

FINANCE, BANKING AND INSURANCE



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PREFACE

The global economic and financial crisis that began in 2008 left a negative stamp on the world economy. And that's not all! The consequences are (and will be) chronic, and the negative economic effects will leave deep inequalities, encroaching into all the pores of social life. Although demographic changes, as well as ubiquitous migrations have a significant impact on the workforce, the financial markets are dominated with their power, and at the same time their impotence. New trends in organizational behavior, finance and management are emerging, imposed by the new business environment. The fact is that the management of today's business environment requires a high-quality and complex information base, because the information is very valuable resource. The requirements of financial information users condition the level and form of information used for the financial statements, which are crucial for making business decisions.

Major changes in the financial market (both the banking and insurance market) are the result of new and changed client needs. At the same times, the development of technology has significantly influenced the strengthening and development of competition in the financial market. Money flows are deformed by inadequate monetary policy and immeasurable quantitative easing, which dragged economies into a liquidity trap, and banking sector into unsustainable lending based on a non-performing loans. The exit from this unpleasant situation is in adequate reform moves. But, the reforms implemented so far have not been sufficient and that reforms need to be continued.

Understanding the real financial flows is crucial for efficient business in the modern global economy. Therefore, experts need basic knowledge of modern economics and finance. Bear in mind, this book approaches this issue with a number of different aspects: finance, banking and insurance. In this way, it gives readers the ability to get acquainted with financial flows, and a wider circle of researchers to study and analyze them. Therefore, I expect this book to be a unique guide for financial flows.

Authors

THE IMPORTANCE OF FINANCIAL ANALYSIS FOR BUSINESS DECISION MAKING

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ABSTRACT

Financial reports represent information base for business decision making. Management of the company is focused on the perception of future events as a result of the present decision, while accounting is ex post oriented. The requirements of users of financial information condition the level and form of desired information. Relationship between accounting and enterprise management are significant and multiple because it is the effects of management decisions that assess the financial statements, which are the product of accounting of companies in which are processed all business decisions that was made by management.

Analysis as the process of testing and evaluating in terms of methodology, which is biased and overlap, based on the assumption: that the assessment (synthesis) is the completion of the analysis, which is preceded by testing methodology developed which provides a basis of the individual elements which are combined into a single synthesis of a logical statement. In other words, the method of which is in the process of analyzing the induction, is coming to that knowledge by processing the deduction. The process of testing and assessment in the analysis of business has its own specific test methods that are based on known theoretical and scientific scheme. Financial analysis is used to assess relationships between items within the financial statements. This scientific work points to the role and significance of the results provided by the financial analysis for business decision making.

Key words: *Financial Reporting, Financial Analysis, Test Methods, Position of The Company, Bussines Decision*

JEL Clasification: *M41, M40, M49*

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FINANCIAL REPORTING

Financial reporting is an obligation for all economic and other entities whose activities have cash outcome. The essence of a modern business environment is characterized by the powerful launch of parameters that they leave a mark on the company that operates in it (Rastic, Andjelic & Mahmutovic, 2017, pp. 79-88). Accounting records represents the backbone of financial reporting. This system is not simple and accounting is the only complete sistem of numerical analysis of economic operators around the world, and the advantage is in completeness and numerical expression. Numerical expression may lead us to the following thought: "The number is the highest level of human language, the highest level of power and precision of expression of the human spirit; the highest level of intellect and scientific value is an expression of numbers. To bring some area of relations, condition, apperance and things to the expression in numbers, it means lift up the area to the extent of scientific value. Away from the language of numbers the scientific value can not go." (Knezevic, 1972, pp. 319).

Numeric expression in accounting, has valuable character, expressed in monetary units and reduced to a common indicator for all kinds of operations. Comparability with targeted economic performance and translatability in any other currency, is giving it character as the most important business language. In developed countries where there is advanced accounting culture, conducted research in which the users of accounting information were required to rank by relevance accounting information in comparison to other information resources. Studies have shown that customers ranked the accounting information to a higher level than other forms of information. (Atrill & McLaney, 2002, pp. 4). Other empirical research has confirmed that managers ranked accounting as the most important course for future managers. (Horngren, Sundem, Stratton, 2008, pp. 4). Of great benefit would be that such approaches are represented in our country to a much greater extent than they really are. We will focus our attention on the external, general purpose, financial statements as financial accounting products, which have a feature complete system of numerical analysis and reporting on the status and performance of economic entities.

External financial reports are an essential factor in the process of creating value for economic operators, national economy and overall society: (a) with channel of indirect use of foreign ownership, financial, business and other stakeholders, and (b) channel with statistics of GDP and other national accounts and government as actor in creating conditions and achieving economic growth and development of the country, using in it the financial statements of economic actors in the public interest. (Stevanovic, 2011, pp. 227-242)

Set of financial reports, includes: (a) a statement of financial position at the end of the period; (b) a statement of comprehensive income for the period; (c) Statement of Changes in Equity for the period (d) a cash flow statement for the period; (e) the tips, which are composed of the significant accounting policies and explanation of various information; and (f) a statement of financial position at the

beginning of the earliest comparative period when an entity applies an accounting policy retroactively or makes a retrospective rearrangement of items in its financial statements, or when it is done reclassification of items in the financial reports (Association of Accountants and Auditors of Serbia, 2010). The obligation of financial reporting tools is to cover the entire life of a business-financial economic agents of an economy. The power of Financial - reporting instrument becomes greater when is accompanied by an objective report about the operations or management report, with analysis of the financial position, description of the principal risks and uncertainties, development objectives and strategies of the company, as required by the Fourth Directive of the EU, as an integral part of the EU regulatory framework that we need to adapt (Directive 2006/43/EC of the European Parliament and of the Council, 2009).

Generally accepted is that well-regulated system of financial reporting contributes:

- the necessary development of the confidence in financial reporting on the status and performance of economic actors and their groups to the level of the national economy, as one of the most important parts of the overall information system in the country;
- reduction to a tolerable measure of information asymmetry between internal users (also the creators) financial statements and external users of the reports;
- growing tendency towards investment and savings (capital and money supply) and so the development of the capital market and money;
- developing (investment and other) funds and insurance as a very important sector;
- inflow of foreign direct and portfolio investments;
- encouraging external growth of successful companies, banks, etc. through mergers and acquisitions;
- creating a reliable information base for the design of macroeconomic policies, plans and decisions of the state, as well as social compacts of importance for socially sustainable economic growth and development;
- informational merits of regulatory, control and sanction activities of the state and its institutions, central banks, the Commission for Securities, etc., in areas such as the price of public profit sector, preserve market competition, the transparent functioning of the capital market and money, privatizations and bankruptcy, acquisitions, combating the "gray economy", corruption and the business and financial crime etc. (Stevanovic, 2011, pp. 227-242).

Bad financial reporting can produce counterproductive, respectively, instead of the above-mentioned positive contributions may have negative consequences. Financial reporting system deserves the most attention of all stakeholders at all stages of economic and social development of each country as well as internationally

Comprehensiveness and high informational efficiency of financial reporting is under the strict quality requirements or prerequisites to fulfil the information expectations of users of financial statements. These are the throughput of the test "benefit > cost", understandability, relevance (affluence) of the decision in question

(control value and timeliness), reliability (verifiability, neutrality and faithful representation) and comparability (including consistency). (IFRS Practice Statement Management Commentary, 2010) The report of the operations is the management report shall, or steering feedback and it's accompanying document to the financial statements that necessarily rely on. The information in the report should managerial enhancing qualitative characteristics of comparability, verifiability, timeliness and understandability (Association of Accountants and Auditors of Serbia, 2009).

The general principle of true and fair, and objective coverage of financial position, income, changes in equity and cash flows for the purposes of making economic decisions, as well as for evaluating the activities and responsibilities of management, can only achieve financial and related reports, having all of that qualitative features. In common with this, it is necessary to answer to not so simple question: Who's who in the process? It should be positioned three groups of participants in the financial reporting process. These are: a) users of financial statements, b) the accounting profession and c) management of the reporting entity (legal entities). When the sense of users of financial statements, it is commonly thought to external users, such as current and potential investors, lenders, business partners (suppliers and customers), employees and their trade unions, trade associations, government and other state institutions and the public at large. It can be said that they have in common expectation that the financial statements they find understandable, relevant, reliable, loyal, timely and comparable information on profitability, solvency, liquidity and efficiency of the asset management of the reporting entity, in order to predict its future, first of all winning cash but also the overall financial - structural performance, and decision-making, often through fateful decisions about their engagement (Stevanovic, 2011, pp. 227-242).

In anticipation of a shared information lies a sense of the financial statements and the method of valuation and presentation of positions in them. To External users is shared that they are absent entities in relation to the very process of preparing and broadcasting of financial statements and the need to protect the interests of their information. Both of these features common position of external users of financial statements are the source of very serious challenges for the accounting profession; It is the only professionally competent and responsible to ensure compliance. (Directive 2009/49/ec of the European Parliament and of the Council, 2009).

ANALYSIS OF FINANCIAL REPORTS

The essence of the definition of the term analysis of financial reports in the function of business decision-making is in the understanding that the analysis should undergo observation, examination, assessment and formulation of diagnosis those processes that took place in the company and that, as such, are summarized and recorded within the financial statements. The research topic is related to the

consideration of financial, investment and business activities of enterprises that represent business events accounting records and disclosed at the end of each fiscal year the financial statements. The aim of the research is that the analysis of financial statements prevent potential problems that may occur in the enterprise deviation from the prescribed relationship and assume further work guidance of observed companie (Besley & Brigham, 2009, pp. 124-135).

Financial analysis are applied to high-tech companies as well as small and medium enterprises (Veselinovic & Drobnjakovic, 2012, pp. 31-48). The aim of the research is a selection of minimum indicators of financial analysis required to certain analysts are able to draw conclusions on the operation and future of the reporting company, and decide to go with him to enter into business relations. Depending on the interest of analysts are defined the objectives of the analysis. From a comprehensive analysis of the owners and shareholders are more interested in an analysis of assets and their sources, analysis of profit and its distribution, and business partners (creditors and customers) and financiers (banks) interested in the creditworthiness of the company and its short-term and long-term liquidity, as security to settle liabilities arising from operations. Tax authorities want to establish the right base for taxation, and the state to assess which economic policy measures could accelerate a certain production and thus increase budget revenues in the future. Managers at all decision-making levels use financial statements to plan, organize and control the production process to cover all operating costs, including salaries of all employees, and to generate profits for owners and shareholders (Singh & Cabrilo, 2007, pp.27-44).

The main source of information on the basis of which key business decisions are made are the financial statements of a given company. The main purpose of the financial statements is to help in analyzing and evaluating the business results of the company's management. The main reason is that these modern organizations have grown to very complex levels and information plays a vital role in the smooth functioning and management of organizations even at the global level (Omolaja, Markovic, Vucekovic, 2012, pp. 19-26).

Expected future results will influence the adoption of business management decisions, related to whether to lend money to a business partner or to invest in a given company. The main analytical technique of investment business-financial micro-analysis used in the consideration of different sectors and the field of economy, should indicate how the management, respectively, the owners of the company should work and achieve results in different domains of economic activity.

The types of decisions that are included are whether to grant money on a loan to a given enterprise, whether to invest in company shares, to buy and take over the enterprise? In order to make such decisions in the right way, it is necessary to understand what the available forms of financial statements are, what information we provide from the content of various financial statements, and the method of analyzing financial information in order to arrive at a rational business and financial decision (Osburn, Schneeberger & Ljutic, 2015, pp. 273-274).

The financial reports derive from the accounting of the company through the regular conclusion of the business books. The requirements for financial and accounting reporting arise from the objectives and tasks of the bookkeeping and balance sheets.

Financial and accounting reports are not produced primarily for analytical purposes, and imposes an obligation on the analyst to adapt the information base to the requirements of financial analysis. In this context, it is usually necessary for a valid and successful analysis:

- prepare financial reports (information basis) for analysis, i.e. consider the usability of balance information, i.e. The adequacy of the prepared balancing procedures (regularity of allocation of expenditures and income to accounting periods and appreciation of monetary fluctuations), consolidate the balance sheet and profit and classify the balance sheet;
- fix characteristic (analytically significant) balances (financial) relations.

The above estimates represent the information basis for managing the company's finances.

The analysis of the financial reports strives to look into the future and emphasize those aspects of business that are critical to survival, and this is primarily the safety and efficiency of the business. Observed from a financial point of view, business analysis for managers needs to include an analysis of the financial result, financial conditions, financial structure, and changes in the financial structure. In this context, the analysis of the financial statements can be described as the process of applying different analytical tools and techniques by which data from the financial statements is converted into usable information relevant to management.

The importance of the analysis of the financial statements is considered primarily in terms of business management and enterprise development. It precedes the management process or, more precisely, precedes the planning process, which makes it an integral part of management. For good governance, planning is very important, it is the key to the success of financial managers. The task of analyzing the financial statements is precisely to recognize the weaknesses of the company, in order to be able to take corrective action, to increase its competitive ability. In order to ensure the financial stability of the company, the financial manager must plan his future financial conditions, and his planning must begin with the analysis of the financial statements. The analysis of the financial statements creates, therefore, an information base for management needs, i.e. decision making. However, it should be taken into consideration that the approach to the analysis of financial statements is a partial approach to decision-making issues, although it includes important elements for making a business decision, but does not include the whole. The analysis of the financial statements, therefore, provides information as a fundamental input on the basis of which it is possible to judge the business of the company for the purpose of making decisions, i.e. managing.

However, the information arising from this analysis is not comprehensive and does not ensure the consideration of the entity's business operations. Namely, this

analysis provides only financial information, which, although important for management, is not comprehensive. The analysis of the financial statements deals with the quantification and research of the relationships that exist between the balance sheet items, the income statement and the cash flow statements in order to enable a proper assessment of the financial position, performance and liquidity of operations.

THE IMPORTANCE OF THE BUSINESS INDICATOR TO CERTAIN GROUPS OF ANALYSTS

In order to make a good judgment about whether the sizes of some indicators are satisfactory or not, it is necessary to compare these indicators with certain standard sizes which in this case are the basis of comparison. The most commonly used standard sizes of these indicators are:

The planned indicator for the analyzed period,

- Moving the size of a certain indicator for a certain time in the same company,
- The size of that indicator in a similar company belonging to the same group,
- The average value of certain indicators of other enterprises belonging to the same group

In modern business conditions, with the exception of the core groups of financial indicators based on the balance sheet and profit and loss account, the importance of financial indicators based on cash flow is increasingly emphasized. These indicators are particularly important in the general illiquidity of the economy when it is very important to take into account the difference in revenue and expenditure on the one hand and cash flows on the other. It is generally known that the profit realized in a significant amount does not necessarily mean that the company in question has sufficient amount of money required for the payment of various obligations, and vice versa, that the loss means that the company has no money. For this reason, the basic classical indicators deriving from the balance sheet and profit and loss account should be considered in the interdependence with the cash flow statement and its indicators.

Financial indicators based on cash flow are usually classified into four groups:

- Indicators of solvency and liquidity assessment, which refer to cash flow, cover the balance sheet, current liabilities, total liabilities and dividends,
- The indicators of the quality of profit, which speak about the ratio of cash receipts from business activities and income from sales, and on the ratio of cash receipts and profit,
- Capital expenditure indicators that link various types of cash flows and in this context consider the possibility of purchasing capital assets, financing and investments,
- Cash flow refund indicators, which determine the cash flow per share, refunds on total assets, liabilities and principal.

These groups of indicators can be used without any major problems in the analysis of almost every business system, regardless of what it is doing. However, in certain cases it is necessary to take into account some specificities of the analyzed business system and, accordingly, to form some new indicators, ie, groups of indicators.

The company therefore has the need to constantly, continuously monitor, control and analyze its business and financial situation, and to publish the results of its business, performance indicators for the purpose of informing its shareholders or owners of business shares, its creditors, its customers, potential investors, to the public.

These indicators are not the only ones and their order is not unchanged. For example, in the case of credit analysis, the financial leverage is definitely the first. However, most authors put liquidity indicators in the first place, primarily because liquidity indicators are the criterion not only of primary security and protection of the creditor, but of the survival of the company.

Example: When considering a decision on short-term loans, a commercial bank is interested to first find out liquidity indicators of the company. On this basis, the Bank assesses the possible degree of risk of investing its assets. Whether the company will approve the requested loan or not, depends not only on the current liquidity ratios, but also on the assessment of net working capital, which is a certain guarantee for the protection of interests of short-term creditors as a source of financing.

HORIZONTAL ANALYSIS

Horizontal analysis is a comparison of balance sheet items in the balance sheet of the current and the previous year, as well as the balance sheet of the current and previous year's success. It is a comparative analysis of the changes between the current and the previous year.

The first step in this analysis is to calculate the difference between the current and the previous year in the following way:

$$\text{Difference (in absolute amount)} = \text{Current year} - \text{Previous year} \quad (1)$$

The second step of this analysis is to express this difference in % in the following way:

$$\frac{\text{Difference}}{\text{Previous year}} \times 100 \quad (2)$$

Example:

Table 1: Balance sheet for 2015. and 2016.

ASSETS	2016.	2015.	Change	Change in %
Current assets (cash, receivables, inventories)	42.000	38.000	4.000	10,5%
Fixed assets (real estate, plant and equipment, intangible assets, long-term placements)	250.000	180.000	70.000	38,8%
Total funds:	292.000	218.000	74.000	33,9%
LIABILITIES	2016.	2015.	Change	Change in %
Current obligations	31.000	9.000	22.000	244%
Long-term liabilities	50.000	65.000	(15.000)	(23,1%)
Equity capital	211.000	144.000	67.000	46,5%
Total Liabilities:	292.000	218.000	74.000	33,9%

Source: Authors

The total increase in assets and liabilities equals 33.9% because there is equality of the basic balance equation:

$$\text{Assets} = \text{Liabilities} + \text{Capital} \text{ or } \text{Asset} = \text{Liabilities} \quad (3)$$

In this case, there has been an increase in current assets and long-term assets, to an increase in current liabilities, a decrease in long-term liabilities and an increase in share capital. In particular, there is a significant increase in current liabilities (244%), which is not favorable, because current liabilities have to be serviced in the short term, which can jeopardize the company's liquidity. This fact suggests that this company does not have enough resources to service current liabilities, but to postpone them and to accumulate them unpaid in the balance sheet.

Reducing long-term liabilities suggests that this company services debts, i.e. To repay its long-term liabilities (for example, a long-term loan from a bank is repaid in installments called annuity). The increase in share capital indicates that this company was issuing additional shares and that it sought to raise capital from the owner of the company (shareholders).

The increase in assets, and a significant increase in long-term assets, indicates that this company invests in growth and development, that is, the acquisition of new real estate, plant and equipment. About 38.8% of the increase in these assets means a high growth of the company. The increase in current assets is not significant and amounts to only 10.5%.

VERTICAL ANALYSIS

Vertical analysis of the balance sheet and the profit and loss account is significant because in this analysis certain balance positions are expressed as 100%, and then all other positions are expressed as% of that base position. This is about a structural analysis of financial statements, that is, of looking at the relationship of multiple positions in relation to one that is treated as 100%.

The most commonly treated as 100% are total assets and liabilities in the balance sheet and income from sales in the income statement.

Example:

Table 2: Income Statement for 2015. and 2016.

PROFIT AND LOSS	2016.	2016. / in % from income	2015.	2015 / in % from income
Net sales revenue	530.000	100	380.000	100
Purchase cost of sold goods	300.000	56,6	280.000	73,6
Gross profit	230.000	43,4	100.000	26,4
Sales expenses	156.000	29,4	73.000	19,2
General expenses	50.000	9	16.000	4
Net gain	24.000	5	11,000	3,2

Source: Authors

Based on the preliminary data, we can conclude that the share of the following costs is increased in the structure of revenues: sales costs and general expenses. The share of net profit in total revenues increased from 3.2% to 5%, which is an indication of an increase in the company's yield strength. The share of the purchase value of sold goods decreased in the structure of total sales revenues from 73.6% to 56.6% in 2016. (This is the result of a decline in the prices of these goods on the market or the efficiency of the purchasing department that procured goods under favorable conditions and lower prices.)

Example:

Table 3: Balance sheet for 2015. and 2016.

ASSETS	2016.	in %
Current assets (cash, receivables, inventories)	42.000	14,4
Fixed assets (real estate, plant and equipment, intangible assets, long-term placements)	250.000	85,6
Total funds:	292.000	100
LIABILITIES	2016.	in %
Current obligations	31.000	10,6
Long-term liabilities	50.000	17,1
Equity capital	211.000	72,3
Total Liabilities:	292.000	100

Source: Authors

Based on the vertical analysis of the balance sheet, we can conclude more about the structure of the assets (assets) and the sources of financing (liabilities) of the balance sheet. In the structure of assets, fixed assets dominate with 85.6%, while the share capital dominates with the share capital of 72.3% in the sources of financing. Based on this structure we can conclude that a large part of fixed assets is financed from own sources, but that one part is financed from long-term sources. It can be noted that a part of current assets is financed from long-term sources, which is not a favorable indicator. It can be seen here that the maturity structure of funds and sources of financing has not been harmonized. Fixed assets according to the gold balance sheet in the strict sense must be financed from long-term sources in full (long-term sources are equity capital and long-term borrowed capital), and current assets from short-term sources. The purpose of this rule is to focus on the security of creditors (risk protection).

ANALYSIS OF FINANCIAL ASSISTANCE INDICATORS RATIO ANALYSIS

Ratio analysis is one of the most commonly used financial analysis tools. In particular, the use of this method in practice implies, above all, knowledge of basic theoretical-methodological settings on which it is built as a complete and complete system for analytical testing of the financial and profitability position of the enterprise. Given the fact that the analyst is at the disposal of numerous ratios, it is a significant issue of their choice, grouping and determination of an adequate order. Of the same importance is the correct analytical interpretation of the quantified ratios of sizes. Today, based on massive use in practice and widespread distribution in literature, it can rightly be argued that this is an important method of financial analysis. In this regard, some authors almost identify financial analysis and rational analysis. This should be understood more as an emphasis on the significance of this method, and less as an exclusively claim.

The basic assumptions on which the concept of ratio analysis is based are the following general assertions:

- Each of the selected number ratios must be a relevant indicator for assessing the financial position and profitability of operations,
- The quantities of both elements (both the numerator and the denominator) have the same importance. It is therefore necessary to analyze the influence of both elements on the size of the rational number,
- The comparability of the number ratios in time represents the substantive continuity of the numerators and denominators in all analyzed years,
- Individual ratios are dependent on the size and the change of other ratios. In their interpretation, it is necessary to consider this interdependence,
- Selected rational numbers are always presented in the form of a tabular overview in which they are grouped into narrower and wider homogeneous groups of indicators, in accordance with the objectives and requirements of the analysis,

- The quantification of the rational numbers needs to be analyzed in relation to pre-set standards ("norms", "rules", ie criteria) in order to assess the extent to which their size maintains favorable or unfavorable conditions and tendencies.

The ratio analysis is based on certain components of the balance sheet and profit and loss account and is calculated on the identification and assessment of the financial position (liquidity, safety and activities) and profitability of the company's operations.

The financial analysis deals with the research and quantification of the functional relationships that exist between balance positions, balance and success, with the aim of providing a credible assessment of the financial position and activities of the company. Within the financial analysis, all physically defined sizes are converted into financial, ie they are expressed as amounts of money.

Financial analysis, basically, represents a ratio analysis. The ratio of one balance position to the other, expressed in a simple mathematical formula, is called the ratio. Depending on what rational numbers should use, they can be classified into several related groups of financial indicators. This classification is not generalized and more or less depends on the personal preferences of the analyst itself. If we compare the results obtained by crossing the balance positions, we come to information related to liquidity, profitability, level of business activity of companies. The necessity of comparing one company to the other is inevitable, because the data obtained by calculating the financial coefficients would not give us any information if they were not compared with the results of the company from the same branch, or the results of the same company, but from different periods of time. When discussing the analysis of financial reports, it is identified with the analysis using financial indicators (coefficient, indicators). Indicators are relations of two sizes expressed in a simple mathematical formula. Indicators have their value only if they are properly interpreted. Interpretation of indicators is always done with respect to a rule, standard or norm. In the analysis of the financial reports, the following standards for comparison and interpretation are used:

The mental standards of analysts themselves that reflect his experience of what is considered a normal indicator, and what not:

- comparison with the average of the branch in which the company operates,
- comparison with historical indicators of the same company (previous year),
- comparison with the indicators that are entered into company plans,
- established standards (commonly in the literature).

From the analytical point of view, the classification of indicators is carried out according to the relevant aspects of business that interest analysts:

- indicators of liquidity,
- indicators of business activity,
- indicators of financial structure,
- profitability indicators and
- market value indicators.

FINANCIAL ANALYSIS OF THE COMPANY "MAS-PROMET"

Table 4: Progress exchange in balance sheet and balance of success

Description	Years		
	2014	2015	2016
Liquidity indicators			
General liquidity ratio	1.1	1.09	1.23
Rigorous liquidity ratio	0.36	0.2	0.43
Neto working capital	2.680	4.787	6.369
Liquidity indicators			
Coefficient of customer turnover	12.76	19.75	21.6
Average billing period	28.21	18.23	16.7
Coefficient of stock turnover	5.97	3.79	10.2
Duration of a single craft	60.3	95	35.3
Coefficient of neto working capital	4	3.14	6.67
Coefficient of turnover of total business assets	3.11	2.77	4.32
Coefficient of turnover of own funds	14.17	22.78	12.3
Indicators of financial structure			
Ratio of lending to total sources of finance	0.77	0.84	0.7
Long-term debt ratio and own sources	0.28	0.26	0.52
The ratio of long-term debt to total capitalization	0.22	0.21	0.67
Coefficient of interest coverage	0	0	0
Profitability indicators			
Rate of return on own business assets	3.2%	3.7%	2.5%

Source: Authors

LIQUIDITY INDICATORS

This group of indicators points to the ability of the company to pay matured financial liabilities, while maintaining the required volume and structure of working capital and maintaining a good credit rating. The most important in this group of indicators are: general liquidity, current liquidity, neto working capital.

GENERAL LIQUIDITY

The general liquidity ratio was created as a reflex of the application of the balance sheet rule in the narrow sense, which requires that the fixed assets be financed by their own or at least permanent capital, and the working capital to be covered by short-term sources of financing. In other words, the general liquidity ratio shows how much of the working capital is covered by each dinar of short-term liabilities, which is taken as the first indicator of security that protect interests of the short-term creditors of the company.

This ratio is determined as follows:

$$\text{General liquidity ratio} = \frac{\text{Current assets}}{\text{Short – term obligations}} \quad (4)$$

The general liquidity ratio shows how much of the working capital is covered by each dinar of short-term liabilities, which is taken as the first indicator of security that protect interests of the short-term creditors of the company.

From the table we can see that the general liquidity ratio is the most unfavorable in 2006, with the trend of growth, so it is most favorable in 2016. This coefficient can be both too low and too high, and the considerable industrial branches are too low when it is close to 1. At that level, firms are barely able to cover the obligations that will come in with the incoming cash.

Rigorous liquidity indicator is practically the same as the general indicator of liquidity, except that supplies are not included in the calculation. This means the following: almost everything else in the category of current assets is cash, or is easily converted into cash. For example, most customer receivables will be charged in a month or two. A rigorous liquidity ratio shows the company's liquid assets to repay its short-term debts, not waiting to sell the stock or convert them to a finished product. In most cases, the rigorous ratios should be above 1.

RIGOROUS LIQUIDITY INDICATOR

Rigorous liquidity indicator is calculated according to the formula:

$$\text{Rigorous liquidity indicator} = \frac{\text{Liquidity assets}(\text{Working assets} - \text{stock})}{\text{Short – term obligations}} \quad (5)$$

From the table of the financial analysis, it can be seen that the rigorous liquidity ratio has been violated in all three representative years.

NET WORKING CAPITAL

The neto working capital represents the absolute difference between working capital and short-term liabilities, ie long-term sources of financing working capital. Neto working capital indicates the ability to borrow in the short term. Calculated by the formula:

$$\text{Neto working capital} = \text{Working capital} - \text{Short-term liabilities} \quad (6)$$

Neto working capital indicates the possibility of borrowing the company in the short term. In order for a bank to approve a company loan, it first depends on the liquidity of the company, but also on the ratio of short-term liabilities to net working capital, which in some way serves as a guarantee that the enterprise will fulfill its obligations towards the bank.

It is assumed that a company that has a higher net asset value, with the same rate of stock conversion and cash receivables, automatically provides a relatively higher level of liquidity.

In the case of the net manufacturing fund of the company "Mas-promet". We see that from year to year it goes upward (positive trend of growth).

RATIO ANALYSIS

Ratio analysis is one of the most frequently used financial analysis tools for a comprehensive review and assessment of the financial status and earning capacity of the company. (Veselinovic & Drobnjakovic, 2012, pp. 189). Ratio analysis is a product of various financial statements that show the financial image of a company. In order to understand the financial position of the company, the relationships between certain balance positions are established. These relations are established in the form of a rational number, where certain sizes are put into relationships in the form of simple mathematical formulas. In this way, a clearer picture of the business activities of the company is obtained, comparable to other enterprises in the branch, or comparable to certain assumed sizes. Ratio analysis can be performed in relation to data from previous periods in relation to planned (projected) data, and in relation to the data of a particular group of companies (Brigham & Houston, 2007, pp. 46-48).

CONCLUSION

From previous presentation, conclusion can be that financial analysis is significant business-financial, economic and social phenomenon. The financial reports are a phenomenon of first-class public interest and they are subject to rigorous qualitative requirements.

On a micro level, the goal of the business analysis is to achieve the goals of the company's economy, which are reflected in the relations of its results and investments, ie through the realization of efficiency, and it is reduced to the study of economic laws that affect the work and business of the company. The goal of conducting business analysis is to know the possibilities and degree of application of the principle to achieve maximum results with minimum investments.

The essence of the analysis of financial reports, in the function of making business decisions, is in the understanding that the analysis should be subject to observation, examination, evaluation and formulation of the diagnosis those processes that happened in the company and which are summarized and recorded in the financial reports. The subject of the research is to examine the financial, investment and business activities of the company. Business events accounting Records and discloses at the end of each business year through the financial reports. By analyzing the financial reports, we are diagnosing potential problems which may occur in the company by deviation from the prescribed relationships and propose further guidelines for the work of the observed entity.

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TECHNICAL ANALYSIS AS A METHOD OF PREDICTING PRICE MOVEMENTS AND FUTURE MARKET TRENDS

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ABSTRACT

One of the greatest challenges on financial markets is the prediction of prices and trends. Since prices change vary dramatically, it is essential to determine when to buy and when to sell, in order to get a high return on investment. Buying and selling are the key rule of the trading system which we can generate by using different technical indicators.

Technical analysis is the method of forecasting movements of prices and market trends in future by analyzing charts of previous market actions. Technical analysis is concerned with what actually happened on the market and not with what should happen, taking into consideration instrument price and trading volume, and it creates charts from the given data in order to be used as a primary tool. One of the main advantages of technical analysis is in enabling experienced analysts to simultaneously monitor several markets and market instruments.

Research subjects of this paper is the observation of different forms of technical analysis, some rely on chart patterns, others use technical indicators and oscillators, and most often they prefer to combine different techniques.

Key words: *Financial Market, Price Forecasting, Trends, Technical Analysis*

JEL Classification: *G12, G13, G14, G17*

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INTRODUCTION

Having all the sophisticated computer models at disposal, one might think that investing and making money is easy. Not so long ago, great amounts of money were lost in great speed and small investors were not the only reason. Large investment companies didn't have such impressive performances, even though they are said to have access to all the necessary tools. The fact is that success cannot be guaranteed by simply entering data into a computer. Detecting reliable patterns and tools has been developed for couple of years. Many of those investors were buying at the right time, but didn't know when to sell. It means they executed sales orders with a loss, even though market letters, media, or other experts express the opposite opinion. What is of crucial importance for the success of investors is to find the right choice of tools they find most appropriate and to believe in their trading approach. Trading success is based on three premises. It is necessary to analyse the strength between uptrend and downtrend. The importance of money management is, also, the key of successful trading. You need personal discipline to follow your trading plan and avoid getting high in the markets (Elder, 1993, pp. 68).

For the past few years, many investors haven't been satisfied with the work of their investment advisors and funds and now they want to make trading decisions by themselves by using analytical tools. Subject of this paper represents reliable trading tools together with trading rules used in real time. We are describing those tools that have proved best and integrating them into a managerial and understandable trading strategy. Properly combining different strategies can improve chances of each and every investor for success under different market conditions.

“Technical analysis studies market movements, primarily by using charts, with the purpose of predicting future price trends” (Murphy, 1999, pp. 1-5). Technical analysis is the method of forecasting price movements and market trends in future by analyzing charts from previous market actions. Technical analysis deals with issues that actually happened on the market and not with what should happen and it takes into consideration instruments price and trading range and it creates charts from the data that is collected, so they can to use them as a primary tool.

Three premises technical analysis is based on are:

1. Market happenings make everything easier – This means that real price is a reflection of everything known to the market and which could affect it, e.g., demand and supply, political factors and market sensitivity. However, technical analysts deal with price movement and not with the reasons of any kind of changes.
2. Price moves in trends – Technical analysis is used to identify behaviour movements on the market long ago recognized as significant. There is a great probability that many existing patterns will show the expected results. Purpose of charts showing price movements on the market is to identify a certain trend in the beginning of its development with the purpose of trading that follows those trends.

3. History repeats itself – Roman literate and statesman Cicero is the creator of the thought “*Historia magistra vitae est*”. By bearing this in mind and by having chart patterns that were, in the previous one hundred years, identified and categorized and gave results in the past, we assume they will give results in the future, too. This finds its roots in human psychology that has no intention of changing. In other words, the premise that history repeats itself in fact means that future is only a reiteration of the past (Murphy, 1999, pp. 2).

Technicians use different tools and methods and studying price charts is only one of them.

Indicators of demand/supply monitor the liquidity of investors: margins, short-term interest rates, etc. Other indicators monitor the conditions, they define the market as growing (bull market) or declining (bear market) (Eric, 2003, pp. 69). All in all, prices are only what investors think; hence defining what they think is crucial as well as estimated earnings are.

Technicians using charts are in search of an archetypical price pattern chart, such are well known head and shoulders or double top/bottom reversal patterns, studying technical indicators, moving averages and looking for signals, such as lines of resistance and support and still not clear enough information such as pennants, flags, cup and handle patterns and balance days, etc.

Technical analysts also widely use many types of market indicators, some of which are mathematical price transformation, often downward and upward volume. Technician constantly seek for bonds between price/volume index and market indicators. Indicators that represents that bonds are relative strength index (hereinafter-RSI) and moving average convergence/divergence (hereinafter-MACD). Other research approaches involve reciprocity between volatility and put/call ratio with prices.

Technical analysis abounds with various tools. Followers of different techniques (e.g. candlestick chart, Dow Theory and Elliott Wave Theory) can ignore other approaches, but many traders use combination of different elements of several techniques.

Technical analysis often opposes the fundamental analysis, studying of economic factors that affect the way in which investors estimate financial markets. Technical analysis supports the attitude that prices reflect trends even before the investors have awareness of them. Technical indicators are designed for discovering these trends, with certain limitations. Fundamental indicators are subject to the same indicators. Traders often use technical or fundamental analyses, but some of them use both analyses for making trading decisions which is probably the most rational approach. Difference between fundamental analysts and technical analysts is that technical analysts are not so concerned with just any of the “larger” factors that “affect the market”, rather they are concentrated on the activity of that instrument’s market.

Technical analysts are known as technicians or market technicians. Some like to use the term „technical market analyst“ or just „market analysts“. Sometimes an

older term „chartist“ is used, but as the discipline has spread and been modernized, the term „chartist“ was no longer popular, because that covers only one aspect of technical analysis.

Some of the most important tools for technical analysis are described below:

- Charts
- Patterns: chart pattern
- Indicator trends – volatility trend (Moving average, Moving Average Convergence/Divergence (MACD), Bollinger bands)
- Elliott Wave Theory (and connection with Fibonacci)

Overview of charts is the basic form of technical analysis. Main types of charts used by investors and traders, depending on the information they are looking for and desired goals, are line charts, an open-high-low-close chart (or OHLC) and light charts. In technical analysis charts, time frames can be set to weekly, monthly or quarterly ones. Likewise, different trends in various time intervals can be identified. In a daily bar chart, each bar shows price behaviour for that whole day.

Chart patterns are an important part of technical analysis – even though they are more skill than science. Chart pattern makes looking at the bigger picture plausible and helps in identifying trading signals or signs of future price movements. Chart patterns are based on the assumption that certain patterns constantly repeat themselves and have a tendency of producing same outcomes. For example, as the emotions on the market change from optimism to fear, certain patterns can appear before traders and investors start selling.

Moving averages are used for measuring the trend direction at the moment. Basic objective of this method is to, by smoothing out current fluctuations, signalize the basic trend (Bradic-Martinovic, 2006, pp.134). Moving average can be considered an artificial construction of the time series in which every empirical data is replaced with an arithmetic mean of that data, certain number of previous and as many future data (Zizic et al., 2003, pp. 402). Moving averages can be arithmetical or simple (*Simple Moving Averages – SMA*) and geometrical or exponential (*Exponential Moving Averages – EMA*).

Moving Average Convergence/Divergence (MACD) was introduced by Gerald Appel and this indicator implies the showing of two impulse lines. MACD line is the differentiation between two different exponential moving averages and signals or the signal line, which is a subtraction to the exponential moving average. If MACD and signal lines are intersected that is considered as a signal and indicates that changes in trends are likely to happen.

John Bollinger, in the 1980s, developed technical tool known as Bollinger bands. Bollinger bands indicate the level of real volatility for the currency pair. Traders have to closely monitor volatility because a sudden increase of the instability level can often lead to a shift in market trends. Bollinger bands are set above the price charts and consist of a moving average together with lower and upper limits determining channel prices.

Bollinger was not the first dealing with moving averages. Mitigating the effect of fluctuation rate through moving average processing has long been the backbone

of technical analysis. However, Bollinger went a step further by using the concept of standard deviation by adding two “bands” above and under the moving average line in order to define limits of upper and lower marginal rate. These boundaries are channels for determining prices used for measuring volatility.

Ralph Nelson Elliott, in the 1930s, discovered specific form of technical analysis. Elliott noticed that financial markets were moving in familiar patterns, “waves” created by a basic form of investor behaviour, panic and euphoria. Using the data from the Dow Jones Industrial Average Elliott discovered that the stock market prices constantly changing trajectory and reveals a structural design, that in turn reflects a basic harmony found in nature (Precher, 2004, pp. 7). From this discovery he developed a rational system of analysing prices of shares.

Fibonacci analysis is the study of identifying potential resistance and support levels in the future based on past price trends and reversals, method major peak and trough are identified, then it is divided into the vertical distance of 23.6, 38.2, 50, 61.8 and 100 percent. (Kumar, 2014, pp. 37). Fibonacci analysis stands on the mathematical findings of Leonardo Pisano, also known as Fibonacci. He is credited with discovering a sequence of numbers that now bears his name: the Fibonacci sequence. The Fibonacci sequence is a series of numbers that progresses as follows, 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89... To arrive at each subsequent number in the sequence, you simply sum the two previous numbers in the sequence. For example, to find the number that follows 89 in the sequence, you add $89 + 55$ (the two previous numbers in the sequence). The sum of $89 + 55$ is 144. This is the next number in the sequence. What fascinated Fibonacci about this sequence was not the numbers themselves, but rather the relationships among the numbers, or the ratios created by various numbers in the sequence. The most important ratio is 1.618, also known as the golden ratio, or golden mean (Debnath, 2011, 343). This number can be found in nature (in sea shells, growth rings, etc.) and in the Fibonacci sequence. Each number in the Fibonacci sequence is 1.618 times larger than the preceding number. For example, 114 is 1.618 times larger than 89 ($114 \div 89 = 1.618$). The golden ratio and the other ratios that exist within the Fibonacci sequence represent the natural decrement and flow of life. They also apply to the natural decrement and flow of the market.

CHARTS

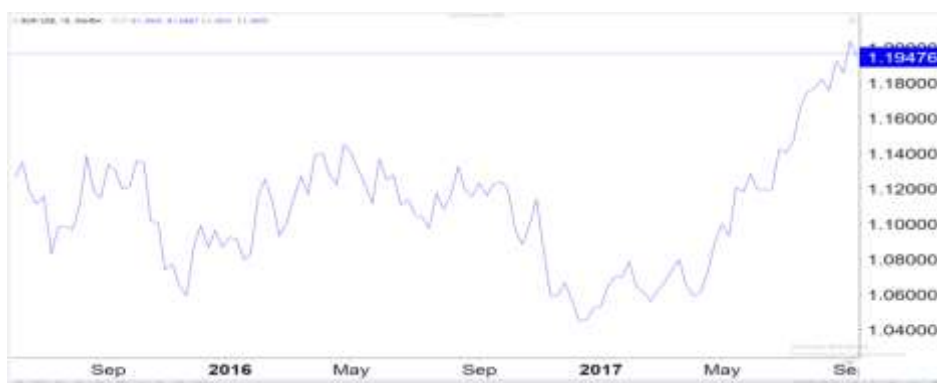
Three most popular types of charts are:

1. Line Charts
2. Bar Charts
3. Light Charts

Line chart is the most basic and simplest type of charts in practice of technical analysis, created by connecting series of prices from the past with the line and which displays price movements in a certain time frame. Line chart is also called close-only chart since it plans price closing with the line connecting markers

formed according to the nearest price. Lines and data about prices are shown in the chart with time frames displayed left and right along the horizontal axis, or x-axis, and price values drawn downward on the vertical axis, or y-axis. Simplicity of the line chart is its greatest advantage because it gives a clean and easily recognizable visual display of price movements. This makes it an ideal tool for the identification of dominant levels of support and resistance, trend lines and certain chart patterns.

However, line chart doesn't point out to the highest and lowest price and therefore doesn't point out to price range for the session. Chart method favored by Charles Dow was only for the level at which the price is closing. This is, according to Dow, the most important data about the price in a certain time frame, because it determines unfulfilled profit or loss in that period.



Picture 1. An example of line chart for EUR / USD

Source: Authors, created by TradingView

Bar Charts

Bar charts are drawn in a chart displaying time on the horizontal axis and levels of price on the vertical axis. These charts give significantly more information than line charts, because they consist of series of vertical bars pointing out to different data about the price for every time frame in the chart. These data can be about prices at opening, lowest price, highest price and prices at closing, which represents the OHLC bar chart. Height of every OHLC bar points out to the range of price for period with the highest price on the top and the lowest on the bottom of the bar. Each OHLC bar has a tiny horizontal line on the right side of the bar showing the price at closing for the period. OHLC bar also has a tiny horizontal line on the left side of the bar for the price at opening for the period. Additionally, there are certain chart applications that use colours pointing out to the bear or bull bar in comparison with the price at closing of the preceding bar. This make the OHLC chart closely similar to the candlestick chart, except for the fact that OHLC chart doesn't show the "bullishness" or "bearishness" of the period as clear as the candlestick charts do (colour of the OHLC bar is in relation with the price at closing of the preceding period and not with the price at opening and closing of the actual bar).

Next chart shows a bar chart for EUR/USD and illustrates differences between the line chart and bar chart regarding the amount of information each of them shows. In picture 1 we can notice a line chart that only displays the closing price, and in picture 2 is the OHLC bar chart. Both charts have a one-week time frame and cover the same period.



Picture 2. Example bar chart for EUR / USD

Source: Authors, created by TradingView

Candlestick Charts

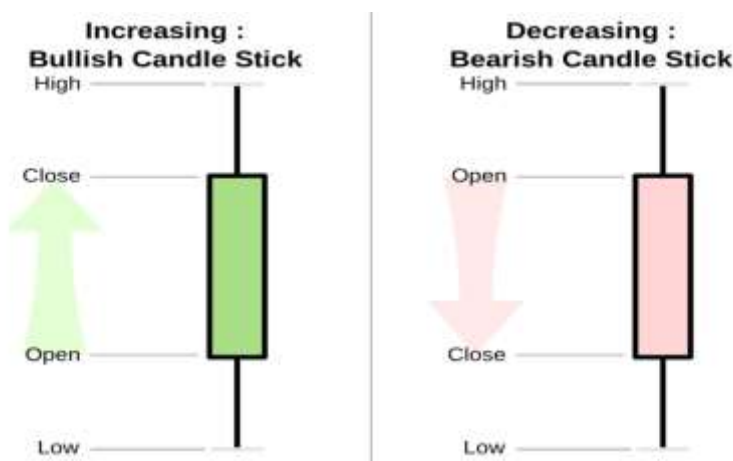
Candlestick charts provide the same information like OHLC bar charts, however, candlestick charts give us a visual indication of market psychology, market sentiment and potential weaknesses, thus making it a pretty valuable tool for technical analysis.

Candlestick chart shows the increasing price when the price at closing is larger than the price at opening by using light colours, such as white and green, and price decline, when the price at closing is lower than the price at opening by using dark

colours, such as black or red for the candlestick body. Hence, green candlestick shows closing price and it will be on the top of the candlestick and opening price on the bottom, because closing price is bigger than the opening price; inversely, red candlestick will show price at closing at the bottom and opening price on the top of the candlestick since the price at closing is lower than the price at opening. For both the bearish and bullish candlestick, lowest and highest session price will be pointed out with a thin vertical line at the bottom and top of the body. This vertical line is called the shadow or wick (Fischer, 2003, pp. 25). Colour and shape of the candlestick can be changed several times while designing it.

Therefore, it is necessary to wait for the candlestick to be completed ultimately the time frame being analysed.

Candlesticks are also good indicators of market psychology, i.e. feeling of fear and greed experienced by buyers and vendors, and the intensity of these feeling. Hence, bullish candlestick without the wick (called Marubozu) indicates a strong bullishness, and the longer the candlestick the stronger the Marubozu (Nesic, et al., 2013, pp. 108). Bullish candlestick with a relatively long lower wick, relatively small body and short or without the upper wick indicates that buyers have succeeded to pull the price up. This is as well a strong uptrend candlestick. However, bullish candlestick with a relatively long upper wick, relatively small body and short lower wick indicates that vendors have succeeded to get the price down, but haven't conquered the buyers. In later examples, we showed how to use green and red candlesticks that will enable faster observation of the data on the charts, such as trends, trends of decline and possible breaking points. The candlestick chart shown in Pic. 3 represents high, low, open, and close prices of each time unit.



Picture 3. Interpretation of candlesticks

Source: Prado et al., 2013, pp. 1137

Purpose of the candlestick is of visual nature, since the same information can be found in the OHLC chart. Candlestick advantages are:

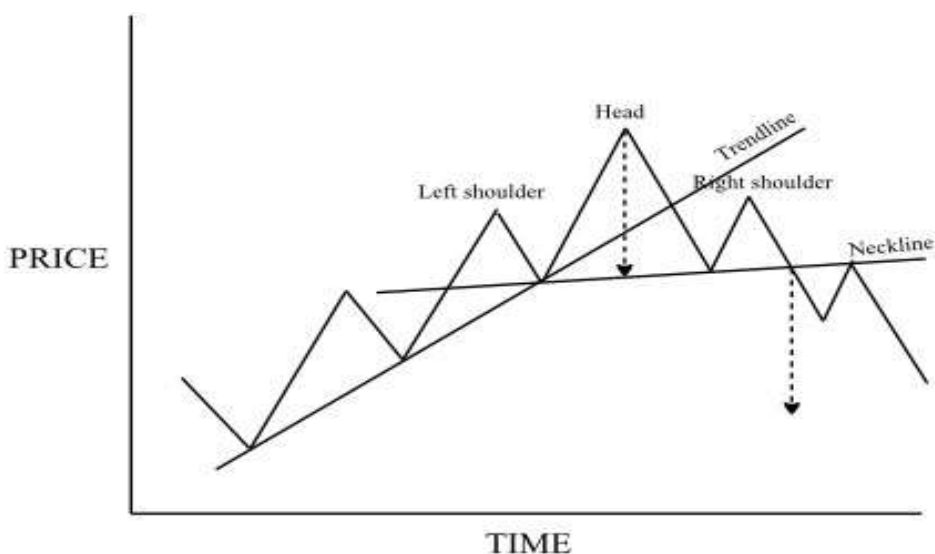
- Candlesticks are easy to interpret, visually provide a clear and easy-to-identify set of patterns that are highly accurate in predicting market trends.
- Candlesticks are user-friendly.
- Candlesticks are good in identifying market transitions – twist from an upward trend to downward trend and vice versa. Candle charts can indicate signals of reversal in a couple of sessions, and bar charts need the weeks to indicate signals of reversal. However, candle charts will always be in advance of traditional indicators. Candlestick chart is tool that signals you the right time when to go in and when to go out of the market.
- Provide distinctive market insights.

PATTERNS: CHART PATTERN

Patterns we see in the chart or on the computer screen are traces of bulls and bears. And a chartist is a hunter closely looking at subtle signs visible only to those who know what they are looking for (Elder, 1993, pp. 101). Chart patterns can help in the decision-making process regarding when a certain trend will continue its way or stop. There are two main groups of patterns: continuation and reversal. Continuous patterns involve flags and pennants. They suggest that trading follows the preceding trends. Reversal patterns involve head and shoulders, inverse head and shoulders and double top/bottom. Some patterns can serve as a continuation or reversal of formations. Triangles are famous for having double function. When several graphical patterns point out to the same direction, their signals are strengthened. For example, if an uptrend-line gets broken when a head-and-shoulders top is completed, they both confirm the ending of uptrend. When different patterns give conflicting messages, their signals cancel one another, and it is better not to trade.

Head and shoulders

This pattern shows the formation of trend reversals. The pattern is completed when the upwards of the market are finished and then signals changes in trend. It begins with a peak (shoulders), then a higher spike (head) and then a lower spike (shoulder). “The neck” is formed when the lowest points are connected of two troughs. Neckline doesn’t have to be horizontal – it can be flat, ascending or descending (Knight, 2011, pp. 177-178). In our experience, when it is declining, it is making a more reliable signal.



Picture 4. Example of the top of a head and shoulders

Source: Murphy, 1999, pp. 104

In this example we can clearly see the head and shoulders pattern. Head is the second peak and the highest point in the pattern. Two shoulders are also forming peaks, but they do not go above the head peak. This pattern ends just below the neckline. Likewise, we can calculate future price movements, minimum is the vertical distance from head to neckline downwards. This distance is approximately how low the price will go after the neckline is pierced. This can be seen when the price goes below the neckline, it can go up to the neckline, but it won't pierce through it if it was pierced before. After that, the price will move around the size of the distance between the head and neck.

Inverse Head and shoulders pattern is used as a sign of changing in trends and direction of price movements. The pattern is characterized by three declines in market price, which is located on different levels: the highest points form shoulders and the lowest forms head.

When the inverse pattern is formed and price surpass the neckline, traders are getting strong buy signal.

Following this pattern it is believed that the price tends to rise to its target level at least, so the price targets are calculated as follows

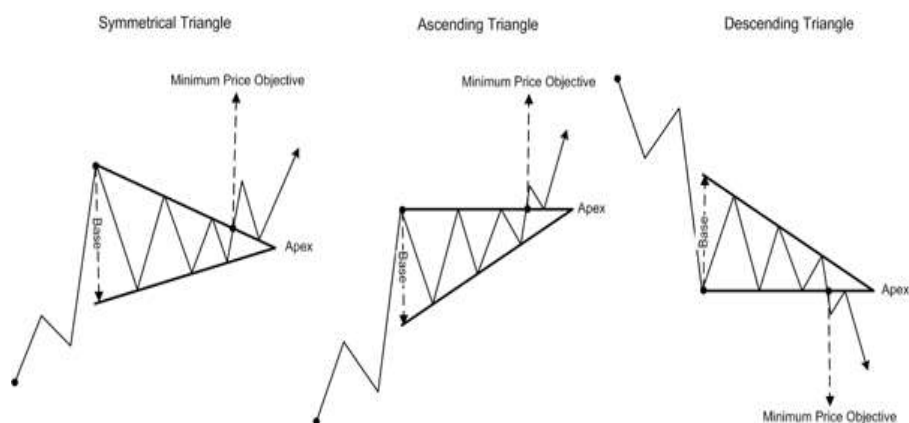
$$\text{Head and Shoulders} = \text{Neckline} - (\text{Head} - \text{Neckline})$$

$$\text{Inverse Head and Shoulders} = \text{Neckline} + (\text{Head} - \text{Neckline})$$

Triangles

There are three types of triangles – symmetrical, ascending and descending. Each of the triangles has small differences in shape and gives different forecast. Symmetrical triangle shows two convergent trend lines where the upper one is

descending and the lower one ascending. Vertical line on the left is there to measure pattern height and is called the base. Dot connecting these two lines on the right is called the apex. Ascending triangle (bullish pattern) has an ascending lower line with a flat or horizontal upper line. Descending triangle (bearish pattern) is completely opposite to the ascending one, where the upper line is in decline and the lower line is flat or horizontal.



Picture 5. Example of a symmetrical, ascending and descending triangle

Source: <http://www.dreamgains.com/trading-the-triangles/> (date: 25. 7. 2017.)

Symmetrical triangle represents the pause of the existing trend after which the initial trend is being reconsidered. As we can see in picture 5, the initial trend was a growing one, after consolidation (pause) it continues to grow (bullish symmetrical triangle), otherwise it would show a trend of decline (bearish symmetrical triangle). It is necessary to notice three tips at the upper line and three tips at the bottom line that are combined and formed into five waves within the triangle (it is what the Elliott Wave Theory represents).

Time limitation is an important segment of this pattern and represents a dot in which two lines meet, i.e. the apex. The rule is that prices will go in the direction of the previous trend and that they will pierce through the upper or lower line of the triangle somewhere between $\frac{2}{3}$ and $\frac{3}{4}$ of the horizontal width of the triangle, and that is the distance between the base on the left and the apex on the right. In case of an uptrend, after piercing through the upper line of the triangle and after the price returns on that line, it becomes the line of support. In case of a downward trend, lower line becomes the line of resistance from the moment it has been pierced through.

Ascending triangles indicate that buyers are more aggressive than vendors and price penetration always happens on the upper line. Unlike the symmetrical one which is neutral and has no power of forecasting, ascending and even descending triangles are valuable predicting tools. Ascending triangle measuring technique is rather simple. Height of the pattern in its widest point is measured and vertical distance from the penetration point is at display.

Descending triangle is a mirror view of the ascending triangle and it indicates that vendors are more aggressive than buyers. The measuring technique is completely the same as the ascending one meaning that we have to measure the height of the pattern, but on the left-side basis and it shows the downward distance from the penetration point.

An important factor in observing triangles is the time dimension. Triangles are considered intermediate patterns, which means they need more than a month and less than three months to be formed.

TREND AND VOLATILITY INDICATORS

Moving Average

Moving Average is the most versatile technical indicator due to its design and the fact it can be easily quantified and tested. Moving Average is an essential means of monitoring trends. Its purpose is to identify and signalize when a new trend starts, old one finishes or reverses. In the definition of the Moving Average, the word average stands for a certain amount of data. For example, if we take a ten-day average of the prices at closing, ten-day prices are added and their sum divided by 10. As any other indicator, moving average indicator is used to help us in predicting future prices. By looking at the slope of the moving average, a general prediction of how the prices will go can be made. There are various types of moving averages, Simple Moving Average and Exponential. Each of them has its form of levelling.

Simple Moving Average (SMA) is the most simple moving average. Basically, simple moving average is calculated by adding previous prices at closing of the previous X period and dividing that number by X.

As all other indicators, moving averages operate with a delay. Given the fact that we use only price average, we can only see the forecast of future prices and not the specific situation in the future.



Picture 6. Example of a simple moving average (5, 30, 62)

Source: Authors, created by TradingView

We can see three different SMAs in the previous picture. The longer the SMA period, the bigger the delay. It is because for 62 SMAs we add closing prices from the last 62 periods and divide it by 62. The larger the number of periods being used, the slower the reaction to price movements. SMAs in this chart show the general state on the market in the given moment. Instead of looking at the current market price, we should be looking at the conditions in motion because they can give us the bigger picture and general predictions of the future prices can be made. Even though simple moving average is an excellent tool, there is one disadvantage. Simple moving averages cover only one specific period (e.g. five-day period) and give equal value to prices for each individual day. We shall illustrate this disadvantage through the following example.

We shall say that we are planning a period of 5 SMAs in a daily chart EUR/USD and closing prices in the previous five days are as follows: 1st day: 1.1345, 2nd day: 1.1350, 3rd day: 1.1360, 4th: 1.1365, 5th day: 1.1370. We calculate the SMA as $(1.1345 + 1.1350 + 1.1360 + 1.1365 + 1.1370) / 5 = 1.1358$. But what if the price for the 2nd day had been 1.1300? The result of the SMA would have been much lower and we would have been under the impression that the price was really decreasing, while in reality the 2nd day could have been just a short-term event. The point is that simple moving average can sometimes be too simple.

Moving average that solves all the disadvantages of a simple moving average is the exponential moving average.

Exponential moving average (EMA) gives greater value to the latest periods. In the above example, EMA would place greater value on days 3, 4 and 5, which means that day 2 would be less significant and wouldn't influence the moving average. EMA emphasizes what traders are doing now. When trading is happening, it is so much more important to see what traders are doing now than what they did last week or last month.



Picture 7. Example of a 50 SMA and 50 EMA and double crossover method

Source: Authors, created by TradingView

When a technical analyst wants to have a relatively quick response to price changes then EMA is the best choice for short periods. It can help detect trends in their early stages which will result in greater profits. EMA's lack is that it can mislead us because it has a fast reaction to prices and creates an illusion that a trend has been formed when actually we only had price penetration. With a simple moving average, things are quite the opposite. When a technical analyst wishes a relatively slower and milder response to price changes, then SMA is the best choice in the long term. Even though it has a slow reaction to price changes, it won't mislead us. However, the disadvantage is that it can cause long delays and we can miss out on good trading opportunities. The question is which one is better in forecasting? Technical analyst has to decide on that. Many analysts use several moving averages in order to get the best from both. They can use SMA in the long term to catch sight of the general trend and they can use EMA for a short period to catch sight of a good moment for trading.

Detecting the signal of these two averages analysts call the double crossover method. This means that the signal for buying occurs when longer average cross over the shorter one. For example, two popular combination are averages on five and twenty days and on ten and fifty days. The sell signal occurs when a ten-day average cross over the fifty-day average (picture 7).

Bollinger Bands

John Bollinger introduced this technique and is used for measuring market volatility. This technique represents two standard deviations that are found above and under the moving average and is most often used for a period of twenty days.

The rule is that when prices increase and touch the upper standard deviation they hit the overbought and when prices touch the lower standard deviation they hit the oversold. Bollinger bands shrink and contract based on the volatility in the previous twenty days. During that period, if volatility increases, space between the bands expands or contracts. When bands are unusually far apart it is most often a sign that the trend is coming to an end, and when they are too close together that is usually a sign a new trend is coming. Bollinger bands can be used as weekly or monthly price charts where instead of twenty days we take twenty weeks and twenty months. This tool gives the best results when used with other overbought/oversold oscillators. Likewise, Bollinger Bounce technique is very important. It tells us that the price is striving to get back half-way on the band. The reason for this bounce is that Bollinger Bands act as mini levels of support and resistance. Many traders have developed systems of achieving results based on bounces and this strategy is best used when the market is steady and has no clear trend.



Picture 8. Example of a Bollinger band

Source: Authors, created by TradingView

Moving Average Convergence Divergence

MACD (Moving Average Convergence / Divergence) is an indicator of support that Gerald Appel designed in the 1970s. In 1986, a histogram was added to the MACD by Thomas Aspray, that helps to anticipate MACD crossovers.

It is used to determine changes in strength, direction, momentum and duration of the trend. MACD is the calculation of differences between two exponential moving averages (hereinafter-EMA) of closing prices. The difference between these two EMAs is shown as a histogram. EMA indicate recent changes in prices. By comparing EMAs of different periods, MACD line illustrates changes in the trend. Then, by comparing this difference with the average, analyst can notice trend changes. Since MACD is based on moving average values, it is actually an indicator of delay. As a metric of price trends, MACD is less useful when there is no clear trend. MACD indicator is designed by subtracting EMA of the twelve day period with the twenty-six day EMA and thus making the MACD line (faster). Shorter twelve day EMA is closer to price movements and more sensitive to trend changes than the longer twenty-six day moving average (Appel, 2005, pp. 166). From an MACD indicator obtained in this way, exponential moving average for 9 days is calculated as the Signal line (slower).

EMA is a measured average of price at closing today and the current EMA value. The measure for today's close is a smoothing factor alpha (Eric et al., 2009, pp. 177).

$$\text{EMA}[\text{today}] = \alpha * \text{close} + (1-\alpha) * \text{EMA}[\text{yesterday}],$$

$$\text{where } \alpha = 2/(n+1).$$

Thus, the MACD calculation is:

$$\sum_{t=1}^n EMA_k(i) - \sum_{t=1}^n EMA_d(i)$$

Where $EMA_n(i) = a \times p(i) + (1 - a) \times EMA_n(i - 1)$

$$a = \frac{2}{1+n} \text{ where } n - \text{number of days}$$

$p(i)$ – asset price on i^{th} day

MACD has the most popular parameters among traders, which are also the default parameters for technical analysis is MACD (12, 26, 9).

- First one is the twelve days period and it is the faster moving average
- Second one is the twenty-six days period and it is slower moving average
- And the third one is the number used for calculating moving average between twelve and twenty-six moving averages (9 is an exponential smoothing average MACD line).

Often people are confused when it comes to MACD lines. Two lines in the chart are not moving averages for prices, those are moving averages for the difference between two moving averages.

MACD indicator generates three important signals for technical analysts;

- MACD crossover (blue line crossing red line),
- MACD line crosses zero (blue line crossing the x-axis, the straight black line in the middle of the indicator),
- Third is divergence between the MACD line and the price, or between the histogram and higher highs (lower lows) of the price on the graph but not on the blue line, or higher highs (lower lows) of the price on the graph, but not on the bar graph.

Crossovers are the base provided by the MACD. The crucial moment is to notice the buy signal, when the slower line (signal line) crosses over the faster line (MACD line) and continues to move upwards, or sell when faster line crosses over slower and continue to move downward.

The upwards move is called a bullish crossover and the downwards move a bearish crossover. They indicate that the trend is speeding up soon in the crossover direction.

The histogram reveals when a crossing arrives. The difference between the MACD line and the signal line represents histogram, there is no difference between them when they cross. The difference between lines in the moment of the cross is zero. When the two lines are approaching a crossover the histogram can help in visualizing. When the difference changing size that can indicate the acceleration of a trend. The histogram narrows when a crossover may be oncoming, and a histogram widens when an underway trend is probably getting even stronger.

The MACD line crosses through zero line when there is no difference between the fast and slow EMAs. Bearish is when there is a move from positive to negative and bullish, from negative to positive. Proof of a change in the direction of a trend but less confirmation of its momentum is provided by zero crossover than a signal line crossover.

Divergence, refers to a discrepancy between the MACD line and the graph of the price. Positive divergence between the MACD and price arises when price hits a new low, but the MACD doesn't. This is interpreted as bullish, suggesting the downtrend may be nearly over. Negative divergence is when the price hits a new high but the MACD does not. This is interpreted as bearish, suggesting that recent price increases will not continue.

Divergence may also arrive between the price and the histogram. It is regarded bearish if new high levels of price are not confirmed by new high levels of histogram; It is regarded bullish, if new low- price levels are not confirmed by new low levels of histogram.



Picture 9. Example of a MACD...

Source: Authors, created by TradingView

As with all other technical indicators, weekly chart signals are more important than the ones in a daily chart. The best way to combine them is to use weekly signals to determine the direction in which the market is moving and daily to carry out a precise setting of the entry and exit parameters (Murphy, 1999, pp. 256). Analysts will also vary the parameters of the MACD to track trends of varying duration.

The MACD can generate false signals, like any indicator,. A false positive, for example, would be a bullish crossover, which signals a new trend, followed by a sudden decline in a price. A false negative would be a reversal situation. To avoid false signals, analysts use a variety of approaches.

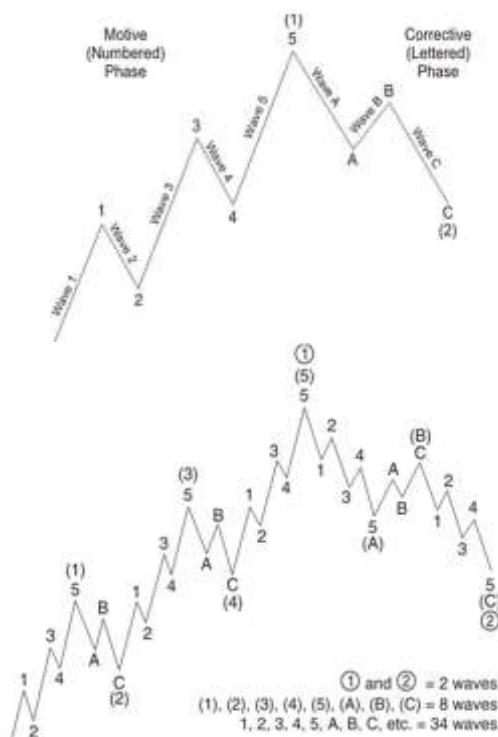
Historical comparisons to similar instruments, as well as, a careful investigation of past price movements provide added information about how an instrument tends to move.

ELLIOTT WAVE THEORY AND FIBONACCI RELATIONSHIPS

In the introductory section was mentioned, Elliott discovered that stock markets, which are considered to behave somewhat chaotically, don't actually.

Trading is done in repeated cycles, for which he stated are the emotions of traders and investors, caused by external influences or dominant psychology of masses in time.

Elliott explained that upward or downward trends of mass psychology appeared in same repeated patterns which were further divided into patterns he called "waves". Elliott showed that the market trend is moving in what he named a 5-3 wave patterns. First 5-wave pattern (indicated with numbers) is called the motivational pattern and the last 3-wave pattern (indicated with letters) is called the corrective one. Five-wave motivational mode consists of three "motivational" and two "corrective" waves. Waves labelled with number 1, 3 and 5 are motivational and waves labelled with 2 and 4 are corrective. Each motivational wave is followed by a corrective wave. Like the wave 2 corrects wave 2 in the same wave a three-wave string A, B and C corrects a complete five-wave string 1, 2, 3, 4 and 5.



Picture 10. Basic Elliott wave pattern in its detailed version

Source: Prechter, 2004, pp. 9-10

String showed in picture 10 is not finite. When a corrective string ends a motivational begins until it reaches a reversal. From this we can see that each motivational string is in fact one large motivational wave and vice versa.

The distilled essence of Elliott-wave formation consists of the following four principles (Casti, 2011, pp. 5-6):

- Action is followed by reaction.
- Impulse waves subdivide into five waves of lower degree, while corrective waves subdivide into three waves of lower degree.
- A complete cycle consists of an eight-wave movement (five up and three down), which then becomes two subdivisions of the wave of next higher degree.
- The time frame does not enter into the pattern, so that the waves may be stretched or compressed along either the horizontal or the vertical axis without losing the underlying pattern.

Elliott wave analysts stand that the reflection of the psychology of the moment gives to each individual wave its own feature.

Table 1: Characteristics of Elliott's waves

Five wave pattern (motivation trend)	Three wave pattern (corrective trend)
Wave 1- First wave is rarely apparent at its commencement. When the first wave of a new uptrend market begins, the elementary news is almost without exception negative. The previous trend is still strongly in force. Fundamental analysts continue to reconsider their earnings; the economy probably does not look strong. Surveys are decidedly downtrend, put options are in effect, and expected volatility in the options market is high. Volume might increase a little ,as price rises, but not sufficiently to signal a lot of technical analysts.	Wave A- Corrections are harder to notice than impulse moves. In wave A of a downtrend market, the elementary news is still positive. Most analysts see the downfall as a correction in a active uptrend market. Technical indicators that follow wave A involve increased volume, rising expected volatility in the options markets and possibly make higher turn over in similar markets.
Wave 2- Second wave mends wave one, but can never broaden beyond the point of start of wave one. The news is still bad. As prices re-evaluate previous low, downtrend rapidly builds, and "the crowd" disdainfully reminds all, that the downtrend market is still deeply established. Some positive signs show up for those who are seeking: volume should be lower throughout wave two, than throughout wave one, prices usually do not backtrack more than 61.8% of the wave one strikes, and prices should fall in a three wave pattern.	Wave B- Prices turn over higher, which many see as a continuation of the now already finished uptrend market. Those acquainted with classical technical analysis may see the peak as the right shoulder of a head and shoulders pattern and inversal head and shoulders pattern. The volume throughout wave B should be lower than in wave A. Until this moment, fundamentals are presumably no longer ameliorating, but they, in all probability, haven't turned negative yet.
Wave 3- Third wave is often the biggest and most potential wave in a trend. The news is now positive and fundamental analysts start to heighten earnings appraisals. Prices go up rapidly, corrections are	Wave C- Prices move lower in five waves. Volume is decreasing, and by the third prong of C wave, nearly everyone figures

<p>shallow and short. If someone looking to get back on track, it is probably too late. Wave three starts, the news is probably still in downtrend, and the majority of market players stay negative; but the most of traders will join new uptrend. Wave three probably surpass wave one by a ratio of 1.618:1.</p>	<p>out that a downtrend market is vigorously established. Wave C is usually as large as wave A at least and often surpass to 1.618 times of wave A or through.</p>
<p>Wave 4- Fourth wave is obviously corrective. Prices may weave sideways for an prolonged period, and fourth wave goes back over less than 38.2% of third wave. Volume is quite beneath the third wave. This is a good buy signal if you see the potential of the fifth wave. Fourth wave is oftentimes discouraging, because of their deficiency of progress in the greater trend.</p>	
<p>Wave 5- Fifth wave is the last prong of the trend. The news is positive and everyone is in uptrend. But unfortunately, many average investors at last buy in, just before the top. Volume is lower in fifth wave than in third wave, and a lot of momentum indicators start to display divergences (prices achieve a new high, but the indicators don't come to a new spike).</p>	

Source: Poser, 2003, pp. 13-17

Fibonacci ratios were derived from the Fibonacci number sequences. Fibonacci numbers enable a mathematical basis for the Elliott Wave Theory and are used as a tool for predicting future price movements. In technical analysis, Fibonacci retracement is created with two extreme points and a vertical division and the distance between them is determined by Fibonacci ratios of 23.6%, 38.2%, 50%, 61.8% and 100%. Horizontal lines are drawn on this levels and they are used to identify possible support and resistance levels. Most often, the price will change its direction on one of the three Fibonacci ratios of 38.2%, 50% and 61.8%. The 38.2% ratio is obtained when one number from the series is divided by the number positioned two places to the right. The 50% ratio is not a Fibonacci ratio, but is used because it is thought that when the price reaches the 50% level it will continue to move in the same direction. The 61.8% ratio is also known as the golden ratio and is obtained when on number from the series is divided by the following number.



Picture 11. Example of Elliott wave theory and Fibonacci retracement

Source: Authors, created by TradingView, an advanced financial visualization platform

The EUR/USD currency chart gives an example of a fourth wave retracement apparently halting between the 38.2% and 50.0% Fibonacci retracements. The chart signalizes how the Elliott wave principle is well combined with other tendencies of technical analysis as previous line of support (the bottom of first wave) acts as the line of resistance to fourth wave. The wave count depicted in the chart would be invalidated if EUR/USD moved above the wave-1 low.

CONCLUSION

Technical analysis is a strategy analysts have been using for some period of time and should be observed as one of the tools from a wide spectrum at disposal to analysts. Technical analysis can be combined with the fundamental analysis, quantitative analysis and financial behaviour – thus developing into the rational analysis.

Technical analysis is based on three premises: 1) market happenings make everything easier; 2) prices move in trends; 3) history repeats itself. Technical analysts rely on the fact that all information they need can be found in charts and chart patterns and they have a short-term access to market analysing. A few things that should be stressed out concerning the technical analysis are:

1. Technical analysis is an estimation method via statistical data analysis generated by market activity, previous prices and range.
2. Advantages of charts and chart patterns lie in the fact they show the highest and lowest prices at opening and closing for each day separately.
3. One of the easiest and simplest ways of using technical analysis indicators is the MA that shows average price values for a certain period.

4. Support and resistance levels are price levels at which movements should stop and reverse. Levels of support and resistance should be looked as if they are the floor and ceiling of future price movements.
5. Technical analysis is an excellent tool, but is the most efficient in combination with fundamental analysis.

Technical analysis is one of those fields in which everybody has different theories on how it functions and what gives results and what doesn't. We should always bear in mind that technical analysis is only a forecasting tool and as such it should always be monitored, estimated and updated when new conditions come to be.

It can be said that technical analysis is more a skill than a strategy since it is always a matter of personal choice, preferences, trading philosophy and style of the one using it.

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ON THE REASONS AND IMPORTANCE OF THE INTRODUCTION OF PUBLIC PROCUREMENT FORENSICS INSTITUTE

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ABSTRACT

Public procurement is a very important process for the transactions of assets, goods and services, as well as money in the business processes, which makes this area a suitable ground for various types of abuse, primarily for corruptive offenses. On the other hand, the fact that fraud schemes in the field of public procurement are carried out in a skillful and covert manner, that they evolve, change and adapt to modern conditions, require complex activities to identify risk factors, identify symptoms of illegality, assess the consequences and examine the most important forms, trends and techniques of committing criminal actions in this field. Bearing in mind the above, the aim of the study is to point out the importance of discovering and preventing corruption and other forms of abuse in the field of public procurement by putting emphasis on systems of internal and external control as an important tool in preventing the occurrence of criminal activities. In this respect, the role of the State Audit Institution in controlling the regularity of public procurement is particularly emphasized. Also, the difficulties in detecting and proving criminal activities in this area cause the need to develop specific methods and techniques for their detection and identification from the spectrum of forensic disciplines. In this regard, special attention has been given to the consideration of the idea of introducing the "Forensics Procurement" institute, which involves the use of different knowledge, methods and tools in order to clarify corruption and other criminal activities carried out in this area, all bearing in mind that public Procurement is a development issue of great importance for each country and that the reduction of irregularities in the public procurement system is one of the strategic goals of the public procurement reform in the Republic of Serbia.

Key words: *Corruption, Public Procurement, Public Procurement Forensics, State Audit Institution, Legislation*

JEL Classification: *D73, H57, K13*

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INTRODUCTION

It is widely known that public procurements are one of the largest items in the budgets of all state institutions. Public procurement is between 10% and 15% of the world's gross domestic product, and the value that goes through this procedure is estimated at several trillion US dollars each year. In most of the countries that are members of the Organization for Economic Assistance and Development (OECD), this share is around 15% of gross domestic product, while in developing countries the percentage of participation is significantly higher. In the Republic of Serbia, annually about 3,000,000,000 EUR is spent on public procurements. Hence, it should not be surprising that the field of public procurement represents a suitable ground for various types of abuse, primarily for corruptive offenses.

According to the Report of the Public Procurement Administration of the Republic of Serbia (Public Procurement Administration, Public Procurement Report for the Republic of Serbia for the period 1.1.2015-31.12.2015, available at: http://www.ujn.gov.rs/ci/izvestaji/izvestaji_ujn Управа за јавне набавке.), the registered value of public procurement in 2015 in our country amounted to 354.9 billion dinars, which is more than in the same period of 2014 (298.3 billion dinars). The share of public procurement in gross domestic product increased from 7.63% in 2014 to 8.93% in 2015. Finally, for the first six months of 2016, 55,823 public procurement contracts were concluded, with a total value of 154.4 billion dinars.

Therefore, having in mind that public procurements are very important process of the transactions of assets, goods and services, as well as money in the business processes, they are also a significant source of corruptive offenses. Essential problems in the public procurement process are the avoidance of the application of regulations and corruptive activities. In previous periods, the enforcement of regulations was mainly related to direct negotiation procedures, while in the past years, abuse and irregularities were observed both in the stage of preparation for public procurement and in the phase after the conclusion of the contract. Namely, fraudulent schemes in public procurement include a large range of illegal activities that vary, from fitting public procurements in the process of assigning public procurement, to false invoicing at the contract execution stage (Tanjevic, Spiler, 2016). Among the most common forms of abuse in this area that have been observed over the past years are the following: inadequate planning for the purpose of breaking down "large" procurements into "small" or, procurement below the limits to which the Public Procurement Law does not apply, where the contracting authorities themselves choose the bidders, as well as wrongly defined conditions and criteria in the tender documentation, favoring through the technical specification, shortening deadlines for submission of tenders in relation to the law prescribed, favoring a pre-notified bidder, misuse of "quality" as a criterion that is assessed on the basis of the subjective position of the members of the commission of the contracting authority, inadequate use of the negotiation procedure without publishing the invitation to tender, inadequate application of the basic agreement, absence or inadequate control of the planning, implementation and execution of

public procurements, bribery, conflict of interest, nepotism and the like. Also, annexation of the contract, which changes the contracted price, is noted as a rule, and the quantities are reduced, while the delivery terms are extended.

Regulation of public procurement procedures has multiple objectives. In addition to fighting corruption, creating conditions for the smooth flow of goods and services and maximum competition among bidders, it can be said that the first and foremost goal is the one promoted through the principle of efficiency and economy of the use of public funds, that public procurement must serve the public interest. The spending of public funds is worthwhile when the goals for which these funds were intended are achieved. Therefore, the first and basic criterion for the purposeness of public procurement is that they must serve the public interest. Purpose testing should be done continuously, when planning and approving each spending of public funds. As significant public resources are spent during the procurement (about 30% of the budget of the Republic of Serbia), the principles of purposeness are mostly applied in the field of public procurement.

Bearing in mind that the Supreme Audit Institutions are often solely responsible for controlling all phases of public procurement (planning, implementation of the procedure, execution of procurement), in the beginning we consider it significant to indicate the fact that in the reports of the State Audit Institution (hereinafter: SAI) on performed public sector audits, irregularities in conducted public procurement are often identified. In the last report for 2015 (SAI, 2015), the audit included public procurement in the amount of 52 billion dinars, and the identified irregularities amount to 14.5 billion dinars, which makes 27.9% of the audited value of public procurement. According to the above report, the largest amount of irregularities relates to the following:

- contracts concluded without implemented public procurement procedures in the amount of 2.6 billion dinars (73 auditing entities), accounting for 17% of total irregularities (the most significant amount refers to users of local government budget funds);
- irregularities related to the tender documentation in the amount of RSD 2.8 billion (20 auditing entities), accounting for 20% of the total irregularities (the most significant amount refers to the organization of compulsory social insurance and users of budget funds from local authorities);
- irregularities in the area of awarding, concluding and amending the contract in the amount of RSD 1.1 billion (24 audit entities), accounting for 8% of total irregularities (the most significant amount refers to users of budgetary funds of local authorities and public enterprises);
- procurements were performed indicating irregularities in the procurement procedures in the amount of 513 million dinars (9 auditing entities), accounting for 4% of total irregularities (the most significant amount refers to public companies and users of budgetary funds from local authorities);
- contracts concluded with the negotiation procedure without fulfilling the conditions in the amount of 33 million dinars (2 auditing entities), which makes 0,3% of the total irregularities (the most significant amount refers to the users of RFZO funds);

- concluded contracts by conducting inadequate public procurement procedures in the amount of 54 million dinars (5 auditing entities), which makes up 0.4% of total irregularities (the most significant amount refers to users of budgetary funds of local authorities, public enterprises and budget users of the Republic of Serbia);
- irregularities related to the conditions for initiating public procurement procedures in the amount of RSD 303 million (13 auditing entities), which constitutes 2% of total irregularities (the most significant amount refers to users of budgetary funds of local authorities);
- other irregularities in connection with public procurement procedures in the amount of 243 million dinars (17 auditees), accounting for 2% of total irregularities (the most significant amount refers to users of budgetary funds of local authorities, public enterprises and organizations of mandatory social insurance and users of RFZO funds);
- other irregularities in the sense of the Public Procurement Law in the amount of RSD 775 million relate to irregularities related to: issuing / submitting the Public Procurement Plan, technical specification, procedures for protection of rights, decision on initiating public procurement procedures and other;
- identified irregularities in public procurement from previous years amount to RSD 6.1 billion (the second beneficiary of public funds).

Generally observed through all available reports, it can be concluded that the most significant forms of identified irregularities in the SAI reports are the following: procurement of unnecessary supplies of works and services - unnecessary purchases; avoiding the implementation of an open procedure - division of a contract; inadequate merging (several different works, goods in one lot); biased criteria for assessment; customised specifications; exclusion of a qualified bidder; unequal competition and collaboration of the bidders (Sinanovic, et.al, 2016).

DIFFICULTIES IN DISCOVERING AND PROVING ILLEGAL ACTIONS IN THE FIELD OF PUBLIC PROCUREMENT

Detecting and proving corruption and other forms of abuse is particularly difficult, bearing in mind that corruptive offenses are often carried out "eye to eye and behind closed doors". Purchasers and bidders are constantly finding new ways to integrate corruption into their relationships. This leads to the situation in which data on the deed committed can be obtained in a large number of cases only from "participants in the business", whereby the chances are small because they are connected with the execution of the delict, for which they give false testimonials, destroy the documentation and in general take numerous actions to prevent the

discovery of the delict. Also, one should bear in mind that there are many participants in the public procurement procedure, both on the side of the state and on the side of companies offering goods and services. The number of participants and the complexity of social games make it difficult to review and control the use of funds for public procurement, as well as complicate the work of prosecutors' offices (Prokopijevic, 2013, p. 54). Therefore, the detection and proving of these works is a very complex activity that requires the cooperation of a large number of subjects, primarily in the collection phase of the documentation on the committed criminal offense and the perpetrator, as well as the application of adequate operational-tactical actions and measures. Sometimes this can be achieved by insight into the appropriate documentation, by collecting information, by sudden control, and similar activities. SAI's reports can also be a significant source of information in which, for several years, many situations have been highlighted in which the wrong procurement procedure was selected (eg. negotiating instead of open, low-value public procurement procedure instead of open) and other misuses.

Therefore, it is indisputable that this work cannot be successfully carried out by only one body, but with the joint, planned and team work of all authorized entities. This especially if we take into account the fact that economic crime, especially contemporary, manifests in a large number of forms and strives for increasing organization and establishing control over legal transactions, while slowly erasing the boundary between lawful and illegal business (Tanjevic, 2010). Since abuses in the field of public procurement are conducted in a skillful and covert manner, work on their discovery and proving requires conscientious, thorough and persistent work. This implies the strategy for detecting and proving criminal offenses in this area, which must be based on the inclusion of an increasing number of authorized entities, ranging from state authorities to specialized government and non-governmental organizations.

In the field of public procurement, the most important public procurement monitoring tool available is the Public Procurement Portal, which is very important source of information for controlling the legality and the purposeness of the public procurement procedures that have been conducted. On the other hand, having in mind that certain issues of public procurement are related to many other so-called sectoral areas, the coordination of the work of institutions, both in the adoption of regulations and in the performance of operations at the operational level, is very important. In this regard, it should be noted that the Public Procurement Directorate, as a key institution for coordinating most of the activities and reforms in the field of public procurement, both at the regulatory and operational levels, still does not have the necessary human resources, technical and spatial capacities, which certainly does not support the effective fight against corruption and other irregularities in this area. It should also be kept in mind that work on the detection of abuse in this area requires special expertise and skills, which means that professional training and training of persons performing these tasks is necessary in order to detect irregularities in due time and undertake activities for their prevention and suppression.

Establishing good public procurement management should be assisted by the introduction of professional procurement officers in entities that call for public procurement. In addition to its expertise, this institute has the potential to bring more integrity into public procurement procedures, since in the event of improper and unlawful conduct, they will be most exposed to sanctions (Milosavljevic, 2015). However, it is necessary for these officers to provide ongoing training and professional support in order to continuously improve public procurement. In addition to state-of-the-art regulations, it is necessary to provide training for application of modern technologies in the field of integrity and ethical standards. This is especially important because by strengthening the integrity of both officials and the institution, public confidence in the work of the body will grow stronger, too. Also, integrity and corruption are the two opposite concepts. Strengthening integrity automatically creates an unfavorable environment for corruptive action and vice versa.

Here, we do not consider it unnecessary to point out that the "whistleblowers" play an important role in discovering and proving corruption in public procurement. In general, these individuals play an important role in national and global efforts to combat corruption. It's about people who warn the public that something illegal is happening, something to be reacted to and why the thing should be investigated, sanctioned, disclosed. The protection of these people in our country so far has not been comprehensive and adequate. For example, the Law on Free Access to Information of Public Importance did not provide protection for those who disclosed information indicating corruption, other illegal activities or their disguise, if the information is contained in a document that is marked as confidential or which contains some personal information. In the Anti-Corruption Agency Act, protection was provided only if corruption was reported within the institution in which the official works, but not in another institution, about which the employee also has knowledge, or similar. This type of protection, in which legal provisions were "split into several laws" or, in which this problem sought to be solved by a sub-legal act, could not provide systemic protection, but pointed out the need to pass a special law that would regulate the protection of persons who disclose such acts in the public interest, both in the public as well as in the private sector, in such a way as to be able to report the perceived unlawfulness, without fear of being fired or otherwise punished.

In connection with the aforementioned, a great step has been made in our country with the adoption of the Law on the Protection of Alerters ("Official Gazette of RS", No. 128/2014). The aforementioned law provides protection to a person who alerts about his work engagement, employment, use of services of state and other bodies, holders of public authority or public services, business cooperation and ownership right in a company. State support in the adoption and implementation of this law is very important because it provides a positive signal to all citizens who are encouraged to report abuses and at the same time contribute to changes in society by providing protection to people who point to abuse, corruption and illegality. In addition, it is necessary to gain the confidence of the public and persons who are potential alerters that the adopted law will truly

guarantee their full protection. Considering that the law in force has been implemented since June 2015, there are still not enough cases to be able to talk about the success of new solutions, and it remains to be seen what will be the effects of this law in the future, because, as with any law, law is just the first step, and the most important thing is to ensure its consistent application in practice.

THE ROLE AND IMPORTANCE OF CONTROL MECHANISMS IN DETECTING CORRUPTION AND OTHER ILLEGAL ACTIVITIES IN THE FIELD OF PUBLIC PROCUREMENT

Responsible spending of public funds has always been at the heart of politicians, philosophers, lawyers, economists, and ordinary people. Greek philosophers paid special attention to spending public funds. Aristotel wrote about this: "Some civil servants have access to large amounts of public funds, and that is why it is necessary for other officials to control their responsible and conscientious behavior. These cannot be persons who have access to these public funds. They primarily have to be auditors "(Rabrenovic, 2009, pp. 45).

International auditing standards define internal controls such as policies, procedures, processes, plans, strategies, functions, systems, initiatives, activities and other actions taken by the management to achieve the specified business objectives. In accordance with the above, the internal control system represents the measures, methods and procedures introduced by a particular legal entity in order to safeguard the integrity of the funds and provide support to the management structure in order to perform all the tasks in the course of the ongoing work process and in the manner prescribed or foreseen (Vitorovic, 2000, p. 21). Internal control, as a rule, provides reliable information that management uses to make decisions. The audit assesses the effectiveness of internal control. If it is estimated that internal control is effective, then the evidence provided by the accounting system is considered reliable and contrary. Accordingly, the effectiveness of internal control is directly related to the reliability of audit evidence (Aleksic, 2012, pp.70). An effective internal control system should have the characteristics of establishing standards, performance measurement, analyze and compare achieved results with respect to standards, take care of the corrective action program, and analyze and revise standards. Another important feature of successful internal control is the economy of time and money that measures performance against the planned results. The third characteristic is the ratio of non-realization of goals and costs of established controls. Each control that is carried out results in certain costs, and it should be kept in mind that greater number of controls gives better results, but also increases the costs for the company / organization in which it is implemented. In connection with this, it should be noted that excessive control is too expensive and counterproductive, and insufficient control represents an unnecessary risk (Popovic, Mijic, Grubjesic, 2014, pp. 95).

Components of internal control with which the auditor must be familiar when planning the audit:

- conditions under which control is carried out (control environment),
- risk assessment,
- control activities (procedures),
- information and communication
- supervision (monitoring and tracking).

The concepts of internal control and audit are often interpreted equally, which is wrong, even though the aim and object of supervision are the same, ie they are focused on doing business with the intention of determining and testing the accuracy and reality in relation to the set criteria in order to increase the efficiency of operations. The fundamental difference between control and audit is in the process of implementation, because the audit is always a follow-up overview of business events that have occurred before, and control is preventive and focused on the procedures to be planned in order to influence the risk and prevent irregularities in the future. Therefore, the basic function of the audit is to provide independent reporting on the programs, functions, activities and activities of organizations using public funds, to provide a reliable insight and assessment of the functioning of the public sector, in order to create control mechanism and accountability of public authorities.

Regarding the significance of the control system in this area, it should be emphasized that, as a significant strategic orientation in the public procurement sphere, the improvement of the system of internal controls, improvement of the system of external controls, improvement in internal and external audit in public procurements are planned. Public procurement control includes the control of measures, actions and orders of the contracting authority in the process of planning, implementation of the procedure and execution of the public procurement contract, as follows:

- 1) the planning process and the promptness of planning a specific public procurement from the point of view of the needs and activities of the contracting authority;
- 2) the criteria for compiling the technical specification;
- 3) the method of market research;
- 4) justification of the additional conditions for participation in the public procurement procedure and the criteria for awarding the contract;
- 5) the method and deadlines for payment, advances, guarantees for given downpayments;
- 6) execution of the contract, and in particular the quality of the delivered goods and services rendered, or performed works;
- 7) stock status;
- 8) how to use goods and services.

The first and basic step in assessing the purposeness of procurement should be the collection of all relevant documentation relating to the observed procurement procedure and establishing the legality of the procedure. After establishing the legality, it can be approached to examine the purpose of procurement. The basic step in determining the purpose of procurement is to recognize whether the subject of procurement is in general required by the contracting authority in order to achieve the planned objectives. In order to determine this, it is necessary to check whether procurement is in accordance with all planning and action documents of the contracting authority, whether the procurement is foreseen in the procurement plan, but also whether the realization of the procurement meets the objectives prescribed by the prescribed, annual, mid-term and strategic- doctrinal documents of the contracting authority, or at least contribute to their fulfillment. If the subject of procurement is in the procurement plan, and its purpose cannot be linked to the objectives arising from the strategic and strategic documents of the contracting authorities, the issue of the purposeness of this procurement may be raised. Also, if the contracting entity has not specified the required procurement item precisely enough, there is a danger that the tenderer may offer a good or a service that does not serve the needs of the contracting authority, and that the client, either from the misconduct or corruption, is willing to accept it and thereby cause himself multiple damage. The procurement procedure has been carried out, the time has been spent, the contract is legally valid, the money is spent, the goods or services delivered, but can not serve the contractor to meet his needs (Petrovic, et.al, 2016).

Bearing in mind that fraudulent actions rarely leave documented evidence, from the point of view of the audit of financial statements, the detection of corruption is primarily based on the search for its symptoms or hints. Accordingly, the auditor can develop certain questionnaires designed to reveal the possibility of an increased risk of corruption. Such questionnaires must contain the most important issues that point to the risk of corruption, such as the following:

1. Are procurements often carried out by the same supplier?
2. Have there been any cases of "fragmenting the value of the procurement" to lesser amounts in order to avoid public bidding and to accept the direct contract procedure?
3. Did the procuring entity provide information or advise one of the bidders on a preferential basis?
4. Have specifications been used that were not in line with previous procurement?
5. Are "prequalification" procedures that are not prescribed by the laws, regulations and regulations being used?
6. Have late bids been accepted?
7. Was there a change in bids after the prices of other bidders were noticed?
8. Was there the submission of data to one contestant, that were not submitted to others?
9. Was there any restriction on procurement in order to exclude or interfere with some qualified participants?

10. Was there forgery of data concerning qualifications, financial capacity, equipment, successful performance of previous jobs, etc.?
11. Were there unclear requests regarding the required tender documentation regarding the time, place, content and other data for its passing?
12. Did individual contractors recommend specific subcontractors, experts or sources of supply?

Also, one of the basic questions is why corruption and other irregularities and illegal actions are taking place. According to international standards of professional practice, there are three main factors that lead to this:

1. Opportunity - may be due to a poor concept of control or lack of control. Also, persons in higher positions can create the possibility of circumventing existing controls, because subordinate or poor controls allow for circumvention of the control rule.
2. Motive - the most common is power, as a major motivator, or satisfying desires, such as greed, or pressure, whether it is physical pressure or pressure of external organs, and so on.
3. Justification - Individuals often think that if executives violate the rules then it is okay for others, even them in person, to do so. In other cases, fraudulent actions are made in situations where individuals have financial difficulties during their lifetime, and thus justify their unlawful conduct.

The basic precondition for detecting corruption and other criminal activities in the auditing profession is based on the strong independent position of the auditor, the necessity of due professional attention, the auditor's ability to recognize warning signals of criminal activities, but also to have knowledge of modern techniques of their execution. The above requires the strengthening of internal and external control mechanisms. Regarding internal control mechanisms, they are considered the first line of defense against unlawfulness and, at the same time, they represent a key backbone to the State Audit Institution in its work. Internal audit implies an independent and objective activity of giving expert opinions and recommendations to the management and professional services of the organization in terms of risk management and internal controls in order to ensure the functioning of the process in the manner envisaged and to achieve the objectives of the organization in accordance with the established policies and procedures. The law provides the obligation of organized internal audit for all users of public funds, that is, for direct and indirect users of budget funds, users of social insurance funds, public enterprises, as well as legal entities over which the public authority has direct or indirect control.

However, it should be kept in mind that the criminal act is often carried out by the highest level of management and in these circumstances internal auditors encounter obstacles in fulfilling their duties, primarily because in many legal entities, the highest management level, among other things, decides on the appointment and the selection of internal auditors (Petkovic, 2010, p.69). Also, the impression is that senior managers in the public sector are not sufficiently familiar

with their role and responsibility in establishing the internal control system, as well as the role of the internal auditor in their organization.

Finally, one should bear in mind that the problem of politicization of the system, i.e. the fact that this role is entrusted, for example, to the management and supervisory boards in public companies, whose members are often under political influence, also comes to the fore. Namely, managing economic positions have always been in the closest link to political power. Politization of public services questions ethical standards and creates preconditions for the functioning of other factors that influence the occurrence of corruption, and one of the most important are the widely defined discretion powers of public officials, which open up the space for different types of biased decision making in order to gain personal benefit at the expense of the public interest (Tanjevic, 2016). Since socially powerful people are considered here, their responsibility is spoken about only then, when they are deprived of the same power by political will, and at the same time, prosecutions and judgments for their crimes are always hindered, and the sanctions are uncertain (Tanjevic, 2012, p. 279).

It may be concluded from the above that it is necessary to raise managers' awareness of their role and managerial responsibility, as well as the importance and the benefits of internal audit and the necessity of acting in accordance with the recommendations of internal auditors. At the same time, it is important to raise the capacity of the contracting authorities to establish an effective internal audit and ensure the independence of the auditor's work. The improvement of the internal control system can be ensured by consistently applying a system of financial management and internal control to all contracting entities that are legally obligated to establish this system and committing the procuring entities to build the necessary capacities in order to establish an operational and efficient system of financial management and internal controls.

We have already highlighted that SAIs are often the sole responsible for overseeing all stages of public procurement and have an important role in detecting corruption and abuse in this area. Documents specifically controlled by the State Audit Institution are: procurement plan, complete tender documentation, tender opening minutes, contract award report, decision on the selection of the most favorable bidder and the bids of the selected bidder. If there is a claim for the protection of rights before the Commission, this institution checks the complete documentation related to the protection of rights, the contract between the contracting authority and the tenderer, the invoice and the delivery note. Any deviation that would potentially arise between the public invitation, the tender documentation, the concluded contract and the documents related to its implementation, initiate additional inspection measures (Jovanovic, 2015). When reviewing the procurement plan of the contracting authority, the SAI first assesses the needs of the given purchaser, then checks its estimated needs that he has made on the basis of the plan of his activities, checks the compliance of the contractor's annual plan with his medium and long-term plan, then how he defined the criteria and whether they reflect the real needs expressed in his plan, checks the clarity of identifying the customer's needs, clarity and precision in the specification, the

absence of discrimination in the specification and the estimated value of the procurement. In the procedure of selecting the most favorable bid, the SAI verifies whether the selected public procurement procedure is appropriate and justified, whether the competition is provided and whether the appropriate selection of criteria has been made. When executing a contract, it checks the way in which the contract is executed, and according to each contract item, during the whole period of realization. In the case of low-value procurement, which is often beyond effective control, the SAI checks: the decision to procure a small value, the bids collected, how the bids were evaluated, and how the most favorable among them was made, and finally the low-value purchase contract was concluded.

As fraud schemes in public procurements can occur at all stages, audit plans must be designed to detect material fraud. They must include consideration of warning signals or the so-called ‘red flags’ indicating potential fraud. Red flags may refer to time, frequency, place, amount or personality. These include bypassing controls by management / manager, incorrect / irregular or poor explanation of management's activities, consistent over-goals, regardless of changes in business and / or competition conditions, a large number of non-routine transactions or booking orders, problems or delays in providing the required information and significant or unusual changes in customers or suppliers (Sinanovic, et.al, 2016, pp. 41). Red flags also include transactions for which documentation or a regular approval procedure are missing. Finally, red flags that refer to a personality include life above the ability / income of a personality, an unusually close relationship with suppliers, and so on.

From all of the above, we conclude that there is a need for systemic risk assessment in public procurements. The risk assessment should be developed and applied in any procurement defect, regardless of the size and shape of the error, in cooperation with anti-corruption institutions and competent repressive authorities. Based on risk assessment, special measures should be prepared for the so-called especially "vulnerable" sectors, as well as to specify the most common illegal behavior during the public procurement procedure and the implementation of the contract, and then publish instructions for identifying the indicators of corruption (illegal behavior in the public procurement system).

THE NEED FOR INTRODUCING THE INSTITUTE FOR PUBLIC PROCUREMENT FORENSICS

The complexity and the prevalence of forms and methods of execution of illegal actions in the field of public procurement, as well as the consequences of the acts committed, have necessitated the development of specific methods and techniques for their detection and identification from the spectrum of forensic disciplines. Therefore, at the end of this paper, we consider it necessary to consider the idea of introducing the "Forensics Public Procurement", which is the introduction of the widest aspect of detecting and controlling all potentially corrupt

and other illegal activities in the public procurement system. Like other forensic disciplines and public procurement forensics, it should help determine the answer to questions: Who? How? When? Where? What? Why? Committed corruption or other criminal activity in the field of public procurement. In simplest terms, forensics of public procurement is the use of different knowledge, methods and resources in order to clarify corruption, abuse and other criminal activities carried out in the field of public procurement.

In defining this institute, it is necessary to withdraw parallel with the institute of "forensic accounting". According to the definitions of individual authors, it is a general term used to describe any financial investigation that may result in court proceedings. Bearing in mind the prevailing views on forensic accounting as a concept that implies the application of accounting knowledge in the broader sense of the word, forensic accounting can be defined as the application of all accounting, auditing and other financial skills and knowledge in clarifying relationships, facts and economic transactions that may or are already the subject of judicial proceedings. A common denominator in both defined institutes is the prevention of financial fraud and fraud in public procurement, which result in financial fraud and malversations that are a problem at the global level.

In connection with this, forensic revision, as a new practical discipline within the framework of the audit, is the main objective of detecting criminal activity in the client's financial reports, regardless of the size of its materiality, .i.e the degree of its impact on the truthfulness and objectivity of financial statements. In order to fulfill the basic goal, the forensic auditor should, to the extent possible, disclose the perpetrator of the criminal act, determine the place and the time of its execution, calculate and reveal the material damage caused by the criminal act and ultimately describe the techniques or the way of its execution.

In our country, public procurement forensics is still not a well-known institute and, despite the importance and actuality, this topic has not found the place that deserves in the scientific and professional processing. The connection of forensic procurement with forensic audits and forensic accounting is evident and will become increasingly tight in time, and the introduction of this institute, in terms of detailed disclosure of fraud and fraud in the field of public procurement, in order to reduce the financial losses of budgetary funds as a result of illegal actions in the field of public procurement, impose the need to pay special attention to this in the future. (Tanjevic, Spiler, 2017).

The challenges of today, a large number of financial scandals in the corporate world, the fact that fraud schemes in the field of public procurement evolve, change and adapted to modern conditions, indicates the need to fully meet the public procurement system, identify risk factors, identify symptoms of illegality and systematically analyze the most important forms, trends and techniques of committing criminal activities in this field (Tanjevic, Spiler, 2017). Of course, as with forensic audits and other types of audits, it should be kept in mind that it does not have the authority and capabilities of police and judicial authorities in collecting trace and evidence, but definitely involves describing techniques, places for committing criminal acts, calculating pecuniary damage, as well as detecting

perpetrators and his position in the organization. This means that an opinion should contain only the basis of suspicion regarding the criminal actions of a particular person, while the determination of guilt must be left to the competent authorities.

Finally, public procurement forensics should incorporate knowledge of different scientific areas and use different technical means and methods to determine the existence of irregularities or the commission of a criminal offense, assess the consequences and help identify the perpetrator of the given act. This implies raising awareness of the need for specific knowledge that should enable the prevention and detection of corruptive behavior in public procurement and requires experts of various profiles with special training and experience in combating criminal activities in this field.

CONCLUSION

The public procurement system in the Republic of Serbia has been greatly improved both in the legal and institutional framework since its establishment to date, and new legal solutions have been largely harmonized with the *Acquis Communautaire*. However, the construction of a public procurement system can not be limited to regulatory reform, but must include the capacity building of all stakeholders in this system: the contracting authorities, the Public Procurement Directorate, the Commission for the Protection of Rights, the State Audit Institution, the internal control unit, etc. The key challenge for Serbia is to strengthen the capacity to implement and enforce laws at all levels (Tanjevic, 2017). An important aspect is the increased control, not only of those who perform public procurements (contractors), but also regulatory bodies. In this respect, the opening of chapter 5 on public procurement is based on the assessment that Serbia has made great progress in public procurement and reforms in this field, and as transitional criteria necessary for the temporary closure of this chapter, the European Union states full harmonization of the national legislation of Serbia with European public procurement acquisitions. Also, it is necessary to emphasize the strengthening of the administrative capacities of the public procurement body, in particular the Public Procurement Directorate and the Republic Commission for the Protection of Rights in Public Procurement Procedures, as well as the clients at all levels. Also, it is necessary to establish effective mechanisms for monitoring and controlling public procurement procedures and protection of rights, and in addition to strengthening anti-corruption mechanisms, it is necessary to establish a broad implementation of the "value for money" principle.

However, it should be kept in mind that the reforms of the public procurement system in the European Union are a continuous process. Although it is undisputed that Serbia has to implement directives that are a requirement and condition, this should not imply a mere transcription of directives, but a gradual alignment with national regulations, with the application of the experiences of the Member States that have completed the process, as well as adequate administrative capacity for their implementation .

Special attention must be paid to detecting violations of laws and other regulations on public procurement and to adequate sanctioning of perpetrators. This is a very complex process, since public procurement procedures are often only apparently in line with the Public Procurement Act. However, it should be kept in mind that this law allows both bidders and contracting parties a large number of possibilities, so it is necessary to know the law as well as the essence of the operations of the bidders and the orderer as well as market movements in order to detect irregularities (Sinanovic, et al., 2016, pp. 25). It should also be noted that many stakeholders are in the public procurement procedure, which makes it difficult to review and control the use of public procurement funds. In general, although a large number of factors are affected by the occurrence of corruption in public procurement, one of the most significant is the probability of detecting corruption and the amount of sanction for such behavior. Therefore, the discovery and proving of these works requires conscientious and thorough work, the cooperation of a large number of authorized entities and the application of adequate methods and measures. Also, further activities must be aimed at strengthening the penal system in the event of violation of regulations in this area, which would have strong preventive effect

The challenges of today, a large number of financial scandals in the corporate world, the fact that abuses in the field of public procurement are carried out skillfully and covertly and that fraudulent public procurement schemes evolve, change and adapt to modern conditions, indicates the need to recognize risk factors, detect the symptoms of illegality, assess the consequences, examine the most important forms, trends and techniques of committing criminal acts in this area, etc. At the same time, this imposes an idea for the introduction of the "Forensic Public Procurement" institute, which is the use of different knowledge, methods and tools to clarify corruption, abuse and other criminal activities in the field of public procurement. The public procurement forensics should incorporate the knowledge of different scientific fields and use various technical means and methods to determine the existence of irregularities or the commission of a criminal offense, assess the consequences and help detect the perpetrator of the given act (Tanjevic, Špiler, 2017). The aforementioned implies the application of specific knowledge necessary for the prevention and detection of corruptive behavior in public procurement and requires experts of different profiles with special training and experience in combating criminal activities in this field.

It is beyond doubt that in this way another element and part of the system would be introduced which would be of great importance for the detection, prevention and suppression of abuses in this field. All of the above is of great importance if we take into account that public procurements are an important component of every modern economy, and that an efficient public procurement system is necessary for achieving the objectives of a free market, securing the conditions of market competition and a prerequisite for economic growth and development.

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DYSFUNCTIONALITY AND SOLVING THE PROBLEM OF TRADITIONAL SYSTEM OF COST ACCOUNTING

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ABSTRACT

The functioning of enterprises and achieving success is conditioned by the critical categories that include billing and management costs. Environmental changes caused by globalization, the global crisis, innovation in the field of high technology production, as well as information and communication technologies, cause changes in the nature of the cost and way of managing them. Traditional systems comprise a step of production, and the costs that arise only at this stage, a conceptual basis for a narrow organizational unit of a company, and as a key to the allocation of overhead are used those depending of volume of production. The former accounting concepts are designed for a period that is characterized by less turbulent business environment, when companies produced a small production – sales range and where direct costs dominate in the structure of costs. Among others, the problem of treatment costs in traditional systems of eliminating modern concepts that are designed for, now far more dynamic and turbulent business environment. Implemented traditional concepts in current business conditions show certain deficiencies and dysfunction. Critical aspects of the system must be reduced to acceptable level, also require constant business improvement. The fact is that in the management of today's business environment when determining the necessary, higher quality and more complex information base focus is on the cost structure. The information is a very valuable resource at all levels of development and creation of products. Adequate information base traditional concepts can not provide, and therefore what's a growing need for the inclusion of costs incurred in other stages of formation. A modest contribution of this paper is to highlight in what conditions and which are the symptoms where traditional systems of calculation show dysfunctions, inadequacy, which is important problem of economic theory and practice failed to alleviate and to contribute to its solution.

Key words: *Changed Business Environment, Dysfunction and Information, Causes and Symptoms, Activities, Costs*

JEL Classification: *E32, L21, M21*

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INTRODUCTION

Modern business conditions require the general caution of companies when competing in a market that has become competitive. In this game, the most helpful thing for the company is that the business system is in line with the requirements of the environment, this puts top management ahead of the new challenges, from the need to adequately adjust their business activities with the environment, effective resource selection, efficient use in order to create value for customers, to achieving positive results and success on the market in the implementation of a competitive strategy. The application of a cost accounting system that is not adapted to modern business conditions gives negative results and leads to inefficient use of resources and losses in a competitor match with other competitors. Dysfunctionality of traditional cost accounting systems must be overcome; these systems are being improved, modified and adapted in different ways to comply with implicit and explicit business rules. In this paper is presented a review of the causes and symptoms of the nonfunctionality of traditional costing systems and costing systems that were created by monogamy authors dealing with this topic in this way.

CAUSES AND SYMPTOMS THAT CONDITIONAL NON-PERFORMANCE OF TRADITIONAL SYSTEM OF ACCOUNTS

As previously indicated traditional concepts of accounting and cost management, designed for companies that are operating in conditions where the market does not have significant fluctuations and uncertainty, where production range of companies were diversified, where dominates mass production and cost structure is made of direct labor costs and direct material costs and where the overheads had a very small share of the total costs. Numerous changes in the environment and the company it self, necessarily cause a change of philosophy of business, especially in the field of cost management and therefore the quality of information on the costs of enterprises that are determined using traditional cost accounting methods. An important informational basis for the performance of management activities is inadequate.

Due to the inability of traditional concepts of cost accounting to properly answer the demand of top management companies, accounting theory and practice, with companies developed market economies and advanced accounting practices necessary to identify a large number of causes that point to the nonfunctionality of the traditional concepts of cost accounting as such. The causes are a lot but the most important highlights are the following (Antic, 2009):

The challenges in the business environment, changes in lifestyle, changed customer requirements condition changes in the company in various aspects. These changes limit the use of traditional methods of cost accounting, and they exhibit a number of shortcomings in terms of information support;

The application of new technological paradigms in business also means a new way of business, the new company look, new production and information technologies in business enterprises. Therefore, the changes allow the improvement of the market position and operating in the global environment in the information era. The implementation of an adequate information system which will provide quality data management through applied information and telecommunications technology is becoming a key issue for the company of the modern age. The computer aided design, then computer-aided manufacturing and flexible manufacturing systems, according to various aspects of improving the quality of operations. In terms of increasing the quality of the product, and then inventory reduction, increased flexibility and competitive advantage. The essence of the application of modern information technology is precisely in quick response to the changes that are the result of enormous collection of information that this technology provides. In fact, electronic data interchange, electronic mail and computer networks greatly accelerate the flow of information;

Changes in production methods include improving product quality and increase production flexibility in terms of the rapid release of new products to the market. In this case, the traditional cost accounting systems may show deficiencies are limited because the low flexibility. New systems of production with the use of computer technology greatly help achieve competitive advantage, and without requiring the use of accounting systems which are adequate and compatible with these types of products;

Shortened product life cycle requires the development of a product before its commercialization. Namely, it is necessary to have information about all costs, ranging from the primary to the final stages of product development. In this case traditional cost accounting systems are recognized as inadequate, since they do not measure the costs through all stages of development which results in a large percentage of the total costs, mainly through the stages of design and engineering of the product;

Time needed for development of new product means the period that has elapsed since the launch of the product, approved by the management, to its commercialization, or presence on the market. As the application of new technologies involves many changes in terms of flexibility of production processes, management and organization flexibility and the products, it is normal that it affects the change in the structure and nature of the costs. In modern business conditions overheads occupy a larger percentage of the total cost, while traditional accounting systems that are based solely on the volume of production, where there can not be accurately and adequately calculation of the total cost. In addition to the treatment of various structures of costs and integration in general and direct costs, is replaced by the character treatment costs, separation of the fixed and variable costs;

As the traditional systems costing significantly are related to production volume, so it exaggerates the role of direct and costs in total. In determining the price of the cost of products that may be the cause for which conventional systems provide poor quality information. Specifically, they provide a lot of information about the direct costs of modern business conditions shifted into the background, and the importance of the general operating costs that do not depend largely on the volume of production;

In order to determine the cost of production, it is necessary to allocate overhead costs to carriers, products and services, but problems can occur in selecting the incorrect keys for allocation. First of all, referring to the working hours that are not appropriate basis for allocation, because as the keys to modern conditions it is best to use activities;

The cause of the dysfunctional traditional costing systems can also be in the division of companies to narrow organizational parts because they show their shortcomings if they are applied in companies that operate in contemporary changed conditions of production, which are characterized by the application of high technologies.

In their work numerous authors point out the most common factors that cause inadequacy of traditional cost accounting concepts which are reflected in the following (Cooper,1989):

The existing concept of cost accounting can show its limits when indicating the complexity of certain products. The managers of each function in the company may require the elimination of certain product from a productmix which according to the information of the current cost accounting concept represents a profitable product. Production managers have information on whether a product is problematic, while marketing managers about when the price of a product is uncompetitive, but their knowledge is necessary to use for testing of the existing concept of cost accounting;

The situation that is less profit in selling a product that can not be easily described indicates that the current concept of cost accounting used inadequate basis for the allocation of overhead costs and time attributed to product larger amounts than it actually caused. Thus, it may be a situation that the product is designed with a lower costs and therefore lower the cost of, and hence the selling price with which does not achieve the expected profit margin; The existence of parallel cost accounting methods in the enterprise leads managers to create one that suit their needs. So in situations where the existing concept of calculating the cost of direct labor costs used as the key for the allocation of overhead costs specifically designed concepts used by many different keys for the allocation of overhead costs;

The need for performing additional activities related to the provision of information when making decisions in the company. In a situation where decisions are made and they require more detailed and accurate information about the costs and other well established and organized that provides decision-makers more information than what really need. If the requirements of the existing concept of cost accounting can not meet the need, managers have to carry out additional activities, form special teams to obtain information needed for decision-making;

Expression of fictitious profit enterprises. When to enter a particular market segment there are no obstacles to competition if it means that the current concept of cost accounting shows fictitious profits. This means that products for which the company considers to generate big profits actually cause loss. When the selling price of a product based on the erroneous data on the costs it may be lower than the

price of competitors' products. This means that buyers pay more to buy such a product and repackage it and sell than the products themselves;

Unrealistically low prices of competing company's products. The situation when the prices of competitors are unrealistically low compared with the prices of products of companies, especially those products that the company produces a large scale, then it should re-examine the existing of cost accounting system. In fact, it may happen that the overheads are allocated to carriers using keys that are related to the physical volume of production, and products with higher volume burden higher amount of general expenses than the real cause. It is likely that competition company manufactures products similar in scope and to use the appropriate keys for the allocation of overhead costs;

Customers do not react to an increase in product prices. The situation that customers are not surprised and have no objections to the increase in the price of a product means that they themselves know more about the costs of the company or have information on pricing competition. It is possible to notice that the price of a product is very low and when it is increased by, for example, 25% of the market nothing changes and the price buyers accept without objection a sales volume slightly decreases, it means that the cost information was incorrect; It is difficult to explain the outcome of the bid. Information on costs that have an internal character usually makes an offer to an enterprise. Managers should assess how much a bid to be competitive. Specifically, they should start with a high price for an offer that is not too important, and the low price of the offer that is of great importance for the company;

If the information on the costs that make up the price of a product that is incorrect on the market, the company comes into a situation he does not know what his offer over the competition. Proof of the inaccuracy of information on the costs of which are based on the prices of products can be seen in situations where a company has success in the implementation offers high-priced products, and constantly losing bids with low cost;

Offers a supplier in terms of price are lower than expected. The validity of the information produced by the existing concept of cost accounting can be tested in a situation where a company decides whether to produce semi-finished and finished products by themselves or if it purchased from suppliers in the market. The company compares the offer of suppliers with respect to prices of the product with the costs that are required to produce it in-house. If the price of the product which the supplier offers different, ie much lower than the costs incurred in the production of the self-directed, then the company must review the existing concept of cost accounting. What happens, though, the situation is that the product can be produced in their own production or the decision about his purchase, all based on the lack of reliable information provided by the existing concept of cost accounting;

Inflexible method of calculating costs. Namely, a method of calculating costs, which is designed for stock evaluation of financial statements, or for only one purpose are usually inflexible, because the costing methods that have only one aim and that is to meet the requirements of financial reporting in most cases provide inadequate information about costs.

In companies in which some of these factors are identified, must be initiated testing the functionality of the existing concept of costing and process on designing concept of calculating costs which is suitable to changes taking place in the company and in the environment in which it operates.

CONCEPTS OF COST ACCOUNTING CASES ADEQUATE FOR NEW BUSINESS ENVIRONMENT AS A SOLUTION OF THE PROBLEM DYSFUNCTIONALITY

Information support to the top management activities was formed in response to help the need and the necessity to the demands and challenges of management, strategy defining and performance of the company. Information support, traditional concepts of cost and output criticizes the fact that the calculation starts late and ends early. The classical concepts of cost accounting applied in the initial stages of product creation, stage production, where products include actual and standard costs of production, not taking into account the costs incurred in the pre-production stages and post-production stages.

In order to solve these problems and maintain a competitive position in the market in business environment that is global and complex, where businesses implement new manufacturing and information technology, are a way for the acceptance of new organizational units that enable the achievement of the set objectives, in terms of competition and application of technical structure and inventions and more demanding consumer needs, resulted in a drastic decline in the life cycle of the product. This means that the shortening of product life cycle and the desire to meet the demands of consumers, regarding the diversity and quality of the product makes the company to change the concept of production in order to improve quality, shorten production time and increase production flexibility.

Information in the modern business environment is an important resource, because in an environment that is characterized by radical changes that have been modified and highly competitive, company management requires better information support. The new way of doing business causes a change of the type of information that can be noted as useful information for decision making. To justify the epithet of the most important information service for management accounting management needs Production information that was not previously, information on customer requirements, the performance of companies and many others.

During the 80s of the 20th century evolutionary way appear metodological and complex modern concepts of cost accounting, which are based on new approaches and concepts of management, to cost and performance. An important place in the modern concepts of accounting and cost management cover, among others, the calculation of Target costing, Kaizen continuous calculation of savings, the concept

of Activity – Based costing, cost accounting during the whole product lifecycle-based management activities.

New concepts costing imply the existence of new baselines and new concepts and paradigms and techniques of management accounting.

THE CONCEPT OF CALCULATING THE TARGET COST

The calculation of target costs is a market-oriented approach, and includes achieving the lowest cost as the basis for competitive advantage. Lower costs can be achieved by various modifications. The basic idea behind this concept is that the costs of future products need to be addressed at the earliest stages of product life. In the stage of product development where dimensioning is done, there is room for significant cost reduction, also in other product developing stages.

CONCEPT AND ESSENCE OF TARGET COST CALCULATION

In the changed business conditions, companies want to maintain and improve its competitive position and to selection of appropriate strategies whose implementation will create greater value for customers, therefore, to offer a better product than competitors' products. Competitive advantage can be achieved by using generic strategy and the strategy of confrontation. This concept of cost accounting is an important information base companies who want to implement any strategy and its informational opportunities are particularly evident in the implementation of the strategy of leadership in costs. It is a new revolutionary step in the development of cost accounting which resulted in the company's efforts in adapting to modern business conditions through a successful competitive bidding and continuous maintenance and repair market position.

Calculation based on target cost differs from the methodology for calculation of costs that are concerned with the interpretation of the collected data on the costs, in that as its basis the cost of which is expected in the future have an impact on profitability. The calculation of target costs is a market-oriented approach, which includes achieving the lowest cost as the basis for competitive advantage. The basic idea behind this concept is that the costs of future products need to be addressed at the earliest stages of product life.

This is because of the changed conditions of business expenses incurred prior stages of production tend to increase significantly affecting the amount of total product cost. It is important to understand that the phase of product design conditions to 80% of total costs is the greatest potential for reducing the cost of products just in the early stages of the life cycle.

The concept is based on the calculation of target costs of its broad approach encompasses almost all phases of the product development cycle, but by focusing on the design phase. Attention is directed because the product design phase requires much more time to implement, because it just it take measures that significantly determine the quality, price, functionality and time – to – market.

FEATURES AND STAGE CALCULATION TARGET COST

The concept of calculating the target cost has specific characteristics (Sakurai, 1996):

- the concept of calculation takes into account all phases of the product life cycle, with particular reference to the stage of planning and design;
- means a planned reduction in costs that is pre-designed;
- this concept of cost accounting is dictated by the technology, but is primarily oriented towards the market;
- part of the strategic planning of profit because the cost-cutting plan is firmly attached to the target profit which is set at the strategic level;
- a significant means to the decision making process for the design and production engineering;
- its application depends on the mutual co-operation, which is achieved in the sectors of the company, that is, classes, wherein the accounting is the coordinator and the information provider, a marketing and engineering which perform the function of the design and opting for the success or failure of this concept.

The calculation methodology is based on the way of cost differentiates in three basic stages: a method of implementation of the calculation started in the market where the first allowed to identify the future costs of the product, followed by setting the target manufacturing level of the cost and in the end comes to the attainment of the target cost, when it enters the final stage.

The three basic stages of the process of calculating the cost of the target (Cooper, Slagmulder, 1997):

- market level or phases in which it is determined by the calculation of market conditions;
- level of the product, where the calculation of the target cost of the product;
- level components, where the calculation of target cost components.

The first phase of the process of calculating the target cost is primarily externally oriented and determined by the market, where the company sells the product. At this stage it is necessary to provide an adequate answer to the question of which product to offer in a particular market at a price that a potential buyer is willing to pay, and which contained a sufficient profit target and the question of

whether the same product to be produced by the established target costs. Therefore, it is necessary to determine the target cost of the product as the difference between the target selling price and the target profit per unit of output.

Target selling price is the selling price of a product or component which has been formed under the influence of market forces and competition. This price is formed on the basis of information on the needs of customers and the competition analysis. The selling price should be affordable for consumers and at the same time must allow for the company to generate profit. Managers frequently used external analysis, which involves analysis of the consumer, loyalty, and a willingness to pay for the product, and the like.

Information on competition is also important in determining the selling price because the constant comparison of its own products with the products of competitors can establish a price that provides a good market position. Another quantity used in determining the target cost is the target profit which is formed by the top management and arising from global strategic possibilities of the company. This size is based on a long-term strategy of achieving financial results on the one hand, and short-term strategy for achieving market share from the other side. Profit of the company is necessary to align with the goals and expectations of the company.

The second phase involves the calculation of costs at the product level and determining the target cost of the market-acceptable limits. Target costs at the product level are calculated in three stages. In the first phase is estimated the company's ability to achieve the allowed cost and determine the amount of the achievable cost. The next stage involves calculating the costs of identifying ways of designing products where it is necessary to produce within the limits of the target cost. Here are applying value engineering and other similar techniques. Last, the third phase involves the determination of target costs in order to determine whether it is achieving the target cost at the level of the product.

The last stage of the calculation of target costs is the phase of calculating the level of product components. The essence of this phase is to determine the amount of costs that the company unable to pay for the components necessary for the production. At this stage, the creativity in finding ways to design the components of the product, the choice of suppliers and components that offer the lowest prices Establishing a strong and interactive relationships with suppliers is also necessary in order to realize this phase. Some companies include suppliers in the product development process, taking into account the proposals of suppliers with respect to product design, to increase effectiveness and efficiency. This phase of the clearing takes place through four sub-phases that involve determining the target cost of the most important functions, then target cost at the level of components, selection of appropriate suppliers of these components and of course rewarding them for creativity.

In determining the target cost per unit of output first deduction target selling price of products is a target profit. This amount is quantified using the target profit rate or the margin on the target selling price, in accordance with the basic economic objectives and long-term expectations of the company. The difference between the target selling price of the product and the target profit per unit sold performance represents a target cost per unit of output, which immediately raises the question whether such a fortified

make the costs of individual products and that companies in general have a higher and a lower value compared to the current costs. If the situation is that the higher the level of running costs compared to established target costs, there is a cost gap that is an expression of the cost inefficiency of management companies, with a significant impact on the achievement of profitability that is long-term profit goals. Task management is the elimination of these differences while maintaining the projected profit target where the target cost of the product must not be exceeded. But it is important to emphasize that these costs of products should not be regarded as immutable and constant but through constant analysis. It should examine the possibility of reduction.

Eliminating the cost gap through the application of the concept of calculation of target costs is a process of continuous evaluation and cost analysis in order to reduce at all stages of product development. After their reduction is necessary to build a new calculation of costs per product and compare it with the target costs.

Target cost calculation is focused on continuous monitoring of progress in achieving the target cost that is determination of the cost to create an adequate strategy design and development of products. Also, it is necessary to take into account the key competitive environment in terms that determine business performance and the achievement of the target profit.

KAIZEN CONCEPT OF COST ACCOUNTING

The aim of Kaizen costing involves reducing them to real cost volume of production below the level of expenses incurred in the previous period. In its original form, the concept was aimed only at the stage of production where there is little scope for reducing the cost.

CONCEPT AND ESSENCE OF KAIZEN COSTING

The changed economic conditions mean business in distinctive competitive environment, both in the domestic and foreign markets. Kaizen concept is the concept of cost accounting that is market-oriented and represents a modern management technique for calculating the reduction of cost and performance management and competitiveness of enterprises. This concept of cost accounting is a logical continuation of the calculation of target costs because it implies a reduction of costs through increased production efficiency. It represents an appropriate information support to enterprise management and its success is based on the Japanese Kaizen business philosophy that involves constant savings and improvements to small incremental changes in cost and performance over extended periods of time.

The term Kaizen is derived from the Japanese word 'Kai'; which means changes and 'Zen' which means steady. The junction of these two words are translated as a constant, consistent and continuous improvement in all aspects of business and social and private life to new ideas, significant activities and performance (Maurer,2004).

Significant elements of Kaizen are quality, effort, involvement of all employees, the desire for change and communication. Kaizen represents a process-oriented philosophy that assumes that the improvement of the process preceding the improving results. This concept of cost accounting is only one aspect of Kaizen business philosophy that is deeply rooted in the Chinese mentality.

The success of the concept can best be explained in the work of psychologists who have studied this issue, and who believe that the achievement of the objectives of major radical change usually doomed to fail, because of fear of failure and pessimism. Small changes for the better conditioned adequate implementation of the concept of Kaizen calculation eliminate fear and stimulate creativity, encourage optimism in the business. The aim of Kaizen costing involves reducing the real cost of production below the level of expenses incurred in the previous period. In its original form, the concept was aimed only at the stage of production where there is little scope for reducing the cost.

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Target cost reduction involves reducing variable costs by reducing the amount of material, parts of direct and indirect labor and other variable costs. Kaizen costing application of accounting procedures, and kaizen techniques or methods, processes and tools, enables management and employees in the company to adequately implement key objectives kaizen concept, namely the reduction of costs, increase profitability through customer satisfaction, increased profitability and competitive position enterprises. Realization of these goals kaizen concept is based on the activities of management and executive structure of employees through two key components to maintaining a target level of activity and performance improvement activities and procedures and performance in all areas of business enterprises.

"Kaizen Costing" represents a concept of continuous cost reduction, where each month is determined that reducing it possible to overcome the difference between the generated amounts of profit. Kaizen costs at the enterprise level are the product assessment of actual costs at the enterprise level and the reduction of these costs are the basis for determining the level of kaizen cost drives, which are assigned to different segments, companies and on account of that that amount reallocates smaller organizational units. Functioning kaizen concept as a modern concept of cost and

output includes three parameters, the cost basis that is the actual cost of the previous accounting period, then the rate of return objectives of cost, which is determined annually and will help achieve the target profit and cost kaizen.

Successful implementation of the concept includes a double kaizen factors. First, after defining the target cost reduction, employees take responsibility for the implementation of this objective. Second, the kaizen process must be consistent and that is ponoviljiv must become part of the culture of the company. The main goals of kaizen concept as a modern market and cost-oriented concept of cost accounting as follows: continuous reduction of costs in all stages of production stages, thus reducing the difference between the target-expected profits, reduce costs below the standard that is the actual cost at the end of last year and employee motivation for carrying out activities aimed at reducing the cost of establishing goals to reduce costs (Malinic, 2008).

CHARACTERISTICS OF KAIZEN COSTING

As the most important features of the concept of kaizen costing the state following (Malinić, 2008):

- the concept is conceptually designed to reduce costs;
- assumed constant improvement in production that are used throughout the year in order to achieve the objectives;
- the aim is to achieve cost-cutting standards;
- the target cost reductions apply to a month;
- analysis of variance involves comparing target kaizen costs and the amount of actual cost reductions. The investigations are carried out when the amounts of reduced costs are met;
- employees and workers are closest to the process and know the best;
- allocation in the production phase and orientation of the effects;
- reduction of costs in the context of all activities in manufacturing;
- focus on projected expenses due to its reduction on a monthly basis;
- focus on current production and reducing costs small incremental changes in continuity;
- orientation segments and details of the production and business activities;
- the participation of management and employees in the process of cost reduction;
- assigning control accountant role of expert and active participants;
- adjusting operational cost reduction by standard way of cost;
- connection with other modern concepts concepts of cost and output.

This is a concept that is based on real possibilities and potential requirements to reduce costs in the production phase small amounts during the year, and this cost reduction is continuously carried out over a longer period of time and contributes to the achievement of significant savings and improve profitability.

THE CONCEPT OF ACTIVITY-BASED COSTING

Activity – Based costing is changing the way of cost management by the company and it becomes a modern weapon for the management of complex business operations and detailed analysis of the key activities.

CONCEPT AND ESSENCE OF THE ACTIVITY-BASED COSTING

Activity Based Costing (ABC) is a contemporary approach to the calculation of costs for the company that originated the eighties of the 20th century in America. This concept of cost accounting in its development goes through different stages in order to respond to the requirements imposed by the changed business environment in which a modern company operates. The traditional cost accounting methods are not able to fully respond to the information requirements of managers and to provide reliable and accurate information on the costs of products in companies that are struggling to survive in the global market. Traditional concepts of calculating costs are designed for companies that have operated in a time when technology was labor intensive, when it produced a narrower product menu, when the cost of direct labor and materials included a high percentage of total costs.

Conceptual basis of cost accounting in this concept are the business activities of enterprises. The activities are defined as "a set of the offered tasks related to the process of creating value, ie the process of appropriateness of resources to create appropriate effects of products or services" (Malinic, 2012).

Activity – Based costing is changing the way of cost management by the company and it makes it modern weapons for the management of complex business operations and detailed analysis of the key activities. The concept of cost accounting involves the accounting procedures and determining the costs of goods and services, which basically assume associating overhead costs to cost objects on the principle of cause and effect. The essence of the concept of calculating costs is the idea that the products or services consume activities and activities that consume resources.

Accordingly the first level of allocations shall be allocating resource costs to activities, and on the second level of the allocation of costs to the activities allocated to objects spending. The concept of calculating costs on activities at these two levels of allocation utilizing appropriate basis for allocation of general costs, the so-called cost drivers, as those who are associated with the volume of production, as well as those who are not linked to production volume.

As previously indicated, the conceptual basis of cost accounting methods are activities that are calculated reliable cost. Activities convert resources that are material performance and technology into products or services. Activities are

carried out using factors of production that are available inside or outside the company. In this regard, the output of an activity can be a resource, or other input activity. Activity classification can be done in different ways (Brimson, 1991). Activities can be repetitive, or activities that the organization is constantly working and having constant inputs, outputs and processes, and non-repetitive activities or one-off activities or one-time projects.

Furthermore, we distinguish between the activities of those that are affected by external factors such as time conditions, prescribed by the law and the activities which are affected by internal factors, company policy, and particular procedure.

Also, one of the classification activity is the primary and secondary activities. Primary activities are those whose performance directly contributes to the performance of tasks and whose outputs intended users outside the organizational units or other organizations within the company. The most common examples of such activity luck in the department of engineering as designing and modifying product.

A very important division of activities is on those that add value to and activities that do not add value, because activities that add value to increase the value of products or services, and consumers are willing to such activities plate opposed to activities that do not add value, for those that do not add value increases the time required to manufacture products and provide services without increasing value for consumers, so consumers are not willing to pay for these activities.

With regard to that are unnecessary and cause additional costs for the company management is essential to these activities in order to fully eliminate them or reducing to an acceptable level, which would cause a decrease in expenses without any consequences on the value for consumers and product quality. The method of attachment of the primary species for cost to the company as a whole based activities, then to cost, and effects in order to determine the cost price means previously analyzed and harmonized activity and adhering to the principle of causality.

The reallocation of costs that are allocated to activities to cost and effects of the products or services is carried out using pathogen activity. It is normal that there may be many causes of actions which form the basis for relocation, which will ultimately result in a different amount of costs by cost compared to conventional concepts of cost accounting.

The application of the concept of ABC costing must provide the exact cost of the effects and help management to better understand how the results of the production process, leading to the consumption of resources in a way that will contribute to the quality of management decisions. It is important that when making a decision on the introduction of the concept of the cost accounting company must consider all the benefits and costs of its introduction because their determination is not an easy job given that they can not be precisely determined.

ASSUMPTIONS FOR THE OPERATION OF ACTIVITY-BASED COSTING

Assumptions that are necessary for the functioning of costing activities include, inter alia, for the variety of activities that will be maintained and the choice of base cost allocation. Company size, organizational structure, type of activity is driven by a selection of activities. Even small businesses can have a number of activities because it is necessary to bear in mind the principle of rationality, then materiality criteria and the fact that it targets costing activities (Novicevic, Antic, 2010) .

When analyzing the activities it is necessary to start from the fact that the entire company is too large to manage or parts of it are not. This allows a better understanding of the functioning of the company and improves its performance over profits, quality and time.

When analyzing activities in the account must be taken only the current activities, not the ones from the past or desired activities. Objectives analysis activities include a better understanding of current costs and performance of significant activities, creating the basis for determination of alternative activities in order to reduce costs and improved performance, then create the basis for improving methods of rationalization and modernization of current activity, also identification of unlimited secondary activities that do not add value and eventually identifying the problems of the organization.

Some of the rules that must be followed when aggregating or disaggregating activities are such that in the context of the traditional organized units, it is necessary to identify two to ten well- worked activity, then aggregating activity should not take place if they are to execute them accountable different people, the following rule requires that the activity should contain between five and fifteen well defined are closely related tasks *rašlanjivanje* is superfluous if it overlaps with the one task, unrelated tasks within activities require its breakdown.

Active determine one input and one output. More inputs and outputs within the activity require its breakdown. Activities that are part of the decision making process are ideal candidate for the reduction of activity at the grassroots level. The one that is related to repetitive tasks in the company does not require parsing of different activities and should not be *ovabavljati* identical people.

Activity that is defined must be subject to constant testing to be carried out training. Function improving activity provides an additional analysis, which includes the identification of non-essential activity in order to avoid, respectively, two of the most important, followed by analysis of the significant activities, that is, those activities that are important to consumers. Taking care of business involves comparing activity with best practices selected because the specific activity has to withstand comparison with the similar activities of another company or another department of the same company, which is considered to be the best in the

industry. This comparison points to be improving at the end of interrelations between activities, but should be set to minimize the time and duplication of effort.

The next assumption in the functioning of the concept of activity-based costing is a selection of the basis for cost allocation. The concept of Activity – Based costing costs is first transferred to the activity. Given the fact that each company is no single prescribed cost-sharing by accepting financial and general accounting, in the traditional accounting is the cost-sharing carried out on the direct costs in facilities costs and indirect costs that are covered by the organizational departments and then attached to objects spending. If a resource needed to perform several activities at the same time, with the help of agents consumption is determined to be part of the costs allocated to the activity.

In the following procedure of calculation of the allocation is performed on the objects of wear. Objects of wear occur in the form of products, the product groups, important customers, market segments, the market of territory, and in terms of the small organizational parts in the form of investment and profit centers. The cause of activity represents a unit of performance that allows the sharing of costs by product companies.

An example of the cause of the cost linked to the activities of the preparation are the hours of preparation, for the costs of quality control of the number of controls, for the procurement activity number the reception of orders, for the activity of machining, the number of machine hours, and the like. It is significant among the causes of cost distinguish two groups, a first group is a group of the cause of the costs associated with the production volume and the other group represents a cost drivers that are not related to the extent of production.

In addition to the complexity of the production process need to support activities to grow, and therefore the team are growing and the importance of the cause of expenses that are not related to production volume. It is necessary before all to have an insight into the degree of correlation between the consumption of resources and spending causes consumption of resources, that is between spending and spending activity causes the activities in order to deliver an adequate selection causes costs. The essence of the calculation is to determine how activities consume resources, and how products consume activities, based on how this activity consumes the cause of resource consumption, or how much activity costs consume the cause of action.

In order to reduce the cost of measurement, it is sometimes possible to use so-called surrogate pathogens, that cause costs that indirectly measures the consumption of activity, rather than the causes costs by directly measure (Antic, 2003).

It is known that one can use a large number of causes costs when designing the concept of activity-based costing, it is important that in the selection of cost drivers used information already available in the concept of information on costs including adequate construction by comparing the costs and benefits of this is to use Cost – Benefit analysis.

The accuracy of cost allocation is increased by selecting a large number of cost drivers, but it results in higher operating costs and maintenance of the concept. Also the higher the correlation between the activities of agents of the actual expenditure and the corresponding activity means greater precision allocation of costs. When choosing cost drivers, it is necessary to take into account to what the effect those choices have on people's behavior. It is important to emphasize that caused costs may motivate people to behavior that contributes to achieving the objectives of the company, as well as the unwanted, dysfunctional behavior.

THE ORIGINAL MODEL ACTIVITY-BASED COSTING

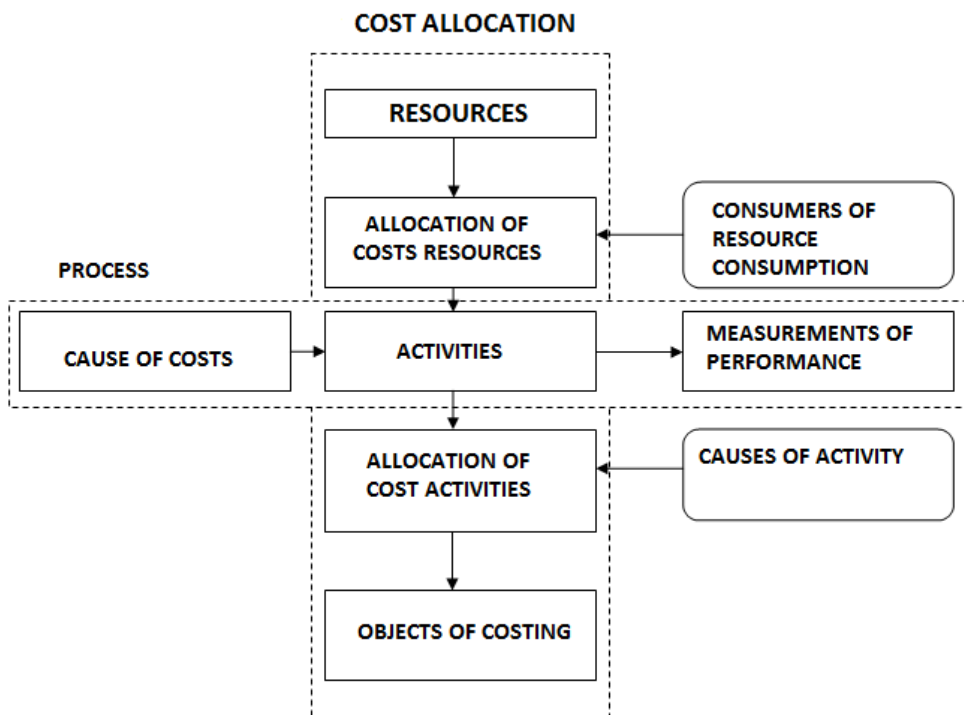
It is important to demonstrate that the concept of activity-based costing designed to overcome problems related to the allocation of overhead costs. The original model costing activities involves the allocation of costs on two levels. First, the cost of using the resource causes the consumption of resources allocated to the activity, and then the activities allocated to the holders of the cost of using agent's consumption activities.

TWO-DIMENSIONAL MODEL OF ACTIVITY-BASED COSTING

Original concept of activity-based costing which is designed for the purpose of establishing reliable information about product costs through cost allocation procedures which use different keys for allocation during the period grew into a two-dimensional ABC model. Information provided by the original ABC model is a necessary but not sufficient condition for successful cost management and to achieve competitive advantage. Managers have the necessary information to perform internal and external training, successfully manage costs enterprise, achieve and maintain competitive advantage in the highly competitive modern environment.a

Figure 1 graphically shows a two-dimensional model. This model in addition to the vertical dimension that represents the allocation of costs, including the horizontal dimension which is a process, a series of activities, which are linked in order to achieve the set goals. Consumer chain are activities that are performed with the aim of creating a value for the external user and any activity in the value chain, which is a consumer of the previous activities, at the same time has its customers in followup. A two-dimensional model is formulated in such a way that helps managers to find answers to the following questions which are important for the formulation and implementation of competitive strategies of companies (Turney,1997):

- What event starts performing the activity?
- What activities require the most resources?
- What factors have a negative impact on the performance of activities?
- What activities are causing high costs?
- How efficiently, quickly and efficiently get the job done?
- What are the possibilities for the development of products and services and to reduce costs?
- What are the possibilities to move the focus away from unprofitable to profitable products, services or customers?
- To what extent does the activity respond to the needs of internal and external customers?



Picture 1. Two-dimensional ABC model

Source: Adjusted to: Turney, 1997

TIME-DRIVEN ACTIVITY – BASED COSTING

The process of formation and implementation of Activity – Based costing indicate the occurrence of limitations and problems that are usually related to the high cost of implementing the concept, then pay consultations, reorganization and any costs of layoffs, the resistance of staff who is afraid of possible layoffs and changes modes, a number of activities causes costs that enable more accurate allocation of costs or increase the cost of implementing the concept and complex for processing and understanding. These problems are largely caused low rate of acceptance of the ABC concept.

Employees make subjective assessments to provide information on the percentage of time spent on carrying out different activities and operations. This caused that the accuracy of the allocation of activities costs to products are brought into question. In this regard, a lot of time is spent on eliminating the subjectivity of evaluation and correction calculations instead on finding a way to increase the effectiveness of processes, products and customers profitability and capacity utilization.

One of the advantages of Activity – Based costing is to apply a basis for the allocation of expenses that are not related to the production volume, but this is often not the best solution because in practice often happens that an activity has more basis for cost allocation. Also the constant changes in the environment and the company itself can serve to increase the subjectivity, complexity and inefficiency of the whole concept, because in this case the need arises to employees reconsidering their assessment of the time-consuming to perform new activities.

Problems in implementing the ABC concept can be expressed as following (Kaplan, Anderson, 2007):

- Conducting interviews and testing of employees in order to obtain the information necessary for the functioning of the model is time consuming and causes high costs;
- The information contained in the ABC concept were subjective and difficult to estimate;
- It is expensive to keep, process and report such information;
- Most of the ABC concept was applicable at the local level and is not given the opportunity of looking integrated business profitability;
- ABC models are not able to adapt to changed business conditions;
- The model was theoretically incorrect because it ignores the potential existence of unused capacity.

In order to overcome the problems identified model activity-based costing was promoted to cost accounting, Activity - Based time (Time – Driven Activity – Based Costing – TDABC). It is easier, cheaper and faster to implement, because it provides that the rates for the allocation of costs be based on the practical capacity of secured resources. Costing activities based on time means the process of calculating the cost of the facility after spending a somewhat different

methodology compared to the traditional ABC method. This ABC method is a simplification of the first stage of cost allocation, ie, cost allocation of resources to activities and to eliminating the need for detailed interviews and research in order to ascertain the causes of resource consumption.

If there is a concept that provides information about customer orders and other information necessary for the functioning of costing activities based on the weather, it is easier to calculate the time that is spent to perform certain activities. This concept is called the ERP system (Enterprise Resource Planning System), and includes an integrated concept which is based on the concept of a computer company and is used to manage internal and external resources. The aim is to facilitate the information flow between business functions in the company improve communication with external stakeholders. Promptness concept calculation is improving constantly measuring the equation of time.

As the most important advantages of activity-based costing is based on the time point out the following (Kaplan, Anderson,2007):

- The model is very easy and fast to deploy and update;
- It is well integrated with data are already available in the ERP system and the concept of customer relationship management but this concept seems dynamic and less labor-intensive;
- Costs are allocated to orders based on specific characteristics of orders, processes, suppliers and customers;
- Can be conducted on a monthly basis;
- Provided assessment of the effectiveness of processes and capacity utilization;
- Can be used for forecasting demand that it allows companies budgeting
- Resource capacity based on predictions of the extent and complexity of sales;
- It can create software applications and database technology covering the entire business;
- Allows quick and cheap maintenance model;
- Provides detailed information to help users in identifying the cause of the problem and can be used within the industries that have high costs of capital and companies that have a large number of different customers, products, channels, segments and processes and high costs of salaries.

Activity-based costing is based on the time of eliminating the difficulties that exist in the traditional ABC model. First, difficulties in implementation because the distribution of time in the company, is no longer necessary to determine on the basis of long-term detailed interviewing employees or other types of research, because this model uses the existing information from the ERP system of the company, which quickly and easily add new activities and recognizes and excludes changes caused by modified business conditions, such as increasing the price of resources, increase effectiveness in the performance of activities under the influence of business processes or the introduction of new production technology.

Expressing different characteristics orders suppliers and customers as a factor parameter equation of time, this concept provides a more accurate allocation of costs because it uses two parameters, in the cost of performing the activities and the time required to perform the activity. It is easily and quickly updated, and is based on the concept can also receive monthly reports on the cost and efficiency of the process is also changing the parameters within the equation of time. This model provides a forecast on the basis of which the resource budgeting analysis of opportunities and threats for the company. Also produces information that can be used to establish the percentage of utilization of capacity bottlenecks. It can be easily adapted and applied in different parts of an enterprise enterprises from various industries, which greatly reduces the cost of implementing the model.

Cost figures obtained are objective calculation based on real-time performance of activities and information may be used to determine customer profitability and identify processes that are likely to make a correction.

The disadvantages of Activity – Based Costing Based on time are the following (Gilbert, 2007):

- availability of reliable basis for the allocation of time. Will the information that this model produces be accurate depends on the availability, reliability, and update data. The data on the time necessary for the execution of activities have to be precise as a small deviation can cause significant variation in the accuracy of the costs;
- understand the difference in variances basis for the allocation of time. Under this model, it is necessary to accurately determine the causes for which the execution of some activities require more time compared to some other activities. If these data are not precise in the equations of time errors may occur which can cause errors in the model. Therefore, the accuracy of generating model parameters attaches great importance;
- data collection. It is necessary to time to update the model; although it reduced the time that is necessary to obtain information on the execution time certain activities in the model is necessary to include the changed conditions, constant changes in the duration of the activity. Recalculation of the equation of time requires interviewing management, staff and other participants which can take a long time;
- the amount of data large database and powerful software tools stored large quantities of data that are necessary to form the report. Although the model allows you to obtain detailed information about each product, customer or process is necessary in order not to come to a waste of organizational resources, determine which information priorities and that information essential for making strategic and operational decisions by management and future business forecasts.

Improved Activity – based Costing model substantially eliminates defects that occur in the design and implementation of the original model of the ABC. Also noted disadvantages of this method do not diminish its importance as an instrument for making strategic decisions and the implementation of the defined strategy.

CONCLUSION

The complexity of the changed business environment requires a high level of flexibility in behavior, both outside and within the company. Driving factors of the new business environment that are recorded through the information revolution, technology, globalization of business enterprises require constant adjustment. There is a need to find a way to successfully respond to the demands of various stakeholders.

Decades ago when the company operated in a quiet environment, producing a small number of products with a predominant share of direct costs in total costs of production, formed the traditional concepts of accounting and cost management. Today altered in the modern business environment such cost accounting systems can not fully respond to the information requirements of management. Effective cost management business as a whole requires the formation of the concept of cost accounting that are adapted to the changed conditions and time troubleshooting neunkcionalnosti. Among other things, it is about the calculation of Target costing, Kaizen costing and calculation of cost per activity. Traditional and modern concepts of cost accounting have different treatment and calculation of certain types of costs, thus producing costs that the amounts differ.

Changes in the environment and adapting them to the company leads to the possibility for the functioning of the classical method of calculating costs. On dysfunctions affect many aspects, the most accentuated role of direct costs in situation when overhead costs dominate, the use of incorrect keys for their allocation in determining the cost and segmenting the companies immediate organizational units. With a view to ensuring adequate and reliable information support management in decision-making and managing, the existing cost accounting systems are modified and improved. Establishing a new system of calculating costs, adapted to changed business conditions and the needs of managers occupies a primary place in the effective management of modern competition-oriented companies. Dysfunctions of traditional accounting systems is overcome with modern systems of calculating the cost of a strategic-oriented management accounting contribute to solving this problem.

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POSSIBILITIES OF MONITORING THE MAINTENANCE IN THE ACCOUNTING RECORDS

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ABSTRACT

All business changes should be recorded in business books, and they are guided by the accounting principles, standards and rules of the accounting (accounting) profession, the achievements of accounting as an integral part of economic science. When conducting business books, the principles of up-to-date, principles of regularity, principles of connection, principles of transparency and principles of economy must be observed. If mistakes (formal and material) occur when posting in business records, they should be detected and corrected. The basic method of correcting errors is a cancellation. The keeping of business books according to the general act can be performed by a person who has the appropriate school education and work experience. Otherwise, in the books, records are made (chronologically and systematically) of all business changes that result from the company's operations.

Key words: *Business Books, Accounts, Receivables, Accounting*

JEL Classification: *M10, M41, M48, M49*

INTRODUCTION

Trade receivables are receivables from customers and others for cash, goods or services. For the purposes of the financial statements, receivables are grouped as short-term or long-term. Short-term receivables from customers are those that are expected to be collected within a year or during the current business cycle, depending on the length of the period. All other receivables are classified as long-term. The receivables are further divided into trade receivables in the balance sheet. Trade receivables are amounts owed by customers for goods sold and services rendered as part of normal business activities. Trade receivables, usually the most important one of which the enterprise holds, can be further classified into customer receivables and received debentures from customers. Customer receivables, an oral

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promise by the buyer to pay for goods purchased and services provided, are usually chargeable within 30 to 60 days and are 'open accounts' arising from short-term loan extension. Received debentures from customers are written promises of the issuer of the debentures that they will pay a certain amount of money on a certain date in the future, and may arise as a result of sales, financing or other business events. Trade receivables may arise from different business events, and may be a promise of both payment and delivery. Some examples of such claims are: advances to employees and employees; Advances to society-daughters; Deposits to cover potential losses and losses; Deposits that serve as a performance or payment guarantee; Receivables for dividends and interest, etc. Due to their special characteristics, trade receivables are generally classified and presented as separate items of the balance sheet.

The amount of money owed by the customer is called receivables. The buyer is a borrower until he pays his debt. The concept of a customer is a broader concept than the concept of the end consumer, as the goods purchased can be further resold or consumed for their own needs, while the consumer buys it to meet the needs. Companies cooperate with a large number of customers, and therefore, analytical and synthetic customer records are kept. Analytical (individual) records are kept for each customer separately, and customer files are formed. Synthetic records are aggregated, one account opens for all customers.

In the further presentation of this paper, there will be more talk about the possibilities of receivables in accounting records.

BUSINESS BOOKS

During the millennium development of bookkeeping, the basic types of business books that became daily business aggregate have been highlighted, although they are still changing and as such will surely be perfected in the future, we will focus on the following: (Milojevic, 2010, pp. 62).

1. diary,
2. general ledger,
3. auxiliary books.

Business books are single-entry records on the status and changes in assets, liabilities and capital, revenues, expenditures and business results of legal entities and entrepreneurs (Accounting and Auditing Act, Article 12, paragraph 1). Business records are kept under the dual bookkeeping system, using a framework framework, in accordance with the law, professional and internal regulations. The keeping of business books according to the general act can be performed by a person who has the appropriate school education and work experience. In business books, postings (chronologically and systematically) are made of all business changes that are created by the company's operations.

Business books are records of data on emerging business events that are formed by the recording of data in accordance with certain accounting principles, standards and techniques.

By entering into the court register, the company acquires the status of a legal entity and, among other things, it is obliged to keep books on the principles of dual bookkeeping. The form of business books itself depends on the technique on which data processing is based. It should be noted that business books do not need to be necessarily in the form of a book, but as a rule they are free sheets (accounts) that need to be bonded at the end of the year and thus get the look of the right book. In the case of computer data processing, business books must be listed and linked at the end of the year. They are run for one business year that coincides with the calendar year. After the expiration of the business year, business books are concluded and based on them financial statements are prepared. Business books are divided into: (www.uogaposlovnknjige.rs)

- Basic books:
 - Diary
 - main book.
- Auxiliary books:
 - analytical records
 - other auxiliary books.

BASIC BUSINESS BOOKS

DIARY

Journal is a business book in which business changes are entered according to the order of their creation, that is, in the order of receipt of the accounting document (Accounting and Auditing Act, Article 13, paragraph 1). Changes recorded through a journal are regularly transferred and systematically credited to the general ledger. As all the changes are recorded through the diary, it can be said that the diary represents the chronology of events in the company.

In spite of the fact that the daily presents the history of events in the company, it is interesting that it was "created in the period when the system of accounts on which the accounts were received received its rounded shape, But when the double entry system was well established".

In the diary chronologically records all the resulting changes using the accounting statement in the form of a formula: an account-account, so that the duality of the accounting for each bookkeeping change is clearly read out in the diary. From the log, all changes are transferred to the corresponding general ledger accounts, for which the log traffic should agree with the turnover of the general

ledger account. If the log traffic does not agree with the traffic in the general ledger account, it means that an error has occurred that needs to be found and corrected. Thus, the diary serves as the basis for automatic control of the correctness of posting in dual bookkeeping.

In the beginning, a common diary was kept for all the changes. As the number of changes was constantly increasing, a common diary could not meet increased needs. This led to the introduction of special-purpose journals and to the distribution of work in the bookkeeping.

Due to the role played by the diary, the legislation on the bookkeeping of many countries, including our own, required the keeping of diaries mandatory. With the development of bookkeeping, the introduction of the perfect means and the method of posting, the diary loses its role. By introducing bookkeeping contingency documents today they are executed on the documents themselves or on the booking orders so that the diary becomes an over-arching form for repeating contradictory views. The role of the journal for automatic checking of bookkeeping accounting in dual accounting was also survived, as the automatic control is achieved using a test balance without the use of a diary. By introducing special diaries in larger companies, the diary no longer represents the chronology of the changes that occurred in the company. The chronology of the resulting changes can be learned from the bookkeeping documents, although the transparency of the accounting documents itself is less than the transparency of the journal entry.

FORM AND POSTING IN THE JOURNAL

The form of the journal is important because it depends on the realization of the requests that are being asked. The most widely used Italian diary, which looks like a paginate account. He has the following columns (Krstic, Jezdimirovic & Đukic, 2007, pp. 86):

- number,
- date, and
- the amount with two subcolonies "owes" and "requires".

In the column for a regular number, you enter regular numbers of bookkeeping changes that are recorded through the diary. In the date column, the dates when the accounting changes occurred, in the chronological order. In the description column, the bookkeeping positions are entered according to the formula: account-account, which means that the debiting account is first entered, i.e. Account with which a positive (positive) change was created, and then below the account is a bit to the right account, which is approved, i.e. Account with whom the demanded (negative) change occurred.

In the column for the amount, the values of the posted changes are entered. In the subcolumn owes (+) the amounts of debt changes are recorded, and in the subcontinent it is claimed (-), the amount of the demand changes is recorded.

Table 1: Example of the layout of the log

A row Number	Date	Description	Amount	
			D (+)	P(-)
0	1.I	I current account	100.000	
		Goods	70.000	
		Customers	350.000	
		Opening account		
		To open an asset account of		520.000
0/1	3.I	Opening account	520.000	
		Suppliers		320.000
		Capital		200.000
		To open the account of		
1.	3.I	passives	200.000	
		Goods		200.000
		Suppliers		
		Procurement of goods		
		Transfer to page 2	1.240.000	1.240.000
2.	5.I	The yield on page 1	1.240.000	1.240.000
		Suppliers	100.000	
		Current account		100.000
3.	10.I	Supplier payment	50.000	
		Current account		50.000
		Customers		
4.	15. I	Payment by customers	300.000	
		Suppliers		300.000
		Short-term loansSettlement obligations		
		Traffic:	1.690.000	1.690.000

Source: Author

The log is run on one side, which is numbered in the right upper corner. The log pages are numbered from the number 1 in a row, so the page order and chronology of the changes occurred from the beginning of the year to the end of the accounting period.

When opening a log at the beginning of the year, based on the initial balance sheet, the initial state of active accounts in the column is entered and the account of the opening of the general ledger in the column is requested. Then, the account for

opening a glossy book in favor of passive accounts is debited. Beneath it is written: for an initial fee. Then, in regular numbers and dates, in the chronological order, the resulting changes are recorded. When the log page is completed, the subcolumns are owed and demanded and in the description column it says: "Transfer to page number ..." (next). Then the next page of the journal opens and in the column "description" enter: "The yield from the side of the number ..." (the previous one) and the subsets of the transferred subcolumns are owed and demanded.

MAIN BOOK

In the general ledger we enter the same business events that are recorded in the diary, but here we classify them here by subject, i.e. The positions to which they relate. Hence the second name for this basic business book "system records". Since it includes changes in all economic, or accounting categories, besides its chronological and systemic characteristics, it is said that it is a comprehensive record. The general ledger is created by breaking the balance into the components. A separate synthetic account (account) is recorded for each position of the balance sheet on which business events are recorded during the accounting period. The general ledger is a set of synthetic accounts. The account statement in the general ledger is based on a pre-prepared chart of accounts.

The general ledger is a complete set of accounts with the balance of balance, systematic coverage of the situation and changes in assets, liabilities, capital, income and expenses and which is the basis for the preparation of financial statements (Law on Accounting and Auditing, Article 13, paragraph 2).

Since the beginning of bookkeeping, the main book, like other books, has been kept in booklets for quite a long time. The account number was small and, based on the experience for each account, a certain number of sheets were left, and at the beginning of the book, a register with tagged pages was made, in order to easily find individual accounts. When the account number increased significantly, the linked books became cumbersome and opaque.

The significance of the general ledger account is reflected in the fact that they represent the basic accounts on the basis of which the balance of assets, liabilities, expenditures and passages can be determined, i.e. of the total assets and the success of the company, so that they are based on them in a certain deadline. The general ledger accounts are guided on one of the form of account: stepwise, by pagina, by foil, tabular or combined.

AUXILIARY BOOKS

ANALYTICAL RECORDS

Support books provide detailed records of individual parts of the company's assets. They provide detailed data on the status and movement of certain parts of the property and represent the immediate source of current information to the governing bodies and relevant services in the enterprise.

Analytical records are kept in natural and value units. Due to the application of natural units, in addition to the values, the number of columns in analytical accounts is usually greater than the number of columns in the general ledger account. Analytical records can be very diverse. Basically, for each synthetic record, analytical records can be kept, that is, any synthetic account of the general ledger can be broken down into analytical accounts and managed by appropriate analytical records. In practice, analytical records are organized and managed mostly as (Krstić, Jezdimirović, Đukić, 2007, pp.89):

- analytical records of customers,
- analytical records of suppliers,
- analytical material records,
- analytical records of goods,
- analytical records of earnings,
- analytical evidence of fixed assets.

The synthetic customer account provides only a global picture of the status and traffic with customers as a whole. It does not provide information about the property-legal relations of the company with individual customers, which are necessary for the company. It is therefore necessary to conduct an analytical customer evidencing from which we can obtain detailed information about individual buyers. Checking the correctness of posting on synthetic and analytical accounts is carried out using a transport sheet.

Analytical vendor records provide us with detailed information about the company's property relations with certain suppliers. It is conducted in the same way as customer records, and at the end of the month, it is compared with the synthetic record using a transport sheet.

Analytical records of materials that quantitatively and cost-effectively provide a detailed insight into the status and movement of certain types of materials, is of great importance for the proper conduct of procurement and production, and for the rational use of working capital. At the end of each month, the warehouse material inventory should be reconciled with analytical material records to verify the accuracy of these two records for each type of material.

Analytical records of goods are the same as the technique of analytical material records. At the end of each month, the synthetic and analytical records of

the goods are carried out using the transport list. In addition to the synthetic record of earnings of workers, which is kept in the general ledger, it is also necessary to keep analytical records of earnings. It runs on cards, so a special card is opened for each worker. Every month, the card records employee salaries and payments, suspensions on various bases, as well as weather data carried out at work, that is, the performance of workers, depending on what is taken as an element for the distribution of salaries.

There are several synthetic accounts for fixed assets kept in the general ledger. From the synthetic fixed assets accounts, we can find out the purchase value, the write-off value and the present value of the main groupings of fixed assets. At the end of the accounting period, the accounting in the analytical evidence of fixed assets with bookings on the appropriate synthetic accounts should be made. Technical data for each fixed asset should also be kept in the analytical record of fixed assets.

PRINCIPLES FOR RUNNING BUSINESS BOOKS

The role of the principles for the conduct of business books is that it enables the proper, efficient and economical management of business books. As such, the principles are confidential for the management of all business books, both those conducted in enterprises, and those maintained in other organizations and institutions. More important non-books for conducting business books include (Krstic, Jezdimirović, Đukic, 2007, pp.98):

- the principle of up-to-date,
- the principle of regularity,
- the principle of connection,
- the principle of transparency,
- the principle of economy.

One of the most important principles for conducting business books is certainly the principle of up-to-date. Due to the fact that the performance of its tasks and the performance of the bookkeeping service depends on the up-to-date accounting. Despite the best wishes and effort, it is difficult to achieve daily up-to-date bookkeeping. Accountability for accountancy does not only depend on the bookkeeping service, but also on other services in the company. The Law on Accounting and Auditing stipulates a deadline of three days for submitting a bookkeeping document to accounting, i.e. Five days after the conducted control of the correctness of the accounting documents for recording business changes. It is also important to standardize forms and procedures for data processing, as well as the correct division of work in bookkeeping, organization of bookkeeping, as well as the organization of the company.

The principle of neatness refers to the very method of keeping business books. Business books should be guided by ensuring their durability and preventing

rectification and malversation. Posting changes to the chronological order. When correcting errors, this principle requires that the errors be corrected in a manner that is customary to bookkeeping practices or as specified by the regulations. Posting is done only on the basis of bookkeeping documents.

The principle of cohesion is one of the basic principles for conducting business books. It should be present at all stages of the formation and processing of accounting data and information. This little thing is reflected in:

- the connection between the changes and the creation of documents,
- the connection between documents and posting,
- the relationship between analytical and synthetic records,
- the relationship between records and clearing-balancing, and
- the relationship between the bookkeeping records and various specifications, reviews, indicators and information.

The application of the principle of cohesion should provide documentation in the conduct of business books. And the documentation ensures accuracy and control of the correctness of the accounting records. This contributes to the reliability and use of the accounting data and information.

The principle of transparency is very important for bookkeeping, i.e. for conducting business books. "Throughout the historical development of the bookkeeping, the moment of transparency was so important that, in addressing certain problems with it, and developing bookkeeping as a system (Krstic, Jezdimirovic & Đukic, 2007, pp.102). Business books should be kept in a clear and transparent manner so that only in this way can you get quick and accurate knowledge about the situation and changes in business books.

As in other areas, as well as in bookkeeping, it is necessary to take into account the principle of economy. Economically leading business books means that the effect, i.e. Usability from business books is greater than the cost of their management. The principle of economics of accounting should be understood so that certain data and information are provided with as little cost as possible.

ACCOUNT TYPES OR ACCOUNTS

Business books consist of a set of accounts or accounts, where individual types of business changes are recorded. Accounts can be divided according to shape, volume and content. In registering business changes, it is important to note (Mlinarevic, Gnjenoro, 1962, pp. 15):

- the date of the business change;
- the type and number of the document from which it is evident that the business change actually occurred;
- short content of business change;
- The amount of business change is quantitative and value or only valuable

To display these data, the most striking are the tables that show it in the shortest, most conspicuous and most obvious way. The tables used to show the data on business changes are called accounting accounts or accounts.

Bookkeeping accounts or accounts are presented graphically vertically and horizontally, commonly referred to as a bookkeeping account.

ACCOUNTS IN FORM

Considering the shape, we distinguish two types of account:

- forms of pagina and
- accounts of the foil form.

The name of the form of the pagin's account originates from the Italian word "pagina" which in the translation signifies the page. Accordingly, these accounts are guided per page.

The name of the foil form is also derived from the Italian word "folio" which in the translation signifies the leaf. The characteristics of the foil form account consist in the fact that on one side there are descriptive columns for the receipt column, and on the other side are the same columns for the output. Therefore, on both sides we have the same number of columns. Today, in practice, pagin's form accounts are increasingly used for better transparency and for better copying.

ACCOUNTS BY VOLUME

Bulk accounts are divided into synthetic accounts and analytical accounts.

Synthetic accounts are Accounts of the General Books on which the statuses and movements of more related parts of assets or liabilities, or revenues or expenditures are recorded. Along with the appropriate synthetic account in the General ledger, the analytical accounts for certain types of assets or liabilities are opened and maintained, i.e. Income or expenses.

ACCOUNTS BY CONTENT

Accounts by content are divided into: asset accounts (assets) and accounts of liabilities (sources of funds). Balances and changes in assets or assets of the enterprise are recorded in active accounts. Passive accounts show the sources of funds, ie the property - legal obligations of the company. The general characteristic of an asset account is that the amount on the left (debt) side is greater than the

amount on the right. With the division of accounts into accounts of assets and liabilities accounts we distinguish the division into:

- accounts of the balance of assets or liabilities,
- accounts of jobs,
- results scores.

CORRECTION OF ERRORS IN BUSINESS BOOKS

Errors can occur when creating and processing accounting documents in business records. According to the character of errors we distinguish formal and material errors. Formal errors in the documentation manifest in the absence of an important element. The formal defect of the bookkeeping documentation should be determined by the liquidator when checking the correctness of the documents for posting. A formal error in posting on synthetic or analytical accounts is determined by the compilation of the transport list. If the sum of the traffic and the balance of the transport sheet does not agree with the traffic and the balance of the corresponding synthetic account, it means that a posting error has occurred. Material errors are essential. Such mistakes are determined mainly by inventorying, inventorying of inventories, inventory and reconciliation of claims and liabilities.

Correction of errors can be done differently. One way to correct errors is to overturn or undo the error. This is done when the error is quickly detected. It is practiced in manual data processing. Another way to correct errors is reversal. It is practiced both in manual and mechanical data processing. When canceling, we distinguish (Krstic, Jezdimirovic & Đukic, 2007, pp.105):

- ordinary sacking, and
- Red resignation.

Plain (black) cancellation is characterized by the fact that the wrong posting is neutralized by counter posting (on the opposite side), and then executes the correct posting. Red cancellation is characterized by the fact that the wrong posting is carried out once more, but by rounding the amount, which is a deductible item. This neutralizes the wrong posting without increasing traffic, and then executes the correct posting.

RECEIVABLES

Since the sale of products and the provision of services, the company, as a rule, transfers all risks of sales and benefits from ownership to customers, all deliveries of products and the provision of services are recorded as short-term receivables. They are expressed in the amount of the nominal value arising from the business transaction. Trade receivables can be treated as a loan. (Milojevic,

2010, pp. 184). Credit terms can be different. These receivables will be collected until the expiration of the agreed loan period. According to the fact sheet no. 1. which reads 23,600.00 we sold finished products in the amount of 20,000.00 liabilities for VAT 3,600.00.

Table 2: Receivables for finished products

Ordinal number	Number of accounts		DESCRIPTION	Debt	Demand
1.	2020		Customers in the country	23.600,00	20.000,00
		6110	Revenue from the sale of finished products		
		4700	Obligations for pdv		

Source: Author

Receivables arising from deliveries and services represent the result of the business activity and hence their title "business receivables." (Rankovic, 1992, pp.373).

They are unruly before the conversion phase into liquid assets. Therefore, these receivables are on the path of increasing liquidity.

Other short-term receivables represent advances given to suppliers on the basis of contractual delivery of materials or goods, advance payments to workers for salaries or for official travel, as well as various subscription obligations that are usually covered by the calculation of expenses in the future. Short-term financial investments include payments related to the short-term placement of surplus liquid assets in other enterprises or financial institutions for the purpose of embezzlement.

Financial investments represent investments in receivables that create the financial assets of the enterprise. Financial investments are created in an asset management company due to receivables, and in another enterprise liabilities due to liabilities. The amount of financial investment is a financial surplus that arises as a surplus of cash accumulation over investments in fixed assets and inventories.

Company credit policy - refers to the conditions under which a loan can be granted to a buyer. Credit policies include credit standards and credit analyses. Credit Standard - The minimum criterion that the buyer must satisfy to be granted a loan is a credit standard, while on the part of the company it represents the maximum risk he wants to accept. Credit analysis - Carries out a categorical analysis process to assess the customer's global creditworthiness, determine the maximum amount of credit a loan can submit. The analysis involves the collection of credit information and the analysis of such information. Collecting means assuming a balance sheet and an income statement on the basis of which an insight into its business can be obtained. Credit information is collected through the buyer's bank.

Claims on customers as Collateral Security - There are two methods of short-term financing through the use of customer receivables. These are the pursuit of receivables and the sale of receivables.

Pledge of claims - can be done on a selective basis or in the form of a contract on the general right to dispose of all receivables. Funding on a selective basis implies that the creditor chooses customer accounts that in his opinion represents a collateral for short-term loan.

Selling receivables - can be done in the country or abroad. If done in the country, the word is about factoring, and when done abroad it represents forfeiting jobs.

Factoring - represents the sale of receivables to customers through institutions called factors, although other financial institutions may also deal with these transactions. The factor takes over the risk of invoicing.

Forfeiting - is similar to factoring only that instead of selling claims in the country, it is about selling abroad. The exporter company signs a contract with the bank to obtain the cash necessary for the performance of the business immediately upon delivery.

The claim is the right to collect a certain amount of money after the expiration of a specified period. Considering the length of the deadline they are being addressed, the receivables are divided into: (Milojevic, 2010, pp. 187):

- long-term receivables, the term of which is more than one year long and which are within the fixed assets in the group of long-term financial placements,
- short-term receivables, the maturity of which is less than 1 year, and as such, they belong to working capital.

According to maturity, receivables can be short-term and long-term. Claims according to the method of their creation are:

- receivables from relations with other enterprises, i.e. Advances to suppliers (advances on advances),
- receivables from the sale of goods and services to customers,
- claims arising from the placement of loans granted to other enterprises or institutions,
- other receivables (from the state, workers, etc.) and
- receivables from relationships with affiliated enterprises.
- Claims on creditworthiness (quality) 15 [The payment is conditional on the creditworthiness of the debtor, ie his ability to fully fulfill his monetary obligations] are:
 - full value claims (valid receivables), for which the collection is expected to be in full and in the balance in nominal amount,
 - endangered (dubious) receivables are recorded in the amount of expected collection, and include contested receivables (the issue of collection initiated before the court) and
 - Suspicious claims (claims against debtors that are subject to bankruptcy, it is known that the entire amount will not be charged and how much will be collected, it is not known).

Insurance claims may be uninsured claims and claims covered by the pledge. Otherwise, all subdivisions must be listed in the annex to the financial statements.

COMPENSATION

One of the direct ways of settling claims and liabilities is compensation or as it is often called punching. Compensation is one of the ways of termination or termination of obligations. Economic-legal theory and practice distinguish three kinds of compensation depending on the way in which it is carried out: (Milojevic, 2010, pp. 190):

- legal,
- contractual, and
- court.

Legal compensation is fully regulated by law and produces legal effect only when conditions that are precisely defined in legal norms are acquired. The debtor may override the claim held by the creditor, ie to break the claim with his own debt to his creditors - the debtor, only on condition that both receivables raise money or other exchangeable things of the same kind and of the same quality, and if both are within maturity and One party made a statement to the other to make a compensation. The fact of the compensation is only created by referring to the compensation statement, from the date when the conditions for this were met. This compensation does not require the consent of the other party, but it is sufficient for one party to make a statement to the other party.

In the case of contractual compensation, unlike legal enforcement, it is based on a contract between economic entities, that is, legal entities and / or individuals. For contractual compensation, it is only important that they are mutually reciprocal, that is, that receivables are liabilities between mutual undertakings. In the case of contractual compensation, it is not scant whether the claims - obligations are identical, ie whether they are of the same quality and whether the maturity is due for payment or payment. For the realization of the contractual compensation, the mutual agreement of the participants in the compensation is significant, so that, unlike the legal one, where a statement from one party is necessary, here we need the agreement of both parties. When performing the contractual compensation, economic entities are obligated before the financial statements are prepared to document the reconciliation of claims and liabilities. This compensation can be carried out only within the limits of enforceable regulations.

Court compensation is a compensation that is enforced on the basis of a court decision. Regarding court compensation, it is important to point out that it is allowed to compensate and obsolete claims, but on condition that the claim is not outdated at the moment of the conditions for compensation. In court theory and practice, precisely defined cases are when no compensation can be made: claims that can not be confiscated, claims of things or the value of the things that were given to the debtor, the use of the loan, or which the debtor took illegally or kept illegally. Claim arising out of deliberate damage caused, loss of damages caused by damage to health or death and claims arising out of the legal obligation of

maintenance. When taking into account the participants in the compensation, it is possible primarily to distinguish bilateral and multilateral compensation from the aspect of the number, while the compensation of the economic and legal status of the participants distinguishes the compensation: between legal entities, legal persons and pedagogues, between entrepreneurs. In case of bilateral compensation, it must be pointed out that this form of compensation is created in the case of the subject of compensation in the form of claims - the obligation between the two participants, each of which is individually in the role of the debtor and the creditor. Multilateral compensation is created when the subject of the compensation is related to several participants, one to the other in the role of creditors and debtors.

The economic and legal consequences for the participants in the compensation are multiple, and they are reflected through: enabling the closing of the business cycle in the company, increasing the liquidity of the entity, facilitating the preparation of financial statements, improving the business credit rating of participants, improving business cooperation among participants.

ASIGNATION

Methods of payment of obligations are directly regulated in the procedure of referral or assignment, which represents the obligatory relationship between the three legal entities in which the debtor (assignat), the old creditor (assignant) and the new creditor (assignatar) participate.

Assignment as a procedure is the relationship where the old assignant gives the order to the debtor (assignat) to act on his account towards a third person or a new creditor (assignatar), and this authorizes him to receive this act on his own behalf. Acceptance of the order by the debtor creates a new obligatory relationship between the assigning and the assignor, independent of the relationship between the assignant and the assignant, or between the assignant and the assignor, whereby all three business partners, which are a condition of legal importance, are of great importance for the assignment.

In the process of settlement of obligations by appointment, it is also characteristic that the obligation does not end with the termination of the order by the recipient of the order of assignment, nor by the acceptance by the assignor, but by the mere payment or transfer of funds from the debtor's account to the account of the receiver of the order (assignatar). The order for payment by assignment is submitted by the debtor, since the same is done transferring funds from the debtor's debtor account to the account of the new creditor and that with this transfer the assignment is considered executive. The billing order is submitted by the creditor (assignant) to the burden and in favor of his business account. This order can not be submitted before the payment made by the new debtor.

CESIUM

When we start from the etymological meaning of the word *cesses*, we can find the roots in the Latin word *cedera*, which in the free translation means to give up. The registration of claims can be defined as the economic and legal relationship established between the former and the new creditor. Which means that in the event of the transfer of claims, the position of the debtor does not change. There is a possibility that the creditor and the borrower have agreed that the creditor can not transfer the claim without the prior consent of the debtor, and in this case the creditor has no legal basis to transfer his claim. In the event that despite this arrangement the creditor gives his claim, the debtor is not obliged to execute his obligation to the new creditor, but only according to the original creditor. The creditor is obliged to notify the debtor about the performed assignment of claims, and most often it involves the delivery of a copy of the concluded contract so that the debtor knows who should fulfill the obligation.

In certain cases, the receivables can not be the subject of assignment. In legal theory and practice, the transfer of claims whose transfer is prohibited by law is prohibited, or whose claims are related to the creditor's creditor, for example in the case of claims based on pensions, alimony, and the transfer contract has no effect on the debtor, if he and the creditor Agreed that this would not be able to transfer the claim to another or not to transfer it without the borrower's consent.

The new creditor with the claim exceeds certain rights such as the right of priority of collection, mortgages, stocks, rights from the contract with the guarantor, right to interest, contractual penalty. As in the case of both assignment and cession, it requires certain conditions that could be a means of collecting receivables. In our conditions for assigning and cession, the norm is valid only if the assignants or cedant's account has no outstanding liabilities recorded with the bank.

Due to the cession, the debtor's position did not change as regards the payment obligation, as the cesus issued a payment order. The order for settlement is submitted by the assignee of the receivables and the same is executed only after the conclusion of the contract with the concessionaire.

In terms of accounting and legal terms, in addition to speeding up the process of circulating assets in the production cycle of the company, it also enables the increase of liquidity, which directly affects the company's solvency.

CONCLUSION

From the foregoing, the conclusion is drawn that poor pay discipline is a burning problem of modern business, which affects all societies around the world. As a result of a constant delay in payments or even a complete suspension of client payments, creditor companies can lead to major liquidity problems, which further reflects on worse business results, and at the same time the inability to settle their own obligations in time. In conclusion, all participants in the market enter "vicious circles" of non-payment. In the world, over 80% of receivables are charged through specialized companies. It is concluded that the business books are records of data on emerging business events that are formed by the recording of data in accordance with certain accounting principles, standards and techniques.

Business books are single-entry records on the status and changes in assets, liabilities and capital, revenues, expenditures and business results of legal entities and entrepreneurs. Business books are managed by the dual bookkeeping system, using the framework of the framework, and in accordance with the law. In business books, postings (chronologically and systematically) are made of all business changes that are created by the company's operations.

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MEASUREMENT OF KEY BUSINESS RISKS IN BANKING

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Hadzi Ivan Djordjevic

ABSTRACT

This review provides a discussion on selected past, current, and possible future areas of research in the intersection of risk management. Topics treated include the use of risk measures in regulation. Methodologies to assess credit risk include credit scoring, statistical models, structural models, and the simulation of financial performance. It looks in detail at the incipient practice of risk measurement using methods based on financial institutions' internal models. The key objective of risk management is to strengthen the Bank's resilience to risk. The objective should be to identify, assess, mitigate and monitor key risks. We tend to break down risks into six key areas: credit risk, market risk, liquidity risk, operational risk, legal risk and reputational risk. Of these, credit risk and liquidity risk are the most important.

Key words: *Banking Sector, Credit Risk*

JEL Classification: *E42, E51, E52*

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INTRODUCTION

Financial liberalisation and globalisation, by completing markets and improving risk sharing opportunities, should be good news for financial stability. Today, business banking functions with a continual presence of various risk types. However, some observers have argued that financial innovation has changed the characteristics of financial fragility, potentially reducing the frequency of crises, but increasing their severity, if they do happen.

The level of the accepted risk has to be proportional to the bank competence to absorb the existing losses and achieve satisfactory income rate. A bank can achieve bigger yield rates if it accepts the higher risk rate. In that sense, an adequate identification, measurement and risk management with good relationship balance between yield and risk are the most important aspects of bank management based on which bank will achieve high business performances.

A bank is commercial if it can perform a daily transformation of the bigger amount of the financial funds with no risk, because at the market there is always present bigger demand than supply of the financial funds (Vunjak, 2006, pp. 462).

Measuring the interdependence of participants in the financial system is a key step in the analysis of financial stability. So, we will concentrate in this paper on the risk management, and their determinants and liquidity.

From all stated, a conclusion that we draw is that risk activity management in a banking system as a unity forms market perception i.e., its participants as creditors on the cash market. By applying bigger number of approaches for liquidity risk measurement, better baseline is created for efficient risk management.

DETERMINANTS AND LIQUIDITY RISK MEASUREMENT

Globalization of the world financial market and negative consequences of the financial crises imposed the necessity for conducting the appropriate measures for risk management. Free operation of economic laws in the domain of supply and demand of goods and services, manpower, cash and securities, is expanded also beyond the borders of one country, where freedom should be observed conditionally, considering that each and every country within its borders possesses different kinds of limitations, as well as smaller or bigger economic interventions. In such conditions no one can for certainly enable one hundred percent realization of their products even with the most favourable prices. The very method of production and sales carries with it certain smaller or bigger business risk.

With the market research the existing risk can only be lowered or minimized, but certainly not eliminated (Đurčić, 2002, pp. 390).

By its nature, business banking functions with a continual presence of various risk types. The main task of a bank is mastering risks permanently. With the lowering of the risks at the acceptable level, the possibility of the potential bank losses is also lowered, that is, the losses of shareholders, depositors and other bank creditors, and at the same time the confidence in the banking system as a unity is kept and maintained. For bankers and lenders overall, uncertainty grows with the changes in the interest rates, deposit changes and with the defaulting debtors, as well as with the business deregulation and with banks entering businesses which earlier were not traditionally related to banking. Risk management in banking includes identification, measurement and risk evaluation, with the aim of minimizing its negative effects on the financial bank result. A bank is one of rare institutions which takes on itself double risk. On one side there is a risk of keeping and protecting the collected deposits of the economy of population, and on the other there is a risk which occurs due to the placement of the collected funds into the loans, securities, and other placements (Đurčić, 2002, pp. 392).

Depending on the tendency of banking institutions according to risk, each and every bank can accept more or less risk, positioning itself between total aversion to the risk and total acceptance of the risk (Todorović, 2003, pp. 169).

All this instigates a bank management to the identification of the most important banking risks. In that sense what is in the focus of the banking risks are credit risk management and measurement and liquidity risk.

DETERMINANTS OF THE LIQUIDITY RISK

ESSENCE OF THE LIQUIDITY RISK

Liquidity risk appears due to a bank inability to meet the capital reduction or to finance the asset growth. A bank is liquid if it can perform its credit activity with no problems, undisturbed and safe, as well as to settle its maturity bonds at payment date, but without violation of the necessary liquidity reserve. A bank performs a daily synchronization of the payment dates of the loans with the payment dates of assumed liabilities. Optimal bank liquidity is performed when a bank achieves synchronization, that is, when short-term sources of funding are used for short-term placements, and long-term sources of funding for long-term investments. Banks constantly perform maturity transformation of funds that is enabled to them thanks to the facts where:

- collected funds stem from big investors groups,
- the constant process of investment and fund raising is present,
- certain amount of invested funds in the bank accounts is often retained.

Liquidity risk is also a risk of the possible occurrence of negative effects on the financial result and bank capital which arise due to impossibility of a bank to respond to maturity bonds. The most important bank liabilities which its liquidity mirrors in are:

- obligation to perform in the given payment date the orders of the customers who have disposable funds and which are in the given bank accounts,
- obligation to give credited loans to customers at the determined payment dates and
- obligation to return the loans by the determined payment dates, which have been authorized by its creditors, a main bank and other banking institutions.

A bank is actually liquid if its funds on its bank account and at the treasury are equal or bigger than the maturity bonds. An adequate level of the liquid funds is not permanent, but it changes depending on the market conditions and accepting the risks on the market.

Recent scientific works engage in critical observation of the liquidity phenomenon, as well as constant reassessment of the traditional approaches and representation of newer approaches of the exposure measurement and the liquidity risk management.

Accounting information has a big role in the assessing the level of bank exposure to financial risks. Both yield and risk combined, enable customers of one banking institution to see a completely clear image about the bank's performances and its appealing investment conditions, regarding the fact that identified risk points to the possibility of deviations of the realized yield to the expected yield, as well as determination of effects (usually the negative ones), which such deviations could have on financial result and capital of a bank as a unity.

Users of financial accounts have the possibility to perceive level of risk to which bank is exposed with the help of shown reports, and also to estimate the way in which the management of the named bank would manage the arisen risks, that is, what identification, measurement and handling of the activities for risk reduction are at the reasonable level, as well as tracing the situation at some other plan period where is expected lowering of the risks at a desirable level.

TYPES OF THE LIQUIDITY RISK

There are two most important and well known types of liquidity risks in the **relevant works** and these are:

1. payment liquidity risk,
2. property liquidity

Payment liquidity risk is related to the bank inability to pay its liabilities on time. This illiquidity arises because of the current disparity between the courses of cash flow and cash drain. In case illiquidity is permanent, than it points to the

impossibility or incapability of a bank to pay its liabilities. If current illiquidity is in question, then a bank as a first step applies converting the short-term securities into cash, and then withdraws its demands from other banks.

Management has to consider liabilities in total and to pay them in a short-term by the way of compensation or transfer securities. Special significance in the leadership of the politics of business by management should be given to depository businesses because deposits make predominant part of the bank's funds. Not only are they important by the scale of quantity, but also by the conditions under which they are ensured to quality. Very often, banks are not capable of meeting the payment dates of their maturity bonds on the basis of deposit because they used deposit funds for placements which cannot be restored on time.

Payment liquidity risk can appear due to unsynchronized payment date structure of funds and fund resources. That actually means that credited loans and other kinds of placements have its maturity payment date later than the liabilities of a bank. In order to lower the payment liquidity risk it is necessary for the bank to conduct such a policy in which the short-term placement and cash funds will be bigger or equal to the short-term sources of funding, and long-term placements smaller from the long-term sources of funding (Vunjak, 2006, pp. 347).

Property liquidity risk is incapability of a bank to realize its demands, that is, incapability of realization of market tools by adequate price. This type of illiquidity can also arise due to dysfunction of the liquid funds, that is, doubtful receivables. In such cases a bank has an obligation to investigate: conditions of placement funds, a way to secure the charging of receivable, credit capability of the fund customer etc. What is actually necessary is to perform a daily plan correction so as to eliminate on time the disparity between the cash flow and cash drain of the funds by banking management (Vunjak, 2006, pp. 346).

As two mutually dependent liquidity risk types there are also:

- source funds liquidity risk,
- liquidity market risk.
- Source funds liquidity risk is a kind of risk where a bank is not capable of combating the unplanned cash flow, without previously endangering its ordinary business and its financial position. The most important factors which affect this kind of risk are: dissimilarities in the previously fixed maturity payment dates of funds and liabilities, as well as different kinds of issued warranties, demand deposits, assumed liabilities of loaning etc.
- Liquidity market risk is a risk which occurs in periods where a bank as a financial institution performs excessive sale of funds, which, due to larger offer in relation to the demand leads to the big range of prices by which goods are offered, in regard to the prices by which these same goods are demanded.

Relation of these two types of risk is noticed on the bases of the general characteristics which are specified for these risks, and the gist is that when a bank has big, unplanned cash drains, and it is not able to compensate them from the liquidity sources, nor is it able to obtain additional sources of funding according to

the appropriate conditions, it unexpectedly comes into a situation to sell a part of its property which further causes a break in prices of offered goods. In these entities it is never a hasty decision. What is offered as an only and fast solution is selling a big number of funds at the very low prices which cause losses.

In practice, extreme illiquidity phenomenon is rarely present where, besides of a loss on the basis of placed funds, also appears additional lowering of liquidity funds on the basis of withdrawing the deposit by deponents who lost confidence in a bank as a system i.e., those who doubt in reimbursement of deposit funds. In such cases credit support is reduced to minimum, and market perception for this financial situation is so small that in the most recent time it can lead to the loss of potential creditors and phenomenon of the so called illiquidity chain.

MEASUREMENT OF THE BANK LIQUIDITY RISK

What is known in theory when it comes to approaches of the liquidity measurement is:

- conventional (traditional) approach to liquidity measurement and
- contemporary approach to liquidity measurement.

CONVENTIONAL APPROACH TO LIQUIDITY MEASUREMENT

Conventional i.e., traditional approach to liquidity risk measurement had started from comparative method of realized dimensions of certain liquidity indicators, stated through ratios, as well as their targeted values, values realized with competitors or market leaders. In this approach there are some imperfections which are mirrored in the fact that ratio is calculated on the basis of the historical data, without considering the future of the entity. Manifested ratios are static, i.e., they are related to the current reports, and we know that liquidity can be different (despite the fact it is expressed by the same indicators) in a very short time interval if calculated several days before or after a report. The main imperfection of the standardized approach is that it does not take into consideration a global effect of diversification. In other words, standardized method ignores correlations between markets of different countries. The standardized method is usually used by small and medium-size banks which have deficiency of a complex, technological infrastructure necessary for a daily monitoring and calculating risk exposure. All these deficiencies are not to be neglected, but this approach is very popular because of its simplicity and speed of application, which very often serves as a baseline which precedes some more complex and more detailed analysis.

CONTEMPORARY APPROACH TO LIQUIDITY MEASUREMENT

Contemporary approach to liquidity risk measurement is focused on liquidity risk funds measurement and liquidity risk market measurement.

Liquidity risk funds measurement has three approaches:

- approach based on a condition of financial funds,
- approach based on cash flows and
- miscellaneous approach.

LIQUIDITY RISK FUNDS MEASUREMENT

Approach based on condition of financial funds in its analysis implies financial funds measurement which can be immediately realized regardless of whether expected or unexpected request for payment are in question. In order to realize such an approach it is necessary to perform a balance sheet reclassification in order to group balance items depending on whether they contribute to the appearance of liquidity risk funds or serve for the protection of the same. For that purpose a division of funds is made according to:

- cash funds (those funds which can be converted easily into cash),
- changeable liabilities (short-term funds with a tendency of non-renewal),
- liabilities of giving loans (securing funds for the client immediately, irrevocably on his request),
- currently available credit lines (potential funds which a bank can account on, the same moment without any problems by the side of other financial organizations).

When reclassification of funds and liabilities is done, we determine which state of the cash is, subtracting changeable liabilities from loaning liabilities. If we determine positive state than we determined which part of cash would not be absorbed for loaning, for changeable liabilities and loaning liabilities. If the state of cash is negative it is necessary to regard the possibility of deficit covering by available credit lines.

This current approach is often criticized because of its simplicity and assumption that all funds and liabilities are stable, and we know that in practice there are different oscillations concerning the liquidity and stability level because what is taken into consideration is a time dimension. For example, if we observe a random fund and perform its classification as redeemable, using criteria of the previously mentioned approach, it can happen that it requires time to be realized, and that is identified with liabilities which have different maturity dates which further demand certain amount of liquidity funds in different time periods.

LIQUIDITY MARKET RISK MEASUREMENT

Next current approach to the liquidity risk exposure is approach based on cash flows that covered all imperfections of the previous approach, which is to observe the reclassification of funds and liabilities through bigger number of maturity intervals, and then within each interval to determine deviation of cash flow and cash drain. Here, besides maturity payment dates, bank expectations are also taken into consideration related to time schedule of cash flows, as well as previous experience.

Miscellaneous approach for a baseline has a fact that it is possible to sell funds before maturity payment date and all that with an intention of quickly earning necessary liquidity funds.

Even if there is convenient market for a certain fund it is still sold with discount which actually supports time value of non-mature cash flows.

Liquidity risk measurement is not an easy and simple method. When measuring this risk most often indirect methods are applied. When illiquidity is manifested on market what follows is that prices according to which realization is performed on market are very different from the prices which would be present on market in case that good was not being sold.

In relevant works there are two types of models which describe dependency on the liquidity market of the specific securities in the function of individual variables.

Static models use next variables: total emitted value of the certain asset and payment date of these funds, or what is taken into consideration is total number of partners in transactions with an observed fund or currency in which the fund is denominated, as well as whether some securities are quoted at market.

This correlation of the named variables to market liquidity is not clear and it additionally depends on the type of securities and the country in which research is conducted.

Dynamic models for liquidity risk measurement of securities are classified into:

- models of delay with the account realization,
- models based on the size of the account,
- models based on the extent of the transaction.

Delay models are related to the expected time interval from the account issuing to the realization, i.e., trading of the observed securities. Limitations which occur are related to the validity of data, availability of the same as well as knowledge of the great number of factors upon which depends capital value calculation which is exposed to liquidity risk.

Second type of models implies the first model limitations, claiming that complete availability of data has to be enabled, but what they have not paid attention to is static significance of these data

Third group of the dynamic models as a measure of the exposure to liquidity market risk uses the extent of the transactions of certain instruments or total unpaid amount on the basis of individual financial funds. Imperfection of time dimension is also present in these models, but is overcome by usage of the various indirect criterion.

DETERMINANTS AND MEASUREMENT OF CREDIT RISK IN BANKING

DETERMINANTS OF CREDIT RISK

Credit risk of a bank implies impossibility or reluctance of a loan applicant to return the approved loan to a bank according to the conditions defined in the contract.

Numerous factors affect the possibility and will of a loan applicant or loan user, both those which are under control of a loan applicant and those which are not, i.e., credit risk depends on two groups of factors (Đurčić, 2002, pp. 230)

1. exogenous (state regulation in economy, economic state, natural circumstances and the like),
2. endogenous (professionalism and ability of a credit analyst have a key role).

Credit risk therefore, represents a function of exogenous (systematic) and endogenous (non-systematic) factors.

Exogenous, external factors can affect the appearance of a credit risk at some markets. These factors measurement can be related to macroeconomic performances at the relative market domains of a bank, such as personal incomes, inflation, and product movement.

There is a correlation between the level of the economic activity and appearance of credit losses. If economic activity has a growth tendency, it is much easier for the credit users to profit and return credits, and in such cases credit losses will be small. In a situation when a level of the economic activity starts to decrease, credit users have bigger difficulties related to payment of liabilities, i.e., loan repayment, and credit losses will be much bigger.

Endogenous, internal factors which a bank can control are reflected in conduct of bank management regarding credit risk management in a bank.

Internal key determinants of credit risk are (Đurčić, 2002, pp. 232):

1. Credit scale (size of credit portfolio),
2. Credit policy (conditions and mechanism of credit approval),
3. Credit mix.

Credit analysts in a bank should use all available data related to macroeconomic movements in economy as a whole, as well as for individual economic branches.

Bank management focus should be on internal factors which determine credit risk, external factors are defined in advance, and they cannot be affected.

Credit risk is defined as unpaid liability risk on the basis of the formed debt, i.e., non-payment of principal and interest by the debtor. What depends on a credit risk of a bank is its solvency, which means that it is a risk of possible appearance of negative effects on the financial result due to unpaid liabilities of individual bank debtors.

What bank has to do is to identify risk, measure risk and evaluate credit abilities of a debtor and possibilities of payment of his liabilities. According to that, questions that are also imposed are whether application of risk management mechanism can enable risk protection?

Realization of credit risk is the most often cause of a bank collapse, so according to that legislation introduced minimal standards for credit risk management. According to the principles for credit risk management which are issued by Basel Committee, the strategy includes following items.

- accurate and reliable process of credit approval,
- appropriate process of credit administration,
- constant measurement, management and supervision of credit risk,
- adequate control of risk exposure and

Credit deals are performed with companies and citizens. Credit policy of a bank in the part of risk management defines a structure of credit portfolio, limit of risk tolerance and restrictions. Acquiring all above named this policy determines:

- Which part of bank's sources of funding can be used for crediting?
- Type of credit that should be approved (basic division to short-term and long-term credits), and within that, division to, for example, short-term credits: loans, revolving credits, credits for companies etc.
- Total distribution of credit in percent according to the types of credit (for example, in our country 80% of distribution of short-term credits and 20% of long-term credits is enabled in the total sum of distributed credits). Division can be also according to industrial branches (for example, maximum 20% in one industry), or according to regions, i.e., geographical areas where credits will be approved.
- What this policy defines are also instructions how should be acted in cases when a company has good financial results, but is not targeted by the bank's policy.
- Limitations of credit repurchase from other banks are also defined, i.e., how big percent of credit refinance at annual level is.
- As well as coordination with credit regulations and sublegal acts.

Every bank in its business due to defining credit policy has also to see reservations or the so called reserves which has to be reasonable and to cover all

estimated credit losses. It is very important to constantly control leading indicators of credit risk and quality of assets in order to identify marks of credit risk increase at the appropriate time (to determine the ratio of net loss on credits and average credits, then ratio of reservations and total credits, ratio of noncurrent credits and reservations, changes in structure of portfolio etc.).

Management has access to information about credit quality from the management reports related to internal risk rating, rearranged credits, credits with exceeded payment dates, deviations from credit policy etc.

Board members are informed through reports about renewed credits, about new credited loans, bought and sold participations etc.

Both Board and management should establish limitations for credits which are the topic of a report.

Credit process itself has a few stages:

In the first stage it is necessary to apply which is realized with the help of credit application form, financial report from the last three years is delivered, then auditor's report, business plan with a detailed description of all project stages for which funding in the form of credits is requested and projection of financial reports.

The second stage is a stage of credit processing. What occurs in a sub-stage is the analysis of financial reports through different types of special analyses such as ratio analysis, profitability in favour of the investor, the analysis of net revolving fund, as well as overall comparison of all listed.

The analysis of the financial reports is supplemented by work outside a bank, where validity of stated data in financial reports is evaluated on the spot, as well as evaluation of capability and management experience of the certain company. Special evaluation is related to determination of the property degree of marketability and its market value.

Analysis of credit payment resources is performed in the end. Since cash is the most liquid credit payment resource it is necessary to analyse in detail and evaluate reports about cash flows.

After this detailed analysis is done a bank can determine the risk on the basis of obtained results and according to risk rate to determine interest rate as a credit price.

In the end a credit Committee of a bank makes a decision about whether credit is granted or not. In case it is granted and a bank realizes funds payment the last stage that comes is –running a loan. This stage is run by credit officers which actually all the time perform credit analysis, they recognize the warning signs on time and according to that apply adequate measures through monitoring.

Business of debtor monitoring is as long as the relationship between debtor and trustee, because only in that case a bank can have full information about its clients' dealings and to prevent in due time the possibility of bank's losses due to debtor's payment inability at the previously determined payment date.

If we want to reevaluate the quality of credit portfolio it is necessary to cover 70% of total credit amount and 30% of total credit number. Credits that have payment date over one year are taken in their entirety.

For a detailed analysis we take the amount of clients' credits which surpass 5% of bank's capital amount, then shareholders' credit, reprogrammed credits, credits which payment of interest and principal is late for over thirty days and credits which according to international standards are defined as doubtful and as a loss.

CREDIT RISK MEASUREMENT

“Today, we are awash in data; the key is turning data into knowledge. Risk is not represented by information, but by information organized in a meaningful ways. For risk measurement, it means number that is calibrated and valid.”

Eric Falkenstein

Business banks while conducting their own policy use qualitative and quantitative credit risk measures.

In our country credit risk measurement is somewhat difficult because both secondary credit market and corporate bond markets do not exist. It simply means that it is impossible to measure credit price, as well as that there is no data for a time series.

Corporate bond market can be very good alternative to borrowing certain amount of cash from commercial banks. Advantage of that is in fact that it is possible to find other funds except credits. In case there is such type of market as rival to banking sector, it can lead to undercutting of external borrowing costs (interests), as well as prolonging funding time limit. Apart from that it has been noticed that concentration of deposit and credit in leading banks is performed, which as a consequence has increase in borrowing costs.

Absence of such market type unfavourably affects institutional investors who have to rely on choice of assets enabled by banks with larger interest rates and lower yield rate.

Banks conduct strategy of credit risk management immediately in the beginning when analysing a debtor. The debtor is being traced over the course of the whole process of liability payment.

If there are objectively valid reasons, bank, as a financial institution can perform partial write off of debts and according to that accept losses. Precaution principle is respected, and loss recognized in case all requests of International Accounting Standards are fulfilled. In overall analysis what we try is to perform quantification of probability of debts payment, but it is not simple because there is a lack of historical data about clients from the same line of work or from the same credit rating, or if the data exist it is not of any use because we know that basically every client comes with a different story.

Basic indicator or some drawn approaches upon managing credit risk by banking institutions are:

- To avoid the risk i.e., not to grant credit to a debtor of low credit capacities,
- To transfer a part of credit granted risk through insurance,
- To perform the division of risk in such a way that large credits would be granted by a bank consortium.

QUALITATIVE CREDIT RISK MEASURES –BANK RATING MEASUREMENT

Under the influence of financial crises, as well as because of the appearance of economic, political and social problems, we are the witnesses of constant change of credit rating in numerous countries as well as banks within them.

Bank rating measurement as well as qualitative measure of credit risk i.e., subjective measure has internal and external rating patterns.

The most important external rating patterns are established with the help of rating agency S&P and Moody's where, actually rating of certain companies and instruments is classified in accordance with expected losses i.e., with a probability that a company would not be able to pay its liabilities and losses in case of not paying its liabilities related to credit. Credit rating in any case does not give opinion on how much a bank or an investment is good i.e., profitable, but only the probability of credit refund at previously fixed payment date.

Credit rating agencies in practice most often evaluate and give opinion on credit capability of a borrower i.e., issuer of securities. Perceived in such a way, rating actually represents a measure of credit risk and possibility of borrower bankruptcy.

For the purpose of success of business banks what is often taken into consideration are accounting categories, and lately the risk of the issued capital, as well as all indicators that arise from these variables. These agencies during determination of bank creditworthiness have holistic approach and use all available indicators (capital, quality of property, liquidity etc.). In the evaluation model they also include change of structure of yield and expenses.

By their own existence and work, agencies reduce asymmetric information on the capital market between an investor and an issuer of securities, who look for sources of funding. All subjects at the market have access to rating without expenses.

From the time agencies for credit rating were established, until today, their business activity has been greatly expanded. Beside the assessment of the risk of various instruments on the financial market and various financial institutions, they perform also advisory role, manage various highly profitable activities and world's indexes.

In the world there are around one hundred and fifty agencies for credit rating which number has been reduced by lowering the number of existing agencies as well as joining them together. At the financial market three large agencies dominate: Standard&Poor, Moody's and Fitch which occupy over 90% of total credit rating market in relation to total amount of realized yield (It is estimated that in 2005 S&P and Moody's realized around 77 % of the total amount of world's income based on credit rating, while FITCH realized 15%).

In general, credit agencies differ depending on the objects they cover as well as areas in which they lead their business activity. In the following chart a comparative representation of all significant rating agencies along with the main indicators is displayed.

Table 1: Comparative representation of all significant rating agencies along with the main indicators

Rating agency and its headquarter	Employees	Assigned ratings	Ownership	Rating area
Standard & Poor's (USA)	6,300	870,000	McGraw-Hill	Full service
Moody's Investors Service (USA)	3,900	37,000 issuers, 106,000 instruments	Dun & Bradstreet	Full service
Fitch (Great Britain and USA)	2,100	2,212 corporate issuers, 3,700 banks.	FIMALAC	Full service
Japan Credit Rating Agency, Ltd.(Japan)	90	600 issuers	Institutional investors	Full service
DBRS (Canada)	30	more than 1,000 issuers	Private	Structural products
Capital Intelligence	11	more than 400 banks	Financial Institutions, Fitch	
Kroll Bond Rating Agency (USA)	-	16,412 financial institutions, 1,000 largest corporations	-	Corporations, banks, insurers
Egan-Jones Rating Company (USA)	-	more than 2.000 corporate issuers	-	Corporations
A.M. Best Company (USA)	450	5.400 ratings to the insurance industry	Private	Insurance
Rating and Investment Information, Inc. (Japan)	140	1,100	Nikkei Group	Full service
Real point LLC (USA)	42	225 clients	Morningstar	Structural products

Source: Adjusted to BIS.200., "Credit ratings and Complementary Sources of Credit Quality Information", Basel Committee on Banking Supervision Working Papers no. 3 p.22., official rating agencies data, Securities Commission (USA). 2011.

Rating is displayed by combination of letters and numbers, but also by plus and minus signs which are positioned on the rating scale and additionally increase the differences in ratings. The following chart displays the standard symbols according to which rating is shown, determined by the two most famous agencies (Standard&Poor, Moody`s).

Table 2: Standard symbols according to which rating is shown, determined by the two most famous agencies (Standard&Poor, Moody`s).

S&P	Moody`s	Description of meaning
AAA AA+	Aaa Aa1	The highest level of rating. Certain fulfillment of financial liabilities.
AA AA- A+	Aa2 Aa3 A1	Very high certainty of fulfillment of financial liabilities.
A A- BBB+	A2 A3 Baa1	High certainty, there is sensitivity to unfavorable economic conditions.
BBB	Baa2	Certainty of liability fulfillment, there is sensitivity to unfavorable economic conditions.
BBB-	Baa3	It is considered to be the lowest level of investment category.
BB+	Ba1	It is considered to be the lowest level of speculation category.
BB BB- B+	Ba2 Ba3 B1	Low sensitivity in the short term period, uncertainty in the future.
B B- CCC-	B2 B3	Larger sensitivity during bad economic conditions.
CCC CCC-	Caa	Current sensitivity, dependence on favorable economic conditions.
CC	Ca	High sensitivity.
C	C	High sensitivity, low probability of liabilities fulfillment.
D		Impossibility of fulfillment of financial liabilities.

Source: Moody`s Rating Symbols &Definitions. 2009., p.8S&P. Available at <http://www.standardandpoors.com/ratings/definitions-and-faqs/en/us>,

In the end, we can understand credit rating as entrance to the creation of favourable investment climate and indicators which every investor will take into consideration just before investing i.e., making a decision about investment in some bank or county. The purpose is evaluation of capability in liabilities payment.

QUANTITATIVE CREDIT RISK MEASURES – KMV, CREDIT METRICS, CREDIT RISK AND PORTFOLIO VIEW

It is significant to point out that in theory there are several commercial systems which are at disposal, and all that with the aim of credit risk quantification, some of which are most famous are: KMV approach, then, Credit Risk (which has been developed by Credit Swiss Financial Product), Credit Portfolio View (which has been issued by McKinsey) and Credit Metrics. This is the so called VAR approach which has been differentiated in practice into four above mentioned directions. These models have been used by renowned and international banks which are active, and also supported by regulators under the influence of Basel Committee for bank supervision. These approaches enable adding the described credit risk exposure to absolute number which helps them to perceive which the amount of capital is necessary for covering risk exposure. However, since approaches to these information are limited for areas which have less developed financial markets, most of these models are applicable only in USA and other developed countries.

The main reason why banks unconditionally want to join absolute numbers to credit risk which they are exposed to, is the possibility of establishing economic capital for credit risk, whether on the basis of transactions or on the basis of total portfolio. Apart from that, credit modelling enables banks as financial institutions to precisely determine the transaction price, for example, to correct interest rate towards the client according to his default risk (Default (not payment of liabilities) is defined as a situation where a debtor cannot pay liabilities regulated by bond or credit.).

If we perform the market analysis we come to data that all leading world banks at *Wall Street* and in Europe use the above mentioned approach, and which is also supported by Basel Committee for bank supervision and national regulators.

CREDIT METRICS

This approach represents evaluation model of credit risk of a big number of financial and portfolio instruments, as well as portfolio of a bank credit with the help of VAR methodology and modern portfolio theory. It has been published by J.R. Morgan bank in April in 1997, and created by numerous institutions such as: Bank of America, BZW, Deutsche Morgan Grenfell, Swiss Bank Corporation, Union Bank of Switzerland and KMV Corporation (Cornett, Saunders, 1999, pp. 240) (Frey and McNeil (2002, pp. 1325) consider that Credit Metrics, as well as KMV model, arises from the Merton's model of company value from 1974, where default is modeled as an occurrence when value of a company assets decreases below its liabilities. In statistical texts, this model goes under the general chapter of latent variables model.).

The essence is in a constant recalculations of bank credit quality change (in this model credit risk is expressed in the sense of rating change during a year), as

well as market value of bank credit portfolio. In theory, it has been widely known that models for measurement of market value of bank credits arisen after adequate models for measurement of market financial instruments (bond) value, because banking credits in general do not represent market instruments. The problem has been solved by graduation of banking credits on the scale of credit ratings by highly acknowledged rating agencies.

In the first stage this model determines profile of risk exposure of every position in credit portfolio. It also enables a setting under which it examines less open profiles of exposure such as: unused credit liabilities, letters of credit and commercial credit arrangements – commercial credits.

The next stage is volatility calculation (with the help of standard deviation), each position due to increase or decrease of company's credit rating and *defaults* for used credits which have not been paid in the previously determined payment date. Probability that over the course of time some change in rating will happen is estimated by the help of historically designed "transition matrix". Each change in rating brings the change of market value of company credit (Cirovic, 2001, pp. 335-336).

Third and last stage is contemplating upon correlation between change of value of individual positions (Correlations among different companies have been calculated by the use of Gauss copula model for the change of rating which relies on the so called Vasicek model. The changes of company rating themselves are generated with the use of Monte Carlo simulation. Each implemented simulation method enables determination of final rating of each bond or credit and determination of re-value so as to calculate total credit losses for that particular year.) in the previous stage, and combining i.e., aggregating of volatility of individual credit instruments where we get portfolio volatility.

According to everything that is presented we can confirm that *Credit Metrics* is based on the analysis of credit migration (i.e., moving from one to another rating category) in particular time period. Typical annual transitional matrix of rating is displayed in the following chart.

Table 3: Annual transitional matrix of rating (based on Moody's results from 2004).

Initial rating	Rating at the end of the year							
	Aaa	Aa	A	Baa	Ba	B	Caa	Default
Aaa	92.18	7.06	0.73	0.00	0.02	0.00	0.00	0.00
Aa	1.17	90.85	7.63	0.26	0.07	0.01	0.00	0.02
A	0.05	2.39	91.83	5.07	0.50	0.13	0.01	0.02
Baa	0.05	0.24	5.20	88.48	4.88	0.80	0.16	0.18
Ba	0.01	0.05	0.50	5.45	85.13	7.05	0.55	1.27
B	0.01	0.03	0.13	0.43	6.52	83.20	3.04	6.64
Caa	0.00	0.00	0.00	0.58	1.74	4.18	67.99	25.50
Default	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: [Hull (2007), pp. 290]

It shows probability in percent of bond movement from one into another category of rating during one annual period. For example, a bond that starts with A rating has 91.83% of chance to stay at A rating till the end of a year, and 0.02% chance to come into *default* state during a year.

Credit Metrics model is applicable only to those credit portfolios of banks which contain loans credited to companies which have verified credit ratings by professional agencies. Otherwise, banks are forced to use internal rating assessments or assessments based on modern portfolio theory.

Basic disadvantage of *Credit Metrics* is that it usually relies on transitional probabilities of ratings based on average historical *default* frequencies and credit migration. This approach implies that all companies within the same rating class have the same *default* rate and the same yield curve, even if there is a difference among rates of account receivables among the debtors.

CREDIT RISK

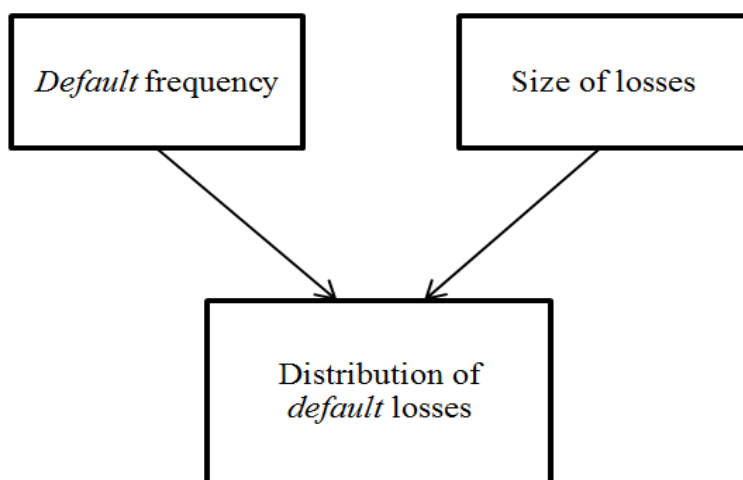
Credit Risk has been publicized by the investment bank Credit Swiss Financial Product in October in 1997. This model differs a lot from the previously described model. It is basically actuarial approach (actuaries are experts who in the financial risk analysis use mathematical and statistical models, using data from the past, model development and risk analysis). It has been mostly present in the insurance domain, most often with fire insurance (With this type of non-life insurance, insured losses mirror two things: probability of having a house burnt (which insurers name as frequency of event) and value of house loss if it burns (which is actually called the size of loss) (Saunders, Cornett, 2006, pp.339).).

This model takes into account two credit occurrences: default and non-default. Except that, it also takes into consideration that default intensity fluctuates over the course of time and that it can be modelled as a function of factors which also change over time. When *defaults* are independent, the distribution of probability *default* follows Poisson distribution (This theoreticl distrubution at the beginning of the 20th century set the French matematician Simeon D. Poisson (1781-1840). It has been used in cases when probability of p appearance is very small and when number of n cases is large, although there are not rare cases that it has been used in practice no matter to the size of n. It has been most often taken that $p \leq 0,05$ a $n \geq 20$ (Fazlovic, 2006, pp.122-135).). Let us start from the assumption that a bank has N co-contractor of certain type and that default probability of each co-contractor in time T is equal to p. The expected number of *default*-u, for whole portfolio will be $u=Np$. If we assume that *defaults* are independent and that p is little, what follows is that probability of n *default* is determined by Poisson distribution which follows:

$$P(n \text{ default}) = e^{-u} \frac{u^n}{n!}, \text{ for } n=0,1,2,\dots \quad (1)$$

The model also allows correlation by means of dividing portfolio into homogenous sectors within which it is also necessary to divide systematic risk factors. However, what is necessary after, is emerging of a problem of evaluation of big number of correlations because even smaller portfolio, with, for example, 4.000 debtors requires estimation of 499,500 correlations (1.000 multiplied by 999 and divided by 2). This problem is actually solved by the use of multipliers i.e., multifactor model, such as CPV which we will discuss about later on.

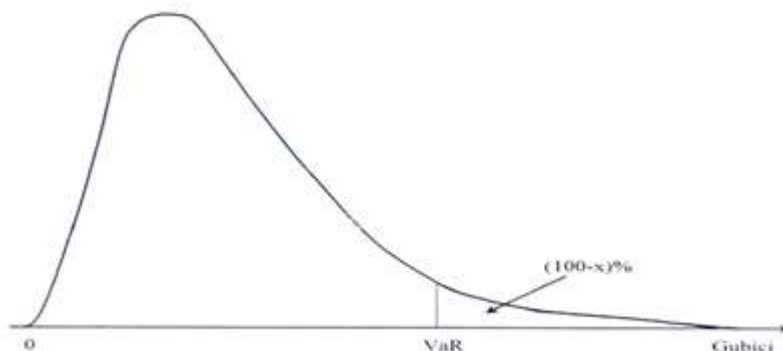
Second component of this model is the size/gravity of loss. It has been obtained by sorting of asset in a few groups, for example, loans of \$20,000 for the first group, \$40,000 for the second. After that we get distribution of loss probability for each group. Then, we combine the group distributions so as to single out distribution of probability of total *default* losses. That has been presented in the next picture:



Picture 1. Model of credit losses determinants

Source: [Saunders, Cornett (2006), pp. 339]

It has been positively skewed. VAR is actually a loss which corresponds to (100-x) percent of distribution changes of total *default* losses in certain time horizon (illustration):



Picture 2. Distribution of probability of total default losses and calculation of VAR (tolerance level is X%)

Credit Risk model is the most appropriate for analysing *default* risk of large portfolios consisting of small loans, and less appropriate for portfolios consisting of several large loans. It secures fast, analytical solution when it comes to distribution of credit losses, but with minimal input data.

KMV

KMV model which is also called Portfolio Manager model enables prognosis of evaluated i.e., expected *default* frequencies (EDFs) for approximately 30,000 public companies, but also calculation of EDFs for individual companies with evaluation of its portfolio risk. Bigger part of its technology is unrevealed and private (Private company KMV has been founded by Stephen Kealhofer, John McQuown и Oldrich Vasicek (acronym is taken from their surnames) in San Francisco, in 1989, in order to provide services of credit risk analysis. In April of 2002, KMV has been annexed to rating agency Moody's. KMV model is best applied to public companies because the value of its share capital is determined and transparent at stock exchange.). The basic idea of this model is representation of Merton approach to credit risk (In Merton's frame for pricing credit risk options, default occurs when values of company asset decreases below the value of its liabilities. Using the sample of couple of hundreds of companies, KMV approach affirmed that companies become default when asset value reaches the level which is between the value of its total liabilities and the value of its short-term debt.).

Value of share capital (S) is observed as call option (c) to company assets value (A), i.e.

$$S = c(A, K, r, \sigma, t) \quad (2)$$

, where:

K is liabilities value, that is, amount of value of short-term liabilities and half of book value of total long-term debts

r is asset yields

ba is volatility asset yields

t is correlation between systematic components of yields on debtor asset *i* and debtor *j*.

KMV approach generates evaluated probability of *default* based on distance between current assets and boundary point (i.e., time distance to the moment of default) (Time distance to the moment of default represents the number of standard deviations between the center of distribution of asset value and critical threshold, so called boundary point or default point. This point has been identified as nominal value of current liabilities including short-term debt, which have to be paid during certain time horizon, plus the half of long-term debt.).

Let us say, for example, that $A=\$100$ million, $K=\$80$ million. Normalized distance from *default* is 2 i.e.

$$Z=A-K/ba=100-80/10=2 \quad (3)$$

If we assume normally distributed yields on asset (On the basis of empirical research, KVM has determined that this hypothesis is very realistic and that volatility of yield on asset is relatively constant.) probability that normal standard variable *z* decreases below -2 is 2.3%. According to that, default frequency, EDF is 0.023. Practitioners usually after calculation of EDF derive a chart with parallel results of rating agencies displaying rating categories. However, this connection of above named analyses can bring to wrong judgment because it is about two different credit risk measures. We know that EDF is a measure which expresses risk at the given moment, i.e., it is focused on the *default* probability in the period of one year, and ratings represent estimation of credit capability during the cycle. Advantage of this approach is that it relies on the best market data for a company shares price instead on evaluated credit ratings and historically average frequencies which are generated by agencies for every type of credit, such as the case with *Credit Metrics*.

CPV – CREDIT PORTFOLIO VIEW

This model has been publicized by a consultant company McKinsey & Company in March of 1997. The main focus has been on the effect of macroeconomic factors on portfolio credit risk. This approach shows the distribution of losses from the number and size of credit in sub portfolios, usually consisted of segments of clients. Instead of contemplating upon fixed probabilities, this model conditions the *default* rate by the economy state. At the time of economic growth – expansions of the *default* frequencies highly decreases in comparison to periods of recession. In spite of that *default* rates increase again as

economy enters the recession state. Periods of high *default* rates are characterized by low rates of loans payment, so that banks tend to charge various insurances together with collateral, which they use for loan insurance, that have lower value during the recession period.

The *default* rate (p) in time (t), depends on a set of macroeconomic variables x for different countries and industries over the linear combination y . Functional dependence on y which is called *logit model*, secures that probability is always between 0 and 1, so what follows is:

$$p=1/(1+\exp(y)) \quad y=\alpha+\sum\beta x$$

By using multifactor model, each and every debtor is signed by country, industry and rating segment. One of the factors that are taken into consideration when it comes to above named model is also the debts payment rate. In simple words it means that by application of *CPV* model, the effect of macroeconomic variables on *default* rates at the given sector are taken into account. This model does not give enough of details for *default* probabilities at the level of individual debtors because it models only aggregate probabilities. As independent variables we can use: GDP growth, interest rates, savings rates, unemployment rate etc. However, *default* rates at the level of an industry or a country which are actually dependent variables, ensure agency rating which is not a problem for developed markets.

COMPARISON OF CREDIT VAR MODELS

From all mentioned above we can conclude that there is no unique solution for evaluation problem of credit risk to which banks as financial institutions are exposed. Instead of that, great number of different models and approaches appears. Each of the approaches mentioned above has its weaknesses but also strengths which banking managers generally have to understand best. Each of these approaches is the most convenient for precisely defined credit risk evaluation. The following chart synthetizes basic characteristics of existing credit VAR models and all with the aim of their comparison.

Table 4: Comparison of credit VAR models

<i>ModelCharacteristic</i>	<i>CreditMetrics™</i>	<i>CreditRisc™</i>	<i>KMV</i>	<i>CPV</i>
1) Creator(s)	<i>J.P.Morgan</i>	CSFP	KMV	<i>McKinsey</i>
2) Model type	Bottom-up	Bottom-up	Bottom-up	Top-down
3) Risk definition	Market values (MTM)	<i>Default losses (DM)</i>	<i>Default losses(MTM/DM)</i>	Market values (MTM)
4) Drivers (risk initiator)	Correlated assets values	<i>Default rates</i>	Correlated assets values	Macro factors
5) Credit occurrences	Change of rating/ <i>default</i>	<i>Default</i>	Continuous <i>default</i> probabilities	Change of rating/default
5a) Probability	Unconditional	Unconditional	Conditional	Conditional
5b) Volatility	Constant	Variable	Variable	Variable
5c) Correlation	From owners' capital (structural)	<i>Default process (reduced form)</i>	From owners' capital (structural)	From macro factors (reduced form)
6) Rate of debts payment	Random	Constant (within the group)	Random	Random
7) Solution (numeric approach)	Simulation/analytical	Analytical	Analytical	Simulation

Source: (Jorion, 2003 and Crouhy, et al.,2006)

By using simple statistics, models top-down, such as CVP, group credit risks. They aggregate various risk sources as homogenous in total portfolio risk without further analysis of individual transactions. Such an approach is more appropriate for retail portfolios with small enterprises with a big number of credits, than for corporative credits.

Opposed to that, models bottom-up *Credit Metrics*, take into consideration characteristic of each asset / credit. They are convenient for doing corrective action because risk structure can be drastically changed with the aim of profile risk modification.

Default mode models take into account only total *default* as a credit occurrence.

Market identification models (MTM), contemplate changes of market values and rating, including *defaults*. These models of market value ensure better risk assessment.

It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.

Mark Twain

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THREAT OF NON-PERFORMING LOANS TO SERBIAN BANKING SECTOR

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ABSTRACT

This paper attempts to shed light on the determining factors of the non-performing loans (NPLs) in the Serbian banking sector. We examine non-performing loans level in the banking sector over the last decade, focusing on their effects, fully capturing the recent recession. The analysis presents empirical evidence of Serbian banking activities, using the official annual data of the National Bank of Serbia for all banks that operated between 2008 and 2016. In the paper we gave a short overview of the non-performing loans, while we used a linear regression model to estimate the correlations between non-performing loans and economic performance. Non-performing loans reached the levels that are negatively affecting on the credit supply channel and are causing worsening of the banking sector financial soundness indicators. We showed that the effects of the non-performing loans on Serbian banking sector hadn't changed sign during and after the financial crisis; while the level of the non-performing loans were higher during the crisis, it become associated with still high level after the crisis. At the same times, we revealed that high level of the non-performing loans limits investments, increases liabilities and limits the volume of the bank loans to the economy, which leads to reduction of aggregate consumption, and economic contraction. We also showed that problems with bad loans had been reduced by improving the macroeconomic position of the Serbian economy.

Key words: Non-Performing Loans, Banking Sector, Credit Risk

JEL Classification: E42, E44, E51, E52, G01

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INTRODUCTION

Bank lending is a complex process based on fundamental banking principles. The application of these principles determines the quality of loan portfolio as well as quality the total assets. In addition, contempt of these principles points to poor asset management, which is usually reflected in the accumulation of unqualified loans (NPLs).

A non-performing loan (NPL) is the sum of borrowed money upon which the debtor has not made his scheduled payments for at least 90 days. It is often called “bad” loan because it threatens the quality of assets, increases credit risk and reflects customer confidence. Shifts within the bad loans category (for example, a further downgrading of the loan from doubtful to loss) do not affect the default rate.

All loans activities in the banking sector are in tightened connection with credit risks, which is one of the most important areas of risk management. Credit management is thus essential to ensure a sound financial system and possibly provides an early alarm to regulatory authorities of the banking system (Prasanna et al., 2014). It is also an important element of asset management for banking institutions, which try to develop their own credit risk models in order to increase bank portfolio quality. A special interest for this issue came with the Basel Capital Accord known as Basel II. This tells us that corporate and retail sectors, as well as macroeconomic developments, need to be integrated into the credit risk assessment of the banking sector (Costeiu and Neagu, 2013, pp. 4). Credit risk assessment is an essential component of the macro-prudential analysis, while the macro-prudential policy is a key component in removing the financial consequences of the latest crisis in all economies.

One of the main problems in the issue of the financial stability is the trend of the overall default rate for the corporate sector, i.e. the banks' non-performing loan ratio. It is the ratio of defaulting loans (payments of interest and principal past due by 90 days or more) to total gross loans (total value of loan portfolio). The ratio of the non-performing loans to total gross loans is often used as a proxy for asset quality and is intended to identify problems with asset quality in the loan portfolio.

The risks of rising non-performing loans eroding profitability is most relevant for banks with high unemployment rate, low economic growth, high indebted households and firms, fall commercial and residential property prices, or weak economic demand, as well as a high percentage of bad loans. They have grown to such an extent that they become a major contributor to low return on banks' assets. A key question here is whether the increase is structural (i.e. related to balance sheets) or cyclical (i.e. related to economic factors which might dissipate with time). The decomposition of NPL ratios indicates that worsening credit quality is indeed the main driving force. But in some cases, the slowdown of credit growth has also contributed to raising the share of non-performing loans in total loans (European Central Bank, 2013b, pp. 76).

There are numerous factors leading to the increase in non-performing loans, including the lower creditworthiness of citizens, low economic growth rate, growing unemployment rate, low income, lower level of the liquidity in the economy, as well as complex banks' methodology for the approval of the loan applications. Bad lending is the root of many banking problems and finally they could have led to serious financial crisis, and according to Pelevic and Ristanovic (2011, pp. 241), to collapse in the financial market, which was again associated with a decline in liquidity.

The relationship between profitability and non-performing loans is double-edged. Since profitability reflects the high quality of the asset management, then this could indicate that the bank will generate less non-performing loans (profit goes beyond retained earnings and strengthens the bank's capital position). However, profit can also reflect higher risk, which also means more bad loans in the bank's portfolio. It is clear that the non-performing loans had negative effect on bank profitability. Particularly vulnerable are banks that are confronted with a significant deterioration of the asset quality with high and rising non-performing loan levels, and have low non-performing loans coverage ratios and a weak profit and/or solvency base (European Central Bank, 2013a, pp. 8).

There are also wider implications. These often induce wider economic contractions. So under-provisioning for loan losses can play a significant role in contributing to crises creation. And uncertainty about the definition of non-performance can exacerbate them because it makes it difficult for outsiders to decide whether recapitalisation and recovery of the firm can occur.

Our paper proceeds as follows. Section 1 of our paper scrutinises the definition of NPLs and the coherence of NPL data. It also shows the reasons non-performing loans often feature in banking and economic crises, and why they are often obstacles to their jurisdiction. Section 2 of the paper shifts the level of non-performing loans in Serbian banking sector. In this section we analysed changes in the levels of bad loans through the banking system of Serbia, as well as their structure in the last ten years. Section 3 sets out the econometric modelling taking into account the volume of non-performing loans, as a dependent variable, and the macro indicators (GDP, exchange rate, lending rate, rate of inflation, unemployment rate, etc.), as the independent variables, while the final section draws some conclusion remarks.

A BRIEF REVIEW OF RELATED LITERATURE

Subsequent researchers have collected so much evidence showing that excessive credit growth often precedes banking crises. These lending booms lead to non-performing loans, which as a role become major stumbling block of the economic recovery.

Generally speaking, non-performing loans are loans where a borrower is not making repayments in accordance with his contractual obligations. Actually, non-

performing loans are impaired when the amount expected to be repaid falls below the contracted value carried on bank's balance sheet (Bholat and al., 2016, pp. 2). At the same time, the banks need to develop models for early recognition and adequate provisioning for non-performing loans. Such models should have the goal to anticipate the possible future development of non-performing loans as a function of negative changes in the macroeconomic environment. One such model Jakubík (Jakubík, 2007, pp. 69-75) applied to the Czech economy. He used a one-factor Merton-type model estimated for the aggregate economy, which confirmed a very strong link between bank portfolio quality and the macroeconomic environment. In spite of the good performance of similar models, sectoral models are more desirable, as they could help to differentiate the different effects of sectoral credit risk.

Non-performing loans in today's crises is nothing new. Kaminsky and Reinhart (1999, pp. 483-484) suggest that a large increase non-performing loans could be used to mark the onset of the crisis. Actually, NPLs are a recurring feature of economic and banking crises (Bholat et al., 2016, pp. 2). They underscored the central role of non-performing loans in recent financial crises, as well as they led many countries into recession. Non-performing loans are rising double digits on the periphery of the Euro Area (in 2014 they were in Cyprus 45.4%; Greece 34.3%; Romania 22%; Ireland 18.7%; Italy 17.3%; Croatia 15%) where the financial crisis has turned into a debt crisis, and the economy has had a long-term recession and austerity. Hence their definition, valuation, and mitigation are a crucial and enduring policy issue for central banks.

Lending is not an easy task for banks because they are followed by a major problem called NPL (Upal, 2009, pp. 80). In addition, NPLs are closely linked to banking crises (Waweru and Kalami, 2009, pp. 12) primarily because banks exposed the default risk by the borrower. Borrowers are faced with greater debt repayment difficulties due to increased debt servicing capacity (Klein, 2013, pp. 5-6), which is a result of a reduction in real GDP, low income, and an increase in unemployment.

According to the study by Davis and Karim (2008, pp. 93) banking crisis occurs usually due to an increase in credit risk, and because of the collapse of the borrowers, the good assets is transformed into bad ones, i.e. in non-performing loans. Although banks enjoy the benefits of screening and monitoring of borrowers, both of which reduce credit risk, high levels of non-performing loans related to crises point to risk assessment by banks in the pre-crisis period.

Beck, Jakubík, and Piloiu (2013, pp. 15-19) used an econometric model to estimate interaction between the macroeconomic conditions and asset quality. Their results suggest that additional factors may negatively affect asset quality in countries with specific vulnerabilities. In particular, the depreciation of the exchange rate, the decline in stock prices and the increase in lending interest rates can lead to an increase in non-performing loans in countries, i.e. it can negatively affect the quality of the banks' assets.

Very high level of viability for the regression estimate of NPLs and economic and financial indicators: volume of GDP, total volume of bank loans, change in

inflation rate, change of unemployment rate, change in interest rate on bank loans, etc.) Filip (2014, pp. 137-142) materialized these indicators through econometric approach on the case of Romania in the period 2000-2015. Also, Messai and Jouini (2013, pp. 857-858) analysed non-performing loans for a sample of 85 banks in three countries (Italy, Greece and Spain) for the period 2004-2008. Their econometric analysis has shown that problems with non-performing loans increase when the unemployment rate and the real interest rate rise, and decrease when the GDP growth rate and profitability of bank's assets fall.

In both developing and advanced economies Nkusu (2011, pp. 6-20) analysed the link between low-quality loans and macroeconomic performance using two complementary approaches and found that negative macroeconomic development is associated with rising non-performing loans. At the same time, he found out that a sharp increase in non-performing loans triggers long-term negative effects on macroeconomic performance.

In ECB's financial report (European Central Bank, 2013b, pp. 8) the authors have shown that non-performing loans, together with the associated provisioning, are the main causes of the low recovery of the banking sector's assets in the euro area since 2009.

The Serbian banking sector has a sufficiently high level of reserves (provision) so that the non-performing loans do not threaten the stability of the financial system. Although a high share of these loans still leads banks to systemic risk – banks are not willing to take the risk and increase the loan supply. The quality of the portfolio showed that the lending activities (net loans in nominal value) at the end of 2015 increased compared to the previous period (Vukosavljevic et al., 2016, pp. 103).

SHARE OF NON-PERFORMING LOANS IN SERBIAN BANKING SECTOR

Our intention in this paper was to estimate the expected part of bad loans in the total loan portfolio of banks in order to see the effect on the banking sector and the economy. The share of bad loans is one of the inputs for the stress test model for banks. Following the international financial institutions, the National Bank of Serbia (NBS, 2015, pp. 3) has developed a set of macro-prudential indicators that help in the control and management of systemic risk in the financial system of the country. The National Bank of Serbia uses models for assessing the vulnerability of institutions, the financial sector and provides analytical support to macro-prudential policy. Similar models were developed by other central banks. For example, the Central Bank of Czech Republic has a new approach that allows modelling the impact of various macroeconomic shocks on the quality of the loan portfolio, and then, in combination with the stress testing system, on the capital of the entire banking system (Čihák and Heřmánek, 2005, pp. 18).

In line with the aforementioned, the good practice and recommendations of the international institutions, the National Bank of Serbia in coordination with the Government of the Republic of Serbia has developed a NPL Resolution Strategy (NBS, 2015, pp. 4). In the strategy, the authors emphasized that non-performing loans in many countries have reached levels that have a negative impact on the credit supply channel and cause deterioration of the financial stability indicators of the banking sector. For this reason, the banks have begun to settle their balances, for new credit activities (but at lower interest rates), in order to obey some kind of support to the economy to achieve sustainable growth rates. Instead of that, according to Miljkovic and Ristanovic (2017, pp. 387) excess liquidity reserves held by banks spilled over abroad at lower interest rates, while placements that remained in Serbia were lower and with higher interest rates. Hence, some banks with a smaller volume of reserves have fallen into the problem of insolvency, and have lost confidence. As a result, some banks with a smaller volume of reserves have fallen into the problem of insolvency, while the banking sector has lost confidence.

In the Serbian banking sector, the share of non-performing loans in total loans was high during the analysed period, but they were still not jeopardizing financial system stability as the banking sector was well capitalized and liquid. Therefore, the credit lines were fully provisioned. Nevertheless, they have become a source of systemic risk. This means that the share of non-performing loans in total loans had no direct connection with the stability of the financial sector, since this ratio also depended on the provisioning and capitalization and the concentration of exposure in some banks. So, the analysis requires a wider context and scope. However, we decided here to use macroeconomic approach where we analysed non-performing loans ratio and his structure, as well as the impact on the banking sector and the economy. The non-performing loan ratio we calculated by using the value of non-performing loans (NPLs) as the numerator and the total value of the loan portfolio (including NPLs, and before the deduction of specific loan loss provisions) as the denominator. The purpose of this approach is to present the main macroeconomic factors that the best explain the behavior of the economy, as well as to collect the effects of the return of the macroeconomic position on the banking sector. On the other hand, a deeper analysis must be linked to bank-by-bank stress tests that take provisioning and capitalization into account.

Since the beginning of the financial crisis, non-performing loans in the Serbian banking sector have recorded continuous growth over the entire observed period (Table 1), with the exception of a temporary reduction in 2012. With a low rate of economic growth during the crisis, the credit risks increased due to high level of non-performing loans, which led to stagnation or even a drop in credit activity. The level of bad loans started to decrease in 2012, but in short. Then NPLs has started to rise continuously until 2015, when NPLs value reached 424.6 billion dinars and NPLs ratio reached a record of 21.6%.

Table 1: Non/performing loans in Serbian banking sector, during 2008-2016

Year	Non-performing loans (in billions RSD)	Total loans (in billions RSD)	Percentage (%)
2008	127	1.125	11.3
2009	202	1.306	15.7
2010	273.5	1.657	16.9
2011	342.7	1.788	19
2012	365.8	1.958	18.6
2013	395.3	1.871	21.4
2014	421.3	1.926	21.5
2015	424.6	1.980	21.6
2016	345.8	2.029	17

Source: Author's calculation based on the data of the National Bank of Serbia

Serbia had high credit growth rates before the crisis. A high credit supply came from foreign banks that flooded the banking sector of Serbia, thanks to their cheap sources of funding. Additionally, the biggest problem for the banking sector is that most of the NPLs refer to loans overdue for more than one year. It is clear that the non-performing loans had negative effect on banks profitability. As a matter of fact, many Serbian banks became weak and highly unprofitable due to excessive non-performing loans. They were therefore forced to reduce the credit supply, which further slowed down economic activity. Banks were not willing to sell loans due to high discounts and inadequate collaterals, so the cash flows from the loan limited the credit supply. In such an environment, the costs of lending increased (due to the growth of the risk premium), and the states – following the same logic – were all less willing to lend capital to each other. So, the countries dependent on foreign capital, the real sector of the economy suffered the lack of capital for their business activities (Pelevic and Ristanovic, 2011, pp. 241).

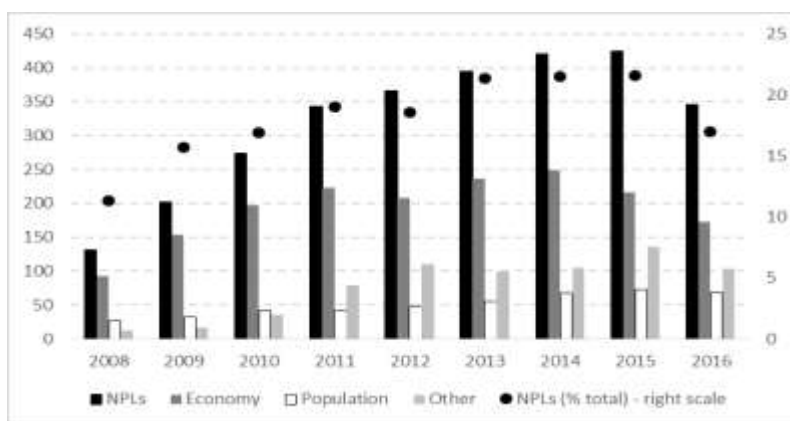
Numerous economies also have failed to withstand the growth of bad loans. The measures that they took didn't produce desired results, or the positive effects were delayed. Only countries that have taken adequate measures, such as the US, the UK and the core of the Euro Area, have been able to accelerate the recovery of GDP and reduce non-performing loans. It should be kept in mind that strict decisions can lead to protectionist measures and negative consequences for economies (Pelevic and Ristanovic, 2011, pp. 249-252). Eichengreen, and Dincer (2011, pp. 11) suggested that countries with independent supervisors have less undisclosed loans, that their banks hold less capital as a share of funds, and that the deposit rate is higher in such countries, which indicates less pressure on the banking sector by state authorities in managing NPLs. The Serbian economy has managed to resist the pressure of growth of non-performing loans only with GDP growth, fiscal consolidation and better macroeconomic conditions in recent years, after economic policy makers adopted important measures and recommendations with clear processes and procedures for NPL management. It is obvious that higher real GDP growth has consistently found to reduce banking crisis probability. This led to a direct reduction in non-performing loans and at the same time credit risk,

so we can say that GDP growth can also delay banking crisis. In order to talk about the recovery of the banking sector, the share of non-performing loans in total loans must be in the range of 5-10% or less.

The key to the Serbian puzzle lies in Serbian's response to crisis: deterioration in contract enforceability and an increase in non-performing loans. Bad loans subsequently worsen the banking sector and impose the burden of the whole economy. In fact, these loans are specific and vary across jurisdictions and companies, as well as across time. Consequently, the threshold for impairment and provisions is completely different. All this makes meaningfully comparing the quality of different banks' assets difficult. This can reduce banks' capacity to extend new loans to productive sectors and firms.

Also, banks have become more cautious about loan approval. The lack of good projects has kept the economy for a long time from a larger lending activity. The increase in non-performing loans is being driven mainly by deteriorating credit quality in the corporate sector, and less by worsening asset quality in the household sector. If the banks continue with adequate approach and recommendations of the relevant institutions, this will help strengthen the credit activity in the following years. Banks have to improve their capacity to manage NPL portfolios compared to pre-crisis period.

The structure of the non-performing loans in Serbia is very unfavourable (Figure 1). Loans to households (Population) in total NPLs recorded continued growth while corporate loans (Economy) gradually reduced their participation in total NPLs. On the other hand, the share of others in total NPLs has increased steadily, from 9% in 2009 to as much as 30% in 2016, which is significantly above the share of the population in total NPLs. NPL ratio for population remains well below the average for total NPLs (below 20%) during the whole period. However, measured in absolute terms, the level of population bad loans has steadily grown, from RSD 26.2 billion in 2008 to RSD 69.2 billion in 2016. The main reason is more than the triple growth of non-performing loans in the Serbian banking sector during the analysed period (from RSD 131 billion in 2008 to RSD 425 billion in 2015). The share of economy in total NPLs had the highest NPL ratio in 2009 of 76% (RSD 153.3 billion), but the lowest in 2016 of 50% (RSD 172.9 billion). Observed in real terms, the highest level of bad loans in economy was in 2014 of 248.6 billion dinars, when the NPL ratio was 60%.



Picture 1. Structure of non-performing loans, billion RSD

Source: Author's calculation based on the data of the National Bank of Serbia

Despite the fact that non-performing loans are one of the main reasons for banking problems, in Serbian banking sector, they did not cause dramatic insolvency of banks (thanks to high level of reserves), but significantly influenced the slowdown of the overall economy. The main reason for this situation in the economy is the low liquidity of the corporate sector and low households' cash-flow.

ECONOMETRIC ANALYSIS AND RESULTS

In this part of the paper we used a multiple linear regression model that examined the relationship between NPLs on one side and both bank-specific variables and macroeconomic determinants on the other side. Earlier literature has already shown the existence of a link in the NPL level in other countries (Klein, 2013, pp. 13; Filip, 2014, pp. 135; Nkusu, 2011, pp. 9-10; Gariddo, et al., 2016, pp. 8-9; Chavan, and Gambacorta, 2016, pp. 6). The sample consists of all banks from the banking system that worked continuously throughout the entire observed period from 2008 to 2016. To implement empirically this study we used the National Bank of Serbia database for both macro-economic and financial variables.

The non-performing loans are explained by macroeconomic determinants and financial variables. So, the baseline specification includes one dependent variable, gross non-performing loans (NPL) to total gross loans, and some independent variables (growth rate GDP, nominal effective exchange rate, inflation rate, unemployment rate, credit supply, net interest margin, provision, Tier) within just a few observations.

In order to find the empirical link to macro variables, we used a multiple regression model, as shown in equation 1.

$$Y_i = \alpha + \beta_1 * X_{1i} + \beta_2 * X_{2i} + \dots + \beta_n * X_{ni} + \xi_i \quad (1)$$

, where α is the constant for the model, β_i is a set of regression coefficients, X_{it} ($i = 1, 2, \dots, n$) is the set of explanatory macroeconomic factors (e.g. GDP, net interest margin, credit supply, etc.), and β_i is the error term assumed to be normally and independently distributed with mean zero and constant variance. In order to explain the determinants of the non-performing loans in the Serbian economy, the study used the ordinary least squares model (OLS). Under this approach it needs to be considered that the OLS's main assumption is that the errors must be uncorrelated.

Impact of NPLs on bank-specific variables. In order to explain the link of the non-performing loans to bank-specific variables we used equation 2

$$NPL_i = \alpha + \beta_1 * CRED + \beta_2 * NIR + \beta_3 * PRO + \beta_4 * TIER + \xi_i \quad R^2=0.89 \quad (2)$$

CRED – Credit supply

NIR – Net interest margin to average balance sheet assets

PRO – Specific provisions of total loans to total gross loans

TIER – Tier I capital to risk weighted assets

The result from equation 2 shows that a 1% increase in credit supply leads to a 0.29% decrease in non-performing loans (with high significance of 0.03), a 1% increase in the net interest margin decreases NPL by 0.65% (with no significance), a 1% increase in the provision decreases NPL by 0.94% (with significance of 0.08) while a 1% increase in Tier decreases NPL by 1.01% (with no significance).

Other elements of profitability (ROA, ROE) and liquidity (Credit-deposit ratio) show no significant influence on the level of NPL, thanks to the high level of capitalization and coverage of the loan

NPLs impact on macroeconomic determinants. In order to explain the link of the non-performing loans to macroeconomic determinants we used equation 3

$$NPL_i = \alpha + \beta_1 * GDP + \beta_2 * INFL + \beta_3 * U + \beta_4 * NEER + \xi_i \\ R^2=0.90 \quad (3)$$

GDP – Rate of growth in real Gross Domestic Product at market prices

INFL – Inflation Rate

U – Unemployment rate

NEER – Nominal Effective Exchange Rate

The result from equation 3 shows that a 1% increase in growth rate leads to a 0.02% decrease in non-performing loans (with high significance of 0.05), a 1% increase in the inflation rate decreases NPL by 0.14% (with high significance of 0.01), a 1% increase in the unemployment rate increases NPL by 0.88% (with high significance of 0.00) while a 1% increase in exchange rate (appreciation) increases NPL by 0.31% (with no significance).

The model did not include elements of market risk, since the Serbian banking sector was isolated during the observed period, for two reasons. First, because the interest rate risk is transferred to the client (through the variable component of the interest rate). Second, the greater the share of loans than the trade in securities in total assets, and loans are under the control of the banks themselves.

Our econometric analyses are confirming that higher unemployment rate, exchange rate depreciation and higher inflation are contributing to higher NPLs (NPLs are showing positive correlation with these macroeconomic determinants), while higher GDP growth results in lower NPL ratio (NPLs are showing negative correlation with the pace of economic recovery).

High level of non-performing loans has got negative impact on investments; increases deposit liabilities and limit the volume of bank loans to the economy. In this way, the negative impact on aggregate consumption is also intensified. All this leads to economic contraction. In such an environment, the banking sector is hit and it exerts pressure on state revenues for the financial assistance of the banks that are in trouble.

From all mention above, it is necessary to monitor the issue of bad loans because they can lead the banking sector to a situation where the loans exceed the banking capital in a relatively large number of banks. The high level of the non-performing loans which not only harm efficiency and growth of the banking sector, but also endanger growth and development of the Serbian economy.

CONCLUSION

We found that non-performing loans and non-performing loan ratio often deteriorate rapidly before bank failure, and it will lead to countrywide financial vulnerability. It is obvious that banking problems have arisen on the assets side, which confirms earlier cases that the main cause comes from a long-term deterioration in asset quality.

As the default rate is negatively correlated to the gross domestic product, hence higher GDP growth leads to lower credit and systemic risk.

The growth in the number of the non-performing loans is bad for the banking sector, whereas the costs of financing in the banks' books are growing. Then, these costs are often transferred to businesses and households, which potentially slows down aggregate demand and economic growth. In extreme cases, systemic failures can lead to insolvency of the banks and debtors, with negative effects on all market participants.

Our empirical analysis has shown that economic growth is negatively related to the non-performing loan in Serbian economy. The negative effects of bad loans on the Serbian banking sector continued even after the strongest blows to the global financial crisis. With the improvement of the macroeconomic performance of the Serbian economy, over the last two years, the impact of the non-performing loans has been gradually reduced within the banking sector. Since the default rate was negatively correlated with gross domestic product, it is clear that the increase in GDP growth has led to a reduction in credit risk in the following years. Credit activity is recovering during 2015, and stronger effects on economic activity are expected.

Resolution of the non-performing loans requires well-coordinated activities and strong involvement of all relevant institutions. It is continuous process. For example, a few days ago, on 10th August 2017, the Executive Board of the National Bank of Serbia adopted *The Decision on the Accounting Write-off of Bank Balance Sheet Assets*, which sets out the case when a bank is obliged to write off balance sheet assets with low collectability [NBS, 2017]. This is the first after the new five decisions adopted in June.

Finally, it is important to point out several NPLs limits. First, the level of the non-performing loans represents a coarse measure of credit quality and can be viewed as information. Secondly, the problems that a bank can have with non-performing loans in economy, does not mean it has the same problems in other economies in which it operates. Also, it should be emphasized that the creators of monetary authorities in all countries do not apply the same methodology and definitions, as they change over time, so the data should be used with caution (World Bank, 2015, pp. 105). Although there are Basel standards and initiatives to overcome a common international solution (Bates 2014; European Union Directives 2014/59/EU and No 806/2014; Financial Stability Board 2014; European Banking Authority 2014), here can be material divergences in loan classification and the definition of non-performing loans across jurisdictions (Bholat et al., 2016, pp. 58-79).

The conclusions from this paper can be used to predict and test the quality of the banks' assets. Regression coefficients can be used to test the change in non-performing loans and whether such a change could pose a risk of the financial instability. Although the high level of the non-performing loans continues to be a burden on banks' balance sheets, it is necessary to prevent the excessive approval of risky bad loans.

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VIOLATION OF THE PRINCIPLE OF EQUALITY OF CONSIDERATION BY CONTRACTS WITH CURRENCY OR INDEX CLAUSE IN BANKING OPERATIONS

Vladimir Kozar¹⁴

ABSTRACT

The paper presents the legislation, positions of judicial practice, as well as opinions of legal science, about the impact of currency, foreign currency and index clauses on the principle of equality of consideration. In particular, it considers the possibility of compromising the principle of equivalence of benefits in the loan contracts containing such clauses. It points to the protection of the principle of equivalence by a rebus sic stantibus clause from violations due to changed circumstances. The issue of the repudiation effect gained prominence by the adoption of the first final court judgment upholding the claim for repudiation of contract on a loan contract containing currency clause due to changed circumstances, which did not decide on the legal consequences of such repudiation. This paper presents a new jurisprudence, primarily final judgment on repudiation by which the Court, adopting the claim, ruled for the repudiation of a long-term housing loan contract “due to significantly changed circumstances”, as well as a contrary legal position, reflected in another final court judgment, according to which “the increase in the exchange rate of the Swiss franc relative to the moment of conclusion of the contract in terms of the Law on Contracts and Torts, Article 133, Paragraph 1, does not constitute a valid reason for the required repudiation of contract.” Special consideration is given to the question of validity of contracts based on currency clause with contractual interest cumulatively, including the positions of judicial practice. It is also pointed to the impossibility of annulment of a contract containing currency clause by applying the institute of usury contract.

Keywords: *Equivalence of Benefits, Loan, Currency Clause, Contract Repudiation, Changed Circumstances, Usury Contract, Clausula Rebus Sic Stantibus*

JEL Classification: *P44, K12, K22*

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INTRODUCTION

Currency clause is contracting the value of obligation in foreign currency (currency of liability), provided that the payment and collection under such contracts is transacted in dinars (the currency of payment). Currency clause is not a way of measuring the dinar amount (it is not a value-meter) that the borrower received and is to repay, but his foreign currency liabilities. Currency clause in loan contracts, particularly when the value of liabilities is denominated in Swiss francs, has caused a large number of disputes on the validity of this clause or legal transaction as a whole due to the violation of the principle of equality of consideration due to a sudden increase in the exchange rate of the Swiss franc against Euro and dinar. Moreover, a question was raised about the possibility of applying other legal institutions to loan contracts containing currency or similar clauses (index, foreign exchange), such as the repudiation of contract due to changed circumstances, the annulment of contract due to excessive loss, and the nullity of the usury contract. The Law on Contracts and Torts (“Official Gazette of the SFRY”, Nos. 29/78, 39/85, 45/89, 57/89, “Official Gazette”, Nos. 31/93, 22/99, 23/99, 35 / 99, 44/99, hereinafter referred to as the LCT) and the Law on Foreign Currency Transactions (“Official Gazette” Nos. 62/2006, 31/2011, 119/2012, 139/2014) provides for contracting currency clause.

REBUS SIC STANTIBUS CLAUSE AS MEANS OF PROTECTION OF THE PRINCIPLE OF EQUALITY FROM VIOLATION DUE TO CHANGED CIRCUMSTANCES

Repudiation of contract due to changed circumstances (*Clausula rebus sic stantibus*) is a possibility for one party to demand alteration of its contractual obligations (of provision, performance on non-performance) due to an appearance of such circumstances that threaten the original will of the parties, but could not have been foreseen, in order to achieve equivalence of commitment. According to *rebus sic stantibus* clause each contract is only valid as long as there is no fundamental change of conditions that existed at the time of its conclusion. The principle of equality of consideration, as a fundamental principle of bilaterally obligatory contracts, is protected, in addition to excessive loss and ban on usury contracts, with the possibility of contract repudiation or alteration on the grounds of changed circumstances. While in the case of excessive loss the disproportion of mutual commitment is estimated at the time of the contract conclusion, the principle of changed circumstances starts from the hypothesis that such disproportion occurs after the contract has been concluded, that is, during its performance (Perovic, 1986, pp. 421 and 422). This principle has the character of a presumption. Namely, it assumes that the parties, prior to establishing contractual

relationships, define the content of their relationship on the principle of equality of consideration. This presumption is rebuttable (*praesumptio iuris tantum*), which means that the person concerned can attempt to prove, in cases where it is not against the law, that there is no equality of consideration. (Djordjevic, Stankovic, 1986, pp. 61) The prevalent notion in modern jurisprudence is that *rebus sic stantibus* clause is to be deemed a legal remedy, whose function is to protect the principle of equivalence when it is violated due to changed circumstances (Ibid, pp. 61). The institute of the contract repudiation or alteration due to changed circumstances, which is accepted in our law (the LCT, Art. 133 - 136) runs counter to the principle of *pacta sunt servanda*. The principle of *pacta sunt servanda* is, indeed, one of the basic principles of the contract law, according to which the parties are required to perform their duties as they have agreed, whenever possible. The principle *pacta sunt servanda* is referred to in the LCT, Article 17 Paragraph 1, which stipulates that the parties to obligation relations are bound to carry out their obligation and are responsible for its performance (Ibid, pp. 266).

REPUDIATION OF LOAN CONTRACT CONTAINING SWISS FRANCS DENOMINATED CURRENCY CLAUSE DUE TO CHANGED CIRCUMSTANCES

A brief analysis is given here of the final judgment on repudiation of a loan contract containing Swiss franc denominated currency clause due to changed circumstances, where should be noted that the legal consequences of the repudiation were not decided upon in the judgment (Kozar & Aleksic, 2017, pp. 83). The Appellate Court in Novi Sad, code Gž. No. 1781/16 of 09.01.2016, rejected the appeal of the respondent (bank) and upheld the judgment of the Higher Court in Novi Sad Code P. 27/2015 of 02/11/2016 (<http://www.propisionline.com/Practice/Decision/5039110.04.2017>). A revision was appealed for against the above ruling, which has not been decided upon yet, according to the Serbian court's website (<https://tpson.portal.sud.rs/tposvs/11.04.2017>).

By comparison of the exchange rate of RSD, CHF and EUR movements for the period from September 2008, when the long-term housing loan contract containing currency clause in Swiss francs was concluded, until October 2015, when findings were made and expert witness opinion given in civil proceedings, the courts took the legal view that the statutory requirements were met for the repudiation of the long-term housing loans due to fundamental change of circumstances, with the rationale that “there was a sudden jump in CHF currency”, due to which the amount of the loan obligations of borrowers ... plaintiffs, which is relative to the CHF currency exchange rate, has increased to such an extent that it no longer corresponds to the expectations of the borrowers as plaintiffs, as it makes it hard for them to fulfill their contractual obligations, thus calling into question the very purpose of the contract...”

Although it took the view that at the time of the conclusion of the contract in question currency clause was allowed to be entered, and that the contract was not invalid from its conclusion, i.e. that it was a fully legal transaction, the court applied the institute of “Repudiation or alteration of contract due to fundamentally changed circumstances” referred to in the LCT Art. 133 - 136. LTC, by judgment adopting the claim, pronounced repudiation of the long-term housing loan contract “due to fundamentally changed circumstances”, concluding that due to an increase in the Swiss franc exchange rate in relation to EUR and RSD, the conditions for repudiation of the contract under the LCT Article 133 Paragraph 1 are met (that, after concluding the contract, circumstances emerged which hinder the performance of the obligation of one party – the borrower, and due to them the purpose of the contract cannot be realized, and/or the contract meets no more the expectations of the borrower).

As a counter-argument in reference to a single judgment, that is, a decision made in an individual case, which is not a source of the right, and/or an individual position of a single judicial chamber contained in that decision, which granted the appeal for repudiation of the loan contract containing Swiss franc denominated currency clause due to changed circumstances, we shall cite another court decision of the same court - the ruling of the Appellate Court in Novi Sad code Gž. No. 3042/2015 from 03.11.2015, which reflects a contrary legal position that “the increase of the Swiss franc exchange rate in relation to the moment of contract conclusion on 13.11.2007”... “in the sense of the LCT Article 133, Paragraph 1, does not constitute a justified reason for the required repudiation of contract...” According to the position taken in the second-instance judgment: “The appeal of the defendant is grounded as it rightfully indicates that the first-instance court made a decision on the possible claim by an erroneous application of the provisions of substantive law. The change of the Swiss franc exchange rate does not constitute a circumstance that the plaintiff, at the time the loan contract and annex thereof were concluded, could not expect and anticipate, as changes in foreign currency exchange rates to dinar are not uncommon on the domestic foreign exchange market. By choosing Swiss franc as the currency for linking the amount of monthly annuity repayment of its dinar credit, the plaintiff consciously accepted the risk that during the future 204-month period of repayment the exchange rate may change, so the circumstance of the sudden increase of CHF to dinar and other currencies, contrary to the first-instance court’s conclusion, pursuant to the LCT Article 133, Paragraph 1, constitute no valid reason for this repudiation of contract either due to hindrance to fulfilling obligations, or due to the inability to realize the purpose of the contract, since the plaintiff has realized the purpose of the contract by purchasing a house with the funds from the loan in question.” Against the above ruling a revision was pronounced which has not been decided upon as yet, according to data from the Serbian Court Website, (<https://tpson.portal.sud.rs/tposvs/> 11.04.2017)

In the abovementioned judgments, the courts, acting within the range of the claim, were not making a decision about the legal consequences and/or the effects of the repudiation of contract due to changed circumstances which can be very disadvantageous for a bank and can result in an up to 65% write-off of receivables (Kozar, Aleksic, & Pantelic, 2017, p. 27).

THE VALIDITY OF CONTRACTING CURRENCY CLAUSE WITH THE CONTRACTUAL INTEREST RATE CUMULATIVELY

There is a probability that the position taken in the said judgment of the Appellate Court in Novi Sad, code Gž. No. 1781/16 of 01.09.2016, if it remains in the revision procedure, is applied not only to contracts where the liabilities denomination currency is Swiss Franc, but the loan contracts where the liabilities denomination currency is Euro, at the expense of legal certainty, as the supreme principle of legal order, and consequently, at the expense of general interest (Kozar & Aleksic, 2017 p. 283), using the same or other legal institutes with similar effects (e.g., nullity of certain contractual provisions, such as the provision of currency clause or the provision of interest, due to “prohibition of double revaluation of liabilities through both currency clause and contractual interest rate and/or default interest”, etc.), which has already been the subject of final court judgments. A position on the prohibition of double revaluation through both currency clause and contractual interest rate was taken in the judgment of the Basic Court in Sabac, code P. 1230/13 of 19.10.2015, which was upheld by the High Court in Sabac, code Gz. No. 95/2016 of 06.05.2016, against which a revision was pronounced, which has not yet been decided upon, according to the Serbian Courts website (<https://tpson.portal.sud.rs/tposvs/> 13.04. 2017)

The Law on Foreign Currency Transactions, Article 2, Item 24 contains the following definition of the term currency clause: “currency clause shall mean contracting the value of liability in foreign currency (liability currency) in the Republic, whereas payment and collection under such contracts are executed in dinars (payment currency).”¹ The LCT Article 396, which was repealed by the 1993 amendment, stipulated limitation in contracting index clause, whose purpose is to link the amount of monetary liabilities in the domestic currency to changes in prices of goods, commodities and services denominated in price index established by an authorized organization. The law called the practice of linking the amount of liabilities in domestic currency for price changes “index clauses”.

Therefore, courts did not allow the implementation of “revaluation” to the principal and interest, and/or linking them to the changes of the Euro exchange rate (which is essentially a currency clause, or indexing in Euros), cumulatively with the statutory default interest in RSD, with the explanation that revaluation was already contained in the default interest rate through the retail price growth rate and/or monthly consumer prices growth rate, which “covered” the changes in the exchange rate of the dinar against the euro. Namely, the Law on Default Interest Rate (“*Official Gazette of SRY*”, No. 9/2001, “*Official Gazette of RS*”, Nos. 31/2011, 73/2012 - Constitutional Court Decision), which was in force during the period of 2001 - 2012, Article 2, stipulates that the default interest rate consists of: 1. the monthly growth rates of consumer prices 2 a fixed rate of 0.5% per month (bearing in mind that until the amendments published in “Off. Gazette of RS” No. 31/2011 dated 9 May 2011, the

reevaluation was carried out using the monthly growth rate of retail prices), which means that the default interest rate includes reevaluation. The current Law on Default Interest Rate (“Official Gazette of RS”, No. 119/2012), which entered into force in December 2012, Article 3, stipulates that the default interest rate on the amount of debt denominated in dinars shall be determined as an annual rate and is equal to the reference interest rate of the National Bank of Serbia plus eight percentage points. As the amount of the reference interest rate is determined depending on the level of inflation and price growth, it can be concluded that the problem of unlawful cumulation of reevaluation and default interest has existed in the period after the entry into force of the new law.

DISTINGUISHING REVALUATION (INDEX CLAUSE) FROM CURRENCY CLAUSE AND FOREIGN CURRENCY CLAUSE

However, reevaluation, also called “index clause”, should be clearly distinguished from currency clause, which is still legally permitted, and from foreign currency clause, whose contracting is also valid.

Currency clause means contracting the value of liabilities in foreign currency (liability currency), provided that the payment and collection under such contracts is done in dinars (payment currency) (Law on Foreign Exchange Transactions, Article 2, Item 24). Therefore, the law distinguishes the liability currency and the payment currency. Accordingly, in the contracts indexed in EUR or CHF, the liability currencies are in Euros or Swiss francs, the liability is stated in these currencies, that is, the borrower is obligated to return the loan to the bank in the same currencies, provided that the value of liabilities is determined in reference to the value of the currency in which the contract is indexed, on the day of loan payment or the monthly loan annuities (a portion of the principal and a portion of interest) and is paid in dinars (the payment currency). The borrower, therefore, owes the bank a certain amount in Euros or Swiss francs, while the payment is carried out in dinars. This is the reason why contracts containing a currency clause in EUR or CHF state the amount of loan in the appropriate foreign currency. And the bank has a previous obligation to make payment to the borrower, that is, to make available the funds in the name of the approved loan in the amount of foreign currency in which the loan is indexed, but to release the funds to the borrower in an equivalent dinar amount at an appropriate exchange rate.

This means that the currency clause is not a way of measuring the dinar amount that the borrower has received and is to repay, but it is its foreign currency liability, which is shown as such in business books of the bank (Catic, 2016, pp. 439), that is, it is the foreign currency asset of the bank. (Decision on Capital Adequacy of Banks - “Official Gazette of RS”, No. 103/2016, Point 363, Paragraph 3).

Therefore, currency clause is not a value-meter to measure the amount of the liabilities of the contractual parties, it is a commitment. This renders unacceptable the opinion according to which: *“In this case, the loan contract constitutes a currency clause as a value-meter for preserving the real - market value of the approved and disbursed dinar amounts to borrowers. This kind of preserving the real value of the paid dinar amount on the basis of the loan contract is a legally permissible creditor protection - the creditor banks - from harmful effects of RSD exchange rate fluctuations, as well as of the future, potential, inflationary effects”* (Slijepcevic, 2016, pp. 2), because the borrower’s liability currency is expressed in foreign currency, and, therefore, its amount cannot vary as *“a result of RSD exchange rate fluctuations, as well as the future, potential, inflationary effects.”* On the other hand, legal transactions where revaluation and/or index clause is agreed, the liabilities of the bank and borrowers are expressed in dinars (the amount of the liability is denominated in domestic currency), but said amount of liabilities in the domestic currency is linked to the changes in prices of goods, commodities and services denominated in price index as established by an authorized organization (*index clause*). These are “pure” dinar loans. The third situation arises in those contracts where the liabilities are denominated in dinars but *“indexing by foreign currency clause”* is agreed. Indexing by foreign currency clause means that the assets and liabilities are expressed in dinars, whereby the agreed amount in dinars is linked to the value of another currency...” (the Decision on Capital Adequacy of Banks, Item 368, Paragraph 2).

Thus, there are loans with the following clauses: 1) currency clause, 2) index clause and 3) foreign currency clause. In addition to loans with one of these three clauses, there are two more types of loans: 4) “pure” foreign currency loans and 5) “pure” dinar loans. In loans with currency clause, the liabilities are denominated in foreign currencies (*liability currency*), and it is stipulated that the foreign currency assets and foreign currency liabilities are meant to include the assets and liabilities denominated in dinars and indexed to foreign currency clause. The Decision on Capital Adequacy of Banks, Item 368, Paragraph 2, stipulates: *“Within the meaning of this Decision, foreign exchange assets and liabilities shall include all foreign exchange assets and liabilities denominated in foreign currency, assets and liabilities denominated in dinars with a currency clause, where the currency clause is a contractual provision indexing the agreed amount to some other currency...”*

Accordingly, the loans with currency clause and loans indexed by foreign currency clause are legally equated with “pure” foreign currency loans, and bank's receivables from such loans are deemed to be foreign currency assets of the bank, while the liabilities of such loans borrowers are foreign currency liabilities. (Kozar & Aleksic, 2017, pp. 287)

Inflation is an increase in the general price levels. The term inflation means bloating or inflating. The inflation rate is the change in the general price levels rate and is measured appropriately. For example, in 2003 in Serbia, consumer prices rose by 10.5%. That year saw the rise in prices in a number of product groups, such as food, beverages, housing, clothing, transportation services, medical services, etc. This general upward trend is called inflation. Devaluation (from Latin *de* = to reduce +

valeo = to mean, to be worth) is an official reduction in exchange rate (value) of the monetary unit of a country – currency – relative to other currencies, as well as to gold, silver and other stable values. Accordingly, there is a clear distinction between inflation and devaluation. Therefore, currency clause is a bank's protection primarily against currency risk or devaluation - against a reduction in the exchange rate of the dinar to Euro or CHF rather than against inflation as a rise in the general price levels. It is well known that in some years the inflation rate was higher than the rate of appreciation of foreign currencies against dinar, and the devaluation rate of dinar. The change of the dinar exchange rate against foreign currencies does not necessarily follow the inflation rate, i.e. the increase in the general price levels, so in some years it did not follow it. In the field of economics there are substantiated views that the value of dinar against foreign currencies is overvalued. Therefore, the opinion of legal theory, according to which "currency clause can be applied as contractual value-meter only in a situation where, because of unrealistic market exchange rate of dinar or negative effects of inflation, the real dinar funds given to the borrower under the loan contract are devalued" (Slijepcevic, 2017, pp. 12) does not have legal and economic foundation. Because, first of all, non-legal terms such as "unrealistic market exchange rate of dinar," etc. are used. The market exchange rate of dinar cannot be "unrealistic". Moreover, many eminent economists argue that the exchange rate of dinar is overvalued. In addition, not enough distinction is made between the terms of inflation and devaluation. On the other hand, the Swiss National Bank (abbreviated SNB) is known to have been, for many years and in different ways (through negative interest rates and the purchase of foreign currencies, primarily Euro), intervening on the financial market in order to reduce the market exchange rate of franc or suppress or at least slow down its growth against Euro and other currencies. More aggressive SNB action urged amid Swiss franc strength By: Solomon Teague Published: Thursday, April 23, 2015: The Swiss National Bank (SNB) has expanded the scope of its negative rates policy, meaning more assets deposited at the central bank will incur charges – but more must be done to substantially weaken the currency, say analysts. Full article: <http://www.euromoney.com/Article/3447448/More-aggressive-SNB-action-urged-amid-Swiss-franc-strength.html?copyrightInfo=true> (08.12.2016.)

Pursuant to the above stated, the disputed provision of loan contract is actually a bank's fulfillment of its legal obligation to prevent incurrence of foreign exchange risk, which the Decision on Capital Adequacy of Banks, Item 368, Paragraph 1 defines as "...the risk of potential adverse effects on the bank's financial result and equity due to changes in the exchange rate. This exposure is arising from the positions in the banking book and the trading book." (the same definition of foreign exchange risk is contained in Paragraphs 2 to 121) of the new Decision on Capital Adequacy of Banks). A bank prevents the incurrence of a foreign exchange risk by contracting a currency clause and foreign currency clause, in accordance with the Decision on Capital Adequacy of Banks, Item 368, Paragraph 2, which stipulates: "Within the meaning of this Decision, foreign exchange assets and liabilities shall include all foreign exchange assets and liabilities denominated in foreign currency, assets and liabilities denominated in dinars with a currency clause, where the currency clause is a contractual provision indexing the agreed amount to some other currency..."

Likewise, the Decision on Capital Adequacy of Banks (“Official Gazette of RS” Nos. 129/2007, 63/2008), which was in force at the time of loan contracts in question were concluded, in Item 29, Paragraph 2, stipulates the same rule: “In addition to assets and liabilities denominated in a foreign currency, foreign exchange assets and foreign exchange liabilities, within the meaning hereof, shall mean assets and liabilities which are denominated in dinars but are foreign currency clause indexed. Foreign currency clause means the contractual provision subject to which the agreed amount in dinars is linked to the value of another currency.”

The new Decision on Capital Adequacy of Banks applicable since 30th June 2017, Section 3, under the subheading *Capital requirement for foreign exchange risk*, in Item 363, Paragraph 3, restates the same rule: “Within the meaning of this Decision, foreign exchange assets and liabilities shall include all foreign exchange assets and liabilities denominated in foreign currency, assets and liabilities denominated in dinars with a currency clause, where the currency clause is a contractual provision indexing the agreed amount to some other currency.”

LEGAL POSITION ON THE PERMISSIBILITY OF CURRENCY CLAUSES AND CONTRACTUAL INTEREST

The legal position on the permissibility of currency clauses in loan contracts indexed to CHF, especially cumulatively with the contractual interest rate, was taken by the Commercial Court of Appeals in answering specific questions. Bank approved a credit loan in Swiss francs in dinar equivalent and . . . made a payment of dinar equivalent of a certain amount of Swiss francs. By doing so, the bank used the possibility of contracting in foreign currency against payment and collection in dinars and, in fact, a (dinar) contract was made with a foreign exchange or currency clause. The contract thus concluded is an allowed legal transaction in accordance with the provisions of law. There is no unlawful conduct on the bank’s side in contracting the value of liabilities in foreign currency (currency liabilities), while contracting to pay and collect such contractual commitments in dinar (payment currency), nor in the indebting the borrower with an agreed amount of interest. Currency clause is an integral part of the contract, and thus subject to the norms of contract and tort law and its basic principles. One of these principles is the principle of equality of mutual consideration, contained in the LCT, Article 15. This principle would be violated if one contractual party, by applying currency clause, would get a lot more than it has given, that is, if such application would result in a significant increase of debt above its real value (ex. if we compare the growth of the nominal value of principal in dinars to other parameters – an increase in the exchange rate of other currencies, inflation rate, the market price of real estate that were the purchased by the dedicated loan, etc.). In this case, it is necessary to consider its effect pursuant to the principle of equality of mutual consideration under the LCT, Article 15. In cases where by application of currency clause – in this case CHF (whose purpose is essentially to protect creditor’s receivables from the consequences of local currency

inflation), the bank has gained much more than it has given, and only because of the enormous jump in the currency's exchange rate, the objective of such provisions can be violated and, then, the contracted currency clause can lead to non-equivalence of mutual considerations of parties to the contract, to the detriment of the borrower. (The responses to the questions of commercial courts that were established at the meetings of the Department of Commercial Disputes of the Commercial Court of Appeals held on 03.11.2015, 04.11.2015 and 26.11.2015, and at the meeting of the Department of Economic Crime and Administrative-Accounting Disputes held on 30.11.2015 - Jurisprudence of Commercial Courts - Bulletin No. 4/2015, published in the electronic legal database Paragraf Lex - <http://www.lexonline.paragraf.rs/WebParagraf/04/18/2017>)

The presented legal position on the permissibility of contracting currency clauses in the loan contracts indexed to the CHF currency, in cumulation with contractual interest, and in particular, the view that the essential subject of the contract is a certain amount in foreign currency, confirms the main thesis of this article that a bank's assets the borrower's liabilities denominated in dinars and indexed to foreign currency are legally equal with such bank's assets and liabilities denominated in foreign currencies. This means that the bank's receivables are foreign currency assets of the bank, and the borrower's obligation to repay to the bank the loaned amount in dinars, but to the Swiss franc (or Euros) exchange rate, on the day of maturity, is a foreign currency liability of the borrower, in terms of the rules from the Decision on Capital Adequacy of Banks and other regulations cited.

The stated legal position does not give an explicit answer to the question of the legal fate of the currency clause, i.e. the loan contract, if there has been a violation of the principle of equality of consideration from the LCT, Article 15 due to an increase in the exchange rate of the currency in which the indexing has been committed, but only suggests that "it is necessary to consider its effect," according to the above principle. However, any non-equality of mutual considerations of contractual parties, that is, a possible violation of the principle of equality of consideration referred to in the LCT, Article 15, as such, does not necessarily lead to invalidity of foreign currency clause or the loan contract as a whole, i.e. its repudiation. Because, according to Paragraph 1 of this Article, "in establishing bilateral (consensual) contracts parties shall begin with the principle of equality of mutual consideration." However, according to Paragraph 2 thereof "Cases shall be determined by law where a violation of this principle invokes legal consequence." Thus, the law has in this way accepted the principle of equal exchange in bilateral contracts, while specific means for protection of this principle has been thoroughly regulated by specific provisions (Perovic, 1986, pp. 65), and one of these means is the institute of repudiation due to changed circumstances from referred to in the LCT, Article 133. Therefore, the legal consequences can occur only in cases specifically prescribed by law, with all the foreseen conditions fulfilled for the application of a specific remedy which protects the principle of equal value of consideration, that is, the assumptions that the law requires, for example, for repudiation of contract due to changed circumstances (the LCT, Article 133), or for annulment of the contract due to the excessive loss (the LCT, Article 139) or for

nullification of usury contracts (the LCT, Article 141), which means that a court judgment alone, ruling that there has been violation of the principle of equal value of consideration referred to in the LCT Article 15, and adopting the claim for repudiation of contract or for annulment or nullification of the contract or provisions thereof, is not sufficient.

In regard to the principle of equality of mutual considerations, it is necessary to consider the question of the sources of funds, because mortgage loans are not financed from the EUR or dinar sources, but from CHF sources, which clearly leads to the conclusion that the bank could not, in any way, have obtained a disproportionate material gain by applying the CHF currency clause.

A position on the legality of foreign currency clause was taken in judicial practice of the neighboring countries. Namely, the Croatian Supreme Court upheld the final decision which confirmed that the foreign currency clause was legal (even the one in CHF), but that the unilateral change in interest rates, with no pre-determined criteria, was illegal (Ivancic Kacer, 2016, p. 190).

LACK OF GROUNDS TO APPLY FOR NULLIFICATION OF THE CONTRACT WITH CURRENCY CLAUSE BY APPLICATION OF THE INSTITUTE OF USURY CONTRACTS

Although there are views in the legal theory that “the passage of time since the loan contract was concluded, coupled with an enormous jump in the value of Swiss franc, renders the loan contract a typical usury contract”, we believe that it is not legally possible for a contract that at the time of conclusion was not a usury contract to become such with the passage of time, due to changes in the exchange rate of Swiss franc against Euro or dinar (Opacic, 2015, pp. 327).

In disputes arising from loan contracts with currency clause (CHF), along with a claim for repudiation due to changed circumstances, as a primary or potential claim, a claim for nullification by application of the institute of usury contracts is often put forward. Therefore, it is necessary to explain the relationship between currency clause and the institute of usury contracts. Currency clause, which is valid and permissible according to the cited provisions of the substantive law, cannot legally qualify as usury contract. Specifically, the LCT, Article 141, establishes the legal institute of usury contracts and legal implications of the conclusion of usury contracts, which are equal to the legal consequences of nullity of contract.

The LCT, Article 141, Paragraph 1, stipulates that the contract is null and void, which someone, while taking advantage of another being in need or in poor material situation, or by using his insufficient experience, recklessness or dependence, stipulates for himself, or in favour of a third person, the benefit which is in obvious disproportion to that what has been given or done to another in return, or what he has promised to give or do. Thus, for a legal transaction to be qualified

and proclaimed null and void as usury contract, the subjective and objective conditions from the cited Article must be fulfilled cumulatively, i.e. that the obvious discrepancy between that which has been received and which has been given or done in return (objective condition) results from a subjective state of the other party to the contract, such as necessity, material hardship, lack of experience, recklessness or dependence (Perovic, 1986, pp. 418). The subjective criterion is met if one party has had the intention to take advantage of the other's state of being in need, in poor material situation, his insufficient experience, recklessness or dependence, which has not been fulfilled in the cases described above, especially if one takes into account the status of bank as a financial institution. Moreover, the very nature of the activities of bank as a financial institution which operates under the supervision of the National Bank of Serbia, as a regulatory body, and the way in which the business of persons in financial sector is regulated, renders banks not a contracting party that would, when concluding contracts and approving loans, take advantage from the client's state of being in need or in poor material situation, or his lack of experience, recklessness or dependency. On the contrary, loans are granted following a strictly regulated procedure, in which the creditworthiness of the borrower is evaluated. A borrower in a poor material situation would not be able to get a loan in the first place, if he had been in a poor material situation, since granting loans to such persons is not permitted due to a lack of creditworthiness, which is a precondition for granting a loan, in accordance with the internal rules of banks and regulations, including the Decision on Risk Management by Banks from 2008, valid at the time of the conclusion of the majority of contested loan contracts, which in Paragraph 11 reads: "Credit risk is the possibility of occurrence of adverse effects on financial result and capital of the bank caused by the borrower's failure to fulfil its obligations to the bank. Credit risk is dependent on the borrower's creditworthiness, his regularity in fulfilling the obligations towards the bank; as well as on quality of the collateral, and is identified, measured, assessed and monitored in accordance with the decisions regulating the classification of balance-sheet assets and off-balance sheet items of the bank, that is, the adequacy of capital of the bank." A similar rule on the assessment of creditworthiness in deciding on a loan approval is contained in the current Decision on Risk Management by Banks, Item 40, Paragraph 1 "Before deciding to approve a loan, a bank shall assess the borrower's financial standing and creditworthiness, as well as the value and legal security of its credit protection and other relevant factors."

In addition, in disputes there is no evidence, and what is more, it cannot be made even probable (i.e. there is not the slightest degree of corroboration) that any bank, in the process of loan approval and conclusion of the contracts in question, took the advantage of other alleged situations and/or subjective state of the borrower (the lack of experience, recklessness or dependency on the part of the borrower), referred to in the LCT, Article 141, as subjective conditions for a contract to be legally qualified as usury contract. In order for a legal transaction to legally qualify as usury contract and be pronounced null and void as provided for under the LCT, Article 141, Paragraph 1, it is necessary that the alleged contracting of disproportionate material gain resulted from, as already mentioned, certain subjective circumstances, characteristics and conditions stipulated in this Article,

both from the bank's side (an intention to take advantage of such subjective circumstances), and from the side of the borrower (state of being in need or in poor material situation, his lack of experience, recklessness or dependence), which in the described disputes neither existed at the time of the loan contract conclusion, nor the borrowers provided relevant evidence of the existence of such facts. Moreover, the disputed contracts are with banks whose operations are governed by law, the cited regulations of the National Bank of Serbia and internal general acts - the bank's *procedures*, which stipulate an obligation to assess creditworthiness, so there is no grounds to discuss any subjective criteria and/or an intention of the bank to take advantage of an alleged poor material situation of a client, a borrower, because if the borrower had been in a poor material situation at the time of the contract conclusion, the bank would not have approved the loan.

CONCLUSION

Currency clause is contracting the value of liabilities in a foreign currency (the currency of liabilities), with the payment and collection under such contracts carried out in dinars (the currency of payment). Currency clause is not a means of measuring a dinar amount (not a value-meter) that the borrower has received and is to repay, but his foreign currency liabilities.

The principle of equality of commitment, as a basic guideline of bilateral obligatory contracts, is protected, in addition to excessive loss and ban of usury contracts, by the possibility of the repudiation or alteration of the contract due to changed circumstances.

The judiciary practice in regard to appeals for repudiation of credit contracts due to changed circumstances is not uniform. There is a final judgment on repudiation, where a court of law, adopting the claim, pronounced repudiation of a long-term housing loan "due to fundamental change of circumstances", as well as a contrary legal position pronounced in another final judgment, according to which "the increase in the Swiss franc exchange rate relative to the moment of the contract conclusion in terms of the LCT, Article 133, Paragraph 1, does not constitute a valid reason for the requested repudiation of contract.

Contracting currency clause with contractual interest cumulatively is valid. The position of judicial practice on the prohibition of double revaluation through revaluation clause and contractual interest may be applied only in case of "pure dinar loans", but may be applied neither to contracts containing foreign currency clause nor to contracts containing foreign currency clause. Revaluation, which is also indicated as "*index clause*" is to be clearly distinguished from currency clause, which is always legally permitted, as well as from foreign currency clause, whose contracting is also valid. Accordingly, the judicial practice has taken legal positions on the permissibility of simultaneous application of currency clause and contractual interest, both with fixed and with variable interest rates.

Bank as a financial institution, by the very nature of its activities and the manner of regulating its business operations, is not a contractual party that would, in the process of loan contract conclusion, take advantage of the state of being in need or in poor material situation of the borrower or his lack of experience, recklessness or dependency. This means that the subjective criterion for the application of the institute of usury contract to the loan contracts with currency clause is not fulfilled. It is legally impossible for a contract, which was not usury contract at the time of conclusion, to become such with the passage of time, due to changes in the Swiss franc exchange rate against Euro or dinar. There is a contrary view in legal theory that “with the passage of time since the loan contract conclusion, coupled with an enormous jump of the Swiss franc value, the loan contract has become a typical usury contract.”

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SALE OF INSURANCE PRODUCTS THROUGH BANK CHANNELS BANCASSURANCE

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ABSTRACT

Over the past few decades, the traditional barriers between banking and insurance have disappeared. This is the result of the liberalization and deregulation of the financial services market, and the fact that multinational companies have the opportunity to offer a wide range of financial services. Major changes in the banking and insurance market at the end of the last century are the result of new and changed client needs. The development of technology has significantly influenced the strengthening and development of competition in both sectors, as well as the increasing sophistication of customer requirements in terms of the delivery method of the product. Clients are increasingly seeking a unified offer of financial services, which necessarily leads to different forms of cooperation of insurance companies with other financial institutions, primarily banks. Bancassurance is the sale of insurance in banks. The channel of insurance sales through banks is growing faster than traditional insurance sales channels in all developed countries. This development is slowly being transmitted to developing countries, first in the field of life insurance and then non-life insurance. The aim of this paper is to show how bancassurance developed in the world and in the countries of Europe as well as to point out the problems that this development followed. Also, with the presentation of the current state of channel sales in the insurance market in Serbia, it points to the potential of its further development. The idea is that, based on the analysis, potential problems are anticipated and handled in a timely manner, and that the best practice is used to develop this concept in our country.

Key words: *Banking, Insurance, Banc assurance, The Financial Services Market, Insurance Sales Channel.*

JEL Classification: *G22, G23*

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INTRODUCTION

Banc assurance is the sale of insurance by banks. The channel of insurance sales through banks is growing faster than traditional insurance sales channels in all developed countries. This development is slowly transmitted to developing countries, first in the field of life and then non-life insurance. Life banking insurance first developed in some European countries and reached a high market share in France and Portugal, and later in Central and Eastern Europe, thanks to the expansion of mortgages and consumer loans. The attractiveness of this sales channel is evidenced by the fact that in the European market, the main channel for the sale of life insurance is banc assurance, followed by intermediaries, agents and, ultimately, direct sales. By definition, banc assurance implies a package of financial services that includes banking services with a security product offered at the same site and at the same time. This is a joint strategy of a bank and an insurance company where the banking channel of distribution is used for the sale of insurance. The main reasons for the development of this sales channel are profit and a competitive advantage. It is estimated that nowadays the bank's insurance profits account for 20-30% in the countries of the European Union (Agnus, 2002, pp.32). The implementation of the banc assurance model in Serbia is to begin with the adoption of a new insurance law in 2005.

THE INDUSTRY OF INSURANCE AND BANK SERVICES – THE INDUSTRY OF FINANCIAL SERVICES

At the beginning of the 21st century, the largest banks have become complex financial organizations that offer a wide range of services in international markets, with control over billions of dollars of cash and assets. With the help of the latest technology, banks are working to identify new market niches in order to develop customized services and innovative strategies, with the goal of better exploiting new market opportunities. With further globalization, consolidation, deregulation and diversification of the financial industry, the banking sector is becoming increasingly complex.

The activities of the European Union are aimed at creating a single market for financial services. The EU Common Market tends to promote freedom of movement of persons, goods, services and capital with the unification of legal rules. The Action Plan for Financial Services of the European Commission was presented in May 1999, and during this project, 42 legislative measures were adopted. This action plan was based on the Lisbon Strategy, which focused largely on the elimination of the legal diversity that exists between member states, and in the interest of the growing need of economies of scale in financial services companies. The integration of financial markets is a key factor in the development of the financial system (CFSI, 2004, pp.10).

The European Commission has confirmed its goal, primarily by improving customer satisfaction through improving the service and helping individual consumers make a good financial choice by achieving the promotion of a single market over national financial activity. In 2007, as part of a single market review, the European Commission published the so called Green Paper on the future of the procedure for retailing financial services in the EU single market. This document indicates that, despite significant progress in achieving a single market for financial services, in recent years the integration of retail financial services has not yet reached its potential, and competition in certain areas is insufficient (Lovreta et al., 2005, pp.11).

Financial companies are working to make their offer include as many services as possible in one place, ranging from traditional banking services, through digital services - electronic and mobile banking, to insurance services that follow basic banking services. Banks and insurance companies are very complementary, but it's important to point out that they have very different business models, and for this reason their impact on the economy is very different. (Deloitte, 2013, pp.102)

After the 2007/2008 crisis, there have been major changes in international, European and national legislation, in order to address major problems that have occurred in the banking sector, and some of these changes affect the insurance industry. It is the differences between the banking and insurance sectors that are the reason for the good synergy that is achieved through the joint performance of these two industries. The problem arises when the banking regulations, without proper adjustment, are applied to insurance companies.

The main activity of insurance is the unification and transformation of risks, while the basic task of the bank is the collection of deposits and the issuing of loans with a large number of services based on transactions. Banks and insurance companies significantly contribute to the stability of the bank's economy as a transmission channel by linking deposits with credit requirements, while insurance companies affect security by protecting individuals and companies from unforeseen risks.

The insurance task is to transform a potentially high risk to a lesser risk paid in periodic annuities, which implies that insurance beneficiaries are willing to pay a certain pre-known premium so that they have no obligation to pay a potentially large amount if they reach the insured event. Non-life insurance is insurance that protects the insured against potential risks that may have negative financial consequences. The bulk of non-life insurance products relates to property insurance, as it protects against loss or damage that may arise in certain assets, and it can also protect from obligations that may arise on assets of third parties (e.g. liability). A special type of non-life insurance is health insurance, which implies protection from the risks of medical costs, and this insurance is usually mandatory or strictly regulated by law. How successful non-life insurance will be depends on the specific segment and the price and level of risk it assumes, as well as the benefits from diversification and optimization of operating costs. Also, the operating result is influenced by the level of income that is realized by the investment of the premium.

Life insurance provides cover for insured persons in the event of death (natural or accidental), as well as long-term savings or pension insurance. This insurance is usually concluded for a certain period of time, usually 10, 15, 20 or 25 years. The policy can include the option of a permanent disability risk as well as the hospital days where the percentage of payments is agreed in advance, depending on the degree of disability. The insurance premium can be paid in annuities or on a one-off basis, and the annuities may be monthly, quarterly, annual or semi-annual; the premium can also be indexed, i.e. adjusted to the cost of inflation. Such contracted insurance provides security to the insurer at a long-term stable level of investment.

The premium collected, due to its long-term charter, represents a significant source of capital for investment, and insurers invest in order to be able to pay damages on time, as well as additional benefits for policyholders (realized profits), but also to cover operational costs. The method of investing is often the subject of legislation in order to avoid unnecessary risks.

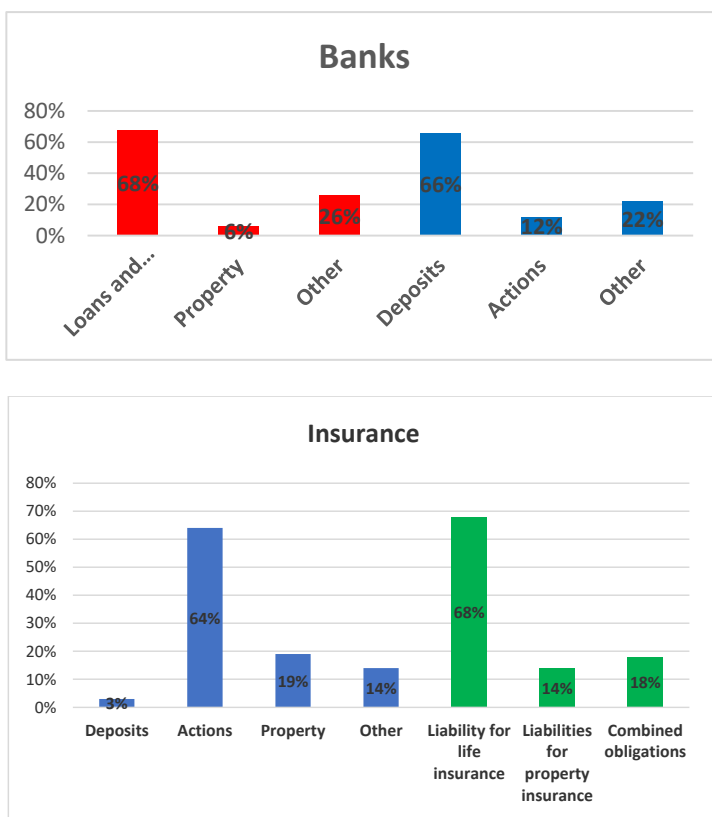
Banks, on the other hand, play an important role in the economy as intermediaries between depositors and credit clients. In most cases, there is a discrepancy between the maturity of deposits and loan arrangements, so the bank is obliged to transform differences in maturity on the deposit and on the credit side.

Banks specialize in assessing the creditworthiness of the loan beneficiary as well as monitoring the performance of clients in order to settle their obligations in a timely manner. For these jobs, a bank collects a positive difference between interest rates offered to credit clients and interest paid to deposit customers. In addition to this, banks charge fees for payment services, account management, etc. It is important to emphasize the importance of banks when the functioning of the payment system is in question. The largest funds in the modern economy are created by banks and, most importantly, banks implement the monetary policy of the central bank, which is of crucial importance for the functioning of the economy. Apart from the core activities of the bank, they also deal with off-balance sheet activities with financial guarantees and financial derivatives. These activities generate exposure to new risks or existing risks, but in a new way.

For the last few decades, the banks are moving towards a universal banking model that offers a wide range of financial services. Changes in legal frameworks have significantly contributed to financial deregulation: the second banking directive of 1989 was related to regulation in Europe, while the amendments to the Gramm-Leach-Bliley Law of 1999 created conditions for the development of bancassurance on the US market. The financial crisis further accelerated this process, since the crisis was first affected by pure investment banks (Lehman Brothers, Bear Stearns) that were later either taken over by large commercial banks (Bank of America Merrill Lynch) or began to function as traditional banks within the holding companies (Goldman Sachs, Morgan Stanley) (Limra, 2007, pp.61).

The balance sheet of the insurance companies is more economically stable since the majority of long-term receivables of the insured are in line with long-term investments, while the situation with a bank is different because the assets and liabilities do not fit maturity, and the average maturity of the bank assets is longer than the average maturity of the liabilities. The bank has to work on the

transformation of maturity, since the term of the collected deposits differs from the deadlines for payment of long-term loans, while in insurance this is not the case, as the largest part of the collected premium is due in 10, 15, 20 or 25 years.



Picture 1. Bank balance structure vs. insurance companies.

Source: ECB; Bank of England; Oliver Wyman analysis: The state of the financial service industry.

The risks faced by banks and insurers are also different; insurers face the risks of securing a collateral and eventual disagreement between assets and liabilities, while banks face credit risk, liquidity risk and market risk. The insurance industry does not generate a systemic risk that is directly reflected on the financial system, as it is more likely to have much less risk, greater stability and less financial vulnerability in relation to the bank. The most important risks faced by insurance are:

- 1) Insurance risks
 - a. Unpredictable and unforeseen life insurance risks;
 - b. Natural disasters;
 - c. Risks and insurance costs can be greater than predicted.

- 2) Investment risks – market risk, although this risk is significantly reduced by strict regulatory investment;
- 3) A lack of coordination between the liabilities and capital due to unforeseen circumstances, although the risk is successfully reduced through active portfolio monitoring and product design.

Banking risks are the following:

- 1) Credit risk:
 - a. Establishing a sound investment environment;
 - b. Conducting business via a trustworthy credit process;
 - c. An adequate credit administration, measuring and following the entire credit process;
 - d. Adequate control of credit risk.
- 2) Liquidity risk;
- 3) Market risks;
- 4) Risk harmonized with the regulations.

There are two key risks that encourage deeper co-operation between banking and insurance: liquidity risk and systemic risk. Liquidity risk can be significantly reduced by the strategic cooperation between the bank and the insurance due to the compliance of assets and liabilities. Systemic risk can also be prevented by a joint approach with regard to different business models and the fact that in insurance a higher level of activity and the connection between insurance does not carry a higher risk, as is the case in banking, but on the contrary.

Given the differences between banks and insurance, the conclusion can be drawn that banks can certainly benefit from the stability of the insurance system as well as long-term capital that can positively influence the balance sheet structure of the bank and enable long-term sources of capital. This can be considered as one of the key reasons for a more intensive connection between the banking and insurance industries.

REASONS FOR BANCASSURANCE

The motives to accept the concept of banc assurance can be viewed from different perspectives:

- Banks – a diversification of the production assortment, a source of additional profit, securing long-term capital;
- Insurance companies – a tool which will increase market penetration, an increase of the premium level;
- Clients – a lower insurance cost, a higher quality of financial products, purchase of all financial services in one place.

With the concept of bancassurance, all participants are on the winning side.

Bancassurance implies the distribution of financial services packages that satisfy both banking and insurance needs at the same time. Different forms of this method of selling insurance products depend on the diversity of countries, demographic, economic and legal climate in the countries studied. The profile of the country impacts which insurance products will be sold, the economic situation determines the trend and scope of distribution, while the legal framework determines the framework of the development of banc assurance.

Strategically speaking, for insurance companies and banks, the common goal is to continue with the concept of banc assurance by increasing the market share. Also, the joint approach leads to an increase in income without an additional engagement of capital and without increasing the risk, as well as without the need for engaging additional managers.

On the financial side, banks view banc assurance as an alternative source of income, with the reduction of the required capital for the same or higher level of income, and an effective reduction of capital expenditures with a maximum utilization of the capacity of the branch network (sales network) (Piljan, Cogoljevic, 2015, pp.41).

If we look at the potential increase in sales, new clients are easier to get on the basis of an innovative, comprehensive offer of financial services that is better than the competitors'; in the same way, the loyalty of existing clients will increase, and hence the increase of basic income with the realization of alternative income. Also, understanding client needs enables an integrated offer of financial services - customized to the client, which positively influences the core business of the bank.

The results show that the banking distribution of insurance products is growing faster than traditional insurance sales channels. This trend was first seen in developed countries, and is increasingly being transmitted to developing countries, first in the life insurance segment, and then in the non-life insurance segment.

Life insurance banc assurance was first developed in developed European countries where it has reached high market shares, for example in France and Portugal, and then in other countries of central Europe, and now more and more in the countries of Eastern Europe. The expansion of banc assurance is conditioned by the expansion of mortgage and consumer loans.

In Europe, banc assurance has achieved significant results, first in France where development began, then in Italy, Belgium and Luxembourg. Where the US market is concerned, this concept is relatively new. In 1933, the Glass-Steagall Act prevented banks from entering into joint ventures with other financial service providers, and in the meantime, they were threatening the development of banc assurance. In 1999, with the abandonment of the Act, the conditions for the development of banc assurance were also created on the US market. In Asia, it is estimated that banc assurance accounts for 16% of total insurance sales, especially due to the development of the market in India and China. The Middle East records the lowest level of penetration of the market due to the cultural and religious beliefs of the dominant clients of Muslim faith that insurance as a commercial form is taboo (Limra, 2007, pp.73).

The bank's goal is that the income from banc assurance will be at the level of 50% of the income from all fees. Also, the bank should strive to ensure that each client has at least one insurance product. Banc assurance should be the key to differentiation that will predominantly affect client choice.

The distribution channels of banc assurance can be different, and we are mentioning 3 models:

1. Distribution agreement;
2. Strategic alliance;
3. Joint venture.

The trend is that an insurance company establishes a bank to have full control over this channel of sales, but there are increasingly frequent examples in practice of banks setting up their insurance company in order to consolidate the range of financial services (Societe General - So Ge cap; Raiffeisen-Uniqa; Credit Agricole - Axa, etc.). It is often the case that instead of establishing new companies, the companies are recruited through acquisitions. (Piljan and al., 2015, pp.13)

There are two basic ways of selling insurance products which banks use (Randy Dumm and Rob Hoyt): (SGRS, 107/2005, pp. 24).

1. The integrative model – distribution through already existing bank channels with the help of bank employees; the basic types are the following: bundle products or standalone products;
2. Special model – distribution through products experts: most often there are employees of insurance companies who contact bank clients and present insurance products to them;
3. Financial planning model – a team approach to banks and insurance; every client is offered the possibility of financial planning which satisfies the need for the financial services of a specific client.

It is important to note that the model must be compatible with the bank's customer database and the strategic goals of the insurance company.

One of the main motives for the development of bancassurance is the savings/economies of scale achieved through the efficient use of the bank's distribution channel. The bank has a very large client base, representing the potential users of insurance services. Creating a need for insurance is the first and foremost prerequisite in order for this distribution channel of insurance products to develop. In this regard, banks have information about the habits of their clients and their financial status, and this information is valuable to create a specific unique 'tailor made' offer for all segments of bank clients. Banks, by analyzing their databases, can use distribution systems and their reputation and make a significant difference when the sale of insurance is in question, compared to traditional insurance distribution channels.

The current structure of the financial services industry in Europe and America is significantly different, as European banks already play a major role in the distribution of insurance products. The percentage of life insurance distribution to individuals across banks varies in European countries, from 10% in Switzerland to as much as 70% in France, and the percentage of non-life insurance distribution

covers 3-10%. The associations of American banks insurers show that banks increase their marketing efforts, but the sales revenue of banks continues to represent a small percentage of the total bank income.

It is estimated that insurers invest an average of 25% of the development budgets in improving the distribution process (CIFP, 2012, pp.12). Distribution costs significantly affect the profits of insurers, and it is very important that insurers work on the development and improvement of distribution channels in a timely manner, since distribution costs are increasing from year to year. An agent sales channel, although the most expensive channel, will surely dominate over the sale of insurance, thus it is why it is important to improve sales through channels with significantly lower costs: banks, retailers, brokers, etc. On the other hand, distributors want to cooperate with the best insurance companies; they choose insurers with whom it is easy to collaborate and whose services can easily be integrated into their own. Also, partners choose insurance companies based on the development of technology, reporting, sales and marketing with an adequate tracking of results.

Insurers enter into distribution agreements for various reasons; different partners bring different advantages over others. Through these partnerships, banks reduce the cost of acquisition and increase customer loyalty with increased cross-selling opportunities. It is imperative to develop strategic partnerships by building confidence and increasing profitability. Insurers that recognize 'partnerships' as one of the basics of business can provide a long-term competitive advantage.

Developing and maintaining partner alliances brings challenges for both insurers and distributors; in order for partnerships to be successful, they need to feature the following:

- the dedication of both partners to a profitable business model;
- joint aims, along with joint support, respect and cultural compatibility;
- coordinating products and services with the brands as well as the demographic characteristics of the clients;
- monitoring the results which include sales and marketing as well as the satisfaction of clients;
- a timely and adequate exchange of information for a timely prevention of financial and business risks.

The strategic decisions that each insurer has to make during the partnership analysis are related to the financial discipline of current and future partners. Certain partnerships over time can prove to be unprofitable with unprofitable clients, in which case insurers must turn to profitable partnerships to ensure future growth with minimum distribution costs. However, the profits of partnerships often include arrangements that include profit sharing, marketing costs - best seller awards, customer service (Insuranc Europe, 2014, pp.51).

The period of a stable portfolio of products with rare changes is the past of the insurance industry. Like other financial industries, insurance is forced to change according to market demands (suppliers and customers). In order to meet market demands, it is necessary to align the portfolio of products in order to respond to market demands.

Changes in the product portfolio can be divided into four groups:

- on demand by the clients;
- regulatory changes;
- demands of the partner in distribution;
- pressure of the competition.

The expectations of clients are high and very specific since there is a good choice. The demographic characteristics of clients are changing, as well as changes in economic factors such as revenues, interest rates, and inflation which affect changes in client needs. Distributor demands increase in the sense that it is imperative for them to be special on the market and in that sense they expect for themselves the most specific offer of products that would separate them on the market.

Competition pressure is double-sided on the part of insurance and non-insurance companies. New products of insurance companies are drawing in the competition – non-insurance companies to copy them. In order to prevent non-insurance companies from increasing their market share, insurance companies must adjust their offer so that they cannot be easily copied. Insurance is a highly regulated industry that must be constantly monitored and adapted in order to ensure compliance with the legislation.

FURTHER DIRECTIONS IN INSURANCE DEVELOPMENT

The insurance industry is considered a factor of stability on turbulent capital markets. In addition to employing millions of people around the world, a large number of clients have insurance policies that carry a significant risk reduction. Risks covered by insurance are transferred to the burden of insurance companies and, in case of the realization of the insured case, they are not burdened by state funds nor is there a negative impact on the capital market.

Mergers and acquisitions as a trend in the integration of the financial markets are completely changing the insurance industry. New challenges are created, and more and more companies (banks, retailers) are involved in the sale of insurance, and in this way the new markets are expanding.

Banc assurance continues to evolve in Asia, Europe and Latin America, increasing the distribution of insurance products through retail bank branches. The possibility of developing a distribution channel to attract new customers through banc assurance is enormous. For example, India is the 6th biggest bank nation in the world with over 90 commercial banks, 196 regional rural banks with over 70,000 branches and 560 million accounts with over 500 million bank customers – thus, the potential for banc assurance is huge (Insuranca Europe, 2015, pp.22).

The insurance industry must align more quickly with the new trends, and yet large changes have unfortunately not yet happened, as old models are still on the road to further industrial development. Considering the great potential that the industry carries, it is very important to do the following:

- Create a new business model;
- Transform statistical data into a dynamic data bank;
- Accept new distribution models;
- Stimulate salesman of a new generation.

New markets imply a demand deference that results in the creation of new products, and the possibility of developing new products is imperative in every sense. In addition to new and improved products, it is necessary to develop better models of insurance that follow the occurrence of natural disasters (which are repeated every 2-3 years); also, better processes and strategies for risk assessment and interaction with clients are needed.

Political instability, events after the terrorist attacks of September 11, the attacks in Paris, etc. as well as more and more frequently occurring natural disasters brings damage that is estimated at billions of dollars. The proportion of the disaster is directly proportional to the amount of damages to be paid, which should include the factor of the infrastructure as well as the degree of protection to minimize damage on these grounds. Uncertainties continue in emerging markets. Local conflicts across Africa, Asia, and the Middle East, illnesses and poverty epidemics slow down economic and political development.

As far as global marketing trends are concerned, we see several contradictory indicators. On the one hand, corporate consolidation is in progress, while at the same time database networks are decentralized and switched to virtual channels. Governments are playing an increasingly active role in regulating, even in conditions of globalization with lower constraints as well as opening up new markets. The speed and the path of globalization determine the speed of development of the insurance market, and in more integrated markets, the strategy is that expansion to other markets is done through acquisitions or through partnerships, while in emerging markets insurers expand their participation in local markets, because the costs of entering other markets would be enormous (SGRS-ZB, 107/2005, pp.73).

Legislation is another area with constant changes, and it is necessary for insurance users to guarantee privacy, transparency, AML (anti money laundering) reporting and compliance with all relevant laws, at the same time taking into account that the insured expect the insurers to keep confidentiality with the best coverage. Regulators will continue to work to protect the interest of insurance product users in order not to buy products that are unsatisfactory.

The crisis that originated in America and Europe between 2008 and 2009 only showed the need for rigorous regulation when it comes to insurance. Also, emerging markets provide unused development opportunities, but business conditions in these parts of the world are becoming more and more turbulent and uncertain. Insurers today have easier access to new technology that greatly

facilitates every aspect of sales and creates the ability to create predictive models that will allow proactive customer service.

Technological relief in the insurance industry:

1. Mobile phones: the possibility of policy sale with a lower premium along with phone bills, as well as sending text message information;
2. Identification via radio waves, which enables a minimum risk considering that insured objects can be protected with a special chip which can be followed via radio waves (valuable assets, and increasingly, pets);
3. The GPS global position system allows companies to track the physical locations of the vehicles through small 'black boxes' in cars and trucks, as well as tracking the speed of movement, even the use of the seat belt.

A new model of globalization, industrial consolidation and technical innovation has affected changes in the traditional business insurance model. Taking into account all the above circumstances, insurers should take steps that will lead to proactive transparency in 5 key areas: new markets, new competitors, new partners, new chances, and new demands for accountability. The Internet has made a big turn when distribution models are in question, and it is increasingly taking the lead in selling products, but even more in buying information. Digitalization - online insurance sales – increasingly questions the need for direct sales agents.

Insurers must pay attention to new distribution models, as follows:

- Agents to clarify complex products;
- Better experience (user satisfaction) for clients who choose to purchase online;
- Mass insurance products;
- Micro insurance products – simple products.

Regardless of the trend of simplification and internet sales, insurance sales agents remain a significant factor in the insurance market precisely because they simplify the complicated offer of insurance products when custom made products are concerned. Most commonly, they are investment products, savings products, i.e. products for which more comparisons are needed than a standard tariff comparison. Customers who are interested in these products are more interested in personal contact with the agent who will explain their offer to them. These services can also be made available via the Internet, via web interface, mobile devices, e-mail, text messages or video conferencing in order to provide customers with the most convenience when shopping. Mobile communications significantly improve the post-sales part of customer care through the data provided in the CRM base and further provide a quality after-sales service as well as the possibility of additional (cross-selling) sales and connecting with related companies to achieve synergy.

Digitalization has become an imperative, the market that involves the use of web services and mobile devices is developing fastest, and in support of this trend is the transfer of documentation to biometric with an electronic signature which is the future of digitalization: a touch print, voice signature or scanned signature combined with unique information about it provides additional account security.

All this supports the simplification of procedures as well as the simplicity of transactions with increased safety. Online insurance sales are growing, and each year more and more customers contract and buy online policies, while current data shows that about 30% of auto insurance is sold via the web. Studies also show that in the near future, 10% of life insurance and more than 50% of health insurance policies will be purchased online.

The Internet is the ultimate solution to the problem of insurance distribution. In the Internet world, no one can own a client, the client has an advantage because of the knowledge that is now available to him or her. There are many open questions when it comes to insurance sales, the most closely related to the security of purchases as well as the protection of confidential information on the Internet. Also, the issue of distribution methods depends on the product being offered. What practice has shown so far is that insurers have the priority of using the Internet in order to advance existing processes and then upgrade existing distribution channels. The result of Internet development in distribution channels will be more professional and productive.

The most important factor for the success of any job are people. The insurance industry depends on talented, capable, efficient and well-trained people who are capable of making good business decisions, leading the business effectively with maximizing value for the client and responding in a timely manner to new business challenges. The relationship between people and technology is one of the key factors for the development of a new work generation. The factors to which attention must be paid in particular are the following: to capture the interest of young talents, to motivate workers who are in the middle of their careers, to provide an efficient knowledge transfer, and to increase productivity based on the simplification of obtaining information from the environment.

Statistics show that there is a great opportunity for insurers, as more than 80% of potential insurance clients search information on the Internet, and the opportunity to attract new customers has never been better. The advantage of digitalization and the use of new technologies leads to an increase in revenue, but with a significant reduction in costs, by appropriately utilizing new options:

- Active use of social networks for finding new business possibilities as well as for a better understanding of client needs;
- Use of contemporary technology for better communication with potential and existing clients;
- A more transparently stated premium amount with a more detailed explanation of the cover;
- Improvement of the process with less paperwork;
- Preventing false claims via a more adequate portfolio analysis.

Regarding the level of development of the Internet in countries outside the EU, Serbia is at the level of medium development with 66%, and has a lot of potential to improve the development of the Internet and online sales channels.

Raising the level of customer satisfaction using modern technology implies several key points:

1. An adequate and integrated presence of insurance in all information channels, from the Internet to the telephone;
2. A detailed analysis which implies following and analysis of behaviour of potential clients;
3. Knowing the client – a comprehensive CRM analysis of each client along with their history with the insurance company;
4. Increased understanding of client needs with coordinating risks and the price of insurance;
5. Improving the functionality of business policies, claim payment and the payment system;
6. Efficient use of all advantages of new technology.

Basically, a client expects useful products and services that s/he understands, a supply that is in line with the requirements, quick answers to questions, and a stable business that gives the client confidence.

Direct contact with the seller in the insurance industry while purchasing insurance products is still appreciated but no longer sufficient from the aspect of insurance beneficiaries. Digitalization and new distribution channels pose a new challenge as clients expect the service they need at the time of need and with the purchase they want. A one-stop service through all channels of communication is imperative. On the other hand, banks continue to look for new sources of income and ways to reduce costs, given the huge pressure from the market and competition to lower the interest rate.

Customers are becoming increasingly aware that they can buy insurance with bank orders if the bank has a good business practice when financial services are in question, and furthermore, this experience is valuable in selling insurance products through this channel. Also, the results show that clients believe in the banking system and that the services come through different channels: directly, through agents, and online.

It is crucial to find the most adequate way to produce insurance offers to bank clients, to select client segments and, depending on the needs, to create an adequate offer. For the communication needs of clients, it is necessary to include all channels of communication. In addition, an internal specialist may also be engaged in the implementation of the strategy and monitoring the results according to the needs.

Despite the fact that banks have different distribution channels for life insurance products, such as licensed bankers, direct marketing methods, sales agents, financial consulting, and the biggest focus is on one or two distribution channels.

Life insurance products are still the dominant products of insurance with which banks take part on the market, and there is an evident increase in efforts on the property market. Some 26% of the respondents show a presence in the auto insurance market and apartment insurance, and an additional 17% shows that they are interested in joining the market of these products. Also, more than 10% of the banks surveyed planned to distribute product insurance products.

Insurers wanting to achieve a comparative advantage on world markets need to adapt their strategy to the demographic and geographic differences of the markets they are entering. The development of a small-scale insurance product - which has not previously been included in insurance programs - can be a double benefit: creating a profitable and easy-to-manage portfolio as well as creating a market for insurance products on intact niche markets. Insurers are testing products such as life insurance, savings insurance and partial hospitalization, and for example, the death of a herd in farming as well as the loss of property. These products are offered through local groups, credit unions, healthcare institutions and cooperatives. They also contribute to an increase in the living standard on less developed markets.

Governments take on a greater role in regulation, trying to protect the interests of users, so insurers around the world are facing more stringent regulatory schemes. Some countries even block the acquisition of national insurers. China and Australia have gone the furthest, and strict rules are followed by Canada, Germany and Japan. In China, foreign investors must meet stringent requirements regarding the status of ownership of the property as well as obtain approval for a takeover. Australia has, however, blocked the takeover of corporations where the volume of work exceeds \$100 million. Serbia also does not lag behind when the rigidity of the regulation is concerned.

Bancassurance distribution takes place most often via three channels:

1. Bundled/basic bank products sell together with optimal insurance products; insurance sales are not mandatory but the process is automatized.
2. Officers as agents – Over the counter/most often: a savings plan, an education plan for children; pension plans sold in bank subsidiaries by the bank officer taking over the role of an insurance agent, training, sales support and also follow up are the obligations of an insurance company. This type of sales most often brings with it significant motivational tools – bonuses and similar.
3. Direct marketing –Telemarketing/segmentation of the client base and their contacting via a user service or sending direct mail with a specific offer for each client.

BANCASSURANCE IN SERBIA

The official start of the development of bancassurance in Serbia is the moment of entry into force of the 2005 Law on Banks, which officially approves banks for performing insurance advisory services, while the decision on closer conditions for granting banks the approval for performing insurance activities was adopted by the National Bank of Serbia, which is the supervisory authority for the activity of banks and insurance in Serbia.

However, business cooperation between banks and insurance companies was established earlier. Cooperation involved contact with insurance companies when a customer with a bank product had to provide insurance as a form of security. The products included: property insurance, travel insurance, and voluntary life insurance.

In addition to passing through the necessary procedure in order for the bank to obtain a license to carry out insurance advocacy activities, it is also necessary that

the officials who will deal with the sale of insurance in the branches obtain a license issued by the NBS, i.e. a license to be an insurance company representative.

Currently, 19 banks, 99 legal entities: brokerage companies, representation and other insurance services, 112 insurance agents (entrepreneurs), as well as 15,536 individuals and insurance brokers have licenses to sell insurance.

Of 24 insurance companies, 20 of them are engaged in the reinsurance business. According to the new insurance law, it is possible to register a company for either life or non-life insurance, and in accordance with that, 5 companies deal with life insurance, 9 companies solely with non-life insurance, while 6 associations are registered, according to the old law, as so-called composite companies dealing with both life and non-life insurance (SGRS-ZO, 139/2017).

Foreign capital prevails on the insurance market in Serbia, and 18 companies are foreign owned, while 6 are owned by domestic capital. The largest number of foreign-owned insurance companies are from Austria, Slovenia and Spain, followed by Italy, France and Russia.

Table 1: A list of insurance companies.

No.	Name of company	Type of insurance	Ownership
1	AXA	Life insurance	Foreign capital/Spain
2	AXA	Non-life insurance	Foreign capital/Spain
3	Energoprojekt data	Non-life insurance	Domestic capital
4	Sava insurance	Non-life insurance	Foreign capital/Slovenia
5	Sava life insurance	Life insurance	Foreign capital/Slovenia
6	Societe general insurance	Life insurance	Foreign capital/France
7	Wiener Stadtische insurance	Life and non-life insurance	Foreign capital/Austria
8	As non-life insurance	Non-life insurance	Domestic capital
9	AMS insurance	Non-life insurance	Domestic capital
10	DDOR Novi Sad	Non-life insurance	Domestic capital
11	Generali insurance Serbia	Life and non-life insurance	Foreign capital/Italy
12	Globos osiguranje ado	Non-life insurance	Domestic capital
13	Grawe Insurance	Life insurance	Foreign capital/Austria
14	Milenijum insurance	Non-life insurance	Domestic capital
15	SOGAZ Novi Sad	Non-life insurance	Foreign capital/Russia
16	Triglav insurance	Non-life insurance	Foreign capital/Slovenia
17	Uniqa insurance	Life insurance	Foreign capital/Austria
18	Uniqa insurance	Non-life insurance	Foreign capital/Austria
19	Merkur insurance	Life insurance	Foreign capital/Slovenia
20	Dunav insurance	Life and non-life insurance	Domestic capital
21	DDOR Novi Sad	Reinsurance	Domestic capital
22	Wiener Re	Reinsurance	Foreign capital/Austria
23	Generali Reinsurance	Reinsurance	Foreign capital/Italy
24	Dunav Reinsurance	Reinsurance	Domestic capital

Source: National Bank of Serbia.

Bancassurance can be the right path and link between clients and insurance, and the countries of Western Europe have recognized it as one of the most promising strategies because it does not require high costs, and the results are quickly visible. Banks have a large client base with all the necessary information about the financial habits and needs of clients, which significantly facilitates the creation of an adequate insurance offer. Well-designed marketing campaigns can make a big shift in raising the awareness of the population about the necessity of insurance.

For example, Italy, Spain and France have recognized this insurance function and have introduced tax incentives in bancassurance to the amount of 25% of the insurance premium. These tax reliefs were abolished in 1995, but despite this, bancassurance continued to grow by default, as customers recognized the benefit of insurance.

Table 2: A list of banks which have a license to sell insurance with the companies they represent.

Bank	Insurance company
Banca Intesa	Generali insurance Serbia
Erste Bank	Wiener Stadtische insurance
Hypo Alpe Adria Bank	Generali insurance Serbia Uniqa insurance Grawe insurance
MTS	Dunav insurance
OTP Banka	Basler
Raiffeisen Bank	Uniqa insurance
AIK Bank	Dunav insurance
Alpha Bank	Wiener Stadtische Insurance AXA
CA Leasing	
Credit Agricole Bank	AXA
Eurobank	Generali insurance Serbia
Findomestik Bank	
Halk Bank	Dunav insurance Grawe Wiener Stadtische insurance
YUMBES banka	/
KBM BANKA	/
Komercijalna banka	Dunav Insurance
Piraeus Bank	Generali insurance Serbia
Sber Bank Srbija	Generali insurance Serbia Wiener Stadtische insurance
Societe General Bank	Societe general insurance
Unicredit bank	Wiener Stadtische insurance Generali insurance Serbia DDOR
Vojvodjanska banka	Generali insurance Serbia

Source: National Bank of Serbia.

For the activities undertaken in performing insurance representation, the insurance company has an important supervisory role in the implementation of the contract signed.

The National Bank, inter alia, prescribes the method of investing the guarantee reserve assets in order to disable the risky behaviour of insurance companies. The funds raised are invested in Serbia, and in case an insurance company wants to invest funds abroad, up to 20% of the founding capital with the approval of the NBS can be available.

It is crucial to harmonize domestic regulations with training and implementation of a new methodological framework for risk management - the Solvency II Directive. According to this Directive, insurers are required to review and take into account all types of operational risks as well as effective management of these risks. The directive also requires a higher level of solvency, i.e. greater capital, to cover the risks to which the insurance company is exposed.

SALES STRATEGY AND INSURANCE PRODUCTS IN BANKS

The most common strategies for selling insurance products in banks are bundled products, stand-alone products sold independently as special products, and products sold through direct marketing.

Bundled products can be products from the non-life and life insurance segment. These products monitor the credit activity of the bank and business policy related to the basic product of the bank.

Obligatory insurance products are insurance of property when buying residential property as well as Casco insurance when buying a vehicle for a loan/lease, while risk life insurance is optional, and banks stimulate concluding this policy by offering a lower interest rate on the loan.

Property insurance with housing loans may include the following insured cases: fire, lightning, explosion; water outflow from installations; insurance against burglary and robbery; glass break insurance; insurance of objects. Risk life insurance for housing and other loans cover these insured cases: death due to illness, and death due to an accidental event.

High risk life insurance is contracted as a collateral instrument (usually for housing loans), and with a small premium (the insurance price), and much insured coverage is obtained (the amount of loans with the relevant insurance sums which accompany the remaining loan debt). The term of contracting the insurance risk is equal to the duration of the loan, and this policy has no savings component. If the insured event occurs (death of the client), the family does not inherit the debt on the loan and the insurance company takes over the obligation (repayment of the balance of the debt on the loan), in accordance with the conditions of insurance. These insurance policies are vinculated; in other words, ownership is transferred to the bank during the term of the loan.

Travel health insurance with risk insurance is most often combined with credit cards and credit risk associated with the insurance of the amount of the approved limit and travel health insurance for the card user. In this way, the card user is doubly insured in case of these insured cases: natural or accidental death, as well as in the case of illness or accident when abroad, with a low insurance premium.

Casco insurance is also mandatory if the client of the bank applies for the purchase of a car, whether new or used. This insurance provides protection against damage or complete destruction of vehicles, and this policy is also vinculated to benefit the bank.

Stand-alone insurance products are products sold independently. Mixed life insurance is a savings insurance that represents multi-year life insurance with a savings component and covers two basic insured cases: 'experience,' i.e. expiry of the insurance period and death of the insured. In addition to contracting basic insured cases, it is possible to arrange supplementary disability insurance due to an accident and hospital days as well as health care that covers the cost of treating severe illnesses, including travel and accommodation expenses in the best hospitals around the world. Also, if the client wants to be subsequently insured by purchasing products sold with the basic product of the bank, as when buying a bank product this product was not offered, this is certainly a possibility.

The features of life insurance savings are that the policyholder chooses the dynamics of premium payment (insurance price) that can be monthly, quarterly, semi-annual, annual or one-time, and the policyholder chooses users of life insurance policies for both insured cases. Upon the expiration of the life insurance period, the total insured amount with the expected profit is paid to the insurance beneficiaries specified in the policy as a one-off. In case of death due to illness, the total life insurance sum insured is paid as a one-off to the insurance beneficiaries, and in case of death due to an unfortunate event, a double or triple insured sum is paid, depending on the contract.

Products sold by way of direct marketing include the promotion of simple and inexpensive insurance products alongside banking products. The bank addresses its existing customer base by offering them a new product, an insurance product that is intended for a specific client at the right time. Products can be linked to existing products that the customer uses, but the offer can be one of the stand-alone products that is customized and suits the needs of a specific client. Contact with the client can be through the call centre of the bank or by sending a direct mail with the offer. In order to accept the offer, the client must come to the bank to conclude a contract which is considered a significant disadvantage of this model in Serbia. In EU countries, consent in a telephone conversation can be considered as confirmation of the consent which charges the client's account for the amount of the premium, which is considered to be an insurance contract which was concluded. Unfortunately, due to a lack of legal regulations in Serbia, this concept has not yet come to life because a client's visit to the bank is necessary, or alternatively, sending a courier to the client's address, which significantly increases the cost of the process and ultimately, leads to a negative result of the business plan as insurance premiums are reduced in order for the products to be affordable and competitive for bank clients.

Bancassurance is a new concept for banks, whose introduction affects a large number of services. It is important that all phases which are necessary for the sale of insurance to flow smoothly, are conducted in synchronization and accordance with the regulations. The most common introducing of bancassurance is conducted as a separate project involving experts from both the bank and the insurance company.

CONCLUSION

The concept of bancassurance is the result of integration in the financial services market as well as client needs to purchase financial services in one place. This is a new concept that is still underdeveloped and underused on the European market, so we can say that the time of bancassurance has yet to come. There is a potential for further growth and development of bancassurance on the world markets, especially the Serbian market, where development is at the very beginning.

The emerging digitalization era, which equally affects both the banking and insurance industry sectors, will bring new benefits primarily to customers, and then to banks and insurance companies. Clients will come up with all the necessary services faster and simpler, while banks and insurance companies will realize lucrative savings, and in this respect, profitability will be higher. Of course, all of this should be accompanied by adequate legal regulations that allow the free movement of capital and services.

In order to achieve better results of insurance and bancassurance on the Serbian market, all participants have to make significant progress:

- Insurance companies should pay special attention to improving risk management, investment valuation techniques, improving transparency and good business practices, as well as fair customer relationships with timely payment of damages, with the active training of affiliate insurers in order to enhance the confidence of insurers in the development of this segment of the financial system.
- Banks will work to improve the product range, segmentation of clients and integrate the complete range of financial services, with the increasing use of online sales channels to reduce distribution costs, and furthermore, provide customers with unique experience when purchasing these products.
- Perhaps the most important role in the development of bancassurance is on the part of the regulator, i.e. the NBS that needs to do a lot on improving legislation in order to facilitate access to insurance products for clients, with the necessary level of protection of financial services users and with adequate transparency of the insurance companies. Also, there is education and preparation for the implementation of the new methodological framework for risk management – the Solvency II Directive, since adequate risk management is crucial for the performance of the insurer's business. Also, this directive introduces more complex solvency requirements in order to provide additional capital for risks that insurance companies are exposed to.

It is very important to improve the process of obtaining licenses to sell insurance and insurance mediation in the sense that the process is significantly reduced and simplified, given that it lasts on average for several months, which significantly stops the faster development of this sales channel and prevents new insurance companies and banks from opening or expanding their work on the Serbian market.

Special emphasis is placed on raising awareness of the population on the need to ensure and restore the confidence of citizens in the financial system in Serbia. Considering the economic developments in the past decades, primarily the period of hyperinflation, fraud in the pyramid savings system, and old frozen foreign currency savings, the suspicion of citizens when it comes to financial institutions is completely understandable. It is precisely the joint emergence of the banks and insurance companies that can restore confidence in the financial system of Serbia.

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INSURANCE AS A FACTOR OF ENTREPRENEURIAL DEVELOPMENT IN SERBIA FROM 2005 TO 2015

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ABSTRACT

Entrepreneurship and insurance are very important factors of financial systems of all countries. Insurance market significantly influences the development of the economy and is an important factor of stability of the financial sector. Insurance market in Serbia is undeveloped and, by its development level, is far behind the average rate of the EU member states.

Insurance market in Serbia falls in the category of developing markets with a significant potential primarily in the segment of life insurance. Growth rate of life insurance market in Serbia has varied and showed susceptibility to external and internal influences from different factors.

In order to achieve the desired growth there has to be an adequate marketing strategy that shall be used to initiate certain political and market processes that will, alongside the existing pension and disability insurances funds and health systems, lead to an awakened awareness, i.e. perception of citizens about the need for life insurance.

Entrepreneurship is thought to be the basic cell of economy and the greatest potential of economic development. It reflects the future of successful development of macro-economy. The power entrepreneurship has is limitless. It is the power, innovativeness and ability of each and every individual to recognize the right things and opportunities that others do not see or do not have the courage to grab them. Entrepreneurs as creators of certain ideas transform them into concrete products that will be beneficial, i.e. profitable. They are people ready to take the risk.

Possibilities offered by the insurance market in Serbia show that entrepreneurship in Serbia should use these possibilities for its own growth and development.

Key words: *Entrepreneurship, Insurance, Development of Insurance Market, Growth and Development of Entrepreneurship*

JEL Classification: *G22, G23, L26*

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INTRODUCTION

Subject of this paper is the study of relations between entrepreneurship and insurance and the analysis of the influence of insurance on growth and development of entrepreneurship in Serbia.

Entrepreneurial thinking cannot be placed in any kind of pattern. Entrepreneurship is about innovative individuals or, in other words, individuals who know how to do certain things in a better way. The difference might seem insignificant, to do a job better on one hand and to do a job differently on the other hand, but both parts are an integral part of entrepreneur's personality or at least, according to some criteria, they should be. Anyhow, each and every individual is unique and as such he has a chance to be original and use his idea in his own unique and different way. Diversity of ideas and inexhaustible human imagination would make a true boom in economy if used in the right way. Innovativeness and willpower are not enough. Large percentage of newly established enterprises opens and closes in the same year and only a small number makes it through. The questions arises, why is it like that? The answer may lie in the problematic financial situation, incorrect market assessment, irrational engagement of factors, hiring wrong people, etc.

As research show, the greatest number of entrepreneurs fails because they don't put their vision and objectives on paper. It's been proven that is of extreme, even vital importance for the successfulness of one enterprise. Therefore, entrepreneurs have lately been leaning towards making business plans, strategies, etc.

What makes entrepreneurs' lives difficult is the fact they have to be versatile, updated about almost all segments of economy. They have to know plenty and especially to keep the latest information under control. Being unaware of what is happening around us can cost anybody a lot, especially an entrepreneur that has to show a serious level of resourcefulness and ingenuity in this ruthless struggle.

In other words, entrepreneur has to be highly knowledgeable as well as to use his versatile knowledge in the right place and at the right time. It's not easy to penetrate the market. Marketing can be of great help with its market assessment and customer behavior assessments, evaluation of the given product, i.e. service.

ENTREPRENEURSHIP AS A SOCIALLY USEFUL CONCEPT

Transition processes accelerate people's interest in the place and role of private sector in the development of national economy. Private sector implemented into small and medium enterprises sets in motion developmental possibilities by being involved in entrepreneurship and like that reducing social tensions inevitable in transition processes. Entrepreneurship strongly encourages the creation of new

developmental possibilities in certain regions as well as in entire country's economy. Hence, it is a significant segment of a wider strategy and program of economic development and has no alternative in the current situation of our country. By using several entrepreneurial models and adjusting them to the existing conditions in our country, there is an opportunity to catch up with other countries in our region. (Karavidic, 2008, pp. 2-3) Last decades of economic development have been characterized by massive changes in the field of transitioning to market economy where small and medium enterprises are becoming one of the major drivers of economic development. Small and medium entrepreneurship has an increasing influence on the development of world economies and is contributing to a more levelled local and regional development. This is supported by the fact that the sector of small and medium enterprises in EU is the main initiator of economic development since it provides 2/3 of work places, half of their total value goes in the GDP of entire economy and it accounts for 40 to 60% in total exports. Entrepreneurship today surpasses the limits of the concept of economy, economic activity, by being expanded to all fields in society, which are becoming increasingly intertwined, i.e. dependent on action and profitability.

In the past few years in our country there has been a raising of awareness on how entrepreneurship can give a significant contribution to the transition of our social and economic system and how it is an important leverage for re-building and growth of domestic economy. Our socio-economic situation demands for an accelerated investing into entrepreneurship as well as for the creation of possibilities for supporting all entrepreneurs by offering them professional and timely advice and good ideas for beginners in risky stages when help is most needed. The most important effect and win that a social community gains with entrepreneurial activities are healthy companies that have a leading position in the development of new, innovative technologies that progressively affect social community primarily with the quality of their products and services. (Ivkovic et al., 2013, pp. 56) Developing small and medium businesses and their involvement in a wider network of the value chain shall be significantly difficult if the distinction between the ones knowing secrets of business and the ones having only good intuition should be large.

Entrepreneurship is related to all aspects of human behavior and actions where there is need for creativity, innovations, birth of new ideas, solving problems in a new way and all in the aim of satisfying human needs. Hence, we can say that entrepreneurship is neither science nor art, but rather a practice based on knowledge that stands on the need for constant changes and imbalances during the realization of economic activities and is a way of thinking not closely related to work, but rather to creativity, proactivity, systematic approach to problems, etc. The essence of entrepreneurship is in action, constant search for new ideas, imagination and finding of new possibilities in business, reliable intuition and evaluation of that skill and decisiveness. (Borocki, 2014, pp. 2)

Entrepreneurship is an activity focused on achieving profit on the market and is based on constant changes and willingness to take the risk. Entrepreneurial process demands great efficiency, speed, optimal expenses and innovativeness.

Often mentioned efficiency exists in several forms. First, there is allocative efficiency that implies the use of resources in a way that brings effects better than all other alternative uses, then there is productive efficiency that implies minimization of costs of production and output and the so-called “h-efficiency” defined as the efficiency of organizing and managing, increasing work motivation, reducing bureaucratic body, etc. (Tomas, 1993, pp.45-46) Entrepreneurial concept implies an entrepreneur as the carrier of the concept, entrepreneurial process and result. Potential entrepreneur wishes to tie up his knowledge, experiences, potentials and future expectations with market needs and that’s why entrepreneurship is a dynamic process of increasing wealth whereas entrepreneur is the manager taking on a specific activity and realizing it in a specific way. Additionally, he is also an agent of economic changes because of the way those changes affect economic growth and also a person with certain psychological characteristics and features, including curiosity and strategic way of thinking. It is a process of creating something new and useful by investing time and effort, with a presumption of existing financial, physical and social risks. In the end comes a reward of material character and personal satisfaction and independency.

The most important advantages of entrepreneurship are reflected in creating one’s own professional destiny, i.e. entrepreneurial independency whereas there is an opportunity for creating diversity on the market. Achievement of full business potential and high profits is enabled. Enterprise owners are often among the most prominent members in their communities while gaining reputation mostly by proving they’re doing the job they love. Business opportunities are most often seen in the demand for services and products large enterprises can hardly meet. They are characterized by flexibility which enables an elastic offer and adjustment to demand movements on the market. Such companies are keener on replacing old technology with new and are in search of workers who can perform various jobs in the production process. Economic independency and readiness to take the risk encourage small enterprises to be elastic in connecting and networking for the sake of a more successful joint business, but also an easier risk taking. There are challenges to which an entrepreneur has to find a solution. Some of them are an increased responsibility for business success, mitigating unsuccessful business moves, oscillations in sales, dependency on competition, exposure to financial crisis and non-liquidity, rationalization of expenses and undeveloped legal regulative.

In order to have conditions for the existence of entrepreneurship it is necessary to fulfill certain economic and social preconditions of development. Firstly, we have ownership which can be thematically described from legal, economic, political, sociological, moral and other aspects and is based on three forms – joint, social and private. Secondly, we have capital that alongside work and land presents basic work input. It is capital that is a precondition for starting any kind of entrepreneurial business activity. Next precondition is competition that defines behavior of business partners in the sphere of exchange while forming market prices. Entrepreneurship depends on the market structure and competition with appropriate relations. And the last precondition is the organizational form of company’s functioning, i.e. enterprise.

Despite the difficulties, entrepreneurship is today the most efficient method of bridging the gap between science and market, opening of new markets and supplying markets with new products and services. Entrepreneurial activities have a large influence on the economy of the given country through forming an economic base and opening new work places. On most of developed markets in the world, it is entrepreneurship that is the generator of new products and new work places. Having in mind the significance and positive influence of entrepreneurship, it can be said the system of supporting entrepreneurship in most countries is still on a significantly lower level than the one it deserves. Role of entrepreneurship is seriously higher in the process of economic development than a simple increase in income per capita since it covers starting up and establishing changes in business structures in the entire society. Changes lead to growth and increase in production, so increased wealth is divided to a greater number of participants. One of the theories of economic growth says that innovation is the key – not only through development of new products and services but also as an encouragement for investors to undertake new adventures. New investments also have an impact on demand and supply because newly created capital expands growth capacities, i.e. demands while new consumption, arising from that, uses new capacities and production, i.e. demand. (Avlijas, 2013, pp.14-15)

Global economic crisis has stopped transition revival of our country and Serbia is now lagging behind other countries in the transition process. Its road to healing leads through painful and restrictive measures, through rationalization of oversized public sector and serious financial discipline without which economic growth won't be possible. Most of the authors believe that Serbia has small chances of getting out of the dead-end street if it doesn't rely more on creativity, energy and entrepreneurship. Three dimensions affecting entrepreneurship have been noticed – creation of favorable infrastructural jobs, planned government behavior in the form of development programs and dedication to local culture, i.e. region. Like that, we can achieve affirmation of entrepreneurship in the region, support of financial institutions in the form of affordable loan packages and other similar activities. There will come to a high probability of having successful entrepreneurial endeavors and creating entrepreneurial network which will speed up entrepreneurial growth and competitiveness of economy. It will indirectly lead to an increase in entrepreneurial dynamics, entrepreneurial processes will lead to an increase in GDP per capita regardless of whether we are talking about reviving existing companies or opening new facilities. Most dominant and efficient instrument of affirmation is entrusted to the government, both on a regional level and on local through state apparatus network.

Transition countries are today insisting on one measure and that is reduction of poverty through employment. Obvious benefit of focusing on the young is an increase in entrepreneurial potential so far not sufficiently used. Survey on work force, i.e. real employment rates in 2010 shows unemployment rate of 20% which is over half a million people in our country. It is terrifying that the most substantial part of the mentioned percentage, almost 14%, are young people. Employing young people is a serious challenge for every economy regardless of its level of development.

INSURANCE MARKET IN SERBIA

Since the National Bank of Serbia took on role of supervising insurance business activities, insurance market in Serbia has been showing a continuous growth and regaining trust in the institution of insurance.

Upon taking over the supervision over the insurance sector, the situation was characterized by a lack of good practice in business, lack of adequate management, lack of certainty in investing insurance funds for the sake of settling obligations towards the insured and third parties, lack of transparency, lack of regular reporting, incompleteness of business records, hence lack of reliability of data, spillover of insurance funds into affiliated companies, mismanagement of obligations towards the insured and third parties, double issuance of policies, wrongly set objectives of insurance companies – instead of safeguarding the trust of insured parties and insurance beneficiaries, it was obvious that the objective was to protect the interests of owners, lack of public trust in insurance sector, high level of illegality in business, significant number of legal entities doing business in the insurance sector without work permit, insufficient or inadequate activity of insurance companies, lack of good practice of auditors and actuaries. A certain number of insurance companies was not in the situation to settle their obligations towards the insured and insurance beneficiaries, and when they were they used funds from current inflows, which means that premiums charged for new policies, instead of being safely invested, were used for settling obligations according to previously issued policies, and that created a pyramidal insurance system that contributed to total waste of public trust in this sector.

National Bank, among other things, prescribes a way of investing guarantee reserve funds in order to disable hazardous behavior of insurance companies. Collected funds are invested in Serbia and in case insurance company wishes to invest those funds abroad it can do so in the amount of 20% of the initial capital and with the National Bank's consent. (Piljan, Cogoljevic, 2014, pp.231)

In order to achieve the desired objective in the abovementioned conditions, the National Bank of Serbia has focused its activities into several directions simultaneously:

- Stabilization of the sector,
- Regaining public trust in insurance sector,
- Forming the base for sector development,
- Creating and developing the function of supervision and
- Continuous education of employees.

New Law on Insurance has clearly defined legal regulations that have contributed to regaining public trust in insurance sector that years before didn't exist due to economic and political instabilities in the country. The most important change in the domain of regulating solvency in the field of insurance on the level of the European Union is the Solvency II directive. Key request imposed to insurance companies by the Solvency II directive is risk management and

allocation of adequate capital for coverage of those risks, whereas operative risks are for the first time involved in capital requirements (in addition to credit, market and insurance risk).

In the previous period in Serbia, insurance market has had continuous growth, but the speed of that growth has been different and highly susceptible to external and internal influences of different factors. One of characteristic findings was that the citizens of Serbia didn't have adequate awareness and knowledge on the significance, content and need for life insurance for the sake of solving social, health and financial issues in the future of every individual. This lack of awareness or inadequate perception concerning life insurance has resulted in not having sufficient number of people buying life insurance policies even though there were significant investments made by insurance companies from Austria in the aim of promoting life insurance in Serbia. (Piljan, Cogoljevic, 2015, pp.497)

In order to achieve the desired growth there has to be an adequate marketing strategy that will initiate certain political and market processes that will, in addition to the transition of existing pension and disability insurance funds and health care systems, lead to a higher level of awareness, i.e. perception of citizens concerning the need for life insurance. Life insurance, as all other insurances, has its own objective disadvantages reflected in intangibility, indivisibility and disharmony, i.e. abstract benefit for the buyer – insured party. This influence manifested in subjective expectations of insurance beneficiaries is an element today's and especially future life insurance agents have to focus their attention on.

Out of 24 insurance companies 20 is dealing with insurance and 4 with reinsurance activities. According to the new Law on Insurance it is possible to register a company either for life or non-life insurance, hence 5 companies are dealing with life insurance, 9 with exclusively non-life insurance, while according to the previous Law, there are 6 registered companies dealing with both life and non-life insurance, the so-called composite companies. (SO-NBS, 2015, pp.8)

On insurance market in Serbia foreign capital prevails, 18 companies are in foreign ownership, while 6 is owned by domestic capital. Largest number of foreign ownership insurance companies are from: Austria, Slovenia and Spain, then Italy, France and Russia.

Table 1: List of insurance companies with types of insurances and ownership structure

No.	Company name	Insurance type	Ownership
1	AXA	Life insurance	Foreign capital / Spain
2	AXA	Non-life insurance	Foreign capital / Spain
3	Energoprojekt data	Non-life insurance	Domestic capital
4	Sava insurance group	Non-life insurance	Foreign capital / Slovenia
5	Sava life insurance group	Life insurance	Foreign capital / Slovenia
6	Societe general insurance	Life insurance	Foreign capital / France
7	Wiener Stadtische insurance	Life and non-life insurance	Foreign capital / Austria
8	As non-life insurance	Non-life insurance	Domestic capital
9	AMS insurance	Non-life insurance	Domestic capital

10	DDOR Novi Sad	Non-life insurance	Domestic capital
11	Generali insurance Serbia	Life and non-life insurance	Foreign capital / Italy
12	Globos insurance ado	Non-life insurance	Domestic capital
13	Grawe insurance	Life insurance	Foreign capital / Austria
14	Milenijum insurance	Non-life insurance	Domestic capital
15	SOGAZ Novi Sad	Non-life insurance	Foreign capital / Russia
16	Triglav insurance	Non-life insurance	Foreign capital / Slovenia
17	Uniqa insurance	Life insurance	Foreign capital / Austria
18	Uniqa insurance	Non-life insurance	Foreign capital / Austria
19	Merkur insurance	Life insurance	Foreign capital / Slovenia
20	Dunav insurance	Life and non-life insurance	Domestic capital
21	DDOR Novi Sad	Reinsurance	Domestic capital
22	Wiener Re	Reinsurance	Foreign capital / Austria
23	Generali reinsurance	Reinsurance	Foreign capital / Italy
24	Dunav Re	Reinsurance	Domestic capital

Source: National Bank of Serbia

According to data from the National Bank of Serbia, insurance companies doing business on the territory of Serbia in 2015 achieved total insurance premium in the amount of 80.9 billion RSD (665 million euros) which is a nominal and real increase of 16.6% and 14.9% respectively.

Historically speaking, in the structure of portfolio insurance activities in Serbia non-life insurances have a dominant share. Life insurance market in Serbia is still undeveloped in comparison with EU countries in which this form of insurance is dominant and accounts for approximately 2/3 of realized insurance premiums. Even though in the last ten years life insurance has gradually increased its share in total premium, in order for it to become modern and efficient, domicile market should completely change its current insurance structure in the shortest possible period and achieve more dynamic growth of life insurance than non-life insurance premiums.

Experiences of developing and transition countries have shown that it takes time to develop insurance markets and that insurance sector should start developing after the banking sector. Serbia's financial system has been bank-centric for years: according to two most important indicators (balance sum and equity) banks are dominant, unlike insurance companies that, as institutional investors, have a significantly lower share on the financial market.

Table 2: List of banks having a license for representing with companies they represent

Bank	Insurance company
Banca Intesa	Generali insurance Serbia
Erste Bank	Wiener Stadtische insurance
Hypo Alpe Adria Bank	Generali insurance Serbia Uniqa insurance Grawe insurance
MTS	Dunav insurance
OTP Banka	Basler
Raiffeisen Bank	Uniqa insurance
AIK Bank	Dunav insurance
Alpha Bank	Wiener Stadtische insurance AXA

CA Leasing	
Credit Agricole Bank	AXA
Eurobank	Generali insurance Serbia
Findomestik Bank	
Halk Bank	Dunav insurance Grawe Wiener Stadtische insurance
YUMBES bank	/
KBM BANK	/
Komercijalna bank	Dunav insurance
Piraeus Bank	Generali insurance Serbia
Sber Bank Serbia	Generali insurance Serbia Wiener Stadtische insurance
Societe General Bank	Societe general insurance
Unicredit bank	Wiener Stadtische insurance Generali insurance Serbia DDOR
Vojvodjanska bank	Generali insurance Serbia

Source: National Bank of Serbia

According to Business Monitor analysis, insurance density indicator should keep on growing, whereas non-life insurance premium per capita shall be many times larger than life insurance premium per capita. In addition, insurance density for non-life insurance will have a more dynamic growth than life insurance which, in the long run, is not good for the domicile insurance sector.

Despite all negative effects that have hit the insurance sector (limits in bringing new assets, large founding investments in comparison with EU, low insurance culture and citizens' lack of trust in insurance companies, Serbia's low credit rating) in the period to come we can expect world leaders to enter the domestic market: Allianz, VHV Group, Eureko, KBC. They are showing great interest in starting business in Serbia and they are expected to take over the role of leaders on financial markets, contribute to the development of overall domestic financial system and intensify competition on the insurance market.

Share of entrepreneurs on the insurance market in Serbia from 2005 to 2015

Possibilities offered by the insurance market in Serbia show that entrepreneurship in Serbia should use those possibilities for its own growth and development. All that is confirmed by the analysis of entrepreneur share on the insurance market in Serbia in the period from 2005 to 2015.

Table 3: Number of legal entities on the insurance market in Serbia from 2005 to 2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Legal entities	40	44	59	65	69	77	79	84	87	95	95
Increase comparing to previous years	Na	10.0%	34.1%	10.2%	6.2%	11.6%	2.6%	6.3%	3.6%	9.2%	0.0%

Source: Authors' calculations, 2017 (SO-NBS, 2005, 2006.....2015)

We can see from the table that the number of legal entities (insurance brokerage companies and insurance agencies) dealing with insurance activities grew continually in the previous period. In 2005 we had 40 private entities dealing with insurance activities, and in 2015 the number grew to 95, which means growth for the previous period was 137.5%.

Table 4: Number of individuals – entrepreneurs on the insurance market in Serbia from 2005 to 2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Individuals – entrepreneurs	35	87	123	122	122	117	109	105	112	111	113
Increase comparing to previous years	Na	148.6%	41.4%	-0.8%	0.0%	-4.1%	-6.8%	-3.7%	6.7%	-0.9%	1.8%

Source: Authors' calculations, 2017 (SO-NBS, 2005, 2006.....2015)

When it comes to individuals – entrepreneurs dealing with insurance activities, we had a changeable growth. There was a sudden growth at the beginning of the period, when the National Bank of Serbia took on the supervising role. In 2015, we had 113 individuals – entrepreneurs dealing with insurance activities which is a growth of 222.9% comparing to 2005 when there were only 35 individuals – entrepreneurs.

Table 5: Number of individuals – insurance brokers and agents on the insurance market in Serbia from 2005 to 2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Individuals – insurance brokers and agents	2 578	3 982	5 002	8 190	10 124	11 418	13 363	14 123	14 457	15 287	15 545
Increase comparing to previous years	na	54.5%	25.6%	63.7%	23.6%	12.8%	17.0%	5.7%	2.4%	5.7%	1.7%

Source: Authors' calculations, 2017 (SO-NBS, 2005, 2006.....2015)

From previous tables we can conclude that in the previous period we had the largest increase in the number of individuals – insurance brokers and agents. In 2015, number of individuals – insurance brokers and agents was 15 545, which is almost six time more than in 2005 when there were only 2 578 insurance agents and brokers. In the observed period, we had a continual growth of the number of individuals dealing with insurance activities.

CONCLUSION

Entrepreneurship is an everlasting struggle against inertness and dullness, it initiates capital and enables it to thrive, and it contributes to economic and overall growth, development and welfare.

Currently, professional and wider public is of different opinion when it comes to Serbia, it joining EU and starting economic progress. According to one opinion, progress can exclusively come from direct foreign investments and all reforms should be focused on creating favorable economic ambience that would attract them. One of the key reforms of this concept is to weaken the role of the state. On the other side we have those who think the role of the state must be strengthened by more actively involving the state in creating or reviving national industrial systems. What both models have in common is that they see the embodiment of entrepreneurship in businesses of small and medium enterprises, through the creation of extra category for large, foreign and state companies. In economies where economy is undeveloped and resources are highly limited – both financial and human – possibilities should be looked for in the generating of business dynamics by more efficient business decision-making based on reviving large economic entities and creating small and medium enterprises. Small economy is the initial driver of the development of every economy and its development creates real preconditions for a significant growth of economic activity and competitiveness of the region as a whole.

People say that there is no area or branch exclusively entrepreneurial and no business field or area without some trace of entrepreneurship.

Entrepreneurship strongly encourages creation of new developmental possibilities, both in certain regions and in the country, because of which it is an important segment of a wider strategy and economic development program and has no alternative in current situation in our country.

Modern theoreticians think that the way we see entrepreneurship can be changed only if we understand it better and if we believe in its potential. Like that, entrepreneurship becomes main form of ownership freedom and the manifestation of human mind negligence. Trend mentioned in the above is supported by the fact that entrepreneurship finds profitability of business activity the most essential part and that it implies initiative and work invested in order to achieve certain results. Entrepreneurial results are entrepreneurial intelligence, nurturing family business, encouraging entrepreneurship in other business systems, whereas social and economic potential are being increased. It is estimated that business activities based on entrepreneurial ideas ensure 75% of new work places in economy each year. In average, small and medium enterprises in Serbia hire up to 3 workers while in the European Union they hire around 5 workers.

Insurance sector in Serbia has a significant influence on the economic development of our state. Insurance market in Serbia falls under the category of developing markets with significant potential primarily in the segment of life insurance and in the years to come highly dynamic growth of this sector is expected.

In the previous period insurance market in Serbia has had a continuous growth, but the speed of that growth has been different and very susceptible to external and internal influences of different factors.

Empirical research have shown that causal relation exists between macroeconomic indicators on one side and the size and level of insurance sector development on the other side. Growth of the standard of living and GDP in the years before the world financial crisis were definitely a good sign for the insurance sector that started developing in a more dynamic tempo than having been expected.

According to Business Monitor analysis, insurance density indicator should keep on growing, whereas non-life insurance premium per capita shall be many times larger than life insurance premium per capita.

Insurance market in Serbia, where in the previous period we had a significant increase in the share of entrepreneurs in providing insurance services, shows that entrepreneurship is an important element of financial market. That proves that many entrepreneurs have recognized insurance as the possibility for future growth and development.

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RELEVANT FACTORS INFLUENCING HEALTHCARE INSURANCE QUALITY

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ABSTRACT

In Serbia, great efforts are made to ensure the rational and quality health care system with stable funding, that is, within available resources, provide health care to individuals at the highest possible level of quality. In this regard, a number of measures are implemented in the planning and management of health system. There is no "perfect" health system that would be able to meet the needs of patients and health care workers and associates, economists and politicians. There will always be a gap between the expectations of consumer satisfaction and ability of the system to meet those expectations.

Consumers' perception of the quality of products and services, according to the quality standard ISO 9001, is one of the key elements of business performance and the organization's survival in a competitive market. Customer satisfaction is based on achieving or overcoming their demands and expectations. Measuring customer satisfaction is an extremely variable category, affected by a wide variety of complex factors. In order to continuously monitor and take measures for continuous improvement of service quality, it is necessary to define the relevant factors for a given type of service, in the considered case of health insurance services.

The objective of this paper is to define relevant factors influencing healthcare insurance quality, based on a survey of customer satisfaction with the quality of health insurance. Applying the Kaiser-Meyer-Olkin test and Bartlett's test, the suitability of the data for the implementation of factor analysis was examined. Applying the factor analysis enabled a large number of conclusions to be grouped into a smaller number of factors. Results show that the conclusions have grouped around three factors describing the 68.31% of the total variance.

Key words: Health Insurance System, The Quality of Services, The Relevant Factors of Customer Satisfaction, Factor Analysis

JEL Classification: I13

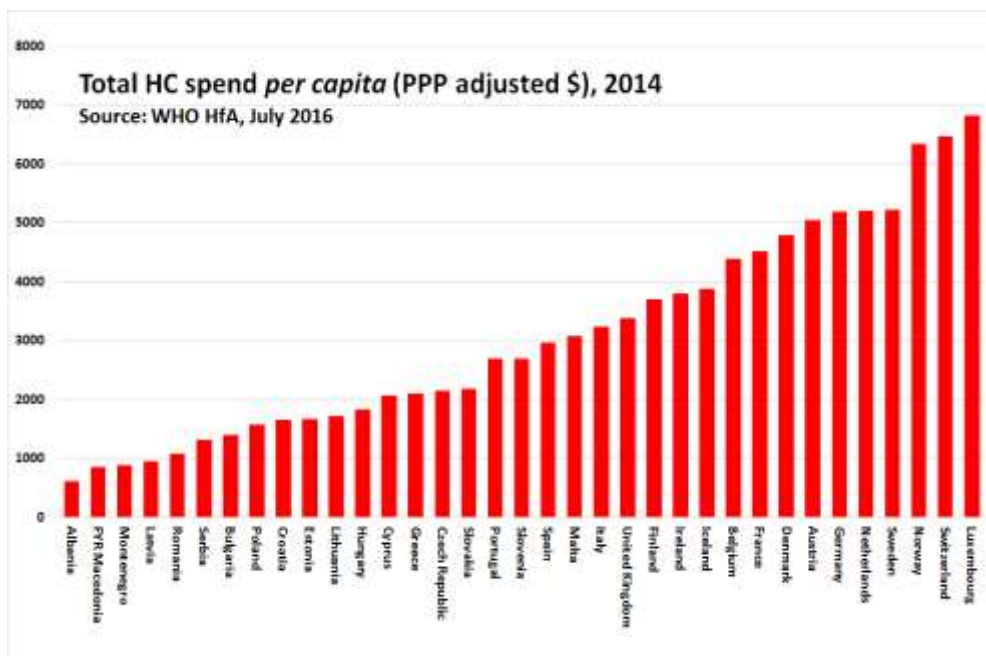
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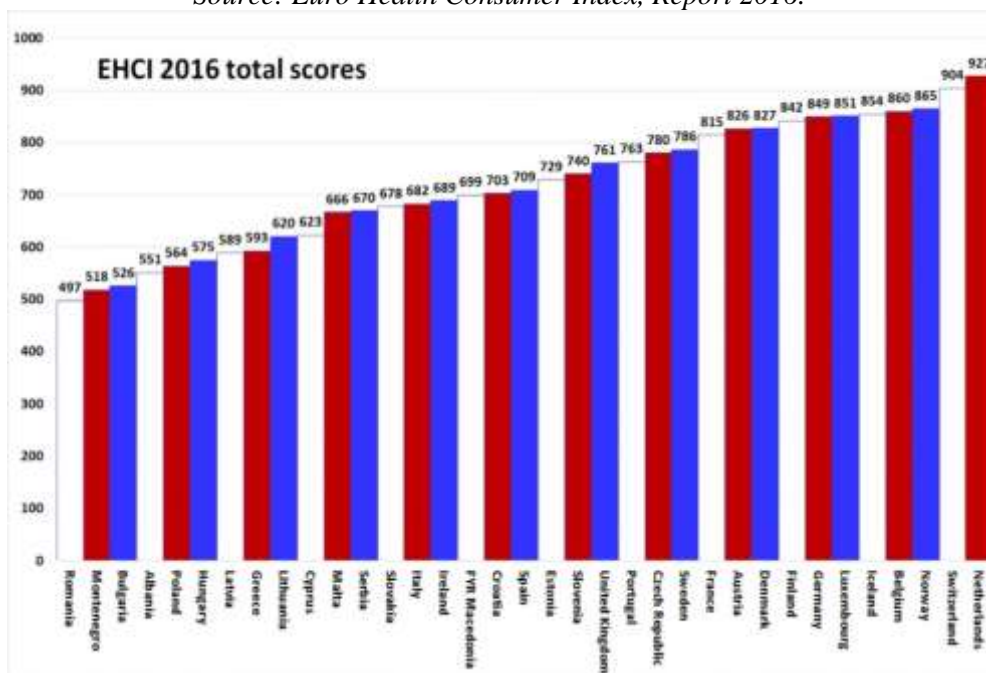
INTRODUCTION

The Health Care System in Serbia, as in other countries, is one of the most complex systems which should, within available resources, provide adequate quality of health care to people (Aaker, Kumar and Day, 1998),(Zivkovic, Piljan, 2016), (Milicevic, Zivkovic, 2017). The World Health Organization (WHO) argues that the provision of quality and availability of health services in all countries around the world should be unified, regardless of the financial solvency of their citizens and institutions. The Health Care System includes a health infrastructure that offers a range of programs and services and provides health care to individuals, families and the community. The purpose of the Health Care System is to preserve and improve the health of people by providing both modern and traditional medical services in an efficient way, which is at the same time accessible and acceptable to people (WHO definition). The healthcare system in Serbia, supported by the World Economic Crisis in 2008, suffers from unsustainable financial problems due to the lack of funds, and yet it achieves its purpose of sustainability and provides basic services to citizens through compulsory or voluntary health insurance. The Republic Health Insurance Fund (RFZO) is in charge of the management and sustainability of compulsory health insurance. Obligatory health insurance is financed from the contributions of employers and insured persons whose maximum amount from coverage and the number of services provided by the entire population is unlimited, where the scope of rights and obligations is regulated by law, while the solidarity of insured persons in the use of funds from insurance is absolute. People in Serbia believe that compulsory health insurance is free, although every month financial resources are allocated through contributions paid by the employers and the employees. A big problem arises if employers due to the financial crisis are not able to pay contributions that are mandatory in the health insurance fund, where the RFZO's debt to health institutions and healthcare workers is prolonging payments to companies that supply medicines and energy products. On the other hand, voluntary health insurance is characterized by funding from private funds of insurers whose rights and obligations are based on supply and demand and where there is no solidarity of insurers in the use of insurance funds. With voluntary health insurance, the number of services provided is limited to the needs of users and coverage from the insurance policy. Both employed and unemployed persons and pensioners have the right to compulsory health insurance. Employed persons and pensioners are entitled to the right through the health booklet issued by the Health Insurance Institute to which employers pay contributions whether the insured persons are employed for a specified or indefinite period of time, while unemployed persons must exercise the right to free insurance by registration with the National Employment Service with a workbook. In Serbia, according to RFZO official data from 2017, there are 328 health institutions whose products and services are financed from the funds of the Republic Fund for Health Insurance and Local Self-Governments. Patients are provided with primary health care through one hundred and seventy (170) health centers and health care institutes, while secondary and tertiary health care is implemented in ninety-four (94) general hospitals, health and clinic centers, clinics and other health facilities, while sixty-four (64) institutions, such as City Public Health Institutes, special hospitals and

pharmacy institutions, deal with patient satisfaction. The private health care sector is much more developed today than in the past years, but is insufficiently incorporated into the state health system. Nowadays, more and more patients decide not to perform general examinations, specialist examinations and diagnostics in secondary and tertiary institutions. They choose primary health care institutions having in mind various intra-hospital infections due to lack of funds for procurement of antiseptics and disinfectants used in operating blocks, surgery rooms and intensive care units. One of the burning problems that makes patients consider seeking medical services in primary health care institutions, both state and private, are the *Klebsiella* and *Clostridium difficile* epidemics, which in the last few years closed the departments of surgery at the General Hospital in Cuprija, the General Hospital in Loznica, Health center in Arandjelovac, the General Hospital in Krusevac and many others. According to the recommendation of the World Health Organization (WHO), the Ministry of Health and RFZO placed a special emphasis on the reduction of intra-hospital infections in high-risk departments, and as one of the most important health care goals to reduce deaths and epidemiological cases in patients and staff. By 2002, financing the health care system in Serbia was emphasized by the centralization of the healthcare system at the proposal of the former director of the Institute for Cardiovascular Diseases Dedinje and Health Minister Milovan Bojic, while in 2002 it switched to decentralization after the model of Bismarck. The announced reform of the health care system from 2016 foresees greater opportunities for entering of private capital and announces subsidizing public money from health contributions, however there are no serious and major concrete developments. Today, the combined financing model, based on strict cost control by the State Audit Institution (DRI), is still in force. Euro Health Consumer Index (EHCI) allows comparative analysis and ranking of European health systems according to analysis of national health systems based on 48 indicators covering areas such as rights and awareness of patients, access to health care, treatment reports, scope and area of services, prevention and the use of pharmaceutical products. In 2006, the Index introduced The Health Consumer Powerhouse Ltd (HCP), which was established in 2004 in order to research and compare health systems in Europe. Although there is considerable amount of criticism (British Medical Journal, Martin McKee and others), the EHCI in the company point out: "We know the Euro Health Consumer Index (EHCI) is today the leading public measurement of how national healthcare systems perform. We have recently learned that the European Commission after assessing various benchmarks has found the EHCI to be the most accurate and reliable comparison", (Euro Health Consumer Index, Report 2015, 2016). Since 2006, this comparison of key values within health care, from the point of view of patients and users of services, has improved the understanding of the European health system, empowered patients in terms of their rights and contributed to the elimination of weaknesses. EHCI, as well as a number of studies dedicated to specific diseases conducted by Health Consumer Powerhouse Ltd. (HCP) have established a standard that a modern and functional healthcare system can and should achieve (Euro Health Consumer Index, Report 2015, 2016).



Picture 1. Costs of the health system per capita in the countries of Europe
Source: Euro Health Consumer Index, Report 2016.



Picture 2. List of health systems according to the EHCI index
Source: Euro Health Consumer Index, Report 2016.

Serbia has improved its position on the EHCI ranking compared to the previous year. One of the reasons is the purchase of Gamma Knife and the construction of a Gamma Center at the Clinical Center of Serbia in the amount of 4 million Euros (4,000,000 €), which is one of the largest investments in health care. The application of Gamma Knife in Serbia started on November 2, 2015 at the National Gamma Center of the Clinical Center of Serbia, but it started to be fully implemented in March 2017 by purchasing additional equipment and thus the waiting list no longer exists. With this investment, Serbia drastically improved the quality of services in the healthcare system and reduced costs, so patients are no longer sent for treatment in Turkey. There is a certain number of registered patients from abroad who pay this service completely, so in this way RFZO generates profits with the help of the health system. Seeing the enormous potential in this form of providing the health service to those in need, Serbian government is also considering the purchase of a cyber knife that breaks non-operative tumors throughout the body.

Sub-discipline	Belgium	Austria	Denmark	France	Germany	Italy	Japan	Spain	Sweden	Switzerland	UK	USA	Canada	China	India	South Korea	Singapore	Taiwan	Thailand	Malaysia	Philippines	Indonesia	Brazil	Argentina	Chile	Colombia	Costa Rica	Cuba	Ecuador	El Salvador	Hong Kong	Israel	Latvia	Lithuania	Malta	Netherlands	Poland	Portugal	Slovenia	Slovakia	Turkey	Ukraine	USA					
1. Patient rights and information	122	111	125	104	115	101	104	106	111	108	98	104	97	108	108	104	108	97	108	98	97	111	98	73	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	
2. Accessibility (waiting time for treatment)	200	200	128	200	182	200	188	196	190	200	188	190	213	188	190	182	112	118	200	190	198	182	188	183	179	179	123	113	120	180	143	190	113	180	143	190	143	190	143	190	143	190	143	190	143	190	143	190
3. Outcomes	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
4. Range and reach of services	120	84	112	100	112	104	83	115	115	89	94	120	104	78	108	89	84	94	104	88	78	78	99	97	94	88	88	82	73	73	83	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	
5. Prevention	107	101	119	86	113	107	101	101	85	101	88	101	77	101	112	82	85	107	71	88	88	101	82	88	88	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
6. Pharmaceuticals	80	80	81	78	82	78	89	81	81	81	81	80	81	82	79	81	79	82	71	82	82	80	71	82	88	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Total score	937	946	965	900	854	891	848	842	827	856	818	756	780	783	781	740	728	708	703	688	688	682	678	670	688	623	620	583	588	573	584	501	528	518	487													
Rank	1	2	4	8	9	7	8	9	10	11	12	13	14	16	18	19	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35																	

Picture 3. Position of the Serbian Health System in the most important elements of the system

Source: (Euro Health Consumer Index, Report 2016)

Quality is a way to meet the needs of service users and this is best achieved by standardization. Standardization can be in the form of a methodology, specification, and most often instructions. Standards are embedded in the quality of processes and procedures to satisfy users of services in the form of security and fulfilled expectations. Institutions use standards to maximize efficiency and effectiveness in operation and service delivery to users. There are a number of standards in Serbia that are essential for improving the healthcare system, such as SRPS ISO 9000, SRPS ISO 14000 and SRPS ISO 27000 standards. The SRPS ISO 9000 series includes the 9001: 2015, 9004: 2009 standards that are related to the quality management system, setting key guidelines for system tracking, management and quality management to improve all business processes. It can lead to increased profits, savings in resources and increased level of satisfaction of service users in the healthcare system. The series of standards SRPS ISO 14000 includes the standards 14001: 2015 and 14004: 2005 related to the protection of the environment of both patients and staff in health institutions. It is most often seen in the movement, storage and reduction of medical infectious, cytotoxic and municipal waste within the legal obligations of environmental protection. Corresponding to this standard is SRPS OHSAS 18001: 2008 which refers to the management of health and safety at work, primarily in the proper handling and disposal of medicines and medical devices. The flow of information as well as their safety by the doctors towards the patient and vice versa is of great importance for the entire health system. It is most often regulated by

the standard SRPS ISO / IEC 27001 that manages the security of all information such as financial information about the operation of the healthcare institution and the correspondence of employees, information about patients and employees and in this way saves all valuable information through control and rules, minimizing the risk of potential abuse.

REVIEW OF LITERATURE

In the paper "Analysis of the movement of expenses for health care", (Gajic-Stevanovic M., 2012) through a retrospective analysis of health and financial statistics from the final reports of relevant state institutions in the period from 2003 to 2011, it was found that total allocations for health accounted for 8.8% of gross domestic product (GDP) in 2003 and 10.4% of GDP in 2011. This led to the conclusion that there is a big difference in the purchasing power of health services between the population of Serbia and the population of other European countries. The paper "Health insurance as a factor of health care costs", (Jankovic D., 2011), deals with the types of health insurance in different countries in accordance with their development. The EU and US systems are specifically separated, where participation in the EU is introduced as a tool for the suppression of moral hazard, while in the United States, a voluntary health insurance system with expensive administration is applied, but it is also shown as a system with the highest quality health care. "Health Insurance in Serbia - Financially Sustainable System", (Gavrilovic A. and Trmcic S. 2012), is a paper in which the author recognizes health insurance as the basis of a political and economic development of a state, and very subtly criticizes health insurance in Serbia as insurance where the insured is guaranteed only basic health care. Some of the measures that the author mentions as integrative and which should include the whole population in the development of health care include increasing participation, decentralization and introducing private practice into the health care system, all with the aim of better turnover and allocation of finances. (Ristic J. 2005), in his work "Measuring Customer Satisfaction", emphasizes the importance of quality standards ISO 9001: 2000 as an essential quality management system of any organization in the provision of services and products that lead to customer satisfaction as business partners, with the emphasis on constant satisfaction measurement and expectations in the correlation with the servicing strategy; while (Jovic Z., 2014) in the paper "Profile of clients of private health institutions in the Republic of Serbia as a factor in the organization of sales processes" puts a focus on the knowledge of the characteristics and habits of clients in the system of private healthcare institutions as one of the relevant factors for their sustainability through the creation of strategy and business policy. Since 2006, The Health Consumer Powerhouse Ltd (HCP) has been conducting research and comparative analysis of health systems in Europe. Reports are published annually on the results of research and ranking lists of European health systems (Piljan, Cogoljevic, 2015).

(Zaim H., Bayyurt N. and Zaim S., 2010), in their work (quality of services and determinants of customer satisfaction in hospitals: Experience of Turkey) have come to the results by factor analysis and the technique of logical regression analysis that confirm, determination, reliability, kindness and empathy are of key importance for patient satisfaction, while compassion and conviction are not.

OBJECTIVE AND METHODS OF RESEARCH

The aim of the research is to set the following goal: Based on the defined indicators, identify the quality factor of health insurance services from the perspective of the user.

It was hypothesized that, based on the opinion of health insurance beneficiaries, basic service quality factors could be identified.

The research was carried out by the method of theoretical analysis and empirical, research method. Empirical research was carried out in three phases:

- Collected data by polling respondents in writing;
- Arranging and grouping data;
- Data processing by statistical analysis method (descriptive statistics, factor analysis) and
- Interpretation of the obtained data.

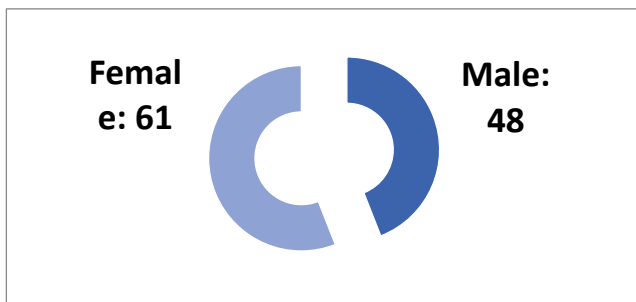
Of the general scientific methods in this research, a statistical method was used. Descriptive - survey-research method was applied from specific research methods.

In the operational phase of the research realization, the following research techniques (procedures) were used:

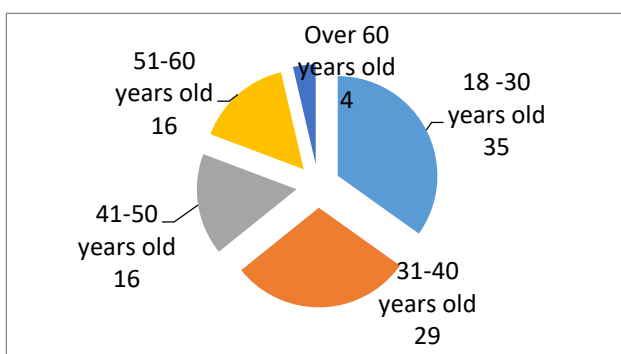
- Survey technique, for gathering opinions of users of health services, and
- Scaling technique, for evaluating the opinions of health care users.

The questionnaire consisted of two parts: the first contains questions that collect data on the assessment of the quality of health services in state health institutions; the second contains questions that collect data on the assessment of the quality of health services in private health institutions. A survey questionnaire was used to collect data in the form of a Likert scale for measuring attitudes, specially constructed for the given research. The questionnaire had 24 questions - 10 questions for compulsory health insurance and 14 questions for private health insurance. The Likert scale is defined with five levels of gradation: (1) I do not agree, (2) I do not agree or mostly disagree, (3) I neither agree nor disagree - I do not have a clear position, (4) I mostly agree and (5) I completely agree.

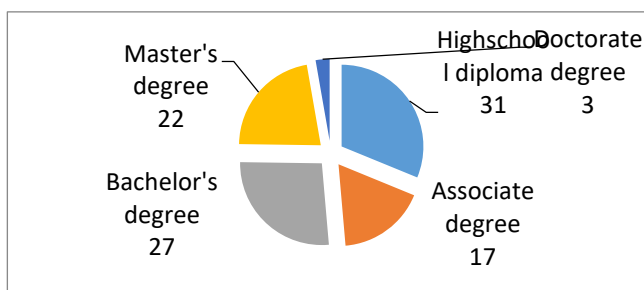
A total of 109 users of health services were tested. The structure of the sample by sex, age, education level and employment is shown in the following charts:



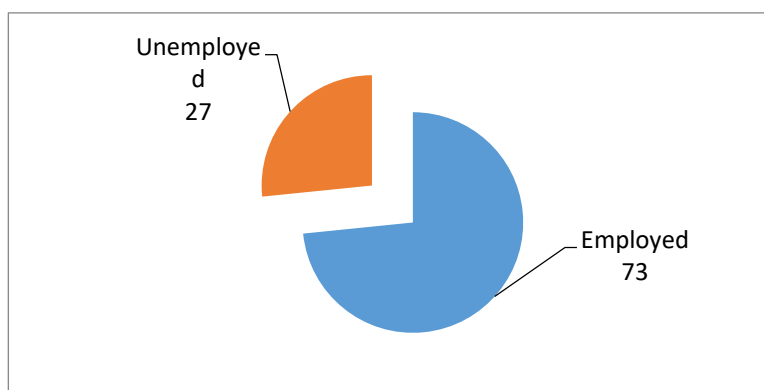
Picture 4. Structure of the sample by gender (Female 61, Male 48)
Source: Author's



Picture 5. Structure of the sample by age
Source: Author's



Picture 6. Structure of the sample by level of education
Source: Author's



Picture 7. Structure of the sample by employment (27 unemployed, 73 employed)

Source: Author's

In order to determine the level of internal consistency of data for compulsory health and private insurance, the Kronbach-Alpha coefficient value is calculated. The value of this coefficient should be above 0.7. The results show that the reliability of the research instrument was satisfactory because the high value of the Kronbach-Alpha coefficient = 0.876 for mandatory and Kronbach-Alpha coefficient = 0.845 for private health insurance (Tables 1 and 2) have the meaning of a high degree of internal consistency of all columns.

Table 1: Kronbach-Alfa coefficient for compulsory insurance

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,875	,876	10

Table 2: Kronbach-Alfa coefficient for private insurance

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,824	,845	14

The obtained reliability coefficients indicate that the applied instrument in this research has high reliability and internal agreement of the scale with respect to the applied sample and number of items in the assessment scale.

In addition to data processing, in addition to descriptive statistics, a well-known mathematical-statistical method was used - factor analysis (Misapplication of Factor Analysis,2017) This method was used to reduce the number of variables based on the total variability. Factor analysis is a set of mathematical-stochastic methods that enable us to determine in a greater number of observed variables, among which there is a connection, a smaller number of fundamental variables that

explain such interconnection. In other words, by factor analysis, you want to condense a large number of variables to a smaller one. These fundamental variables are called factors or latent variables, while the variables observed are called manifest variables (Fulgosi, 1979, Stewart, 1981).

Factor analysis is carried out in several steps:

1. Assessment of data suitability for the application of factor analysis,
2. Determining the initial results for determining the factor,
3. Determining the matrix of the factor structure and the final results after defining the factors,
4. Conducting a factor rotation if the initial matrix of the factor structure is not interpretable, or if it does not meet the set criteria of a simple structure,
5. Determining factor matrices and final results after factor rotation
6. Interpretation of selected factors after rotation.

FACTORS OF SATISFACTION OF USERS WITH THE QUALITY OF HEALTH SERVICES

The grouping of different indicators of the quality of realized health services according to a unique criterion that leaves no space for bias and arbitrariness was performed using factor analysis. The method makes it possible to reduce a number of manifest variables to a smaller number of latent variables-factors, based on their interconnectedness and according to the predetermined mathematical-logical conditions. Factor analysis enables the grouping of those issues that contribute most to the explanation of variance and which are the most significant correlation between them. Questions that do not significantly contribute to the explanation of variance are rejected. The researcher should formulate a common construct containing these questions.

The justification of the application of factor analysis was verified by significance tests. The obtained sample adequacy index is 0.894 for compulsory and 0.808 for private insurance. And the value of Bartlett's spherical test is also high and represents a reliable basis for the application of factor analysis (Tables 3 and 4).

Table 3: Results of KMO and Bartlett's Test for compulsory insurance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	460,319
	Df	45
	Sig.	.000

Table 4: Results of KMO and Bartlett's Test for private insurance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,808
Bartlett's Test of Sphericity	Approx. Chi-Square	784,135
	Df	91
	Sig.	,000

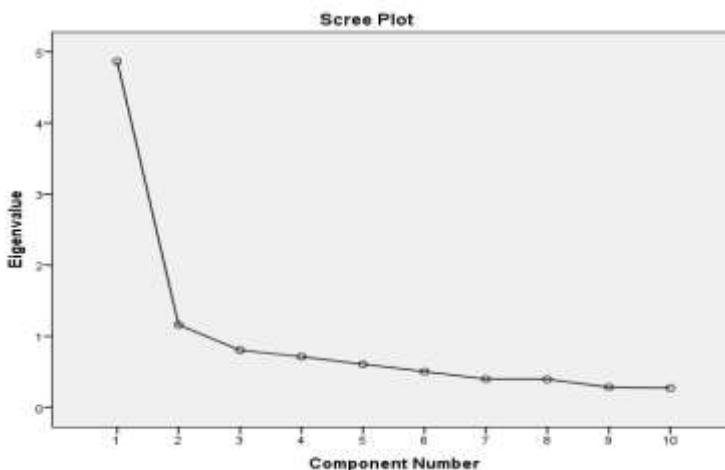
FACTORS OF SATISFACTION OF THE USERS WITH THE QUALITY OF HEALTH SERVICES IN THE INSTITUTIONS OF COMPULSORY INSURANCE

The number of extracted factors was determined by crossing the Katel Scree test. Katel suggested that the curve be cut off where it's steep slope stops and discard that thinner part, as these components explain a smaller part of the variance.

For the compulsory health insurance, 3 factors are identified, as shown in Table 5 and Figure 8. These factors represent 10 manifest variables. By this criterion, only those factors whose value of the characteristic root is greater or approximately equal to 1.00 are retained. Factors that have the following values of characteristic roots are accepted: 4.868; 1.161 and 0.803. They comprise 68.315% of the cumulative proportion of total variance. The first factor explains 30,469 variances, the second factor explains 21,271% and the third 16,575% variance.

Table 5: Results of the compulsory health insurance test

Total Variance Explained						
Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,868	48,678	48,678	3,047	30,469	30,469
2	1,161	11,606	60,284	2,127	21,271	51,739
3	,803	8,030	68,315	1,658	16,575	68,315
4	,712	7,123	75,438			
5	,606	6,064	81,502			
6	,503	5,032	86,534			
7	,398	3,979	90,513			
8	,395	3,948	94,462			
9	,283	2,829	97,290			
10	,271	2,710	100,000			
Extraction Method: Principal Component Analysis.						



Picture 8. Kattel's test for determining the number of factors of satisfaction of the user with the quality of health services in the state insurance institutions

The grouping of manifest variables into three groups, factors, was done after orthogonal rotation and obtaining the matrix of rotated components in Varimax rotation with Kaiser's normalization in several steps while the rotated matrix did not satisfy Terston's criteria. The results are shown in Tables no. 6, 7, 8 and 9.

Table 6: Matrix of compulsory health insurance components

Rotated Component Matrix ^a			
	Component		
	1	2	3
OZO3	,802	-,118	,315
OZO2	,715	,398	,127
OZO7	,696	,458	,251
OZO5	,694	,396	,160
OZO1	,683	,332	,192
OZO8	,079	,799	,355
OZO6	,292	,658	-,286
OZO9	,429	,618	,294
OZO10	,180	,113	,822
OZO4	,389	,109	,668

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations

Table 7: Structure of the first factor for compulsory health insurance

Tag	User satisfaction with the quality of services in public health institutions	Weight of factors
OZO3	I am satisfied with hygiene and regularity of state health institutions	,802
OZO2	I am satisfied with the attitude of the staff of state health institutions towards me	,715
OZO7	I am satisfied with the quality of services in public hospitals	,696
OZO5	I am satisfied with the quality of doctors' services in state health institutions	,694
OZO1	Compulsory health insurance provides me with quality services	,683

Table 8: Structure of the second factor for compulsory health insurance

Tag	Trust of users in state health institutions	Weight of factors
OZO8	I am satisfied with the quality of dental services in state offices	,799
OZO6	I have medical treatments in state health institutions	,658
OZO9	I trust compulsory health insurance	,618

Table 9: Structure of the third factor for compulsory health insurance

Tag	Corruption, protection and long waiting for services as irregularities in the work of state institutions	Weight of factors
OZO10	There are no corruption, protections and connections in state health institutions	,822
OZO4	Waiting in state health facilities is very short	,668

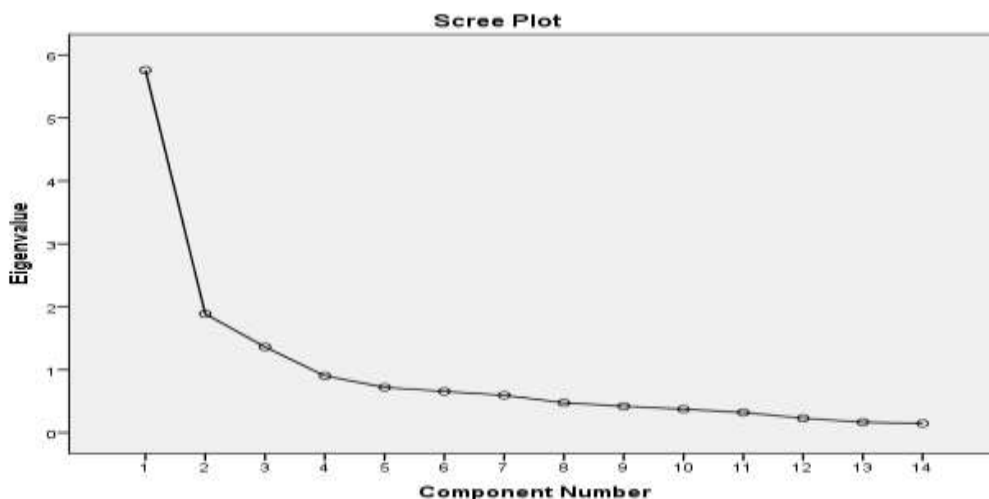
FACTORS OF SATISFACTION OF USERS WITH THE QUALITY OF HEALTH SERVICES IN PRIVATE INSURANCE INSTITUTIONS

For private health insurance, 3 factors are also singled out, Table 10, Figure 9. These factors represent 14 manifest variables. Factors that have the following values of characteristic roots are accepted: 5.763; 1,886 and 1,362. They comprise 64.368% of the cumulative proportion of total variance. The first factor explains 29,528% variance; the second factor explains 20,227% and the third 14,613% variance (Table 10 and Figure 9).

Table 10: Results of the private health insurance test

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,763	41,167	41,167	5,763	41,167	41,167	4,134	29,528	29,528
2	1,886	13,473	54,640	1,886	13,473	54,640	2,832	20,227	49,755
3	1,362	9,728	64,368	1,362	9,728	64,368	2,046	14,613	64,368
4	,902	6,443	70,811						
5	,719	5,135	75,946						
6	,654	4,674	80,620						
7	,593	4,235	84,855						
8	,473	3,381	88,237						
9	,419	2,990	91,226						
10	,372	2,655	93,881						
11	,319	2,280	96,161						
12	,228	1,627	97,788						
13	,165	1,180	98,968						
14	,144	1,032	100,000						

Extraction Method: Principal Component Analysis.



Picture 9. Katel's test for determining the number of factors of user satisfaction with the quality of health services in private insurance institutions

In this case, the grouping of manifest variables in three factors was done after orthogonal rotations and obtaining the matrix of rotated components in Varimax rotation with Kajzer's normalization in several steps, while the rotated matrix did not satisfy Terston's criteria. The results are shown in Tables no. 11, 12 and 13.

Table 11: Matrix of components for private health insurance

Rotated Component Matrix^a			
	Component		
	1	2	3
PO11	,867	,182	,059
PO13	,840	,114	-,026
PO14	,812	,198	-,017
PO7	,714	,340	,063
PO9	,638	,419	,176
PO4	,533	,089	,449
PO3	,219	,869	,056
PO2	,163	,778	,065
PO6	,556	,615	,028
PO8	,341	,613	,177
PO12	,250	-,167	-,741
PO10	-,164	,184	-,667
PO1	-,017	,461	,628
PO5	,474	,241	,614

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table 12: Structure of the first factor for private health insurance

Tag	Customer satisfaction with the quality of services in private health institutions	Weight of factors
PO11	The ratio of staff in private institutions is better for the patient than in state institutions	,867
PO13	I am satisfied with hygiene and regularity of private clinics	,840
PO14	I am satisfied with the quality of doctors' services in private health institutions	,812
PO7	Waiting in private clinics is short and pleasant	,714
PO9	I trust private hospitals more	,638
PO4	I'm being treated with a private dentist	,533

Table 13: Structure of the second factor for private health insurance

Tag	Users 'trust in private healthcare institutions	Weight of factors
PO3	I'm safer with investing in private insurance	,869
PO2	I trust private insurance companies	,778
PO6	Treatment in private hospitals is safer	,615
PO8	I have the confidence that all parts of the contract will be respected upon the expiration of private insurance	,613

Table 14: Structure of the third factor for private health insurance

Tag	Available funds are the most common condition for the use of services in private institutions	Weight of factors
PO12	Treatment in private hospitals is expensive	-,741
PO10	I do not have money for private doctors	-,667
PO1	I have money and I have secured myself with private insurance companies	,628
PO5	I do most examinations with private doctors	,614

CONCLUSION

This paper deals with identification of the quality factor of health insurance services from the perspective of the beneficiaries, on the basis of the defined indicators. The hypothesis that the basic factors of service quality can be identified was confirmed, based on the opinion of users of health insurance services.

Using the model of factor analysis, the 10 manifest variables of compulsory health insurance are classified into three factors that are named: (1) customer satisfaction with the quality of services in state health institutions, (2) trust of users in state health institutions, and (3) corruption, protection, and long waiting for services as irregularities in the work of state institutions.

For private health insurance, there are also three factors that have been classified into 14 manifest variables. The following factors are defined: (1) satisfaction of the user with the quality of services in private health institutions, (2) trust of beneficiaries in private health institutions, and (3) available funds are the most common condition for the use of services in private institutions.

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PENSION AND DISABILITY INSURANCE - THE NECESSITY OF INTRODUCING REFORMS

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ABSTRACT

Life is a natural course, full of uncertainty and tribulations for every human being. In order to make our lives peaceful and have a serene future, we try to provide various ways to ensure that we make our lives safer. The pension system is very important for every country from a social, economic and financial point of view. Pensions are above all a social category because they represent the income of people who are unable, due to sickness or age, to earn a living and who need state care, and as such pensions are part of the social security system, which is the most important form of social insurance. In most countries and especially in transition ones, pension insurance systems are in a crisis and are looking for reforms to create a model for establishing sustainable functioning. In Serbia, in the period from 2001 to 2016, reforms of the pension system were carried out in order to solve accumulated problems such as a high deficit, debt, ratio of the number of employees and pensioners, negative demographic trends, etc. This paper presents the results of the research in order to evaluate the attitude of the population of Belgrade towards the existing mandatory pension insurance and trust in the same, as well as the assessment of the need to realize additional reforms of the system. Hypothesis confirmed: citizens are not satisfied with the existing state of the pension insurance system and they believe that the pension fund is empty and fails to guarantee safe pensions. This means that the reforms implemented so far have not been sufficient and that reforms need to be continued.

Key words: *Pension System, Social Insurance, Private Pension Insurance, Reforms of the Pension System*

JEL Classification: *G22, G23*

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INTRODUCTION

The pension system is very important for every country from a social, economic and financial point of view. Pensions are above all a social category because they represent the income of people who are unable, due to sickness or age, to earn a living and who need state care, and as such, pensions are part of the social security system, which is the most significant form of social insurance. Modern social insurance was created in Germany in the 80s of the 19th century (Pak, 2001, pp.72) when compulsory insurance of workers with major social risk factors was introduced, such as age, disability, illness and unemployment. In the period of liberal capitalism, workers with low wages, and there were many during that period, were unable to provide their own essential security. In order to reduce these risks, the state, through the system of contributions, provided the social security of workers. In this system, each of the insured (workers) regularly contributed to those users who were affected with one of the mentioned social risks (Anja, Ejmer, 2005, pp.7).

Pensions are also an economic category because long-term payments, when the population is actively earning, create large assets in the name of saving for old age. Finally, pensions are also a financial category. On the one hand, because pensions are part of public spending, and as such, are part of the public finances of a country. On the other hand, lately, with the reform of the pension system, private pension funds representing old age savings are one of the most important institutional investors in financial markets around the world and have a major impact on the financial systems of countries.

The pension systems of most countries in the world are based on a system of ongoing financing. This system is characterized by the fact that those who work, through contributions, finance the pensions of those people who have completed their working lives. Today this type of intergenerational solidarity is not sustainable in the long run. The main reasons for this tendency are of a demographic and financial nature. For the sustainability of such a pension system, demographic factors are not favorable due to the aging of the population and the increasing share of those over 65 in the total population, on one hand, and low fertility rates, or the number of newborns, on the other. As a result, employees are unable to fund pensions without an increase of their contributions.

The process of globalization, that is, the process of integration of the world economy, has a great impact on the reforms of the pension system, which also requires a reduction in investments in pension insurance. This paper aims to draw attention to the current situation as well as to propose potential solutions that would make the pension system stable and sustainable over the long run, as well as to stress the importance of life insurance in securing material security in old age. The paper will address the provision of material security in the old age through analysis of pension systems both in the world and in our country, with the reforms undertaken, and a special emphasis will be placed on pension system reforms in transition countries, the emergence of pension funds and their role in the financial market, as well as development of private pension insurance in Serbia.

REFORMS OF THE PENSION SYSTEM AND FINANCIAL SECURITY IN OLD AGE

The reform of pension insurance is a big undertaking that affects the existential issues of the citizens of each country and therefore has a great social and political significance. Those who are working on the reform of the pension system in a country with a weak economy have a particularly difficult task, as it is also burdened by the consequences of war, economic sanctions and bombing. Reliance largely on the suggestions of the IMF and the World Bank by international organizations that have similar recipes for all non-developed countries can hardly have a good outcome (Ilic, 2006, pp. 121)

Developed European countries have no such problem, as their citizens, along with compulsory retirement, have some kind of voluntary insurance that guarantees them material security in their old age. In these countries, employers have a legal obligation to provide pensions to workers. Employers can pay into pension funds or direct life insurance that is paid as an annuity after retirement. In addition, all citizens can pay voluntary pension insurance, most often with life annuity insurance but rarely with pension funds. In order to maintain the desired level of income in the country's old age population, they undertake various measures, and regulations are adopted which, primarily through the tax policy, stimulate life insurance. The compulsory pension insurance business in some countries is being entrusted to national insurance companies because citizens have confidence in them, and they are also of great importance in supporting the development of the country's economy. (Piljan and al., 2015, pp. 95).

A successful reform involves the drafting of a set of legal, subordinate and administrative acts in order for pension insurance to be a complete system that will provide social justice. In the Law on Insurance applicable in Serbia, voluntary insurance has been given little space. Nevertheless, the least understandable segment of the pension insurance reform is that it is not envisaged to introduce compulsory pension insurance for employees that are concluded by employers. Funds from which the pensions of employees are paid operate on the basis of capitalization, and that is why they have an advantage over public funds. The introduction of voluntary insurance (3rd pillar) only through a pension fund in countries with low average wages and without tradition in that business is also debatable. It is necessary that regulations that would stimulate various types of voluntary pension insurance by a number of measures are a constituent part of the reform. A reform based on drastic reductions in compulsory insurance and voluntary insurance coverage does not have good prospects if a successful reform is one which in the long term protects both the individual interests of citizens and the broader national interests (Jovanovic, 2003, pp. 121).

In Serbia, an important way of organizing insurance, which is otherwise widely used in developed countries, is also neglected. It is well-known that non-profit mutual insurance companies largely provide insurance that has a social function (pension, health, insurance and old age care). These are companies that

fail to charge the costs of their business (such as pension fund management companies) and through which the solidarity of those who want to protect themselves from poverty in old age is achieved in the best way. It would therefore be desirable to examine the experience of other countries in relation to the business of mutual insurance companies in order to achieve better solutions for categories of citizens such as, for example, farmers or members of independent professions. Obviously, the law favors the establishment of profit joint stock companies as a more desirable way of organizing an insurance company. By contrast, in developed countries, the conditions for the establishment of mutual insurance companies, without which good social policy cannot be imagined, are more favorable than joint stock companies. The issue of the safety of the performance of pension fund obligations in the future is also open. This is a major obstacle to the development of voluntary pension insurance, because although it is unlikely that the obligations of the fund or the insurer will be executed, this danger cannot be excluded. In the EU, current projects are aimed at establishing transnational rules for guaranteeing obligations under long-term insurance contracts. In some countries, schemes of guarantee already exist in the form of funds in which all insurers are paid in advance, which foresees the establishment of funds that are formed only in the event of a bankruptcy of the fund or insurance company. The NBS argues that the operations of these funds are safe considering that assets can only be invested in the safest and most liquid securities. If so, the question is why there is no guarantee that the fund's obligations will be executed regardless of the possible crash of their business (Piljan and al., 2014, pp. 276).

Undoubtedly, a sustainable pension system must be the result of comprehensive economic, sociological, demographic and other research. The rationale for the reform is to be implemented because there is an unfavorable relationship between the working and the dependent population and the aging of the population does not take into account the complexity of all the causes that led to problems in the functioning of Serbian pension insurance. The problem of a large number of 'dependent' population segments should not be solved by a brutal reform of the pension system, but by a more just distribution of social wealth, and by directing all potentials to economic growth and increasing employment. As for the aging of the population, a comparative study should be made to determine the situation in Serbia in relation to other countries.

The data on increased mortality of both pensioners and people who die in their best years of serious illnesses considers how many Serbian citizens will receive pensions, and how long they can use them (Rakonjac-Antic, 2008, pp. 122).

REFORMS OF THE SERBIAN PENSION SYSTEM

The purpose of the implementation of the Serbian pension reform is to establish a long-term sustainable system that provides greater social and financial security and a higher overall level of pensions.

The basic motive of the reform is to make the pension system resistant to demographic and economic shocks, as well as efficient, effective, and flexible in relation to the needs and preferences of individuals and less dependent on the state (www.penzijiskifond.rs, 01/06/2017).

Compulsory pension and disability insurance in Serbia is based on current financing of pensions and includes the insurance of three basic types of risks: age, disability and death of the insured.

A compulsory component that provides the minimum age-appropriate income (absolute standard of living) is based on a minimum retirement sum, and the component that ensures the maintenance of income in age is based on the score system. Since the end of 2006, a part of the system has also been voluntary pension savings in private pension funds (Matkovic and al., 2008, pp. 35).

This design of the pension system is the result of a comprehensive reform of the pension system in the 2001-2003 period. At the end of 2005, certain changes were made. The pension system component that provides an absolute living standard in Serbia is realized through a minimum pension. When s/he fulfills the conditions for retirement, those insured whose pension is below the legal level are entitled to a minimum pension. The retirement conditions are the appropriate age limit and minimum length of service.

The minimum pension currently in Serbia is just over 13,221 dinars, i.e. about 20% of the average gross salary. Within the legal changes in the period from 2001 to 2003, a uniform minimum pension amount of 20% of the average salary was guaranteed, instead of the then multiple minimum pensions which depended on the length of service. By the end of 2005, the minimum pension was increased formally to 25% of the salary, but as a result of indexing twice a year, it ranged between 20% and 22%. The minimum retirement amount is within the limits of the minimum or social retirement pensions of the countries in the region, and somewhat lower than the compensation of that type in highly developed countries (Rakonjac-Antic, 2008, pp. 35).

Due to an inclusion of the total working life, instead of the 10 most highly-paid years, a stronger link between the sum of the pension and the paid contributions is made, eliminating the spillover for those who made progress in their career or had a significantly higher salary in only one part of their work history. This method increases and more precisely determines the difference in the pension sum, depending on the length of service. The new 2003 law also stipulates that the retirement age is increased for over 40 years of service, which was not the case before, but with the idea of encouraging work as long as possible.

According to current legal solutions (from 2005), the retirement age increased gradually and in 2011 it reached 60 years for women and 65 for men, with a minimum of 15 years of service. This age limit was determined by multiple legal changes after 2000.

One of the major reform movements in 2001 was the increase in the age limit from 55 to 58 for women and from 60 to 63 for men (at the same time the minimum age limit was shifted from 50 to 53 years).

THE LEGAL FRAMEWORK FOR PENSION REFORMS IN SERBIA

The mentioned pension system reform in Serbia was carried out in September 2005 by bringing the following laws:

- the Law on Amendments to the Law on Pension and Disability Insurance;
- the Law on Voluntary Pension Funds and Pension Plans;
- the Law on Payment of Contributions for pension and disability insurance for certain categories;
- the Law on the Public Debt of the Republic of Serbia on the takeover of obligations of the Republic Fund for pension and disability insurance of employees based on unpaid pensions;
- the Law on the Public Debt of the Republic of Serbia on the basis of assuming obligations of the Republic Fund for Pension and disability insurance of farmers arising from unpaid pensions and cash benefits (SGRD-ZDPF, 85/2005).

THE NECESSITY OF REFORMING THE SERBIAN PENSION SYSTEM

The pension system reform is one of the most striking and, at the same time, the most sensitive issues of the overall reform processes of recent decades both in developed and transition countries. The long-term pressure of population aging and the prolongation of life expectancy, the need to reduce, or additionally, prevent poverty among the elderly, the need to reduce fiscal pressures and lower the cost of the labor force, and the inadequacy of certain pension schemes and solutions are strong drivers of the reforms.

In Serbia, there are three categories of pensioners: old-age pensioners, those who were employed and paid a contribution to the pension insurance fund and need to exceed a certain age limit in order to be eligible for retirement; disability pensioners, who receive a pension regardless of their age, based on their state of health; and family pensioners, most often children whose parents have died, who

are in full-time education, as well as widows or widowers, if supported by their spouses. Previously, there were three pension insurance funds: the employee fund, self-employed fund, and farmer fund, all of which were consolidated into a single fund at the beginning of 2008.

Due to the unfavorable ratio of actively insured persons and pension beneficiaries, the state is compensating for pension benefits from the budget. Pension costs in our country account for 14% of the gross domestic product and are among the highest in the region. In order to pay out all pensions, the state of Serbia must allocate from the budget as much as 40% of the funds needed for the payment of pension benefits (in 2005 it was about 800 million Euros, or 65 billion dinars).

In transition countries, reforms were most often conceived with the support of the World Bank under the so-called three pillars. Typical reforms in the three-pillar model include parametric changes to the 1st pillar (the current, state PAYG system), the introduction of the 2nd pillar through mandatory additional savings of younger insurers in private pension funds and the development of voluntary pension insurance as the 3rd pillar of the pension system.

TRANSFER OF THE 1ST PILLAR

The 1st pillar is compulsory, it is financed by the principle of current income and expense (pay-as-you-go), the pension is pre-defined, and the revenues are provided by the state's taxation (contributions). This pillar is managed by the state, so management is centralized. Also, the 1st pillar provides a redistributive function - intergenerational solidarity.

Table 1: Review of the age limits for a pension.

The year when condition for an old age pension are met	Men	Women	Minimum length of service
2006, 2007	63	58	20
2008	63,5	58,5	19
2009	64	59	18
2010	64,5	59	17
2011	65	60	15
2017	65	61,6	15

Source: www.parlament.gov.rs.

TRANSFER OF THE 2ND PILLAR

The 2nd pillar represents mandatory savings managed by private pension funds. Managing this pillar of the pension system is usually decentralized to private computing. The 2nd pillar pension depends on the contributions paid and the ability of the selected fund to increase them further, while the risk is borne by the user.

The 2nd pillar or compulsory private pension insurance exists in Croatia, Bulgaria, Macedonia, Poland, Slovakia and other countries. In the Czech Republic, Slovenia, and Ukraine, the 2nd pillar has not been formed, so that the structure of the pension system is the 1st and 3rd pillars.

In the current reform of Serbia, it has been decided that the pension system relies on two components: the current financing of pensions (PAYG) organized within the state fund (1st pillar), to the development of voluntary old-age savings in private pension funds (3rd pillar). During the first wave of reforms, the idea that besides these two components in the pension system there were also mandatory savings in private pension funds, the so-called 2nd pillar, was discarded. Thus it can be concluded that even today the introduction of the 2nd pillar in Serbia is not recommended.

BASIC FEATURES OF THE 3RD PILLAR

The 3rd pillar represents voluntary savings managed by private pension funds, as well as a supplement to pensions from the 1st and 2nd pillars. In this model, the financial risk is borne by the user.

It should be noted that the 2004 Insurance Law envisaged voluntary pension insurance. The Law on Voluntary Pension Funds and Pension Plans, which is part of the aforementioned package of laws of September 2005, began to develop voluntary private pension insurance in Serbia (SGRS-ZOS, 2004, 55/04 and 70/04).

Simultaneously with the reform of the state pension system, the adoption of the Law on Voluntary Pension Funds and Plans regulates private pension insurance, the so-called 3rd pillar model of the pension system. The essence of the proposed solutions is to create the conditions for the citizens to increase the pension income with pensions from the state pension fund by establishing satisfactory pension funds and pension plans.

Although it is estimated that the introduction of voluntary pension insurance is a very positive thing that will contribute to improving the functioning of the system as a whole, there are, however, certain objections. The National Bank of Serbia supervises the work of the management company for private pension funds (SGRS-ZDPF, 2005, 85/05).

The introduction of the 3rd pillar is not adequately followed in terms of marketing as well as training. This is important due to raising the awareness of the insured about the importance of saving in this way, and preparing pension funds for possible 2nd pillar introduction when they will have a much larger role (experience, management, marketing) and capital market development. The experiences of other countries have clearly shown that training and marketing are very important factors that will determine the effectiveness of introducing a voluntary pension insurance (Matkovic and al.,2008, pp. 32).

In Serbia, despite the establishment of voluntary pension funds, citizens are more likely to opt for life insurance as a way of saving for old age. Despite the necessity and priority of investing in pension funds, there have been no major developments yet since the establishment of the first funds. Voluntary pension insurance is considered savings through pension funds, because in the field of supplementary pensions, only the law on voluntary pension funds has been adopted (Stojilkovic, 2010, pp.3).

According to the data from the Statistical Office of the Pension and Disability Insurance Fund, in June 2017 there were 1,736,154 pensioners in Serbia, which are 5,917 less than the record number of 1,742,071 in February 2015. Reducing the number of pensioners is an expansive endeavor: demise was accelerated and the working-class inflow slowed down, so the number of pensioners decreased rapidly: by 809 in March, 886 in April, 1,719 in May, and in June the decrease was reduced to only 741 people (i.e. pension checks) compared to May.

The largest number of pensioners in Serbia is from the ranks of employees - 1,451,314, far fewer farmers - 212,273, while from the category of independent activities, as few as 72,567.

Private pension funds are one of the largest institutional investors in the world, but in Serbia, where they first arrived in November 2006, they were hardly known. According to the latest data from the National Bank of Serbia, the total value of all pension funds in the last five years has steadily increased, reaching only 12.45 billion dinars, or 120 million Euros in December 2011. When compared with almost 800 billion dinars deposited in banks by citizens, or 7.6 billion Euros, it is clear how much this type of investment is unpopular in our country.

The previous changes in the pension system of the Republic of Serbia have yielded significant results. Some World Bank research shows that deficits in the pension system would be 3 to 4 times higher without previously making changes, which is a very large shift in relation to the initial state (Marsenic, 2010, pp.18).

ASSESSING THE OPINIONS OF CITIZENS

For the purposes of this paper, a survey was conducted to assess the opinion of Belgrade residents towards the existing mandatory pension insurance and assess the attitude of the need for the implementation of additional systems.

The general hypothesis is: citizens are not satisfied with the current situation in the pension insurance system, they believe that the pension fund is empty and does not guarantee safe pensions. This means that the reforms implemented so far have not been sufficient and that reforms need to be continued.

The research was done on the territory of the city of Belgrade on a sample of 120 respondents. The statistical method dominated from the general scientific methods in this study, and the descriptive - survey-research - method was applied from specific research methods, since this variant of scientific description implies an active involvement of respondents in providing information on the phenomena that are the subject of the study, on the basis of which can enter the essence of a research subject and determine its condition, as well as detect causal relationships and relationships. The Statistical Package for Social Sciences was used for statistical data processing. The non-parametric statistical procedure Chi square test and contingency coefficient C were used for data processing.

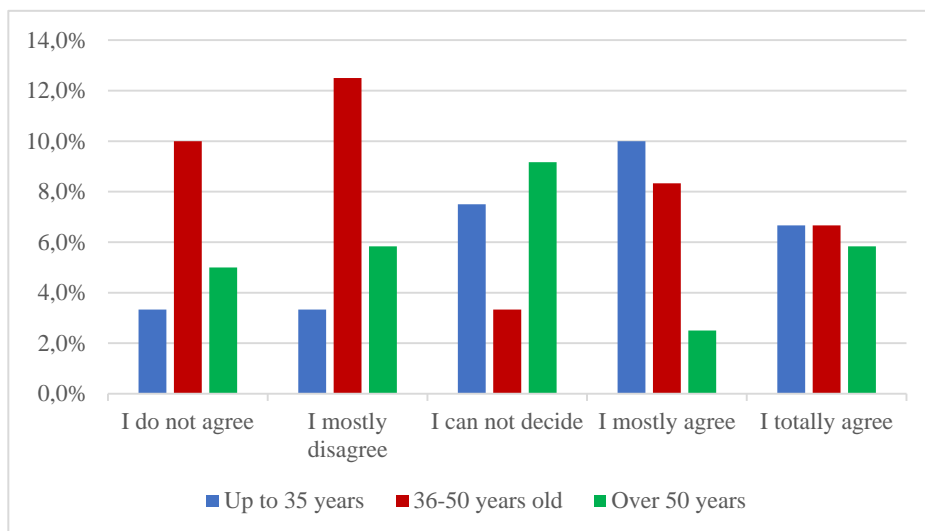
Nonparametric statistical procedures examine the significance of statistical indicators that apply regardless of whether the data is measured or counted and whether they are distributed regularly or differently. In other words, this means that they do not depend on the shape of the frequency distribution. The Chi-square test is a nonparametric statistical procedure, which means that qualitative (categorical) data is used in its calculation. It should be especially emphasized that other measurement units, other than frequency, are not considered for data processing using the Chi-square test.

Table 2: The compulsory pension insurance is excellent

Social-andragogical character. of respondents		Mandatory pension insurance is excellent						x ² i C	p	
		1	2	3	4	5	IN TOTAL			
Pol	1. Males	7	12	10	5	11	45	120 100%	x ² =5,625 C=0,212	p=0,229 p>0,05
		5,8%	10,0%	8,3%	4,2%	9,2%	37,5%			
	2. Females	15	14	14	20	12	75			
		12,5%	11,7%	11,7%	16,7%	10,0%	62,5%			
Year of life	1. Up to 35 years	4	4	9	12	8	37	120 100%	x ² =17,483 C=0,357	p=0,025 p<0,05
		3,3%	3,3%	7,5%	10,0%	6,7%	30,8%			
	2. 36-50 years	12	15	4	10	8	49			
		10,0%	12,5%	3,3%	8,3%	6,7%	40,8%			
	3. Over 50 years	6	7	11	3	7	34			
		5,0%	5,8%	9,2%	2,5%	5,8%	28,3%			
Professional qualifications	1. Finished elementary school	0	0	0	0	0	0	120 100%	x ² =8,314 C=0,255	p=0,760 p>0,05
		0,0%	0,0%	0,0%	0,0%	0,0%	0,0%			
	2. Secondary education	5	10	5	7	9	36			
		4,2%	8,3%	4,2%	5,8%	7,5%	30,0%			
	3. Higher education	1	1	1	0	1	4			
	0,8%	0,8%	0,8%	0,0%	0,8%	3,3%				
	4. High professional	9	7	9	5	7	37			
		7,5%	5,8%	7,5%	4,2%	5,8%	30,8%			
	5. Master / Doctor of Science	7	8	9	13	6	43			
		5,8%	6,7%	7,5%	10,8%	5,0%	35,8%			
Years of service	1. Up to 10 years	8	8	8	11	7	42	120 100%	x ² =13,115 C=0,314	p=0,361 p>0,05
		6,7%	6,7%	6,7%	9,2%	5,8%	35,0%			
	2. From 11 to 20 years	7	8	4	10	8	37			
		5,8%	6,7%	3,3%	8,3%	6,7%	30,8%			
	3. From 21 to 30 years	4	8	5	3	3	23			
		3,3%	6,7%	4,2%	2,5%	2,5%	19,2%			
	4. Over 30 years	3	2	7	1	5	18			
		2,5%	1,7%	5,8%	0,8%	4,2%	15,0%			
Workplace	1. Worker	17	18	13	18	17	83	120 100%	x ² =9,223 C=0,267	p=0,684 p>0,05
		14,2%	15,0%	10,8%	15,0%	14,2%	69,2%			
	2. Operations Manager	2	3	5	4	5	19			
		1,7%	2,5%	4,2%	3,3%	4,2%	15,8%			
	3. Mid-level manager	2	4	3	1	1	11			
		1,7%	3,3%	2,5%	0,8%	0,8%	9,2%			
	4. Top Management	1	1	3	2	0	7			
		0,8%	0,8%	2,5%	1,7%	0,0%	5,8%			

According to the data in Table 1, it is evident that all independent variables are not significantly related to respondent attitudes about whether the compulsory pension insurance is excellent. Namely, the value of the Chi-square test and the contingency coefficient C show that gender ($x^2 = 5.625$, $C = 0.212$ and $p = 0.229$), profession ($x^2 = 8.314$, $C = 0.255$ and $p = 0.760$), work experience ($x^2 = 13.115$, $C = 0.314$ and $p = 0.361$), and the position of the respondents in the company ($x^2=9.223$, $C=0.267$ and $p=0.684$) are not statistically significantly related to the stated attitude of the respondents (opinion: the mandatory pension insurance is excellent). This means that we do not have significant deviations in respect of the said position.

On the other hand, however, age ($\chi^2=17.483$, $C=0.357$ and $p=0.025$) is statistically significant with the view that mandatory pension insurance is excellent. In other words, this means that the respondents' answers were statistically significantly different with regard to age.



Picture 1. Agreement with the claim that compulsory pension insurance is excellent.

According to the results in Diagram 1, the young generation places significantly more emphasis on compulsory pension insurance. The younger generation has much more trust in the pension fund than the middle-aged and elderly generation over 50, which indicates that this is a necessity of the modern era. Naturally, this would fully revitalize all the activities on this issue, which must be supported by the state. It is certain that this question cannot be solved by respondents and working organizations, and in the resolution of this issue, the maximum suspension of all state apparatus is expected. This attitude of the young generation is perhaps expected. That is exactly the life period when you need to think about solving the problem of pension insurance. It is interesting that the middle-aged generation disagrees with the view that compulsory pension insurance is excellent. In the elderly generation, one might say that the opinions are identical.

Table 2: I expect a good pension which I can support myself with.

Social-andragogical character. of respondents		I expect a good pension from which I can live well						IN TOTAL	χ^2 i C	p
		1	2	3	4	5				
Pol	1. Males	15	7	8	4	11	45	120	$\chi^2=1,164$ C=0,098	p=0,884 p>0,05
	2. Females	29	14	9	7	16	75			
Year of life	1. Up to 35 years	10	5	4	5	13	37	120	$\chi^2=11,561$ C=0,296	p=0,172 p>0,05
	2. 36-50 years	22	8	5	4	10	49			
	3. Over 50 years	12	8	8	2	4	34			
Professional qualifications	1. Finished elementary school	0	0	0	0	0	0	120	$\chi^2=14,838$ C=0,332	p=0,250 p>0,05
	2. Secondary education	9	8	3	2	14	36			
	3. Higher education	1	1	1	0	1	4			
	4. High professional	19	5	5	3	5	37			
	5. Master / Doctor of Science	15	7	8	6	7	43			
Years of service	1. Up to 10 years	17	6	4	3	12	42	120	$\chi^2=20,345$ C=0,381	p=0,061 p>0,05
	2. From 11 to 20 years	13	5	6	5	8	37			
	3. From 21 to 30 years	11	7	0	1	4	23			
	4. Over 30 years	3	3	7	2	3	18			
Workplace	1. Worker	30	12	9	7	25	83	120	$\chi^2=16,197$ C=0,245	p=0,182 p>0,05
	2. Operations Manager	6	5	5	2	1	19			
	3. Mid-level manager	5	3	2	0	1	11			
	4. Top Management	3	1	1	2	0	7			

According to the data in Table 2, we see that all independent variables are not significantly related to the views of the respondents about the pension they expect. Namely, the value of the Chi-square test and the contingency coefficient C show that gender ($\chi^2=1.164$, C=0.098 and p= 0.884), age ($\chi^2=11.561$, C=0.296 and p=0.172), profession ($\chi^2=14.838$, C=0.332 and p=0.250), work experience ($\chi^2=20.345$, C=0.382 and p= 0.061) and the position of the respondents in the company ($\chi^2=16.197$, C=0.245 and p=0.182) were not significantly related to the stated attitude of the respondent (opinion: mandatory pension insurance is excellent). This means that we have no significant deviations in respect of the said position. Based on the data from the table, we can conclude that regardless of gender, age, professional qualifications, working experience and position in the company, most respondents disagree with the view that they expect a good pension from which they will be able to live well.

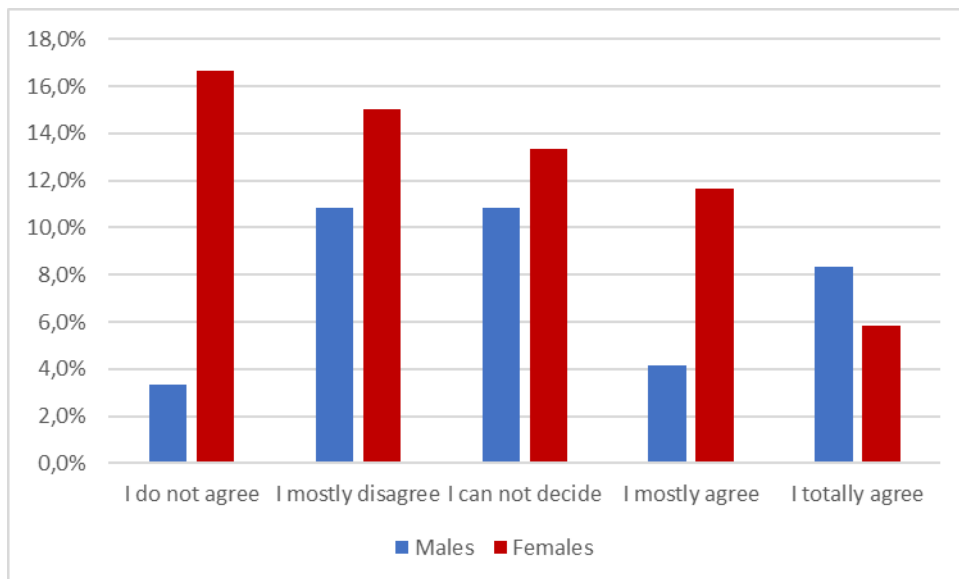
Table 3: A pension fund guarantees secure pensions.

Social-andragogical character. of respondents		Pension fund guarantees safe pensions							χ^2 i C	p			
		1	2	3	4	5	IN TOTAL						
Pol	1. Males	4	13	13	5	10	45	120	$\chi^2 = 9,681$ C=0,273	p=0,046 p<0,05			
		3,3%	10,8%	10,8%	4,2%	8,3%	37,5%						
	2. Females	20	18	16	14	7	75	100%					
		16,7%	15,0%	13,3%	11,7%	5,8%	62,5%						
Year of life	1. Up to 35 years	6	8	11	7	5	37	120	$\chi^2 = 6,890$ C=0,233	p=0,549 p>0,05			
		5,0%	6,7%	9,2%	5,8%	4,2%	30,8%						
	2. 36-50 years	8	13	10	8	10	49				100%		
		6,7%	10,8%	8,3%	6,7%	8,3%	40,8%						
	3. Over 50 years	10	10	8	4	2	34						
		8,3%	8,3%	6,7%	3,3%	1,7%	28,3%						
Professional qualifications	1. Finished elementary school	0	0	0	0	0	0	120	$\chi^2 = 11,845$ C=0,300	p=0,458 p>0,05			
		0,0%	0,0%	0,0%	0,0%	0,0%	0,0%						
	2. Secondary education	6	5	8	10	7	36				100%		
		5,0%	4,2%	6,7%	8,3%	5,8%	30,0%						
	3. Higher education	1	1	1	0	1	4						
	0,8%	0,8%	0,8%	0,0%	0,8%	3,3%							
	4. High professional	7	10	9	5	6	37						
		5,8%	8,3%	7,5%	4,2%	5,0%	30,8%						
	5. Master / Doctor of Science	10	15	11	4	3	43						
		8,3%	12,5%	9,2%	3,3%	2,5%	35,8%						
Years of service	1. Up to 10 years	7	7	12	9	7	42	120	$\chi^2 = 18,315$ C=0,364	p=0,106 p>0,05			
		5,8%	5,8%	10,0%	7,5%	5,8%	35,0%						
	2. From 11 to 20 years	7	11	8	3	8	37				100%		
		5,8%	9,2%	6,7%	2,5%	6,7%	30,8%						
	3. From 21 to 30 years	6	7	3	7	0	23						
		5,0%	5,8%	2,5%	5,8%	0,0%	19,2%						
	4. Over 30 years	4	6	6	0	2	18						
		3,3%	5,0%	5,0%	0,0%	1,7%	15,0%						
Workplace	1. Worker	13	20	20	16	14	83	120	$\chi^2 = 9,193$ C=0,267	p=0,686 p>0,05			
		10,8%	16,7%	16,7%	13,3%	11,7%	69,2%						
	2. Operations Manager	5	6	4	2	2	19				100%		
		4,2%	5,0%	3,3%	1,7%	1,7%	15,8%						
	3. Mid-level manager	3	3	4	0	1	11						
	2,5%	2,5%	3,3%	0,0%	0,8%	9,2%							
	4. Top Management	3	2	1	1	0	7						
		2,5%	1,7%	0,8%	0,8%	0,0%	5,8%						

According to the data in Table 3, not all independent variables are significantly related to the respondents' attitudes about whether the compulsory pension insurance is excellent. Namely, the value of the Chi-square test and the coefficient of contingency C show that age ($\chi^2=6.890$, $C=0.267$ and $p=0.684$), profession ($\chi^2=11.845$, $C=0.300$ and $p=0.458$), work experience ($\chi^2=18.315$, $C=0.364$ and $p=0.106$) and the position of the respondents in the company ($\chi^2=9.193$, $C=0.267$ and $p=0.686$) were not statistically significantly related to the stated attitude of the respondents (opinion: the pension fund guarantees safe pensions). This means that

we have no significant deviations in respect of the said position. Most respondents share the view that the pension fund does not guarantee a secure pension.

The independent variable of gender ($\chi^2=8.672$, $C=0.155$ and $p=0.070$) is statistically significant with the view that the pension fund guarantees safe pensions. In other words, this means that the answers of the respondents are statistically significant in terms of gender.



Picture 2. Agreement with the claim that the pension fund guarantees secure pensions.

By analyzing the data from Diagram 2, we can conclude that the claim that the pension fund guarantees secure pensions does not agree with the majority of the respondents regardless of gender, but female respondents are predominant. This is perhaps understandable because women have a more cautious attitude to existence.

Table 4: A reform of the pension system is necessary.

Social-andragogical character. of respondents		It is necessary to reform the mandatory pension insurance							IN TOTAL	χ^2 i C	p
		1	2	3	4	5	6	7			
Pol	1. Males	0	1	6	12	26	45	120	$\chi^2=4,088$ C=0,182	p=0,334 p>0,05	
	2. Females	0,0%	0,8%	5,0%	10,0%	21,7%	37,5%				
Year of life	1. Up to 35 years	0	0	6	13	18	37	120	$\chi^2=14,786$ C=0,331	p=0,063 p>0,05	
	2. 36-50 years	0,0%	0,0%	5,0%	10,8%	15,0%	30,8%				
	3. Over 50 years	0	0	5	8	36	49				
		0,0%	0,0%	4,2%	6,7%	30,0%	40,8%				
Professional qualifications	1. Finished elementary school	0	0	0	0	0	0	120	$\chi^2=8,335$ C=0,256	p=0,754 p>0,05	
	2. Secondary education	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%				
	3. Higher education	2	0	4	9	21	36				
	4. High professional	1,7%	0,0%	3,3%	7,5%	17,5%	30,0%				
	5. Master / Doctor of Science	0	0	1	0	3	4				
		0,0%	0,0%	0,8%	0,0%	2,5%	3,3%				
Years of service	1. Up to 10 years	0	0	6	15	21	42	120	$\chi^2=20,106$ C=0,379	p=0,065 p>0,05	
	2. From 11 to 20 years	0,0%	0,0%	5,0%	12,5%	17,5%	35,0%				
	3. From 21 to 30 years	0	0	5	4	28	37				
	4. Over 30 years	0,0%	0,0%	4,2%	3,3%	23,3%	30,8%				
Workplace	1. Worker	1	0	1	4	17	23	120	$\chi^2=3,573$ C=0,170	p=0,990 p>0,05	
	2. Operations Manager	0,8%	0,0%	0,8%	3,3%	14,2%	19,2%				
	3. Mid-level manager	1	1	3	3	10	18				
	4. Top Management	0,8%	0,8%	2,5%	2,5%	8,3%	15,0%				
		2	1	10	19	51	83				
		1,7%	0,8%	8,3%	15,8%	42,5%	69,2%				

According to the data in Table 4, we see that all independent variables are not significantly related to the respondents' attitudes about the necessity of reforming compulsory pension insurance. The value of the Chi-square test and the contingency coefficient C show that gender ($\chi^2=4.088$, $C=0.182$ and $p=0.334$), age ($\chi^2=14.786$, $C=0.331$ and $p=0.063$), profession ($\chi^2=8.335$, $C=0.256$ and $p=0.754$), work experience ($\chi^2=20.106$, $C=0.379$ and $p=0.065$) and the position in the company ($\chi^2=3.573$, $C=0.170$ and $p=0.990$) were not significantly related to the above respondents. This means that we have no significant deviations in respect of the said position. Based on the data from the table, we can conclude that regardless of gender, age, professional qualifications, working experience and position in the company, most respondents agree with the view that a mandatory pension insurance reform is necessary.

Table 5: A reform of compulsory pension insurance can be realized.

Social-andragogical character. of respondents		Reform of compulsory pension insurance can be realized						IN TOTAL	χ^2 i C	p
		1	2	3	4	5				
Pol	1. Males	2	0	13	16	14	45	120 100%	$\chi^2=5,761$ C=0,214	p=0,218 p>0,05
	2. Females	1,7%	0,0%	10,8%	13,3%	11,7%	37,5%			
Year of life	1. Up to 35 years	2	6	24	17	26	75	120 100%	$\chi^2=10,652$ C=0,286	p=0,222 p>0,05
	2. 36-50 years	1,7%	5,0%	20,0%	14,2%	21,7%	62,5%			
	3. Over 50 years	0	4	13	13	19	49			
Professional qualifications	1. Finished elementary school	0	0	0	0	0	0	120 100%	$\chi^2=17,575$ C=0,357	p=0,129 p>0,05
	2. Secondary education	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%			
	3. Higher education	0,0%	0,8%	8,3%	7,5%	13,3%	30,0%			
	4. High professional	0	0	2	0	2	4			
	5. Master / Doctor of Science	0,0%	0,0%	1,7%	0,0%	1,7%	3,3%			
Years of service	1. Up to 10 years	0	2	16	8	11	37	120 100%	$\chi^2=11,318$ C=0,294	p=0,502 p>0,05
	2. From 11 to 20 years	0,0%	1,7%	10,8%	5,8%	12,5%	30,8%			
	3. From 21 to 30 years	0	2	6	5	10	23			
	4. Over 30 years	0,0%	1,7%	5,0%	4,2%	8,3%	19,2%			
Workplace	1. Worker	1	0	5	7	5	18	120 100%	$\chi^2=10,840$ C=0,288	p=0,543 p>0,05
	2. Operations Manager	0,8%	0,0%	4,2%	5,8%	4,2%	15,0%			
	3. Mid-level manager	0	2	3	1	5	11			
	4. Top Management	0,0%	1,7%	2,5%	0,8%	4,2%	9,2%			
		0	0	2	3	2	7			
		0,0%	0,0%	1,7%	2,5%	1,7%	5,8%			

As in the previous case and by analyzing the data in Table 5, we see that all independent variables are not significantly related to respondent attitudes about the possibility of implementing the reform of compulsory pension insurance. The value of the Chi-square test and the contingency coefficient C show that gender ($\chi^2=5.761$, $C=0.214$ and $p=0.218$), age ($\chi^2=10.652$, $C=0.286$ and $p=0.222$), profession ($\chi^2=17.575$, $C=0.357$ and $p=0.129$), work experience ($\chi^2= 11.318$, $C=0.294$ and $p=0.502$) and the position of the respondents in the company ($\chi^2=10.840$, $C=0.288$ and $p=0.543$) are not statistically significantly related to the stated attitude of the respondents. This means that we have no significant deviations in respect of the said position. Based on the data from the table, we can conclude that regardless of gender, age, professional qualifications, working experience and position in the company, most respondents agree with the view that a mandatory pension insurance reform is necessary.

CONCLUSION

Pension insurance is the subject of debate and analysis in almost all countries of the world because a stable pension system is one of the prerequisites for economic growth and development. It is therefore important that there is pension security, regardless of whether the system can generate revenues sufficient to provide a socially acceptable living standard and their proper funding.

The problem of population aging and a decline in the birth rate leads to an unfavorable relationship between the number of employees and the number of pensioners. Adding to this is the economic crisis that has caused problems in the functioning of national economies in the last decade, all this contributing to the increase of contributions and problems with their collecting. This in turn leads to irregular payments of pensions, as well as an increasing deterioration of pensioners due to the small amount of pensions that often fail to provide to cover their existential needs. It is precisely for these reasons that a reform of the pension insurance system is in progress in many countries of the world. The existing public pension insurance system (1st pillar) becomes financially unsustainable, which necessitates the introduction of an additional one (2nd pillar) and voluntary pension insurance (3rd pillar).

It can be concluded that the main reasons for the reform of the compulsory pension insurance system in Serbia are the same as in the rest of the world: the efforts to reduce public spending and budget deficit, address the aging of the population, prevent early retirement and the need for greater coverage of the insured.

The average pension in Serbia is among the lowest in Europe and cannot guarantee material security in old age.

Reforms should not be expected to solve all the problems of the pension system. The World Bank is no longer so categorical in applying the pension reform model which it previously advocated. It can therefore be said that it has conducted one type of experiment to examine how this model will look like in the practice of transition countries. In order to solve the problem of pension system deficits in the long run and improve the position of key retirees, the problem of unemployment needs to be resolved and production increased. This represents a harder path to healing, so to speak, but it is, of course, much more effective.

The globalization process has also affected the pension system as an important segment of the economy (public finances) as a whole, so that, along with unfavorable demographic trends, reforms are inevitable.

In this paper, in one place, the current situation and perspectives of pension systems are analyzed both in our country and in the world. It has been shown that many countries (especially countries in transition) have to transform their systems for financial, demographic and economic reasons.

By analyzing the data from the survey, we can conclude that the general hypothesis is confirmed: citizens are not satisfied with the existing situation in the pension insurance system, they consider the pension fund to be empty and that it fails to guarantee safe pensions. This means that the reforms implemented so far have not been sufficient and that they need to be continued.

There are significant differences between the populations of men and women regarding this issue: the pension fund is full and guarantees safe pensions.

There are significant differences between age and age populations regarding this issue: mandatory pension insurance is excellent.

With other issues, there is no significant difference in opinion regardless of gender, age, professional qualifications, work experience and the position of the respondents in the company.

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THE NON-SUSTAINABILITY OF SERBIA'S EXISTING PENSION SYSTEM

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ABSTRACT

Pension insurance systems in almost every country of the world are in a crisis. Several factors have caused this crisis, and hence the necessity of reforming the systems. Demographic changes that are reflected in the strongly expressed trend of population aging due to the prolongation of the average lifespan and the decline in fertility rates are certainly one of the key factors that have caused the crisis of pension systems. On the other hand, there are other factors that cause the non-sustainability of the existing pay as you go system, that is, the system of ongoing pension financing, which assumes that the active population provides pensions to the non working-age population. Those factors are: economic stagnation and a lower rate of economic growth, the issue of unemployment, the establishment of a non-contributory employment relationship, the global financial crisis, and so on. Starting from this, the authors' attention in this paper is focused on analyzing and pointing out the basic shortcomings of the current pension funding system, and therefore, the non-sustainability of the existing pension pay as you go system, in conditions where the relationship between the old-age population and the working-age population is very unfavorable, and where high unemployment and insufficient economic growth are further endangering the old-age population, leading to increasing poverty. By pointing out the advantages and disadvantages of the current financing on one side and the capital accumulation system, that is, private pension insurance, on the other, the authors conclude that the existing pension system of Serbia is non-sustainable, and therefore also requires its fundamental reform, which would basically be based not only on the implementation and further development of the introduced voluntary pension insurance, but also on the preparation for transforming it into compulsory private pension insurance, i.e. the second pillar of pension insurance. In order to achieve these goals, the authors point out the necessity of implementing the already long-started overall reforms in order to achieve long-term economic growth, thus creating the conditions for a more efficient pension system.

Key words: *Pension System, Current Funding System, Capital Accumulation System, Pension Contributions, Pensions*

JEL Classification: *H55, G22, I13*

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INTRODUCTION

The pension system is part of the economic, social and financial system of every country. Pensions are an economic category because they represent the savings of the old-age population, a social category, because they represent the income of the older population that is unable to earn a living and a financial category, because pensions are part of public spending and part of public finances, and thus, by saving for old age, private pension funds become important investors in the financial market around the world.

The main differences between individual pension systems depend on whether they are based on ongoing funding of pensions or a funded (capitalized) one, whether they are organized within the public or the private sector and whether the plan provides for advance retirement benefits or contributions.

A significant problem for the sustainability of the system of ongoing pension financing that takes place within the public sector are demographic changes, above all the phenomenon of aging society. Namely, the age structure of the population changes from year to year at the expense of the younger and in favor of the older population. There are two reasons for this: first, a low natural increase; second, a longer life expectancy of the population due to better medical care. Such a situation is one of the main reasons for the non-sustainability of the existing *pay as you go* system, which is based on the fact that active insured people provide pensions for the non working-age population.

It is predicted that in the middle of this century, in 2050, the ratio of the old and working population will deteriorate, in developed countries from around 18% in 1950 to around 44% in 2050, while in developing countries these changes will be significantly more moderate, so the percentage of old populations in relation to the working population will increase from around 9% in 1950 to around 21% in 2050 (Vogel, Ludvig, Borsch-Supan, 2012).

The *pay as you go* pension system works well in countries where the young population is dominant in the structure of the population, as well as in fast-growing economies. The system works well in the initial period when there are a large number of active insurers and fewer users (pensioners).

However, this type of intergenerational solidarity is not sustainable in the long run. The main reasons for such a tendency are not only demographic factors, but also factors of a financial nature. The consequence of demographic factors is increasing pressure on the financial side, as the currently employed are unable to finance pensions without the increase of contributions.

Therefore, pension reforms have been a major global problem for many years, even decades, both in developed countries and in most developing countries. However, the need for reform of pension systems is also significantly influenced by major labor market transformations, such as high and continuous unemployment, a decline in quantity and quality of permanent jobs, establishment of employment without payment of contributions, increase and expansion of the gray economy, etc.

This paper points to the non-sustainability of the existing system of current pension financing in Serbia, as well as possible changes in this system model itself, and the transition of this model of the pension system into models of private pension insurance, in order to, on the one hand, secure the social security of the old population and escape its mass poverty, and on the other hand, to create an opportunity for accelerated economic development of the national economy through the investment of reformed pension funds.

THE PENSION INSURANCE FINANCING SYSTEM

Pension funds can generally be divided into:

- public pension funds and
- private pension funds.

In 1994, the World Bank recommended to its members the introduction of a three-pillar model for organizing the pension system, where the first pillar is a state or a public pension fund with an investment obligation, the second pillar - a private pension fund with an investment obligation and the third pillar a private pension fund based on the principle of voluntary investment (The World Bank and Oxford University, Paris, 1994). Since the funds of the first pillar are spent on current payments to active pensioners, the other two pillars aim to achieve the highest inflow of long-term savings by investing in high-quality securities, and as such are subject to strict legal regulations on the manner and size of the investment of funds. However, the World Bank changed its basic model from three pillars to a five-pillar system, so that according to this model, there is a zero (O) pillar, based on which basic or social pensions are paid to all old-age citizens (for example, after 65 years of age) and fourth, that is, the fifth pillar, which in different forms provides additional social assistance to the elderly and other forms of assistance to the elderly who are particularly vulnerable (Matkovic G., Bajec J., Mijatovic B., Zivkovic B., Stanic K, 2004, pp. 47). Although private pension funds could resemble balanced investment funds, based on their investment policy, they are required to invest in significantly less risky securities, i.e. medium and long-term government securities with a high credit rating, so that long-term investments of members of the pension fund would not be endangered in any way. Through the volume of investments, the increase of economic growth, i.e. the contribution from the investments, is affected (Bosworth, Brutless, 2012).

Public pension funds were formed by means which are partly allocated by employees and employers, while the other part they are allocated by the state. This is a distribution or *pay as you go* pension system in which contributions to pension insurance are not capitalized.

That is how active workers (together with employers and the government) are financing retirement funds of pensioners and inactive workers with compulsory contributions and premiums. In this way, intergenerational obligations are created, where active workers finance pensioner money, believing that future active workers will finance their own pensions.

A certain number of countries have separate public pension funds which include, for example, military sector employees, state administration, etc. On the other hand, there are no separate pension funds in some developing countries, but they are merged with the general social security system, which includes the pension insurance program (T. Rakonjac - Antic, 2004, pp. 25).

Unlike public pension funds, private pension funds are most often financed through a 'fully funded' system. The amount of pension benefits here depends on the paid contributions and the amount of the yield on the funds invested by the contribution. It is mostly the young who prefer this system because they are motivated to contribute and thus form savings.

The voluntary pension fund, as a type of private pension insurance, is organized for the purpose of collecting cash by paying pension contributions on the part of the taxpayer, paying and investing these funds in order to increase the value of the fund's assets. From the definition of the fund itself, it is noted that the fund should consist of the collected resources through payment, but also the funds that come from the investment of the collected resources, which are the key obligations of the management company.

THE ADVANTAGES AND DISADVANTAGES OF PENSION SYSTEMS

Regardless of which model of pension insurance is involved, the pension insurance system is extremely important both for individuals and for the entire social community of each state. Through this insurance system, the necessary funds are provided for an uninterrupted process of living of individuals when, in their older years, their working ability and earnings are low.

On the other hand, since it is long-term insurance with assets accumulated over a period of 30 years or more, it represents a strong investment incentive for any economy, unless it is a non-self-sustaining pension insurance scheme (for example, some systems that are funded by the *pay as you go* financing principle (Gavrilovic, Karavelic, 2017, pp. 23).

However, both types of pension systems have advantages as well as drawbacks.

The current funding system has the advantage of preventing old-age savings from failing on the market under extraordinary circumstances. Another advantage of this system is the security of the population. There is a risk for citizens involved with private pension funds and their investments, as all this takes place long term. Great uncertainty is present throughout the process, so if they need to choose between private funds and the state, they will in most cases choose the state, even at the cost of lower pensions. A good feature of the system is that the state in this case as well as in the whole economy has a unique role. This redistributive effect goes through three channels: from young people to the elderly, from the rich to the poor, from men to women (Gavrilovic, Karavelic, 2017, pp. 106).

The main drawback of the current funding system is its poor functioning in circumstances where the number of insured persons is reduced in relation to the number of retirees, that is, when the ratio of the number of retirees and the number of contributors increases – as well as the coefficient of dependency increases.

Table 1: Review of ratio of the number of retirees and the number of insured in Serbia – all categories (1999-2016.)

Year	Number of retirees	Number of insured	Ratio
	1	2	3 (2:1)
1999	1,497,975	2,633,960	1.8
2000	1,510,800	2,559,112	1.7
2001	1,551,691	2,543,371	1.6
2002	1,511,497	2,485,974	1.6
2003	1,505,572	2,428,828	1.6
2004	1,506,067	2,419,061	1.6
2005	1,508,976	2,422,338	1.6
2006	1,544,078	2,358,165	1.5
2007	1,569,555	2,317,270	1.5
2008	1,580,339	2,332,861	1.5
2009	1,603,688	2,116,203	1.3
2010	1,626,581	2,024,048	1.2
2011	1,638,645	1,963,872	1.2
2012	1,703,140	1,703,140	1.0
2013	1,722,649	1,875,987	1.1
2014	1,739,162	1,846,667	1.1
2015	1,735,942	2,038,235	1.2
2016	1,728,138	2,053,792	1.2

** The number of retirees is the situation on Dec. 31, 20016 from 2012, including the data for military personnel.*

Source: RF PADIF - Statistical annual bulletin for 2016.

As the table shows, the ratio of the number of employees and the number of retirees in Serbia has been constantly declining in the previous years. There are several factors that have influenced the number of insured persons to decrease in relation to the number of retirees, that is, the ratio of the number of pensioners and the number of contributors - the dependency coefficient is constantly increasing.

These factors are the following:

- unfavorable demographic trends,
- a decline of employment, and ensuing from this, decreased contribution payments,
- low age limits for being pensioned off,
- a widespread practice of early retirement,

- a generous policy of approving the accelerated pension plan,
- the dependence of the system on the state, due to a constant deficit of pension funds, which is most often financed by budget funds that directly depend on the state,
- the existence of extremely high opportunity costs. In this system of old-age savings, i.e. contributions for pension insurance are paid to current retirees and head directly for consumption. If the contributions were old-age savings, then the financial markets should not be circumvented, as an appropriate rate of return on invested funds would be obtained.

The shortcomings of the current financing system are the advantages of the capital accumulation system. In the capital accumulation system, the economic function of pensions comes to full expression. Given that contributions represent old-age savings - by investing pension insurance contributions on the financial market, there is an increase in the contribution to the amount of return on investment, which increases the total savings in the country, and therefore, on the basis of a larger volume of investments, affect the accelerated economic development, or economic growth.

In the system of capital accumulation, the role of the state is altered. In this system, the state no longer finances the deficits of pension funds, but provides the institutional environment for the operation of pension funds and the placement of its funds on the capital market.

The system of capital accumulation has two basic disadvantages:

- bad investing of accumulation funds,
- macroeconomic instability and an instability on the capital market.

Investments are impaired by poor investment on the capital market. By diversifying risks and by investing in safe securities, it is certain that this deficiency of the system can be eliminated. Special attention is paid to the risks that may arise as a result of changes in interest rates (Zivkovic, Soskic, 2006, pp. 526).

However, the second shortage of the capital accumulation system is much more serious. Macroeconomic and political instability and the underdeveloped capital market can also have very negative consequences for the pension system in one country.

REFORM OF THE PENSION SYSTEM IN SERBIA

The reform of pension systems is one of the most striking and, at the same time, the most sensitive issue of overall reform processes in recent decades, both in developed and developing countries. The long-term pressure of population aging and the prolongation of life expectancy, the need to reduce, or additionally, the pretense of poverty among the elderly, the need to reduce fiscal pressures and a cheap labor force, the inadequacy of certain pension schemes and solutions, are strong drivers of reforms.

On the other hand, there are major resistances to change, not only by pensioners, but often by the entire working population. In developed countries, these changes are most often followed by turbulent strikes and protests, while changes in developing countries have generally been taking place in parallel with other reforms in society, sometimes without sufficient understanding of their significance or strength to demonstrate organized resistance to the atmosphere of general insecurity and the loss of not only employment, but many previous privileges.

Pension reforms can appear in three different forms: parameter, system and functional.

Parameter reforms include raising the retirement age, tightening the conditions for disability and early retirement pensions, reducing pensions, increasing the contribution rate, and increasing the administrative capacity of the relevant institutions. These measures aim to improve the financial situation of the current funding system.

System reforms involve creating a capitalized system of financing, accelerating the development of the financial market and giving additional contribution to faster economic growth.

Functional reforms create a link between contributions and pensions, the weak causes of the evasion of contributions and the reduction of the informal labor market, affecting productivity growth and faster economic growth.

Although Serbia belongs to the category of developing countries, its demographic tendencies are not identical to these countries, but are almost in line with demographic changes in developed countries: moreover, expected changes in the structure and population in Serbia are more unfavorable than those in developed countries. In the middle of this century, Serbia will be a country of old people and with a smaller population than today. If the long-term tendency of a slight decline in the birth rate is achieved and the scenario according to which there will be a 1.3 fertility rate per woman in conditions of life expectancy increase and a positive migration balance of 2017, the number of people in Serbia would be reduced by almost 2 million in 2052 in relation to the beginning of this century. The same aging population trends in Europe and Serbia are also indicated by data on the creating of the coefficient of dependence of the elderly in Serbia (Table 1). This indicates that the emphasis must first be placed on systemic pension reforms.

The vulnerability of the living standard of pensioners and the increase of poverty of this population, as well as the non-sustainability of the existing pension system in Serbia, are also indicated by data on the levels and the ratio of average salaries and pensions and the worsening of this relationship in the last decade.

Table 2: Movement of the contribution of an average pension in an average salary excl. Taxes and contributions

Year	Average earnings without taxes and contributions	Average pension	Contribution %
	1	2	3 (2:1)
2002	9,208	6,134	0.67
2003	11,500	7,390	0.64
2004	14,108	8,705	0.62
2005	17,443	10,568	0.61
2006	21,707	12,151	0.56
2007	27,759	13,612	0.49
2008	32,746	17,639	0.54
2009	31,733	19,788	0.62
2010	13,142	19,890	1.51
2011	37,976	21,285	0.56
2012	41,377	23,044	0.56
2013	43,932	23,247	0.53
2014	44,530	24,085	0.54
2015	44,432	23,196	0.52
2016	46,097	23,488	0.51

** From 2012 with data for military personnel.*

Source: PADIF – Statistical annual bulletin for 2016.

From 2002 to 2016, the average pensions decreased by 16.6 percent compared to average earnings. Obviously, the living standard of retirees is rapidly collapsing.

The pension system in Serbia, as we have already mentioned, is based, as with many countries, on the principle of intergenerational solidarity. This is a *pay as you go* model of the pension system in which funds for the payment of current pensions are provided from income generated from the current payments of pension insurance contributions. However, the funds of the pension fund in Serbia cover only about 50% of the total pension expenditure, and the rest is provided from the budget. More than a quarter of the Serbian budget is allocated for pensions per annum.

In the income structure of the Pension and Disability Insurance Fund in 2016, the largest share was 61.5%, followed by transfers from the budget by 36.62% and other revenues by 1.8%. In the period 2003-2016, the income from contributions and other regular income covered between 51% and 65% of the expenditure of one pension. The pension fund deficit is covered mostly by transfers from the budget of the Republic.

Based on the above parameters, it can be concluded that the existing pension system of Serbia is non-sustainable in the long term, as pension expenditures push out other social and development functions of society.

On the other hand, the economic potential of Serbia is insufficient in order to be able to bear increasing allocations from the budget for pensions, which can be shown by the absence of a significant increase in the domestic gross domestic product in recent years. Many authors warn that the current system is unsustainable long term and that increasingly lesser pensions will be paid from the existing fund.

The long-term response to the pension crisis that Serbia faces is the introduction of a multi-pillar pension system, including the introduction of compulsory private pension funds. The introduction of mandatory private funds depends on the improvement of the financial situation in the state system of current financing. With the current deficit in the pension system of current financing, which inevitably increases in the transition period, at this moment it is not realistic to introduce a compulsory private pension fund. In fact, the reform of the pension system globally represents a transition from a system of ongoing financing to a system of capital accumulation.

Since 2006, Serbia has introduced a two-tier pension system (first and third pillar). There is a possibility for the introduction of the second pillar, but it has been postponed due to unfavorable macroeconomic conditions. In a later analysis and in a separate section, we will indicate why. It is the lack of the second pillar (mandatory private pension insurance) that makes the existing pension system unsustainable in the long run. On the other hand, it is necessary to carry out a complete reform in order to ensure at least a minimum pension for future generations.

Therefore, the process of reforming the pension system in Serbia would take place in two phases. In the first phase, this process is twofold, a further reform of compulsory insurance that functions under the current financing system and the introduction of a voluntary private pension insurance, the so-called third pillar, which functions on the principle of accumulation of capital.

In the second phase of the reform, when conditions are met, it is realistic to expect the introduction of compulsory private pension insurance, the so-called second pillar (Savić J., Kvrđić G, 2011, pp. 122).

In recent years, the reforms which have been underway passed through two processes.

1. A parameter adjustment of compulsory pension insurance, which introduces a series of corrective measures aimed at restoring the fiscal balance.
2. Voluntary pension insurance was introduced which rendered the possibility of introducing pension plans.

The most important corrective changes made in the framework of compulsory pension insurance are the following:

- change of pension calculations,
- increase of the retirement age limit,
- determining minimum and maximum pension limits,
- access to determining disability pensions and the payment of pension contributions.

The Law on Voluntary Pension Funds and Pension Plans, which is in force since March 31, 2006 introduced the third pillar, i.e., voluntary pension insurance. The concept of this law is based on a defined contribution model, according to which the amount of a future member's fee is determined by the contributions paid by the employer, participant of the plan, or both, via business efficiency and the investment income of the fund.

TRANSITION FROM THE SYSTEM OF CURRENT FINANCING TOWARDS A THREE-PILLAR SYSTEM

After examining the advantages and disadvantages of individual pension systems, it can be said that the capital accumulation system is in principle superior to the current funding system, but also that the current financing system has positive elements that are important for the functioning of the entire system. The main problem is how to move from a system of ongoing financing to a three-pillar pension system. Namely, the new system works in such a way that the contributions, which were previously paid into the state pension fund, are now divided in the sense that one part is still paid into state funds, and the rest goes to private pension funds. In this way, the state in its pension fund loses part of the funds for the payment of pensions to existing pensioners and future pensioners who have a few years to retire and therefore remain in the old system. Thus, the already existing deficit in the state pension system is deepened. There are several ways to reduce this deficit, or to cover the so-called transition costs (Ilic, 2006, pp. 36):

- reducing the current consumption,
- borrowing from international financial institutions,
- borrowing on the capital market,
- partly from privatization funds,
- a temporary increase in contributions.

The main problem of pension financing is the income side - high unemployment and non-payment of contributions to full income. The options are an increase in the contribution rate for PADIF, the separation of contributions for old age, disability and family pensions and contributions for the assistance and care of other persons, which is currently financed from the total contribution to PADIF (Stanic, 2009, pp. 100).

WILL A SECOND PILLAR OF PENSION INSURANCE BE ESTABLISHED IN SERBIA?

The second pillar represents mandatory savings managed by private pension funds: the pension from the second pillar depends on the contributions paid and the ability of the selected fund to increase them further, while the risk is borne by the user.

The overall restructuring of the pension system with the introduction of all three pillars has many supporters.

On the other hand, it is becoming more and more obvious that the introduction of the second pillar leads to the already deprived pension funds being further denied for part of the payment of contributions that would be pledged into the mandatory private pension fund, which would further complicate payment to future retirees.

The idea of a fast deployment of the second pillar was rejected for several reasons:

- It was estimated that in a situation of high deficits, the costs of introducing the second pillar would be too high.
- The undeveloped financial market in Serbia and the fact that private funds would have almost no choice to invest.

The arguments for conclusions that the second pillar in Serbia should not be introduced today can be stated as follows:

Comparative argument: The second pillar is not typical for highly developed countries, and it cannot be claimed that Serbia is the only country that lacks this component of the pension system. In highly developed countries, compulsory state systems dominate, and a voluntary component of the pension system has been developed.

Individual experiences of the countries that introduced the second pillar: despite the differences, the joint experiences of Hungary, Croatia and some Eastern European countries, which introduced the second pillar as part of the pension system, show that the real rate of return of private pension funds was low, while their operating costs were very high, with the deduction of funds on the accounts of future retirees.

The experience of Latin American countries: the experiences of the Latin American countries are mixed, as among them are countries that have renounced the second pillar commitment, by essentially turning them into voluntary insurance.

Demographic factors: due to the demographic reality of Serbia, the question is whether the introduction of individual savings accounts into the pension system is a solution for the increasing share of the old population. The experiences of other countries that have decided on this step have been different, and there are no solid conclusions on a theoretical basis.

Would pensions of future pensioners in Serbia be larger?

In order for the pensions of generations that are economically active today to increase by introducing the second pillar, it is necessary that funds on individual accounts, due to investment income, increase more than the growth of the pensions according to a certain pension formula.

Would the pensions of today's retirees be larger?

The pensions of current retirees cannot be increased directly by the introduction of the second pillar because their pensions are provided exclusively from the current state PAGY system. The introduction of the second pillar, however, increases the risk that the pensions of current retirees are reduced, that is, that they would grow at a slower pace.

Would the introduction of the second pillar reduce the total burden on pension expenditures? In countries such as Serbia, which has a strong PAYG system and a large number of pensioners, there is a high transitional cost. Pension expenditures are not reduced in the short and medium term, but there is a problem of dual financing of the existing and new systems, and we can expect a reduction in state system expenditures in the distant future.

Would the inclusion of private pension funds in Serbia increase savings, investments and economic growth? Would capital markets develop in Serbia? Due to the security factor and imposed legal constraints as well as insufficient investment options, pension funds would invest the largest part of the savings collected by the investor into government bonds, which would be issued in order to cover the transitional cost, i.e. the lack of funds for the payment of pensions to current pensioners from the state pension fund, which are created by the introduction of the second pillar. In that way, the existing system would be retained, but another expensive intermediary - private pension funds - would be included.

On the whole, the conducted analysis shows that in Serbia at this moment there are still no conditions for the introduction of the second pillar. This is reflected above all in an underdeveloped financial market. High expenditures in the form of a transitional expense involve very large expenditures with uncertain results in the long run. There is no clear evidence that by introducing the second pillar for today's generation of employees, conditions for sufficiently high pensions and preservation of living standards would be created.

However, in order to introduce the second pillar, which in our opinion is inevitable and the need for the overall reform of the pension system, in addition to the conditions already fulfilled, the following must also be fulfilled:

- accelerated growth and development,
- trust in the insurance and banking system,
- an increase in employee income (an increase of purchasing power),
- development of the financial market and financial derivatives,
- staff education, especially in the area of management and supervision over the work of pension funds,
- appropriate legal regulations (Saksida, 2004, pp. 5).

CONCLUSION

The Serbian pension system has been in a deep crisis for many years, whose causes are only partly the result of the economic crisis and the extremely unfavorable economic trends in the previous decade. The problem of population aging, a decline in the birth rate, a high unemployment rate and other negative factors have led to an unfavorable relationship between the number of employees and the number of retirees. Due to the unfavorable ratio of active insured and pension beneficiaries, the state is compensating for the promised pension benefits from the budget. In order for the system to function, the ratio of 4 retirees to 1 employee would be optimal, but in Serbia this ratio is considerably less favorable, almost 1:1. That means that less than a million employees outside the public sector must provide money for the existing retirees, as well as the salaries of employees in the public sector and their contributions to pension insurance.

The previous reforms of the pension system were only the beginning of solving the problem of the functioning of the system. The pension insurance system in Serbia is based on the current *pay as you go* system. This system has long been in a crisis, due to the constant increase in the number of pensioners, the reduction of the number of employees and the long-term economic crisis – and furthermore, as such, it is unsustainable.

A full reform of the pension system in Serbia implies further changes in compulsory pension insurance (first pillar). Within the framework of voluntary pension insurance (third pillar), additional marketing and educational actions are necessary in order to include as many employees as possible in the new system. It is important to pay considerable attention to this pillar of the pension system because of its importance as a trial balloon for the possible introduction of compulsory private pension insurance (second pillar), when the conditions are met.

However, for a pension reform that involves the transition from *pay as you go* to the system of capital accumulation through private pension funds, the key problem is the financing of pensions in the transitional period. Namely, if by switching to the new system (second pillar), the current generation of employees would cease to pay contributions to the state pension fund, this payment of pension to current pensioners would be completely compromised. Now employees cannot simultaneously pay premiums for their pensions and contribute to the state pension fund for the payment of current pensions. Special sources are needed to fund the pensions of current generations of retirees, while now, with the help of private pension funds, employees themselves can finance their pensions through their individual pension accounts, in order to create the possibility of savings that would be the main source of investment, and thus an accelerated development of the national economy. In addition to the transition of the system of ongoing financing toward the system of capital accumulation, pension reforms also refer to a number of other parameters within the framework of current financing systems, which depend on the movement of pensions, such as the retirement age, the pension and salary adjustment formula, the determination of the minimum pension and similar.

Moving or even abolishing the age of retirement is, in addition to switching to a system of private pension funds, one of the measures most anticipated in the upcoming period.

The development of the pension insurance system is of a strategic importance for the entire population of Serbia. The established high-profile reform strategy must be carried out by competent authorities. The basis of all regulated countries is their developed economies as well as well-defined pension insurance systems, which should be pursued by our country.

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THE ROLE OF THE NATIONAL BANK OF SERBIA IN FINANCIAL MARKET

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ABSTRACT

The focus of this paper is on the financial markets, which are the most important factor in the overall economic and economic system in countries with a developed market economy. The National Bank of Serbia has a special role in the financial markets. The National Bank of Serbia has numerous roles in the financial markets, and the most important of them is the regulative that NBS regulates with their mechanisms the flow of money and cash flows.

We will pay special attention to what are the mechanisms and how the NBS regulates cash flows and the level of money in circulation.

Key words: *National Bank of Serbia, Financial Markets, Financial Institutions*

JEL Classification: *X20, X30, K34*

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INTRODUCTION

The monetary and financial system should contribute to the normal and unimpeded performance of economic activity of one country, increasing production, exports, and the growth of living standards. Modern financial systems are characterized by dynamism, flows of internationalization, globalization, rapid development of information technology, deregulation flows, and etc.

Monetary and financial systems in most countries of the world are classified into the most regulated areas. Regulations in these areas are different between countries, depending on the level of economic development, cultural and historical heritage and tradition. Over the past twenty years, occurrence of financial crises is occurring, the results of which produce negative effects on a large number of participants, for this reason it is necessary to ensure their safety and trust. The state has there fore retained jurisdiction in the field of legislation through a stronger function of various regulatory bodies in the field of monitoring, control and audit. At the same time, there are tendencies to reduce the role of the state and state bodies, but for this reason self-regulatory bodies are being established, the publicity of the work of financial institutions is increasing, it seeks to build mutual trust.

The special issue for each economy is: how to determine and maintain an optimal level of deregulation, and consequently, we come to an efficient regulatory process, uniform regulations, stability at the macroeconomic level. The fact is that the market mechanism itself is not perfect or efficient enough, it is sufficient reason to protect the entities that are within the financial system.

Thus, we come to the National Bank of Serbia, as a regulatory and supervisory authority on the domestic market, which by regulating the activities from its domain affects the development of the complete economic activity of our country. The assumption, that is, the basic and most important prerequisite for each type of regulatory process should certainly be set up by the legal system through:

- Precise regulation of the work of economic organizations and financial institutions: banks, insurance companies, pension funds, investment companies, stock exchanges and other participants,
- Strict compliance with contractual obligations
- Clear definition of property rights.

Again, we need to find the legal basis for all this in sources of law, such as Laws, by-laws, independent business legal sources, customs and case law.

Although the financial market is an important factor in the development of every economy, it has slowed progress in Serbia. Progress is slow because the transition in Serbia is slow, poor regulation, high trading prices, poor work practices, high taxes and incomplete instruments that exist in standard markets hinder the development of the financial market.

FINANCIAL SYSTEM

The financial system is one of the systems that makes up one economy, which deals with savings and investments. The financial system is a set of channels that allocate free funds from those who are surplus - surplus entities, to those who have free resources in need and shortcomings - deficit entities. The financial system consists of a group of institutions in the economy that help to save one person's savings to another person's investment. The financial system directs rare economic resources from savers to borrowers.

The financial system consists of three segments: markets, business entities and individuals. As such, the financial system has the primary goal of supplying companies (businesses) with sufficient amount of money and various loans. These sources of funds allow undisturbed regular business activities, investments in economic activity, growth and development of the enterprise (Ristanovic, 2017, pp 7-9).

The characteristics of a country's financial system are determined primarily by the characteristics of the country's economic system. However, there are some common features of all financial systems: financial market, financial institutions and financial instruments. (Savic and Kvrjic, 2005, pp.15; Cogoljevic and Savic, 2005, pp.32).

THE NOTION AND IMPORTANCE OF THE FINANCIAL MARKET

The financial market is the place where the supply and demand for money are encountered. It directs money from those who have it as a surplus, to those who lack these resources-that is, they connect savings and investments. Through financial markets, business entities come to the resources necessary to finance their business

Financial markets can be viewed in a wider and narrower sense. In a broader sense, financial markets exist wherever financial transactions are performed. In a narrow sense, they can be defined as organized places where supply and demand for different types of financial instruments (or assets).

Financial markets are the most important factor in the overall economic and economic system in countries with a developed market economy. They enable the normal development of economic relations. Through the financial market, allocation of accumulation - savings is carried out, with the aim of making it most efficient and investing.

PARTICIPANTS IN THE FINANCIAL MARKET

Participants in financial markets are financial institutions (Central Bank and commercial banks) and financial intermediaries. Financial institutions may appear as lenders or as holders of a regulatory role. They have a primary role to mediate between surplus and deficit economic units by collecting accumulation through their credit and financial instruments and directing it by lending or by purchasing financial instruments of a borrower. Financial intermediaries connect participants in financial markets by earning a profit based on the difference in the price by which they are engaged and by which they are placed. The core financial intermediaries belong to three categories: banks (commercial banks, savings cooperatives and similar), contracting savings institutions (insurance organizations, Funds, etc.) and investment intermediaries (investment funds, financial companies, mutual funds, etc.). The most common classification of financial institutions is the following: central bank, commercial banks, non-deposit financial institutions, stock exchanges and stockbrokers.

PLACE AND ROLE OF CENTRAL BANK IN DEVELOPED COUNTRIES

When it comes to the place and role of the central bank in the countries of a developed market economy, central banking experience in the most developed market economies is mainly analyzed: USA, Great Britain, Germany, Switzerland, France and Japan. The basic characteristic of the place and role of the central bank in these countries is reflected in the already ensured independence, ie independence in relation to the executive power. But the degree of independence is not the same in all countries.

In a branching view, each one is led by an individual called "governor" or "president". It is assisted by one or more assistants - vicegovernor or vice-president. The collective management body exists in each of the banks and consists of directors, usually appointed by the head of state or parliament. Mandates are usually longer than the electoral cycle, in order to emphasize the independence of the body and its members. Today, central banks in developed market economies are state or para-state institutions that have a clearly defined task of achieving goals that are significant for the entire economy, such as maintaining the liquidity of the macro-system, preventing mass bankruptcy of banks, high unemployment, and not profit-making.

A modernly designed central bank in developed economies must ensure, and ensure, the efficient conduct of monetary policy, or the control of money supply, in order to ensure a low inflation rate without creating high unemployment, since in the long term there are no high economic losses in a society whose national economy has a constantly low rate of inflation. The central bank located at the top of the banking pyramid provides the normal functioning of the financial or banking system.

NATIONAL BANK OF SERBIA

The central bank has a special role in the financial market. Its position on the banks is conditioned primarily by the role and tasks it accomplishes in the economic and monetary system.

We can define the central bank as an independent and unique broadcasting organization of the monetary system, responsible for monetary policy, currency stability and financial discipline, and for performing other tasks determined by law.

The National Bank of Serbia (NBS) is the central bank of the Republic of Serbia. It was founded on 2 July 1884 under the name Privileged National Bank of the Kingdom of Serbia.

The NBS has the following functions and tasks in the financial market:

- Money and paper money and foreign exchange reserves management;
- Acting as a banker of the state;
- Acting as a bank bank;
- Regulation and supervision of the activities of domestic financial institutions.
- Implementation of monetary policy (Zivkovic & Kazetinac, 2005, pp.562-564).

THE ROLE OF MONEY LAUNDERING AND FOREIGN EXCHANGE RESERVES MANAGEMENT

Issue of banknotes and coins is one of the basic functions of the National Bank of Serbia. The National Bank of Serbia has the exclusive right to issue banknotes and coins in the Republic of Serbia.

The National Bank of Serbia issues banknotes and coins, determines the denominations and basic features of banknotes and coins and makes decisions on the release into circulation and withdrawal from circulation of banknotes and coins.

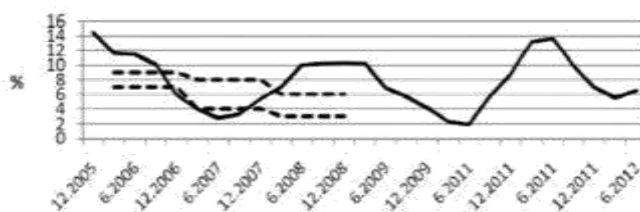
The National Bank of Serbia is tasked with providing the economy with a sufficient amount of money so that the economy can function normally. In doing so, it must take into account that this amount of money is not too large, as inflation will occur in that case, but it will not be too small, as this will lead to deflation. The Central Bank is trying to guess (no more precise explanation) how much money is needed for the optimal, non-inflationary functioning of the economic system.

The National Bank defines price stability as low, stable and predictable inflation and confidence in the domestic currency. Provided that this basic goal does not endanger the NBS, it should also ensure the preservation and strengthening of financial stability. Financial stability implies a sound financial system in which financial institutions operate well, responsibly preserves the money of their clients, are able to supply the required products and services and as such act as a factor of faster economic development. In addition to these two objective, the National Bank supports the

implementation of the Government's economic policy, in accordance with the principles of a market economy and provided that this does not jeopardize the fulfillment of the two previous objectives.

Each year, the National Bank announces a monetary policy program for the following year in the Official Gazette. In the program, among other things, it defines the goals it intends to achieve for that year. The inflation goal is defined numerically, there are projections on the monthly novelty, thanks to which it is possible to regularly monitor the realization of the goal. The target value of inflation is defined through the consumer price index. This index represents the type of retail price index. He measures the average change in the price of a fixed basket of goods and services purchased by a typical Serbian household.

The current strategy of the monetary policy of the National Bank of Serbia is the strategy of targeting inflation. At its meeting held in August 2006, the Monetary Committee adopted new measures and principles for the implementation of monetary policy. The first target is determined for the level of core inflation, which is defined by the National Bank as retail price growth, controlled by the NBS. The target for 2006 was defined as an interval of 7-9%, for 2007 4-8%, and for 2008 3-6%.

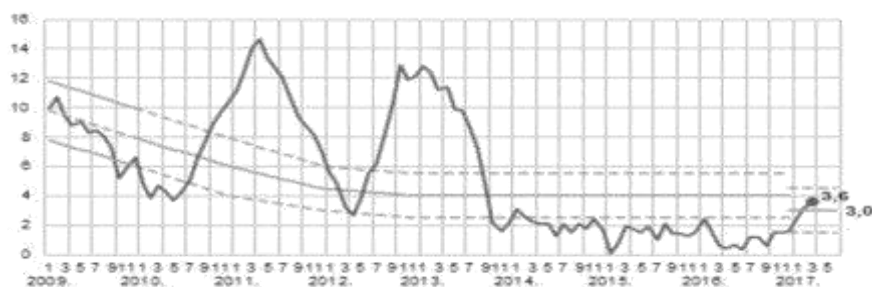


Picture 1. National Bank of Serbia, inflation report February 2006-August 2012

Source: National Bank of Serbia

Figure 1 shows the trend of core inflation in Serbia since 2006. Inflation was variable in the observed period. The targets for core inflation were published for three years. In the first year, core inflation was below the target value. This is the result of the appreciation of the dinar in the second half of 2006. The National Bank relieved monetary policy and on several occasions lowered the reference rate to return inflation to the planned framework. In 2007, the goal was achieved, but inflation is accelerating. Core inflation increased primarily due to the increase in prices of industrial food products. In addition to the agricultural shock, this year, the rise in core inflation was influenced by the world oil price. In 2008, the goal was exceeded. The reasons are a very high jump in oil prices in the first half of the year, a rise in food prices and an expansive fiscal policy. In addition, the inflow of foreign capital is reduced and the risk premium increases, which stimulates inflationary expectations. In the following year, core inflation is rapidly declining as a result of very low aggregate demand, a significant reduction in investment activity, a fall in food and oil prices.

In the first three years of targeting core inflation, the National Bank failed to realize the set goals. Already at the end of 2008, it begins to focus on the new objective - the Consumer Price Index, which reflects the price movements more fully, allows a clearer division of responsibilities between the Government and the NBS, it can be easier to explain to the public and thus have a greater impact on inflationary expectations. The NBS concluded an agreement on the inflation targeting with the Government of the Republic of Serbia, which formally adopted the inflation targeting regime. At the session of the Monetary Committee held in December 2008, a Memorandum of the National Bank of Serbia was adopted on the targeting of inflation as a monetary strategy, which started to apply from January 2009 (NBS, 2016).



Picture 2. Targeted and realized inflation by months January 2009-May 2017

Source: National Bank of Serbia

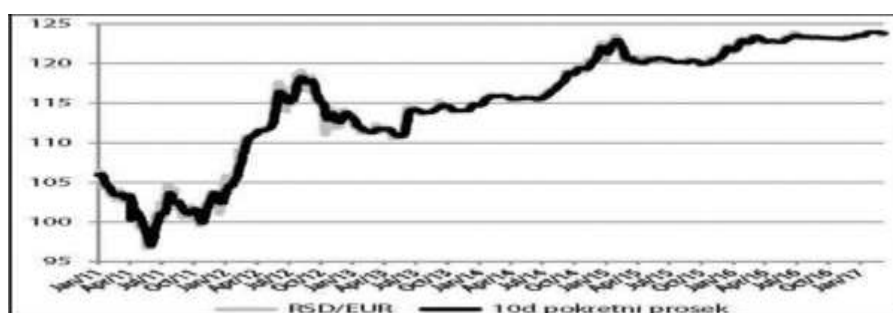
In addition to operations on the domestic market, the National Bank of Serbia carries out operations in the foreign exchange market, ensuring appropriate movement of foreign exchange rates in order to preserve the stability of its own currency.

The National Bank of Serbia carries out a managed floating exchange rate regime. The exchange rate is formed freely, based on the supply and demand of foreign exchange, and the National Bank of Serbia can conduct interventions in the foreign exchange market in order to reduce excessive short-term oscillations of the dinar exchange rate, preserve price and financial stability and maintain an adequate level of foreign exchange reserves, in accordance with the Memorandum of the National Bank Serbia on targeting (targeting) inflation as a monetary strategy and monetary policy programs.

If the exchange rate of the foreign currency shows an upward trend, the central bank will offer the relevant currency and thus affect its gradual decline. If, however, the exchange rate of the foreign currency shows the downward trend, the central bank will look for a foreign currency on the foreign exchange market and thus influence the gradual increase in its exchange rate. Therefore, in the first case, the central bank Sells the currency and buys the local currency, while in the second case it buys foreign currency and sells its own. The essence of central bank operations in the foreign exchange market consists in simultaneous (but opposite) sales of foreign and domestic currency.

Strengthening the value of a certain currency, depending on the exchange rate regime, is called the appreciation (fluctuating exchange rate regime), or the revaluation (fixed exchange rate regime). A reversed decrease in the value of a particular currency is called depreciation (fluctuating exchange rate regime), or devaluation (fixed exchange rate regime). In Serbia, of course, too much appreciation of the exchange rate of the dinar is not good, nor too great a depreciation.

Significant imbalances or shifts in one direction or another can lead to structural disorders, so too much depreciation of the dinar too leads to the growth of the indebtedness level and the problem of bad loans. It is not necessary to keep the real exchange rate stable, as if the dinar is too depressed to create There are problems with the foreign trade deficit, which is reflected in the growth of imports and the decrease in exports.



Picture 3. Daily exchange rate dinar / euro in Serbia in the period 2011-2017

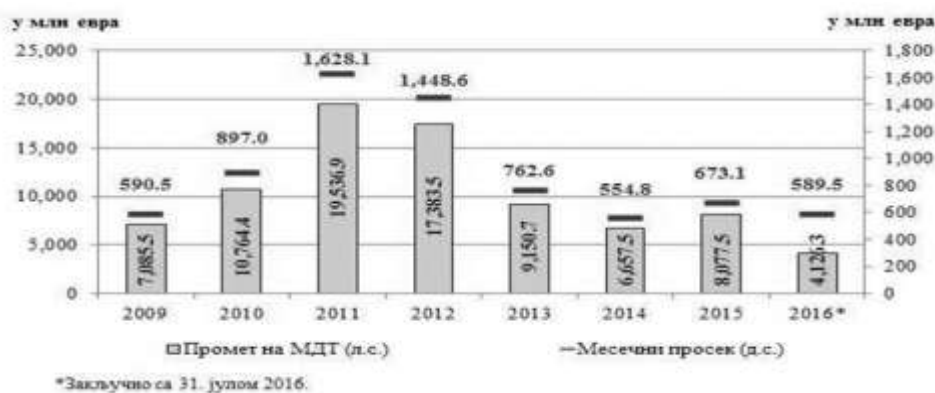
Source: National Bank of Serbia

In the picture we can see that the dinar is constantly weak against the euro since the beginning of the year. During the first quarter, the exchange rate of the dinar against the euro depreciated by 8%. Then, during April and early May, the course was generally stable, in order to regain strong depression in the second half of May and early June (Figure 3).

After a break for most of 2011, the NBS again intensively intervened in the market to alleviate the depreciation of the dinar. From the beginning of the year to the beginning of June, the NBS sold over 1.2 billion euros from foreign exchange reserves. In May, the NBS sold a total of 473 million euros, the highest monthly intervention value. However, although depression has been alleviated, it has not been stopped. Depreciation of the dinar is the result of several factors. It is contributed by a strong growth in the fiscal deficit in the first four months of 2012, and related to this increased need for financing the deficit and depreciation of public debt. This creates insecurity among some foreign investors, some of them for now give up further investment in government securities and to close their positions in Serbia, buying euros, thus depreciating pressure. Then, the current balance of payments deficit which is relatively high for several months in a row (due to the decline in exports and the growth of energy imports).

ANALYSIS OF TRAFFIC TO THE MDT IN THE PERIOD 2009-2016.

Total turnover on the interbank foreign exchange market (MDT), excluding the intervention of the National Bank of Serbia, in 2016 (as of July 31, 2016) amounts to 4.1 billion euros. During the first 16 days of August, turnover amounted to 171.9 million euros. The average monthly turnover in the first seven months of the current year amounts to 589.5 million euros and is at the level of the 2009 and 2014 average. Something (not significantly) higher than in these years was recorded in 2013 and 2015, while the period 2010-2012 is allocated. During which the turnover on the MTT on a monthly basis averaged from 897 to 1,628.1 million euros.



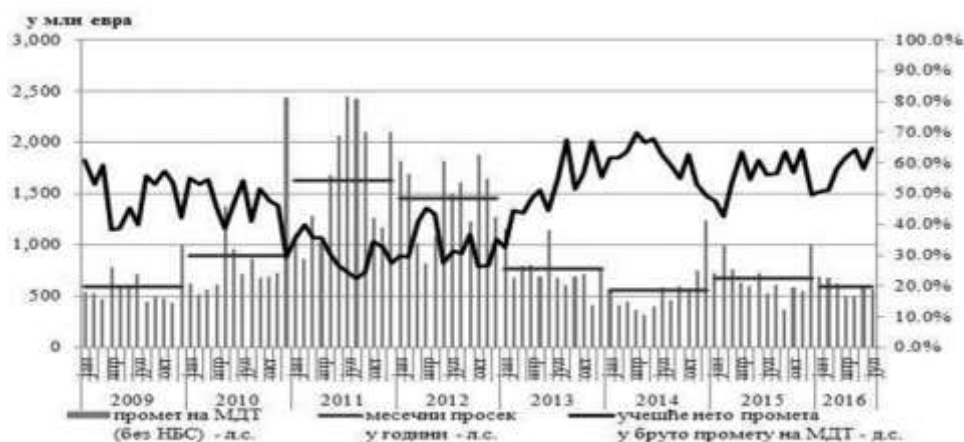
Graph 1. Turnover on MDT by years (2009-2016)

Source: National Bank of Serbia

It is important to point out here that the volume of turnover on the MDT does not in itself indicate the development of the market, nor the possible "choking" of trading with the intervention of the central bank. On the contrary, it is also known theoretically, and it has also proved in practice that the turnover can be "artificially inflated" to the speculative transactions of market participants who do not satisfy the real needs of foreign exchange on their own, neither their clients (residents and non-residents), Already trying to achieve arbitrage profit by raising traffic. This is precisely the main reason for significantly higher turnover to the MDT in the period 2010-2012, and it was emitted in the later period.

In support of this fact, the share (share) of net purchases / sales of foreign exchange on MDT in total (gross) turnover (Diagram 2). During 2010-2012. The share of net turnover in gross turnover was low (on average about 30%), much lower than in the rest for years, especially since the second half of 2013, when it's about 60%. The mentioned data (and a difference of almost 30 percentage points) in different periods indicate a high degree of speculative transactions of actors in the market. Net turnover represents the basic indicator of real demand for foreign

currency on MDT. The difference between clients' demand for foreign currency and foreign currency offers by clients is largely satisfied with the purchase / sale of foreign exchange from other banks / other banks in the MDT. The net purchase / sale of foreign exchange to the MDT is exactly what this difference reflects. However, during 2010, 2011 and 2012, the "psychological factors" on MDT, that is, speculative transactions, and thus created panic in the foreign exchange market, significantly increased the total turnover.



Graph 2. Total and average turnover on MDT by months (2009-2016)

Source: National Bank of Serbia

The conclusion is that the MDT's turnover, by itself, is not an indicator of the level of market development, especially its stability.

IMPLEMENTATION OF THE INFLATION TARGETING REGIME IN SERBIA

Achieving sustainable price stability is a complex task for every economy. Bearing in mind that in a long period of time we have been struggling with enormously high inflation rates and that the period behind us was characterized by an extremely low level of confidence in the national currency and monetary policy, a high degree of evolution, and a strong and steady capital inflow, it is clear that Reducing the inflation rate and ensuring price stability is a very difficult task that the monetary policy makers should solve

In seeking an adequate strategy to ensure the price stability of the National Bank of Serbia, it relied heavily on the experience of other countries, in particular Central and Eastern Europe, bearing in mind that each of these countries still speaks for themselves and taking their experience with a certain dose of reserve.

From a certain aspect with regard to the transparency of the exchange rate and its correlation with inflation, a fixed or firmly managed exchange rate is the most natural solution for ensuring price stability, especially in transition countries in the initial stages of transition.

The problem of price instability in Serbia, which culminated in hyperinflation at the end of the 1990s with the existence of a high degree of correlation in the movement of the exchange rate and prices, was the main reason why the exchange rate was used for a long time as a nominal anchor in curbing inflationary pressures.

As an economy that is highly dependent on imports, Serbia has a high "pass-through" effect of the exchange rate on prices, i.e. a high degree of correlation between the movement of the exchange rate and the prices (see more in Ristanovic, 2017, pp 170). Research carried out at the National Bank of Serbia also confirmed the high effect of the foreign exchange rate impact on Prices. The results obtained on the basis of the analysis made for the period from 2001 indicate a coefficient of elasticity in the short term of 0.3 and in the long run of 0.6, which indicates that changes in the exchange rate are very rapidly reflecting on prices.

The experiences of many transition countries also point out that by looking at the cost-benefit ratio and using the fixed exchange rate policy, they changed or modified their strategies for achieving price stability, since after a certain period the fixed exchange rate in these countries ceased to be an effective nominal anchor, Inflation has begun to grow again. Also, in spite of the strategy of the fixed exchange rate and its depreciation, in most cases there was a deterioration and a trade balance.

Monetary policy should respond to its instruments with shocks that threaten to endanger inflation, while exchange rate fluctuations should be the main amortizer for adjusting to these shocks. Thus, at the beginning of 2006, the National Bank of Serbia tried to gradually withdraw from the foreign exchange market in the sense that it did not perform frequent and significant interventions in order to achieve a certain level or direction of the exchange rate movement. This endeavor of the National Bank of Serbia resulted in a higher level of volatility of the exchange rate, which was the first step in the implementation of the new framework. The new framework of monetary policy implies the existence of a freely fluctuating exchange rate with the possibility of occasional interventions only in order to mitigate the negative effects of temporary shocks and to prevent excessive daily oscillations. The transition to the new monetary policy framework implied significant efforts and investment and capacity building that are necessary to effectively implement the new strategy and facilitate its formal adoption. Building and continuously improving these capacities is what Serbia can provide for a more permanent and flexible solution for securing medium-term macroeconomic stability.

At the time of the introduction of the new framework in Serbia, the Retail Price Index (RPI) was used as the official measure of total inflation. Given that the regulated prices accounted for almost half of this index, and that the prices of agricultural products as a very unstable component of the retail price index much more under the influence of administrative and seasonal rather than market factors

of the National Bank of Serbia could bear responsibility only for that part of the prices Which are market-determined ie. For base inflation. This was also the reason why, at the very beginning, the National Bank of Serbia defined its goals for base inflation in the form of a year-end range.

The reference interest rate is the basic monetary policy instrument in the inflation targeting regime. Decisions to change the reference rate were made at the Monetary Committee meetings that were initially held at the end of the month (in the event of a situation of emergency, the change could also occur in mid-month) and were always followed by a press conference and a public statement. (Stankovic, Dedjanski, Vojteski-Kljenak, 2015, pp. 65).

Other monetary policy instruments (interventions in the foreign exchange market, reserve requirement rate, etc.) should have an additional role in achieving inflation targets. They should contribute to the unhindered transmission of the reference rate to the market and the balanced development of financial markets. In the new monetary policy framework, the reference rate as the main instrument of transmission of the monetary policy of the National Bank of Serbia should be a signal for the markets in terms of monetary policy. Specifically, any change in the reference rate should be reflected in interest rates interbank money market, which are considered as the measure of the opportunity cost of lending to the economy and population, whose changes will then reflect on the movement of banks' active and passive interest rates. With the transition of the National Bank of Serbia to a new monetary framework and the achievement of a higher degree of oscillations in the movement of the exchange rate, short-term market interest rates became the main operational target. Insufficient efficiency of the interest rate channel is a consequence of the fact that in the previous period we applied other monetary policy regimes and that the interest rate was not significantly used as an instrument, as well as a high degree of evolution of the domestic economy.

A high degree of euroisation in the economy in circumstances when the country is in the inflation targeting regime can pose serious problems to monetary authorities, since it increases the pass-through exchange rate, making inflation more unstable and more vulnerable to exchange rate fluctuations. It also leads to an easing of the interest rate channel, since cash flows (loans, savings) are largely in foreign currency and therefore largely out of control of monetary authorities, which is why they are forced to rely heavily on administrative and prudential measures to recover Trust in the local currency. It was also a practice in the case of Serbia

INFLATION TRENDS IN THE PREVIOUS PERIOD

Inflation from the beginning of the year was driven primarily by the anticipated increase in energy prices, due to the rise in world oil prices, and above the seasonally-anticipated rise in prices of unprocessed food (fruits, vegetables and fresh meat), mainly due to the effects of cold weather.

According to the NBS report of macroeconomics movements on May 2017, the forecasts are as follows:

- Core inflation remained low, amounting to 2% in April, due to higher prices of mobile telephony services. And it hurts that the movement of inflation is determined by the influence of one-off factors.
- Medium-term inflationary expectations of the financial sector are anchored within the limits of the inflation target.
- By the end of the projection horizon, inflation is expected to move within the target's target, with the expected decline in targeted 3% in early 2018 due to the high base effect.
- Inflationary influence in the coming period will have a gradual increase in domestic aggregate demand and inflation in the international environment, while in the opposite direction a high base will be operating in the prices of petroleum products.
- The projections risks are symmetrical and relate primarily to developments in the international financial and commodity market.

THE DEGREE OF DINARIZATION IN SERBIA

A high degree of partial euroization in Serbia can, even under the conditions of even successful implementation of a flexible foreign exchange rate strategy, trigger potentially big problems in targeting inflation. Like many markets in transition and the financial market of Serbia, it is not immune from the significant euromising of the balance sheet of enterprises, banks and households. In addition, many long-term liabilities are denominated in euros, as targeting inflation requires a flexible nominal exchange rate, with fluctuations inevitable.

At the beginning of 2011, the National Bank of Serbia inaugurated the strategy of the so- Dinarization, or greater use of dinar in the financial system, with the aim of improving the level of financial stability of the country, reducing the risk of changing the exchange rate and strengthening the efficiency of monetary policy. It is unusual to choose the goal that most central banks did not realize in the European transition countries, although they were all more successful than the NBS in the realization of the basic goal of monetary policy - price stability.

The NBS contributes to the greater use of the dinar through the achievement of low and stable inflation, maintaining the relative stability of the dinar exchange rate, and using the appropriate monetary policy instruments. The Government contributes to taxation the same goal and development of the market of dinar securities - the share of debt in RSD increased from 2.5% (2008) to 20.5% (March 2017). The yield curve (RSD) has been extended to ten years. The dinarization of private sector deposits at the end of March 2017 amounted to 27.5% and was increased by 8 pp. Compared to the end of 2012 (when it was 19.3%) and for 3 pp. Compared to the end of 2014, as a result of an increase in macroeconomic stability. At the end of March 2017, 31.7% of all placement in private sector was in dinars.

Dinarization of placements with households has a growing trend (from 35.1% at the end of 2012 to 47.9% at the end of March 2017) as a result of a strong drop in dinar interest rates, low inflation, relative stability of the exchange rate and measures of the NBS in support of dinarism

The results of the dinarization process are confirmed by the issue of the first dinar paper issued by the MFI with the highest rating. In December 2016, EURO issued a dinar bond (3 G; RSD 2.5 bln, 3 M BELIBOR + 0.4 pp), and the demand for it was high.

CONCLUSION

The Central Bank is one of the most important financial institutions. It has special significance because it plays a regulatory role in the financial markets. Its role is particularly important in the money market, where it determines the level of money supply and the amount of short-term interest rates. The special role of the central bank is to protect other participants in the financial markets. The Central Bank emits quality securities and performs open market operations, thus contributing to the development of financial markets. Its task is also to take care of the value of the local currency, to ensure the liquidity of business entities in payments both in the country and abroad, to perform monetary and foreign exchange control of banking entities.

In addition to these basic functions, the tasks and tasks that central banks carry out in their business can be grouped into several basic functions on the internal and international plan. In the inner plan these are: 1) emission function (monopoly on printing banknotes and coins); 2) regulating the banks' credit potential and directing their credit policy, 3) the role of the state or government bankers, 4) the supervisory role (controlling the banking operations of other banks); 5) the role of the ultimate guarantor of the entire banking system; 6) managing foreign exchange reserves and external debt And 7) management of the national currency exchange rate. In the international plan, the CB establishes business cooperation with other financial organizations such as the International Monetary Fund, the World Bank, and others.

Securing and realizing the aforementioned functions, the central bank realizes using monetary policy instruments. Monetary policy of the central bank provides an optimal ratio of the amount of money in circulation and the quantitative character of a social product within a national economy. It is reduced to the activities of the central bank related to the issue and withdrawal of money from circulation in order to provide adequate amount of money in a national economy. Within the implementation of credit and monetary policy measures, the central bank has several instruments: discount policy, open market operations, mandatory reserve policy, activation policy and de-activation of deposits.

Monetary policy instruments provide an optimal relationship between the amount of money in circulation and the quantity of goods and services. The Central Bank is issuing and withdrawing money in order to provide an adequate amount of

money that enables the economy to function normally without having any distortions expressed as inflation (excess of money in relation to the quantity of goods and services) or in the form of deflation (the lack of money in relation to the quantity of goods and a favor).

The National Bank of Serbia has the role of the central bank in the Republic of Serbia. It is independent and independent in the performance of its functions determined by law and is responsible for its work to the National Assembly of the Republic of Serbia. The main goals of the National Bank of Serbia are to achieve and maintain price stability and preserve financial stability.

The National Bank of Serbia determines and implements monetary policy in the Republic of Serbia: a) by issuing short-term securities, b) by conducting open market operations, c) by performing discounts, d) by approving short-term loans, e) by determining the required reserve of banks with the National Bank of Serbia f) determining the discount rate and other interest rates of the National Bank of Serbia; g) determining the measures for maintaining the liquidity of banks and other financial organizations, h) passing regulations and undertaking measures and other activities in the field of foreign exchange operations determined by law, i) issuing banknotes and forged Money) determining other instruments and measures of monetary policy, as well l) by performing other tasks determined by law.

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