methodological contents, if related to specifically scientific (here economical) contents, represent a basis which provides for further development. Certain methodological demands and principles are prerequisites of any kind of scientific work. Just like logic and general (philosophical) methodology, philosophy deals with defining the rules and conditions of authentic knowledge and methodological principles and offers them to other sciences which have to obey them if they want to have successful research results. Every scientist must obey these demands, rules and principles in his work. Also, every kind of specialised scientific research, as well as every approach to science as knowledge, as acquiring specialised knowledge, presupposes previous philosophical knowledge about basic forms of thinking: concept, judgement and conclusion, about definition and classification as well as about basic methods of knowledge. From the point of view of logic, economic-scientific knowledge, as knowledge, is a result of a complex thinking

process which goes on as understanding, judging and concluding and itself represents a system of concepts, judgements and conclusions. Since these basic forms of thinking make possible and form the structure of economic-scientific knowledge, to fulfil the pedagogical demand of wholesome knowledge they should, first of all, obtain necessary knowledge about them and then be logically competent in order to do scientific work; thus these basic forms represent a gate or a hall, an introduction to the world of scientific research or scientific knowledge within the educational process. Understanding the concept of goods, for example, presupposes previous knowledge about the concept itself. Also, complex mental activities of defining and classifying and their result-definition and classification have founding importance for every kind of thinking aspiring to be a scientific one. From logical-methodological point of view, scientific research is, among other things, a complex process of defining and classifying, which presupposes previous knowledge of what definition and classification are. We should understand the definition of "definition" and "classification", as well as the rules of defining and classifying, which is an important condition for a competent scientific research or acquisition of complete scientific knowledge about something.

Application of principles of dialectical methods in economic-scientific research, which is often and reasonably done, should presuppose a clear awareness of the dialectical method as a general philosophical method which is essentially different from the other general philosophical method- metaphysical one. So, in this case as well, presence of something philosophical within the un-philosophical (economic-scientific work) within the context of complete and wholesome knowledge, leads to philosophy, to necessary philosophical explanation of something which has always belonged to philosophy. Dialectical method, just to remind ourselves, is neither sociological nor economic-scientific, but philosophical method, but within specialised scientific research its methods can be particularly applied. This supports the thesis about the necessity of philosophy as propedeutic discipline within the system of economic education. Since the dialectical method, as a general philosophical method, is in unity with general philosophical theory, when we discuss it and its principles we necessarily must discuss general theory of reality and its basic principles. Thus philosophical education, as propedeutic one, should contain previously defined philosophical (ontological) categories necessary for economic-scientific thought necessary for a complete explanation and understanding of economic reality.

What is, as a methodological content, necessary for all kinds of science and philosophy itself, is also the subject of general or logical (philosophical) methodology and thus, since belonging to philosophy, should represent an important area within philosophical education of future economists. The presence of dialectical method or basic methods such as analysis or synthesis, induction and deduction etc., within specialised scientific, in this case economic, methodological

contents, should be understood as accent on their importance for particular economic research. If otherwise, it is a case of extortion and appropriation, of "economic-scientific imperialism" at work.

Explaining economic reality by categories of universal –human importance since they refer to significant dimensions of human existence, what economic science tries to achieve, explains the usage of phrases in economic-scientific speech such as: "sustainable development", "freedom of choice theory", "economic subject", "theory of games", "business ethics", "human essence", "human nature", "human species". But, does not "sustainable development" presuppose a philosophy of development? Does not "freedom of choice theory" presuppose a philosophy of freedom? Does not "economic subject" presuppose a philosophy of subject? Does not "theory of games" presuppose a philosophy of games? Does not "business ethics" presuppose a philosophy of morals? And, finally, do not "human essence", "human nature" and "human species" as a problem of economic-scientific thinking presuppose a philosophy of man and a philosophy of anthropology as their basis?

Frequent presence of phrases such as: "human nature", "human essence" or "human species" in economic literature and, what is more, definition of political economy by philosophical–anthropological concept is offered by Alfred Marschall in his book Principles of economics. According to him, political economy or economics is "a study of human species in everyday work in life" (Galbraith 1995, 4) which brings about the conclusion that it is necessary to highlight philosophical-anthropological presumptions of economic science. Since referring to these concepts is nothing but implicit demand for previous understanding of philosophical-anthropological bases of the study of economic life of the world and homo oeconomicus as its participant. In other words-it is a demand for an answer to the previous question "What is man?". the answer to this question is provided by philosophical anthropology or philosophy of man, which studies man's essence, his significant characteristics which define him among other creatures and which make him sui generis being. The answer to the question why philosophical-anthropological contents should be contained within economic studies is that it is impossible to understand economic reality without previous understanding of human essence. Philosophy of man answers the question what man is. Since the philosophical picture of man is based on economic-scientific thought, this picture determines character and orientation of an economic-scientific approach. "Subjective" sides of economic totality are based on philosophical-anthropological theories. Also, since objective economic reality is structured upon people, individual subjects, grasping and understanding this objectivity is not possible without a certain theoretical (philosophical) picture of man. Modern understanding of economic science as the science of rational economic choice determines the direction of economic-scientific research demanding us to focus on people's behaviour and to rely on psychology as a supporting discipline. At the same time it is obvious that no form of human behaviour is irrelevant for understanding of the

world of economic life and that an attempt to understand economic behaviour of people leads us back to philosophical anthropology, which discloses dimensions of human essence which are manifested in various forms of human behaviour of homo oeconomicus in various circumstances. In other words, a complete knowledge about homo oeconomicus (especially homo consumens), which economic-scientific thought aspires to, presupposes the awareness of economic reality, starting with man understood in his totality. This, again, means the awareness of the founding importance of philosophical anthropology for economic science. Of course, this philosophical anthropology as a successful synthesis consolidates all existing pictures of man and goes beyond all simplifications and exaggerations. It observes man as an integral essence, as a complex, multi-layered structure and as a dialectical unity of regulations, of everything which makes a human being sui generis.

What is the use of historical-philosophical contents within the process of education of future economists? How important are they for the study of economic theory? The answer to this question can be found in the approach Wilhelm Windelband. According to him, history of philosophy "teaches us how forms of concepts, which we all use to think about and judge the world of our experience and our everyday life, as well as specific sciences, were shaped" (Windelband 1978, book I, 48). This is why, according to him, "knowledge of the history of philosophy a necessary prerequisite not only for scientific education, but also for education in general" (Windelband 1978, book I, 48). Also, there is another argument which supports the thesis about the necessary presence of philosophy as a separate, propedeutic discipline within the system of economic education-the philosophical background of economic theories. It is about the birth of one science, about the coming into being of economic ideas within philosophy. This is the question about the beginning of economics, a social science which, alongside with sociology, separated from the corpus of practical philosophy in the second half of 18th century (Habermas 1980, 295). Since then, economy has been involved into individual development. However, the influence of philosophy is obvious. All philosophers as well as all economic theoreticians agree that the first thoughts about economic phenomena are present in the teachings of the oldest philosophers, in Ancient Greece. But, all philosophers (but not all economists!) agree that, in order to understand a philosophical quotation as a part of economic literature, it is necessary to have previous understanding of basic principles of that philosopher. To understand the meaning of, for example, Plato's idea, or a quotation from State, which is taken as an example of the development of economic thought, it is necessary to be previously introduced to basic ideas of his philosophy. Otherwise – quoting a sentence by Plato out of its context and out of the content of the whole State, without previous knowledge of basic ideas of his philosophy, which is supposed to support the knowledge about his economic ideas and explain them, should be a pure instrumentalization of Plato, the use of Plato for scientific

purposes, which makes impossible the essential understanding of their meaning. Philosophy is the thought of its time. Economic theory is so as well. According to B. Bošnjak, history of philosophy is "a sum of philosophy...everything which philosophy has been", "general concept of philosophy" and "known past of a development" (Bošnjak 1977, 212) History of philosophy, just like knowledge, should be prior to the discussion about philosophy today because contemporary philosophical ideas cannot be understood without previous knowledge about philosophy as a whole. We might say that history of economic thought is known past of a development. General attitude today is that knowledge of the whole previous past of economic thought is a necessary prerequisite to study and understand modern currents and tendencies within economic science. That is why the history of economic theories is a fundamental discipline in economic education. But, having in mind the fact that within the system of theoretical knowledge philosophy and economic science intervene and influence each other for the sake of mutual fertility of ideas, which is the basis of their development, and that history of economic theory is contained within history of philosophy, the study of economic thought includes the understanding of historical link between philosophy and economic science. This presupposes involvement and presence of historical-philosophical contents, as propedeutic ones, within economic education.

Previous study of History of Philosophy is a necessary prerequisite not only for the study of economic thought but also for the study of complex philosophical–economic problems which spring from the merging of philosophy and economics. Philosophy of economics and economic science are complementary. Two different theoretical levels of research share the same subject. Since a significant condition in order to understand philosophical-economic problems within the educational process is previously acquired knowledge basic philosophical knowledge at one hand, and at the other, economic-theoretical knowledge. Philosophy of economics, as an educational discipline, should be taught together with non-economic optional complementary disciplines in later years of economic studies. Thus, when we observe philosophical contents on the pyramid of knowledge within the process of economic education, basic philosophical knowledge as previously acquired knowledge and a prerequisite for understanding of the contents of economic science and philosophical-economic contents is placed at the very bottom of the pyramid, while philosophical-economic knowledge represents a kind of upper structure, enhances economic knowledge with philosophical contents and standpoints regarding complex problems of economic science.

Since it intentionally represents a standpoint of wholesomeness, philosophy of economics regards its subjects in its wholesomeness, enlightens and researches all the dimensions of the concept of "economics". But, the goal of philosophical-economic thought significantly depends on the profile of the one who does the philosophical research of economics. However, intellectual imperialism of utility and rationality principle does not only determine the subject

of modern economic science, but also tends to determine the subject of philosophical-economic thought itself. The context of philosophical-economic research is significantly determined by the definition of economic science, so the reductive character of economic-scientific thought influences philosophy of economics as well. It is evident that economic imperialism has spread to philosophy of economics and it is dictating it its subject. Thus, according to problems and subjects of philosophy of economics, one of the basic questions is the ability to compare different levels of welfare within different economic concepts as well as difficulties in achieving functional social welfare and the understanding of the concept of free economic activity of the market (Blackburn 2005, 109). Basic categories of this philosophy of economics are prosperity, utility (welfare) and choice, which narrows down the subject of philosophical-economic thought. Positivistic and pragmatic approach to philosophy, as well as economic science itself, is the basis of this reduced definition of the scope of philosophical-economic thought. The consequence of "economic-scientific imperialism" is the promotion of philosophy of economics into economic discipline, which has denied its right to be what it essentially is – PHILOSOPHY – meta-theoretical thinking, humanist thought and radical critique. Philosophy of economics is an overall criticism of economics and it includes economic imperialism in all its forms.

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FILOZOFIJA I EKONOMIJA: FILOZOFIJA NA PIRAMIDI ZNANJA (prilog kritici „ekonomskog imperijalizma“)

Rezime: Predmet ove rasprave jeste problem odnosa prema filozofiji u svetu znanja, koji se, konkretno, uočava na relaciji filozofija – ekonomska nauka. Iz kritičkog diskursa o tom problemu izrasta potreba za potpunim sagledavanjem i dubljim osvetljavanjem ove složene relacije u kontekstu ekonomskog obrazovanja. Odnos prema filozofiji u naučnim krugovima koji je bitno antifilozofski reflektuje se na sam obrazovni proces, tako da se akademsko obrazovanje, ovde apostrofirano, ekonomsko obrazovanje, odvija u uočljivom, dominantnom, antifilozofskom duhu – filozofija je shvaćena kao nešto beskorisno i suvišno. Razmišljanje o nipodaštavanju ili ignorisanju značaja filozofske obrazovanosti ekonomskih stručnjaka za samu ekonomsku praksu, za vođenje ekonomskih poslova, dovodi do zaključka o takvom, antifilozofskom, odnosu prema filozofiji kao o dimenziji ispoljavanja pogrešne svesti kojom je opterećeno ekonomskonaučno mišljenje. „Ekonomskonaučni imperijalizam“ koji se može konstatovati na relaciji filozofija – ekonomska nauka, bitno određuje samo shvatanje značaja filozofije za sistem ekonomskonaučnog znanja. I, dok se, na jednoj strani, odriče fundirajući značaj filozofije za ekonomskonaučno znanje, zbog čega filozofija, kao posebna, propedeutička obavezna akademska disciplina iščezava iz nastavnih sadržaja u obrazovnom procesu koji produkuje ekonomske stručnjake, na drugoj strani uočljivo je tako-reći sveprisustvo „filozofije“ unutar samih ekonomskih disciplina – bezgranični intelektualni imperijalizam principa ekonomske korisnosti i ekonomske racionalnosti oblikuje samo ekonomskonaučno znanje na način koji dignitet filozofije dovodi do najnižeg stepena.

Ključne reči: nauka, filozofija, ekonomija, ekonomska nauka, znanje, obrazovanje.