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# EKONOMSKI VJESNIK ECONVIEWS

Review of contemporary business,  
entrepreneurship and economic issues



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SVEUČILIŠTE JOSIPA JURJA STROSSMAYERA U OSIJEKU  
Ekonomski fakultet u Osijeku

JOSIP JURAJ STROSSMAYER UNIVERSITY OF OSIJEK  
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# ORIGINAL SCIENTIFIC ARTICLES

## IZVORNI ZNANSTVENI ČLANCI

*Almir Alihodžić, Hye-jin Cho*

*Analysis of systemic liquidity risk for the banking sector in Bosnia and Herzegovina (BH)*

*Kirsten Wüst*

*Interesting tasks, independence or importance to society? - The vocational expectations of generation Y*





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# ANALYSIS OF SYSTEMIC LIQUIDITY RISK FOR THE BANKING SECTOR IN BOSNIA AND HERZEGOVINA (BH)

## ABSTRACT

The purpose of this paper is to relate the Danish concept of the “Balance Principle” to test the hypotheses of systemic liquidity risk in the banking sector. In the paper, the major econometric method is to gauge the general applicability of theories of liquidity and to test the applicable validity of Bosnia and Herzegovina (BH). A prime example for this study is taken from the first quarter of 2004 to the second quarter of 2014. Our intention here is to consider the identification of macroeconomic parameters that positively affect the growth of the banking sector. The parameter liquidity, i.e. liquid assets / total assets will be observed as a dependent variable, and nonperforming loans / total loans, average profitability on equity capital, non-interest expenses / total revenue, the average required reserve, total loans, the money supply in the wider sense, net capital / risk weighted assets and net performing assets / total assets will be used as independent variables. The purpose of the paper is to determine whether there is interdependence in the movement between the independent and dependent variables through a multiple linear regression.

**Keywords:** Systemic liquidity risk, Danish balance principle, ANOVA test, macroeconomic parameters

## 1. Introduction

The present financial economic research question emerged from the question: *What is systemic liquidity risk?* It is hard to give convincing answers to this question. Previous financial studies suggest a highlight between two waves of debit and credit in the balance sheet and liquidity is usually described with respect to this framework. *Liquidity* provides the rapid circulation between two waves of debit and credit in the balance sheet. In addition, *systemic liquidity risk* has convincingly argued by on-balance sheet factors and off-balance sheet factors in the economy with financial related parties and non-fi-

nancial related parties. This paper calls attention to the central problem of systemic liquidity risk as to the balance principle. Indeed, the systemic risk issue argues persuasive evidence of solutions beyond on-balance sheet factors. Still, the paper makes an attempt to answer the on-balance sheet factors.

The Danish balance principle mortgage model is intended to maintain the mortgage market stability in Denmark over the last two centuries (IME, 2011). The balance principle in this case ensures interest rate matching, duration/liquidity matching and currency matching by maintaining the purchase of bonds and cash flows with bond investors and securing loans and instalment fees of real properties

with borrowers. Under the strict balance principle, each new mortgage loan is in principle funded by the issuance of new mortgage bonds of equal size and identical cash flow and maturity characteristics. For example, the 30-year, fixed rate, callable annuity loan funded by a pass-through callable mortgage bond gives a plausible explanation for the balance principle application. Proceeds from the sale of the bonds are passed to the borrower to purchase the real property and the interest and principal payments are passed to the investors holding the mortgage bonds.

Clearly, in the paper, the balance principle touches upon the theme of correlation of the profitability index and debt ratio analysis by the ANOVA test on Bosnia and Herzegovina (BH). The balance principle framework means that assets are supported by profits and liabilities are operated by loans accounts for liquidity of on-balance sheet factors. In addition, the fundamental idea underlying the liquidity of on-balance sheet factors is exploring the systemic liquidity risk because the debt with collaterals gives reliable explanations for off-balance sheet factors. Even if we limit our analysis to a simple economy setting with on-balance sheet factors, the method of an operational goal and financial stability would have at least three important effects that should be taken into account: (1) The effect on timing and sequential causality of crisis; (2) The effect on counterproductivity of banks and their borrowers; and (3) The effect on institutional deficiencies.

The following first session will review professional tools indicating the timing and sequential causality of crisis management. Representative methods are the Internal Capital Adequacy Assessment Process (ICAAP) and the Supervisory Review and Evaluation Process (SREP). The preventive method to the crisis situation can provide the sequential process to fend off a financial crisis.

Assets of banks are loans. Evidently, if the bank can borrow much more money, the profit of a bank goes up. Hence, the sharp power game between the regulatory bodies and banks has existed. The liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) are fortified liquidity concepts in the third Basel accord (BASEL III). Asset price appreciation is required to be more than the cost of borrowing in these concepts.

In the last session, the macroprudential stress test aimed to simulate the regulative situation. Regula-

tory actions to ensure the financial stability and risk taking try to do the work beyond the institutional constraints. One strong centralized body cannot exist in finance. The core of finance is voluntary investment and thus, it cannot be controlled by one strong body. We will test the significance of observed financial variables in the model, where the null hypothesis is the reason why the independent variables do not significantly affect the dependent. In this context, it is stated that the observed independent variables have the greatest impact on the growth or decline of the liquidity for the banking sector in Bosnia and Herzegovina.

## **2. Literature Review**

Overall liquidity risk management is intended to aim at market stability rather than efficient operation. However, traditionally, liquidity functions have supported the stable capital structure of banks. The premise which underpins a good deal of my subsequent argument is dependency of deposits within the scope of liquidity motion. To facilitate understanding of motion of deposits and loans, it seems necessary to examine the balance sheet principle for the going concern of the banking entities.

Specially, in a risky situation, the bank cannot meet the debt obligation of loans under constrained conditions. In this case, it may be better for the bank to seek marketable assets to build a better investment portfolio with stable debt condition to arbitrage the profitable investment. It is highly probable that the required amount of liquid and marketable investments depends on the stability of its deposit structure related with the credit portfolio growth. On the other hand, if the majority of the portfolio consists of a large volume of long-term loans and stable deposits, it evidently offers a greater liquidity position for commercial banks (Greuning, Bratanovic, 2006). Testing of liquidity risk can be implemented through Monte Carlo simulation, which allows the distribution of liquidity, as well as the probability of insolvency for each scenario under consideration.

Liquidity risk is divided into two types: funding liquidity risk (cash flow risk), and market liquidity (asset/product risk). Accepted at face value and taken in literal expression itself, funding liquidity risk is the problem of funding (liability of traders), and market liquidity is the problem of the market (of

assets). A close look at the Brunnermeier-Pedersen model (2008) reveals that market liquidity declines as fundamental volatility increases, which is consistent with the empirical findings of Benston and Hagerman (1974) and Amihud (2002). Diamond and Dybvig (1983), argue that financial crisis occurs if there is a lack of short-term liquidity. Burnside et al. (2001) view government guarantees as actual causes of financial crises. These authors claim that the lack of private hedging of exchange rate risk by firms and banks led to financial crises in Asia. According to Goodhart et al. (2006), bank liquidity is approximated based on the model of microeconomic basis, where the test endogenous reactions of banks and liquidity is projected on the basis of the credit supply.

According to Adrian et al. (2008), banks will actively respond to any development of the prices of financial assets in the financial market, in order to stabilize its financial leverage and harmonize the financial regulations in force. According to Brunnermeier et al. (2009), behaviour liquidity of banks in a financial crisis and tension, i.e. in the case of increasing the impact of the crisis relationship between funding liquidity and market liquidity, is stronger in terms of the formation of the spiral of liquidity, or spreading financial contagion.

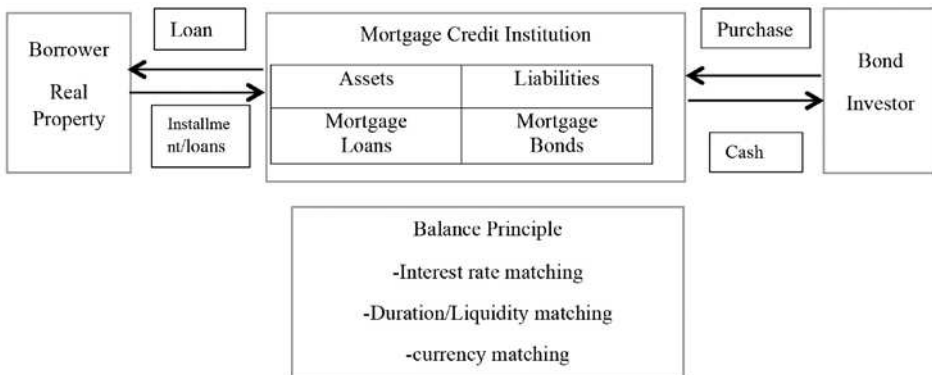
### 3. Methodology and the multiple regression model

Given a goal of stability, there is one further argument of cashflows. The cashflow is saturated with expectations of inflows and outflows as given maturity. The temporary cash shortage is prominent in the liquidity problem. It appears likely to us that the liquidity management is the need for net financing. There is somewhat the likelihood of qualified liquidity management of commercial banks; however, there is the prediction problem of expected liquidity associated with contingent liabilities. For example, legal clauses of credit and guarantees stimulate huge cash outflows that do not depend on financial conditions of some banks. That's why significant cash outflows caused by insolvency and bankruptcy situations suddenly occur in an economic depression and financial crisis.

Something that holds the various elements of a complicated structure together is an economically and financially integrated solution. For example, Denmark has a sophisticated housing finance system with a unique arrangement of asset-liability matching that has helped maintain mortgage market stability over the last two centuries. The system relies on mortgage financing via covered bonds. It underwent a regulatory overhaul in 2007 following the adoption by the European Union of the Capital Requirements Directive a year earlier.

The mortgage loan casts itself in the role of small margin and long-term investment. Mortgage banks take the credit risk and market risk including prepayment risk is passed on to the bond investors.

Figure 1 The Danish Balance Principle Mortgage Model



Source: IMF (2011), *Global Financial Report: Durable Financial Stability*, p. 118

In Denmark, under the strict balance principle, each new mortgage loan is in principle funded by the issuance of new mortgage banks of equal size and identical cash flow and maturity characteristics.

The analysis of systemic liquidity risk between Economics and Finance has been identified as the most complex aspect of regulation. The dual role of assets and liabilities with the balance principle kept by the going concern with the accounting perspective takes on a much easier role.

Asset Liquidity is defined as a quick validated certain asset liquidation with minimum losses. The dimensions of Asset Liquidity are *time* and *Liquidation value*. In pricing models, market illiquidity is measured by an illiquidity premium. The pricing model introduces an additional variable for the market illiquidity, which can be interpreted as the premium required by investors as compensation for any transaction costs or uncertainty. The present value of market illiquidity can be expressed by the following equation (Schmaltz, 2009: 16 - 17):

$$L_t^a = \sum_{j=t+1}^T \frac{CF_s^a}{(1 + r_f(t, j) + c^a(t, j) + \delta^a(t, j))^s} \tag{1}$$

Where:

$CF_s^a$  – Future Cash Flow, asset a;

$L_t^a$  – Liquidation Value, asset a;

$r_f(t, j)$  – Risk free interest rate;

$c^a(t, j)$  – Credit Risk Premium, asset a;

$\delta^a(t, j)$  – Illiquidity premium, assets a,

$\delta^a(t, j) \geq 0$

The liquidation value of assets a at time t is denoted  $L_t^a$ . It presents the sum of all future cash flows discounted at the risk-free rate  $r_f(t_1, t_2)$  plus the premium for credit risk inherent in assets a  $c^a(t_1, t_2)$  and the premium for potential future illiquidity  $\delta^a(t_1, t_2)$ . Also, market liquidity is measured by delta, where delta is an illiquidity premium. The present value  $PV_t^a$  can be expressed as the market value of perfect liquid assets:

$$PV_t^a = L_t^a (\delta^a = 0) \tag{2}$$

In liquidity management, assets liquidity is measured by haircuts - HC, as follows:

$$PV_t = HC \cdot PV_t + (1 - HC) \cdot PV_t \tag{3}$$

where:

$PV$  - Present value;

$HC$  - Haircut.

The present value can be decomposed into a fraction that can and a fraction that cannot be recovered in liquidation. Haircuts can take values from 0 to 1. As well as delta the haircuts are illiquidity measures as they take values for less liquid and zero for perfectly liquid assets. Asset liquidity depends on the institutional setup, for example marketable assets have a higher liquidity than non-marketable assets. On the other hand, financial assets are marketable if they are produced on a primary market and not by an intermediary.

For instance, an investor who buys a stock on 50% margin will lose 40% of his money if the stock declines 20% (Bodie et al., 2008). Thus, both liquidity ratios and solvency ratios provides considerable insight into the status of entities. To measure liquidity risk, essential to the notion of liquidity ratios is the comparison with the solvency ratios as shown in Table 1.

The regression model is an equation with a finite number of parameters and variables. Depending on whether a model comprised only one or more variables, there is a simple and multiple linear regression models respectively. In addition to a dependent variable and one or more independent variables, each regression models contains a random variable. A simple linear regression model expresses a relationship between the two parameters as follows:

$$Y_i = \alpha + \beta X_i + \varepsilon_i \quad i = 1, 2, \dots, n, \tag{4}$$

where:

$Y$  - dependent variable,

$\alpha$  and  $\beta$  - unknown parameters that need estimate, and

$\varepsilon_i$  - stochastic variable (error distances)

Unlike the simple regression model, the multiple linear regression model is different in that it comprises two or more independent variables.

$$Y_i = \alpha + \beta_1 X_{i,1} + \beta_2 X_{i,2} + \dots + \beta_i X_{i,j} + \dots + \beta_k X_{i,k} + \varepsilon_i \tag{5}$$

$i = 1, 2, \dots, n.$

**Table 1 Financial Analysis: Solvency vs. Liquidity Ratios**

Liquidity Ratios	Current ratio	<p>= <b>Current assets / Current liabilities</b></p> <p>The current ratio measures a company's ability to pay off its current liabilities (payable within one year) with its current assets such as cash, accounts receivable and inventories. The higher the ratio, the better the company's liquidity position</p>
	Quick ratio	<p>= <b>(Current assets – Inventories) / Current liability</b></p> <p>= <b>(Cash and equivalents + Marketable securities + Accounts receivable) / Current liabilities</b></p> <p>The quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets, and therefore it excludes inventories from its current assets. It is also known as the acid-test ratio.</p>
	Days Sales Outstanding (DSO)	<p>= <b>(Accounts receivable / Total credit sales) × Number of days in sales</b></p> <p>DSO refers to the average number of days it takes a company to collect payment after it makes a sale. A higher DSO means that a company is taking unduly long to collect payment and is tying up capital in receivables. DSOs are calculated quarterly or annually.</p>
Liquidity Index	LI	<p><math>LI_q = \sum_{i=1}^n [ W_i (P/P^*) ]</math></p> <p>Where: <math>W_i</math> stands for the percentage of each section of assets in the bank's portfolio, P stands for the price of assets in case of a sudden sales and <math>P^*</math> stands for real market price of assets.</p> <p>The bigger the difference in price, logically the lower the liquidity of the concerned financial institution (bank).</p> <p>Liquidity index (LI) measures the size of a bank q's possible loss caused by a final sale of assets, compared to the normal market price of those assets.</p>
Liquidity at Risk	LaR	<p>= <b>Probability of reaching a certain Liquidity level (pL) – Cash flow at Risk (CaR)</b></p> <ul style="list-style-type: none"> <li>• Withdrawal of deposits by X %</li> <li>• Inability to refinance all funds</li> <li>• Inability to refinance X % of money/commercial papers</li> <li>• One-day drop by X% in the main index of shares</li> <li>• Substantial change of interest rates</li> <li>• Restrictions related to convertibility of currency on the emerging markets</li> <li>• Crisis on the emerging markets</li> <li>• Loss in respect of loans</li> <li>• Business risk</li> <li>• Ad hoc analysis of special events</li> </ul> <p>This method is used to determine the value of cash flows related to various balance sheet and off-balance sheet positions of a bank.</p>
Solvency Ratios	Debt to equity	<p>= <b>Total debt / Total equity</b></p> <p>This ratio indicates the degree of financial leverage being used by the business and includes both short-term and long-term debt. A rising debt-to-equity ratio implies higher interest expenses, and beyond a certain point it may affect a company's credit rating, making it more expensive to raise more debt.</p>
	Debt to assets	<p>= <b>Total debt / Total assets</b></p> <p>Another leverage measure, this ratio measures the percentage of a company's assets that have been financed with debt (short-term and long-term). A higher ratio indicates a greater degree of leverage, and consequently, financial risk.</p>
	Interest coverage ratio	<p>= <b>Operating income (or Earnings before interest and taxes (EBIT) / Interest expense)</b></p> <p>This ratio measures the company's ability to meet the interest expense on its debt with its operating income, which is equivalent to its earnings before interest and taxes (EBIT). The higher the ratio, the better the company's ability to cover its interest expense.</p>

Source: *Financial Analysis: Solvency vs. Liquidity Ratios* (2014) retrieved from <http://www.investopedia.com/articles/investing/100313/financial-analysis-solvency-vs-liquidity-ratios.asp>



Specifically, this model consists of one dependent variable  $Y$ , and  $K$  independent variables, which are referred to as:  $X_{ij} = 1, 2, \dots, K$ . This study used a multiple linear regression model, which assesses the nature and strength of a bond between a dependent variable and  $K$  independent variables marked with  $X_{ij} = 1, 2, \dots, K$ .

#### 4. The macroprudential stress test beyond the institutional environment – Bosnia and Herzegovina (BH)

As some banks have differently defined risk-weighted assets according to their internal models and differences in local rules of the European Union (EU) member states, there is a risk that the current amount of capital will not be sufficient in terms of meeting the regulatory requirements. Otherwise, there is a trend of deterioration in the credit quality of the portfolio where there is an increase in the share of non-performing loans (NPLs) to total loans. The following is the capital adequacy ratio for banks in the euro zone from 2006 to 2013 as follows.

**Table 2 The Regulatory Capital of 13 Eastern European Countries for 2006 - 2013 (in %)**

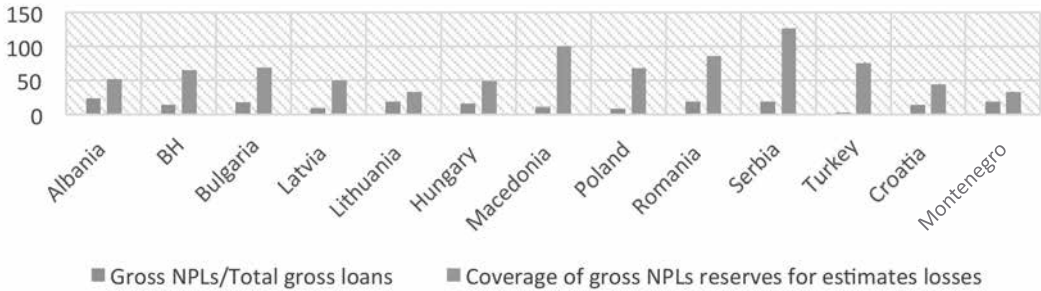
Country	2006	2007	2008	2009	2010	2011	2012	2013	Index (2013/2006)	Average
Romania	18.1	13.8	13.8	14.7	15.0	13.4	14.6	13.9	76.79%	17.1
Montenegro	21.3	17.1	15.0	15.8	15.9	16.5	16.5	14.7	69.014%	17.1
Poland	13.2	12.0	11.2	13.3	13.9	13.1	14.8	15.2	115.15%	17.1
Turkey	21.9	18.9	18.0	20.6	19.0	16.5	17.9	15.7	71.69%	17.1
Bulgaria	14.5	13.8	14.9	17.0	17.5	17.5	16.5	16.6	114.48%	17.1
Macedonia	18.3	17.0	16.2	16.4	16.1	16.8	17.1	16.8	91.80%	17.1
Hungary	11.0	10.4	12.3	13.9	13.9	14.2	15.9	16.9	153.64%	17.1
Bosnia and Herzegovina	17.7	17.1	16.3	16.1	16.2	17.2	17.0	17.0	96.04%	17.1
Lithuania	10.2	11.1	11.8	14.6	14.6	17.4	15.2	17.4	170.59%	17.1
Albania	18.1	17.1	17.2	16.2	15.4	15.6	15.6	17.9	98.89%	17.1
Latvia	10.8	10.9	12.9	14.2	15.6	14.0	16.7	18.1	167.59%	17.1
Croatia	14.0	16.3	15.1	16.4	18.8	19.2	20.5	20.9	149.28%	17.1
Serbia	24.7	27.9	21.9	21.4	19.9	19.1	19.9	20.9	84.61%	17.1

Source: Annual Financial Stability Report of National Bank of Serbia (2014), Available at: <http://www.nbs.rs/internet/cirilica/90/fs.html>

Figure 2 illustrates the tendency of Net Profits and Losses (NPLs) coverage reserves for estimated losses and the share of problematic loans of countries in the region and individual countries of the European Union (EU).

As shown, on the basis of Net profits and losses (NPLs), the Republic of Serbia is above the regional average (6.80 times) excepted for Turkey, which apparently seems to be the best coverage (27.85 times) because it fulfils minimum of the gross Net Profits and Losses (NPLs) to total gross loans, as well as Macedonia (9.52 times) and Poland (7.67 times). In order to maintain financial stability and pursue interests of depositors and other creditors of the National bank of Serbia (NBS), the IFRS (International Financial Reporting Standards) requires the establishment of regulatory provisions that at the end of 2013 accounted for about 50.9% of Net Profits and Losses (NPLs) where the loan loss covered on-balance and off-balance sheet losses amounting to about of 117.9% of the loans. The share of domestic banks in total assets of Bosnia and Herzegovina (BH) is very negligible. Table 4 illustrates the structure of assets of financial intermediaries in Bosnia and Herzegovina (BH) for the period of 2011 – 2013.

**Figure 2** The tendency of Net Profits and Losses (NPLs) of Eastern European Countries on December 31, 2012 (in %)



Source: Annual Financial Stability Report of National Bank of Serbia (2014), Available at: <http://www.nbs.rs/internet/cirilica/90/fs.html>

The most important and most developed financial market in Bosnia and Herzegovina (BH) is certainly the banking market. Table 3 makes clear that commercial banks have a predominant share of the total assets of the business, which amounted to 86.1 % in 2011 and reached 87.4% in 2013. The second large portion in the amount of total assets certainly insurance companies and reinsurance companies, with a relatively small portion of 4.4% in 2011 and 4.5% in 2013 (The Central Bank of Bosnia and Herzegovina - CBBH, 2014).

**Table 3** The Value of Assets of Financial Intermediaries in Bosnia Herzegovina (BH) for 2011 - 2013 (in mil. EUR)

Financial intermediaries	2011		2012		2013	
	Value	Participation (%)	Value	Participation (%)	Value	Participation (%)
Banks	10 734	86.1	10 832	86.3	11 262	87.4
Leasing companies	392	3.1	366	2.9	305	2.4
Microcredit organizations	379	3.1	345	2.8	341	2.6
Mutual funds	414	3.3	407	3.2	390	3.0
Insurance and reinsurance	550	4.4	600	4.8	586	4.5
<b>Total</b>	<b>12 469</b>	<b>100</b>	<b>12 550</b>	<b>100</b>	<b>12 884</b>	<b>100</b>

Source: Financial Stability Report, Central Bank, 2013, p. 37, Available at: [http://www.cbbh.ba/files/financial\\_stability\\_report/fsr\\_2013\\_bs.pdf](http://www.cbbh.ba/files/financial_stability_report/fsr_2013_bs.pdf)

Contraction of the non-banking sector resulted from low purchase power of the population, weak economic activity, political circumstances and the previously accumulated risks, particularly in the segment of leasing companies and the microcredit sector. Underdevelopment of the capital market, slow transformation of closed investment funds and high fees of companies that manage investment funds reduced the value of domestic investment funds. Due to prominent legal uncertainty and segmentation, the domestic capital market is not sufficiently attractive to foreign investors (The Central Bank of Bosnia and Herzegovina - CBBH, 2014).

The dominant presence of foreign banking groups in Bosnia and Herzegovina (BH) causes the indirect transfer problems from the eurozone banking system to the banking sector of Bosnia and Herzegovina (BH). The liquidity position at the end of 2012 continued to be fragile. Risks of investing in the real sector in comparison to the amount of money of

banking groups have created a kind of cash drag, or liquidity, which in the short term cannot qualify to cover the costs. As a result of the given situation, banks partly compensated for large decreases of foreign liabilities by the increase of deposits of domestic sectors of 2.6%. Investors in government bonds and treasury bills were mainly domestic banks. Banks in Bosnia and Herzegovina (BH) have surplus funds invested in securities due to the lack of quality projects and other better opportunities for potential investments. The main objective of investing in domestic banks was primarily the preservation of the net interest margin, i.e. achieving high yields on securities (Alihodžić, Plakalović, 2014: 348).

Given the data of the council for Ministers Directorate for Economic Planning, Economic Trends, Bosnia and Herzegovina (2013), the banking sector in Bosnia and Herzegovina (BH) after three years has generated a negative financial result. The growth in non-interest expenses or provisions for general credit risk and potential credit risk was influenced by a negative result at the end of 2013. If the value of the indicator ROA is less than 0.5%, the bank's profitability is considered to be bad. If it is between 0.5% and 1%, then we can say it is about average profitability, and if the value of the ROA indicator ranges between 1% and 2%, we are certainly talking about very profitable financial institutions.

In the table below, it is quite clear that the indicator of the profitability of the banking sector of BH recorded a negative value of 0.20% in the last quarter of 2013. In the second quarter of 2014 a slight increase was recorded in the value of 0.5%.

**Table 4 Performance Indicators of the Banking Sector in Bosnia and Herzegovina (BH) for the Quarter 4 of 2013 - Quarter 2 of 2014 (in %)**

Parameters of the Banking sector	Period		Index (Q2 2014/Q4 2013)
	Q4/2013	Q2/2014	
Return on average assets	-0.20	0.5	250.0%
Liquid assets/Total assets	26.4	24.7	93.56%
Liquid assets/Current financial liabilities	46.2	43.4	93.94%

Source: [http://cbbh.ba/sfsi.php?id=618&lang=bs&table=&show\\_all/Statistics/Selected FSIs for banking sector](http://cbbh.ba/sfsi.php?id=618&lang=bs&table=&show_all/Statistics/Selected_FSIs_for_banking_sector) (Adjusted by Author)

Weak lending activity reflects the weak demand on the one hand, and the rigidity of the banks on the other. In a time of weak domestic demand, the demand for credit is stagnant or declining. Also, due to the unstable economic growth and development, it is difficult to determine the risk assessment of bank lending, which leads to weak loan supply.

As can be noted from the table in terms of liquidity indicators, there was a slight decline at the Central bank in Bosnia and Herzegovina (BH) (2013). Unlike other indicators where positive developments are deemed desirable, the overly high level of the liquidity indicator, especially under the current macroeconomic conditions, often indicates unwillingness of banks to finance domestic the economy and households. Banks in BH efficiently managed their liquidity, which is shown by the data that liquid assets accounted for 26.4% of the banking sector assets at the end of 2013, and that 46.2% of short-term liabilities of BH banks were covered by liquid assets.

The banking sector in Bosnia and Herzegovina is stable with regard to liquidity except for a few banks that displayed significant weaknesses in their business operations. At the system level, the BH banking sector is still adequately capitalised. Also, in Table 5 it's quite clear that the average capital adequacy of the banking sector of BH from quarter 4 in 2013 to quarter 2, in 2014 was recorded (17.26%), which led to the conclusion that the banking sector is well capitalized and able to maintain a high rate of capitalization above the statutory minimum of 12%. Also, it can be noted in the third quarter of 2013, in the increasing rates of non-performing loans there is a slight decline in the rate of capital adequacy. Higher rates of non-performing loans are related to reduced domestic demand and high unemployment.

**Table 5 Movement of the capital adequacy ratio and non-performing loans of the banking sector of BH for the period: Q4 2013 – Q2 2014 (in %)**

Years/ Quarter	Q4 2012	Q1 2013	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014
Capital adequacy	17.0	17.2	17.2	17.0	17.8	17.3	17.3
Non-performing loans/total loans	13.5	13.8	14.3	14.9	15.1	14.9	15.5

Source: [http://cbbh.ba/sfsi.php?id=618&lang=bs&table=&show\\_all/Statistics/Selected\\_FSIs\\_for\\_banking\\_sector](http://cbbh.ba/sfsi.php?id=618&lang=bs&table=&show_all/Statistics/Selected_FSIs_for_banking_sector)

On the other hand, the high rate of credit risk can cause losses of banks due to significantly incapacitated enterprise borrowers to properly fulfil their obligations.

The banking sector in Bosnia and Herzegovina (BH) in 2013 is construed as stable. Generally, the banking sector in Bosnia and Herzegovina (BH) is adequately capitalized. The main risk of the banking sector in Bosnia and Herzegovina (BH) is the tendency of further growth in non-performing loans. Thus, the increased level of systemic risk in the banking sector in Bosnia and Herzegovina (BH) is the result of the high level of non-performing loans and the lack of an appropriate solution for this problem.

**Table 6 Analysis of Movement of Macroeconomic Variables for the period: 2007 – 2013 (in %)**

Indicators	2007	2008	2009	2010	2011	2012	2013
Real GDP (growth rate)	6.0	5.6	-2.7	0.8	1.0	-1.2	1.6
Average Annual Growth Rate of CPI	1.5	7.4	-0.4	2.1	3.7	2.0	-0.1
Broad Money - M2 (as a percentage of GDP)	54.2	49.8	52.3	54.8	55.9	57.9	61.6
The growth rate of loans in the financial sector	28.83	22.43	-3.17	3.51	5.28	4.12	2.94
The growth rate of deposit in the financial sector	37.93	-1.75	1.83	3.62	3.70	2.57	6.93
The growth rate of foreign direct investment	200.61	-48.55	-73.68	70.39	16.50	-23.54	-21.81
Growth of commercial bank assets	32.80	7.83	-0.61	0.75	3.90	1.95	5.02

Source: [http://www.cbbh.ba/files/bilteni/2013/Bilten\\_4\\_2013.pdf/Statistics/Main Economic Indicators and GDP](http://www.cbbh.ba/files/bilteni/2013/Bilten_4_2013.pdf/Statistics/Main_Economic_Indicators_and_GDP)

The global economic crisis has highlighted the fact that the rapid credit growth in the countries of Southeastern Europe had an impact on the increase in non-performing loans to total loan portfolio and increased credit losses. Based on macroeconomic assumptions, the Central Bank of Bosnia Herzegovina (BH) has implemented top-down stress tests as shown in Table 6.

In the table below, from the data of the Central Bank of Bosnia and Herzegovina - CBBH, it is quite clear that the highest value of economic activity as measured by the gross domestic product was recorded in 2007 (6.0%). On the other hand the lowest value was recorded in 2009 (-2.7%). Crisis effects did not become effective in full capacity until the end of 2008, as the activities continued to take place by inertia of previously arranged agreements. Towards the end of the year, only export indicated that the crisis was being accelerated and expanded to BH, while other economic indicators were still the lowest at the level from 2007. At the end of the year, the banking sector suffered a strong shock due to withdrawal of a portion of the deposits and the deteriorated conditions for foreign borrowing, which then had an impact on the reduction of availability of credit, as well as

a slowdown of personal consumption and investment. In general, the domestic economy still relied on domestic consumption and investments. After several years of economic expansion and relatively high growth rates, in 2009 the domestic economy experienced a marked contraction caused by the global recession. The domestic economy entered this crisis with a serious fiscal deficit and a very sensitive external position of the country, as well as an unfinished transition process. The three main channels of transmission of the crisis for all emerging market countries were a sudden drop in capital inflows, a reduction of the external demand for their exports, and a decrease in metal prices. Investments fell off considerably due to much lower capital inflows, so, for instance, a 39 per cent reduction in imports of capital products was recorded, while the domestic production of capital products was lower by 18 per cent.

Positive economic trends and gradual recovery from 2011 and beginning of 2012 suddenly stopped during 2012. In the first half of the year, there was still a momentum in the activities, followed by stagnation and slow-down, which was mainly caused by the recession trends in the euro area and our region. Recession in the euro area has lasted for six successive quarters, and in our economy, the situation particularly became complicated when the circumstances in the German economy became worse. The main effects of economic stagnation in the euro-area, on the local economy were reflected in the decrease of external demand for our exports and insufficient capital inflows. All this brought about recession trends and it is estimated that the real decline of the GDP in 2012 was -0.5%, and that negative risks were realized to a high extent, which were not so visible at the beginning of 2012.

When measured by the value of the nominal GDP and growth of the real GDP of International Monetary Fund (IMF), there was a slight recovery in economic activity in the country in 2013. Despite the nominal annual growth, economic activity in the country in the periods after 2008 is quite weak, and could adversely affect the trend of long-term potential growth of the country. Experts from the International Monetary Fund predict that the continuous growth of foreign direct investment (FDI) in Bosnia and Herzegovina (BH) for the period 2014 – 2018 will amount from 320 million to 360 million.

The high value of the consumer price index was recorded in 2008 (7.4%), while on the other hand

the lowest value was recorded in 2009 and 2013 respectively (-0.4% and -0.1%). The slowdown trend in inflation has been present since the early 2011, and continued in 2013, with the deflationary pressures emerging in the second half of the year. Annual inflation, measured by the consumer price index (CPI) in 2013 was -0.1%. At the end of 2013, inflation rate of -1.2% was recorded. Deflation in 2013 is a result of a continuing trend in the decrease of food and oil prices on the global markets. Long-term inflationary trend in data of the Central Bank of Bosnia and Herzegovina (CBBH) measured by core inflation, is almost zero.

The amount of money in circulation in terms of the currency board arrangement is conditioned by the amount of funds in the reserve account with the Central Bank of Bosnia and Herzegovina - CBBH and it comprises of cash in bank vaults and cash out of banks, that is, the amount of money circulating in the economy. While cash in vaults of banks in recent years has generally had a uniform trend with a pronounced seasonal character, its constant growth has been recorded in 2013. Growth in savings in the banks contributed to the evident results in macroeconomic stabilization due to the introduction of the currency board in 1997, contributing to a significant stabilization of prices.

The growth rate of loan amounting to 2.94% at the end of 2013 was largely caused by refinancing, which involved extension of clients' repayment periods by banks and provision of additional loans for continuation of clients' business operations. More prominent orientation of the BH banking sector to the government sector is possible in the period ahead, due to budget needs linked with the financing of the existing budget deficits. The reliance of the BH banking system on foreign sources was one of the most significant risks that the domestic financial system was exposed to, despite all positive effects of funding from abroad. The increase in resident deposits buffered the effects of deleverage of banks owned by foreign banking groups and contributed to maintaining financial stability of the CBBH.

Foreign direct investment in the absence of the dynamics of domestic investment remains the only real source of stronger economic growth in Bosnia and Herzegovina. In the table below it is quite clear that foreign direct investment in the reporting period had a very volatile movement, which, in our opinion, can be much more volatile in the future.

**Table 7 Testing the rise in Non-Performing Loans to Total Loans through the Stress Test Scenarios for the period: 2014 – 2015**

Indicators	Baseline scenario		Extreme scenario	
	2014	2015	2014	2015
Shock A – Slowdown in economic activity				
Increasing the ratio of NPLs to total loans	1.0%	0.0%	5.0%	4.0%
Shock B – Increase in interest rates				
Increasing the ratio of NPLs to total loans	0.0%	0.0%	0.0%	0.5%
The capital adequacy ratio	18.0%	18.3%	16.1%	15.0%
The number of banks that need recapitalization	5	6	7	10

Source: *Financial Stability Report, The Central Bank of BH, 2013, p. 42, Available at: [http://www.cbbh.ba/files/financial\\_stability\\_report/fsr\\_2013\\_bs.pdf](http://www.cbbh.ba/files/financial_stability_report/fsr_2013_bs.pdf)*

This empirical study refers to the analysis of the total liquidity of the banking sector in Bosnia and Herzegovina (BH) for the period from Q1 2004 to Q2 2014. The data used for this study are the official data (statistical analysis) of the Central Bank of Bosnia and Herzegovina. This study used a multiple linear regression model which assesses the nature and strength of the bond between a dependent variable, and  $K$  independent variables that are marked with  $X_{(i, j)} = 1, 2, \dots, K$ . Therefore, in this study, parameter liquidity - liquid assets / total assets (LA / TA) of the banking sector in BH is used as a dependent variable and the following ones as independent variables: NPLs / total loans (NPLs / TL) average profitability on equity capital (APEC), non-interest expenses / total revenue (NIE / TR), the average required reserve (ARR), total loans (TL), the money supply in the wider sense (M2), net capital / risk weighted assets (NC / RWA) and NPAs / Total assets (NPA / TA). The regression model in this study is presented as follows:

$$\begin{aligned}
 LA/TA = & \alpha + \beta_1 \times (NPLs/TL) + \beta_2 \times (APEC) \\
 & + \beta_3 \times (NIE/TR) + \beta_4 \times (ARR) + \beta_5 \times (TL) + \\
 & \beta_6 \times (M2) + \beta_7 \times (NC/RWA) + \beta_8 \times (NPAs/TA) \\
 & + \varepsilon_i
 \end{aligned}
 \tag{6}$$

The representativeness of the model will be calculated based on the coefficient of correlation ( $r$ ), coefficient of determination ( $R^2$ ) and adjusted coefficient of determination ( $\bar{R}^2$ ). There is also an analysis of variance (ANOVA), which will test the significance of observed financial variables in the model, where the null hypothesis is the reason why the independent variables do not significantly affect the dependent:

$$H_{0...}\beta_1 = 0,$$

$$H_{0...}\beta_1 \neq 0$$

Table 8 illustrates the descriptive statistics of explanatory.

It is clearly evident that the highest volatility is measured by the standard deviation observed in the total loans of 3.801% and the money supply in the broader sense of 3.084%. Credit growth in Bosnia and Herzegovina at the end of 2013 was approximately 3.4% and it is mainly related to the refinancing of the existing bank clients. The growth of non-performing loans, increased risk aversion and tighter requirements for the granting of weak domestic demand influenced the design of lending activity to businesses. In Bosnia and Herzegovina (BH) in 2013, of total loans to enterprises, 60% were related to short-term loans. Thus, this data suggests a problem of liquidity of companies, and as a consequence of increasing the number of blocked accounts of companies in Bosnia and Herzegovina (BH) and the increasing amount of uncollectible receivables from companies that are bridging these borrowings (The Central Bank of Bosnia and Herzegovina, 2013).



**Table 8 Descriptive statistics of the observed banking performance from the Quarter 1 2004 to Quarter 2 2014**

Management Domain	Dependent and independent variables of the model	Index	Mean	Std. Deviation	N
Liquidity	Liquid assets/total assets	LA/TA	30.97	4.73	42
Debt Quality	NPLs/total loans	NPLs/TL	7.97	4.26	42
Profitability	Average profitability on equity capital	APEC	3.19	3.07	42
Profitability	Non-interest expenses/total revenue	NIE/TR	89.27	7.98	42
Reserve	Average required reserve	ARR	1.535E3	654.66	42
Liquidity	Total loans	TL	1.232E4	3,801.82	42
Money Supply	M2	M2	1.185E4	3,083.73	42
Capital	Net capital/risk weighted assets	NC/RWA	16.95	1.088	42
Asset Quality	NPAs/total assets	NPAs/TA	5.67	3.48	42

Source: Calculation by the authors (SPSS 16.0)

#### 4.1 The research results

Results obtained by regression analysis indicate that the coefficient of correlation is  $r = 0.99$ , indicating that there is a strong correlation between the dependent variable, i.e. liquidity - Liquid Assets / Total Assets (LA / TA), and independent variables: Net Profits and Losses (NPLs) / Total Loans (NPLs / TL) Average Profitability on Equity Capital (APEC), Non-Interest Expenses / Total Revenue (NIE / TR), the Average Required Reserve (ARR), Total Loans (TL), the Money Supply in the wider sense (M2), Net Capital / Risk Weighted Assets (NC / RWA) and Non-Performing Assets (NPAs) / Total assets (NPA/ TA). The coefficient of determination is  $R^2 = 97\%$ , and the adjusted coefficient of determination is  $\bar{R}^2 = 0.97$ . The data shows that this model describes 97% of the variations with independent variables which makes the model relatively representative. The significance test also indicates that there is a significant influence of certain independent variables on the dependent variable. The testing of the null hypothesis indicates that there is significant influence of certain independent variables at a significance level of  $\alpha = 1\%$ , and that the empirical F- ratio is 163.29.

As for this study, the value of the empirical F- ratio (163.29) is greater than the theoretical value of the F- ratio (3.09) for the 8-degree of freedom in the numerator and 34 in the denominator. Thus, we can conclude to reject the null hypothesis that the independent variables have a significant impact on the dependent variable. Darbin-Watson statistics show a high correlation with respect to the value of approximately over 1.

**Table 9 Regression analysis between the following parameters: LA/TA, NPLs/TL, APEC, NIE/TR, ARR, TL, M2, NC/RWA, NPAs/TA in Bosnia and Herzegovina (BH) for the period: Q1 2004 – Q2 2014**

Regression Statistics	
Multiple R	0.988
R Square	0.975
Adjusted R Square	0.969
Std. Error of the Estimate	0.828
Durbin - Watson	1.592

Source: Calculation by the authors (SPSS 16.0)

**Table 10 Analysis of variance between the following parameters: LA/TA, NPLs/TL, APEC, NIE/TR, ARR, TL, M2, NC/RWA, NPAs/TA in Bosnia and Herzegovina (BH) for the period: Q1 2004 – Q2 2014**

ANOVA	Df	SS	MS	F	Significance F
Regression	8	896.48	112.06	163.29	0.01
Residual	34	22.65	0.69	-	-
<b>Total</b>	<b>42</b>	<b>919.13</b>	-	-	-

Source: Calculation by the authors (SPSS 16.0)

**Table 11 The matrix of correlation coefficients between the parameters: LA/TA, NPLs/TL, APEC, NIE/TR, ARR, TL, M2, NC/RWA, NPAs/TA in Bosnia and Herzegovina (BH) for the period: Q1 2004 – Q2 2014**

	LA/TA	NPLs/TL	APEC	NIE/TR	ARP	TL	M2	NC/RWA	NPAs//TA
LA/TA	1.000	-0.824	0.362	-0.004	0.144	-0.838	0.820	0.320	-0.854
NPLs/TL	-0.824	1.000	-0.256	-0.072	-0.463	0.576	0.643	0.015	0.996
APEC	0.362	-0.256	1.000	-0.724	0.049	-0.309	-0.255	0.253	-0.234
NIE/TR	-0.004	-0.072	-0.724	1.000	0.058	0.065	0.006	-0.275	-0.108
ARP	0.144	-0.463	0.049	0.058	1.000	0.339	0.312	-0.647	-0.409
TL	-0.838	0.576	-0.309	0.065	0.339	1.000	0.984	-0.651	0.626
M2	0.820	0.643	-0.255	0.006	0.312	0.984	1.000	-0.599	0.690
NC/RWA	0.320	0.015	0.253	-0.275	-0.647	-0.651	-0.599	1.000	-0.170
NPAs/TA	-0.854	0.996	-0.234	-0.108	-0.409	0.626	0.690	-0.017	1.000

Source: Calculation by the authors (SPSS 16.0)

The coefficient of correlation can take values from -1 to +1. Thus, the resulting ratio shows the strength of two observed parameters. A zero value indicates that there is no correlation, and, the value of 1.0 indicates the correlation between complete and connected, while the value of -1.0 indicates the correlation between complete and negative. From the above table it is evident that most explanatory variables are slightly negatively correlated with each other, and on the other hand, a number of observed variables have a positive correlation. Since the object of analysis is about the impact of independent variables on the dependent variable, i.e. the ratio of liquid assets to total assets (liquidity of the banking system in Bosnia and Herzegovina) it can be seen that the strongest positive correlation was observed between the ratio of liquid assets / total assets and money supply in the wider sense of the word, i.e. parameter - M2 (0.820).

In fact, this correlation is completely logical and reasonable because of the increase of parameter M2 leading to an increase of liquidity in the banking system. Also, the indicators of liquid assets / total assets and the value of average profitability on equity capital were recorded as the positive correlation (0.362), and between the indicators of net capital / risk-weighted assets (0.320). The greatest value of the capital adequacy ratio for the analysed period was recorded in 2004 (20.1%), the lowest was reached in the last quarter of 2008 (15.0%) and the mean value of 16.95%, which suggests that the banking system in Bosnia and Herzegovina (BH) is well capitalized and is able to maintain a constant high rate of capitalization and well above the legal minimum of 12%, which reflects positively on the overall liquidity of the banking sector. Also, the average reserve requirement has had a positive causality of the observed variable ratio (0.144).



Theoretically, the amount of required reserves directly affects the value of bank resources. The height of required reserves directly influences the values of resources. With higher required reserves the banking resources are becoming more expensive, because the required reserves are the funds on which the yield is small (Kozaric, Kovacevic, 2007). Required reserves are the only monetary policy instrument operationally available to the CBBH to implement the economic policy goals.

Therefore, the strongest negative correlation was noted between the observed indicators of liquidity as the dependent variable and independent variables in the model, such as indicators of non-performing assets to total assets (-0.854), followed by total loans (-0.838) and non-performing loans to total loans (-0.824). The movement of non-performing assets, or bad loans, have an impact on liquidity. Thus, the high liquidity leads to low profitability and vice versa, lower liquidity leads to higher profitability (Kosmidou, 2008).

In the first quarter of 2014, most financings of the Central Bank of Bosnia and Herzegovina (CBBH) are related to short-term loans where the rate of

growth on a quarterly level was 3% for short-term loans and 0.1% for long-term loans to private and public non-financial companies. Thus, the data indicates increased repayment of maturing obligations and forecasts new loans used to restructure existing loans.

From the above tables, we can explore the indicator of liquidity in the banking sector of Bosnia and Herzegovina (BH) i.e. the ratio of Liquid Assets and Total Assets (LA / TA) presents the strongest positive correlation to the Money Supply in the wider sense (M2) (1.97). As previously noted, the correlation coefficient was observed in the same trend in the movement, which is quite reasonable because the increase in the money supply in the financial system leads to an increase of liquidity.

A potential indicator of liquidity is assumed as the Net Capital / Risk-Weighted Assets (NC / RWA) (0.10). The increase in risk-weighted assets while increasing non-performing loans and provisions shows that the actual credit growth to some extent was offset with the negative effect of additional provisions for non-performing bank claims. The growth of capitalization in the banking sector and

**Table 12 Regression analysis coefficients between the following parameters: LA/TA, NPLs/TL, APEC, NIE/TR, ARR, TL, M2, NC/RWA, NPAs/TA in Bosnia and Herzegovina (BH) for the period: Q1 2004 – Q2 2014**

Model	Unstandardized Coefficients  B	Std. Error	Standardized Coefficients  Beta	t	Sig	95% Confidence Interval for B  Lower Bound	Upper Bound	Zero order	Correlations  Partial	Part
(Constant)	23.29	5.96	-	3.91	0.001	11.17	35.41	-	-	-
NPLs/TL	2.51	0.73	-2.26	3.45	0.002	1.03	3.98	-0.82	0.51	0.09
APEC	0.07	0.07	0.04	0.92	0.36	-0.08	0.22	0.36	0.16	0.01
NIE/TR	-0.01	0.03	-0.01	-0.21	0.83	-0.07	0.05	-0.01	-0.04	-0.01
ARP	6.43	0.01	0.01	0.11	0.92	-0.01	0.01	0.14	0.02	0.01
TL	-0.01	0.01	-2.01	-8.68	0.01	-0.01	-0.01	-0.84	-0.83	-0.24
M2	0.01	0.01	1.97	7.18	0.01	0.01	0.01	0.01	-0.82	0.78
NC/RWA	0.44	0.24	0.10	1.80	0.08	-0.06	0.93	0.32	0.30	0.05
NPAs/TA	-4.34	0.93	-3.19	-4.67	0.01	-6.23	-2.45	-0.85	-0.63	-0.13

Source: Calculation by the authors (SPSS 16.0)

the growth of risk-weighted assets induces that the banking sector achieved a certain financial stability at the end of 2013.

On the other hand, the most pronounced negative correlation was recorded between the ratio of Net Assets to Total Assets (NA / TA) and the ratio of Liquid Assets and Total Assets (LA / TA) (-3,19). This relation is quite logical, because the increase in non-performing assets and loans leads to falling liquidity. Non-performing loans are the largest source of risk of the Bosnia and Herzegovina (BH) banking sector. At the end of 2013, non-performing loans accounted to 15.12% of all loans in the balance sheets of commercial banks in Bosnia and Herzegovina (BH). Despite this, the banking sector in Bosnia and Herzegovina (BH) has a lower level of participation of non-performing loans to total loans compared to some countries in the region, and non-performing loans are one of the biggest risks to the stability of the financial system.

The second considerable amount of negative correlation is Non-Performing Loans / Total Loans - NPLs / TL and Liquid Assets / Total Assets - LA / TA (-2.26). Also, negative linear trends were observed between the total loans - TL as an independent variable and liquid assets / total assets - LA / TA as the dependent variable in the model (-2.01). The risk of insolvency is the inability of banks to meet maturing obligations which may eventually lead to a loss of business (Alihodzic, 2014). The aim of this article is to synthesize the insights of liquidity ratios related solvency and highlight on systemic liquidity risk.

## 5. Conclusion

To facilitate understanding of the systemic liquidity risk framework, and thus as an alternative solution for the real sector, it seems necessary to examine the local data in the Bosnia and Herzegovina (BH) case from the Central Bank of Bosnia and Herzegovina (BH). This study does not attempt a fully-fledged account of global data, but simply points to the Danish balance principle to the liquidity and solvency problems, without data of Cyprus, Greece, Turkey, Ukraine, Austria, Armenia, Russia, The Czech Republic and Poland. Therefore, our purpose is to discuss the application possibility of the Danish balance principle and the macro-prudential

analysis in Economics and Finance and not to support the claim of the representativeness of the data of Bosnia and Herzegovina (BH).

With the multiple linear regression model of Bosnia and Herzegovina (BH), the liquidity of the banking sector in Bosnia and Herzegovina (BH) in the period from the first quarter of 2004 to the second quarter of 2014, presents an impressive and familiar combination of liquidity analysis. The null hypothesis was rejected because it was not shown that the independent variables affect the dependent variable.

From the negative point of view, high liquidity causes counter-productivity in terms of unfavourable attitudes of foreign investors with negative mood towards investment in Bosnia and Herzegovina (BH). It stands to reason: (1) The improvement of solvency ratios cannot imply the improvement of liquidity ratios. While our effort in this paper is only a first step, we believe it offers an insight into the systemic liquidity risk. In particular, it is important to recognize key points: (2) The Danish balance principle is applicable to systemic liquidity risky situations involving economic and financial problems. (3) The macroprudential stress test works in the multiple linear regression of the Bosnia and Herzegovina (BH) model with total assets (LA/TA) and independent variables: NPLs / total loans (NPLs / TL) average profitability on equity capital (APEC), non-interest expenses / total revenue (NIE / TR), the average required reserve (ARR), total loans (TL), the money supply in the wider sense (M2), net capital / risk weighted assets (NC / RWA) and NPAs / Total assets (NPA/ TA).

The Danish balance principle provides a key with which to unlock many of the riddles of the systemic liquidity risk problem. This approach also provides an umbrella under which we see each other as working within the same paradigm, but in different ways. The text displays a coherent structural and macro-prudential solution to financial problems. The results of this paper lead to the conclusion that the systemic risk is still present and directly correlated with the negative or slow growth in the gross domestic product. Also, this study lays the foundation for future work on the banking business model by pointing to several promising applications.

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## **ANALIZA SISTEMATSKOGA RIZIKA LIKVIDNOSTI ZA BANKARSKI SEKTOR U BOSNI I HERCEGOVINI**

### **SAŽETAK**

Osnovni cilj ovoga rada jest testiranje hipoteze na sistematski rizik likvidnosti za bankarski sektor na osnovi danskoga koncepta – „Principa ravnoteže“. U ovome se istraživanju glavna ekonomska metoda temelji na ocjeni opće primjenjivosti teorije likvidnosti te valjanosti za Bosnu i Hercegovinu. Najbolji je primjer za ovo istraživanje uzet za razdoblje od prvoga tromjesečja 2004. do drugoga tromjesečja 2014. godine. Namjera je ovoga istraživanja razmatranje identifikacija makroekonomskih čimbenika koji pozitivno utječu na rast bankarskoga sektora. Likvidna varijabla - likvidna sredstva / ukupna aktiva razmatrat će se kao zavisna, a nekvalitetni krediti / ukupni krediti, prosječna profitabilnost na dionički kapital, nekamatni troškovi / ukupni prihodi, prosječna obavezna rezerva, ukupni krediti, novčana masa u širem smislu, neto kapital / rizikom ponderirana aktiva i nekvalitetna aktiva / ukupna aktiva koristit će se kao nezavisne varijable. Dakle, osnovna svrha ovoga istraživanja jest da se utvrdi postoji li međuzavisnost i uvjetovanost u kretanju između nezavisnih i zavisnih varijabli putem viševarijantne regresijske analize.

**Ključne riječi:** sistematski rizik likvidnosti, danski princip ravnoteže, ANOVA test, makroekonomski pokazatelji

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# **INTERESTING TASKS, INDEPENDENCE OR IMPORTANCE TO SOCIETY? - THE VOCATIONAL EXPECTATIONS OF GENERATION Y**

## **ABSTRACT**

Choosing a profession is complex and often affects many areas of one's future life. In a representative study we analyzed data of 4,447 German adolescents, aged seventeen, who were interviewed in the years between 2000 and 2013. The aim of the study was to identify the effects of gender, school type, personality and leisure activities on vocational expectations and career-choice stages of generation Y. Especially, it was of interest which effect remained as a generational time effect after controlling for the named variables. For the analysis we used descriptive statistics with rank orders and mean values as well as linear and logistic regression analyses. Engagement in different leisure activities, gender and form of education all greatly affect the perceived importance of profession characteristics. While young women and students from German grammar schools rank "stimulating tasks" first, young men and students from all other school forms feel that a "secure position" is the most important. Also, personality factors influence the perceived importance of vocational features, with agreeable and extravert adolescents rating "contact to others", "importance to society", "helping others" and similar features significantly higher. After controlling for the named variables, there remained a significant correlation between the survey year and the term "secure position" which became less important, and the terms "working conditions", "importance for society" and "helping others" all three of which became more important. A trend towards a higher valuation of one's individual social responsibility can thus be noticed.

**Keywords:** Professional choice, expectations, adolescents, generation Y

## **1. Introduction**

According to Klaffke and Parment (2011: 5) the trade journal *Ad Age* first coined the term "Generation Y" in an editorial article in 1993. Generation Y encompasses people born between 1978 and 2000 (Sacks, 2006). Sometimes this generation is called "the millennials" (Forrester, 2006) although the

term "generation Y" is more commonly used. While generation Y succeeds generation X, i.e. the generation of people born between 1960 and 1980 (Hamblett, Everson, 1964), the Y has a second greater significance. The English homophony of the letter Y to the interrogative pronoun "Why?" suggests that this generation tends to demand answers and seek meaning (Hurrelmann, Albrecht, 2014). The educa-

tional scientist Klaus Hurrelmann states that members of generation Y 'want to have their cake and eat it': – aspiring to "family and friends, vocation plus happiness plus meaning" (Bund et al., 2013). Earlier, Albert et al. (2011: 204) had described generation Y adolescents as 'goal-oriented' and 'highly motivated towards delivering a strong performance' but unwilling to 'sacrifice fun in life for a career' at all costs. Members of generation Y have lived since birth in the center of attention. Their parents – occasionally dubbed "helicopter parents" – constantly observed, supervised and promoted them during their childhood (Deutsche Gesellschaft für Personalführung e.V., 2011: 12).

The expectations of generation Y adolescents regarding their future vocational and career opportunities have clearly improved in recent years. While more than half of the German adolescents were still reluctant, skeptical or even negative/pessimistic regarding their training and vocational future (Bertelsmann-Stiftung, 2005: 3), the Shell study (Albert et al., 2011: 200) states that in 2010 a good 59% of the adolescents were confident about their future and only 7% perceived it as being gloomy. Shortly after the worldwide financial crisis this was a surprising development. Today, members of generation Y have many options for shaping the course of their life. This variety creates chances for self-fulfillment but also presents a high complexity; where and what to study and which vocational possibilities to choose. This leads to a "definite disorientation" (Becker, 2011). Demographic changes have resulted in labor shortage and human resources management increasingly focuses on the question, "how to bind members of generation Y to companies?" (Klaffke, Parment, 2011).

Which expectations do modern adolescents have for the future and, especially, for their career? Which factors determine expectations? Which roles do personality and type of school play? This article analyses the vocational expectations of 4,447 German adolescents (aged seventeen) across the years 2000 to 2013.

Several theories discuss the effect of personality traits on vocational choice (see Section 2). Our research goal is to quantify these effects, as well as the effects of skills, gender and school type on the chosen professions of adolescents across the years 2000 to 2013. We especially want to find out whether/how professional expectations have changed over time, adjusted for variables like personality, skills

and school attendance.

Section 2 is a literature review. It addresses theories about professional choice and personality models. After a description of the data set in section 3, the operationalization of theoretical constructs is described in section 4. Section 5 explains the statistical methods used in the analysis. The results are stated in section 6 and then discussed in section 7. Section 8 supplies the conclusion of the article. The appendix includes additional tables that were not included in the body of the article for reasons of clarity.

## 2. Literature review

Choosing one's profession is a complex process. Although society has changed since this decision was an all-determining decision, it can still have a long-term impact on one's life. Contrary to a "job", which denotes a limited and part-time employment with low wages that might be exercised without training, we often define a profession as "a paid occupation that involves prolonged training and a formal qualification" (Scott, Wolfe, 2015). Georg and Sattel (2006: 139) differentiated the choice of a profession into a first decision, at the transition from the general school system to vocational schools, and a second decision at the transition to employment. To this understanding, it is the first decision at the end of general education that has the greatest impact on future vocational and educational options. Historically, quite a number of theories on vocational choice were developed. Psychodynamic approaches like those of Roe (1956) and Bordin (1994) trace the vocational choice back to formative experiences in the early childhood of the decision-maker (cited in: Seifert, 1977: 177). According to Roe (1956) people are either more people-orientated or more task-oriented, due to early childhood socialization experiences. They therefore decide on a profession that allows them to follow their orientation. The developmental psychological approaches of Ginzberg (1951) and Super (1957) view the vocational choice as a process. This takes ten or more years, during which the adolescent has to find a compromise between his or her own skills and external factors (cited in: Seifert, 1977: 180). Socioeconomic theories see the vocational choice mainly as a "product of the social environment" (Forßborm, 2014), in which the person choosing his or her profession becomes less



important and the professional choice obtains the character of an allocation. Adherents to these allocation theories are Musgrave (1967) and Blau et al. (1956, cited in: Seifert, 1977: 231). Differential-psychological or personality-psychological approaches are based on the assumption that each person is suited to a certain profession due to his or her personality traits (Seifert, 1977: 176). The personality-psychological model can be traced back to an approach by Parsons. Additionally, the congruency theory of Holland (1959, cited in: Holland, 1963) can be ranked among the differential psychological approaches. According to Holland's model, people can be assigned to six different types - or "model orientations" - by their personality, skills, aims and their life story. A careful analysis of a person's "type" can optimize assignment to a profession. Different empirical studies support Holland's thesis (e.g. Guilford, 1954; Holland, 1963).

Personality-psychological models are based on classifications of personality traits that are based on factor-analytical approaches. The most commonly-used personality type model in personality psychology is the five-factor model. It is based upon a lexical approach (Goldberg, 1993); based on the idea that the more our day-to-day language reflects key personality traits, the more significant these traits must be to define personalities. To this end, Allport & Odbert (1936) assembled an 18,000 personality term corpus from an unabbreviated English dictionary. 4,500 of these terms were classified as stable-personality traits. From this basis, Cattell (1947) used factor analyses to extract twelve personality factors. Five of the resulting factors were replicable (Goldberg, 1993) and were at first denoted by i) extraversion, ii) agreeableness, iii) conscientiousness, iv) neuroticism and v) culture. McCrae and Costa (1985; 1987) redefined the fifth factor as 'openness to new experiences'. The five-factor model is still used in this form. The five-factor model was differentiated by Costa and McCrae (1992) to give the NEO-PI-R, a personality model with six sub-factors to each of the five factors: these are measured in a questionnaire with eight items per subfactor. For the survey presented here, however, personality is operationalized by the five factors of the traditional five-factor model because the data set only contains twenty items pertaining to personality.

Herzberg and Roth (2006) examined different types of people with respect to their personality factors and the five-factor model. Many empirical studies

confirm the prognostic power of personality traits across diverse areas. Personality influences, e.g. academic performance, professional choice and income (Hogan, 1998: 4). Ozer & Benet-Martínez (2006) asserted that personality attributes, "are associated with happiness, physical and psychological health, spirituality, and identity at an individual level; associated with the quality of relationships with peers, family, and romantic-others at an interpersonal level; and associated with occupational choice, satisfaction, and performance" (Ozer, Benet-Martínez, 2006: 401).

Our study focuses especially on occupational choice. We want to analyse how personality traits and skills influence vocational choice and which effects might remain as generational influences.

### **3. Methodology**

#### **3.1 Data**

For this study, we use data provided by the 30th version of the German Socioeconomic Panel (SOEP v30). The SOEP v30 is an annual representative panel survey of private German households that has been carried out since 1984. To date, 30 waves (1984-2013) of the survey exist, which are based on individuals and whole households. The SOEP survey comprises different questionnaires. For the present study, we focus on the youth questionnaire (DIW Berlin/SOEP 2013) and the corresponding data set "bioage17". The youth questionnaire was piloted in 2000 and tested for two years. Since 2002 the youth questionnaire has been filled out by seventeen-year olds who were for the first time asked individually in a SOEP household. Expectations regarding career have been recorded since 2000. Leisure-activities have been recorded since 2001 except for internet usage, which has only been recorded since 2006. Also, personality features have only been assessed since 2006.

#### **3.2 Operationalization**

This section explains how the considered constructs were operationalized and how the variables were coded. We start with the dependent variables "vocational expectations" and "aspects of the career choice process" and continue to the independent variables.



### 3.2.1 Dependent variables

#### Vocational expectations

The career expectations of adolescents were inquired after in the SOEP questionnaire by the question "For your vocational choice - how important are: ..." and the following items: "Secure position", "High Income", "Career opportunities", "Recognized profession", "Stimulating tasks", "Independent work", "Leisure time", "Contact to others", "Importance to society", "Working conditions", "Time for family" and "Helping others". The items were coded from "1 - very important" to "4 - very unimportant", i.e. higher values show an item is of lesser importance.

#### Aspects of the career choice process

The decision-making process regarding profession was operationalized by five items in the questionnaire. Adolescents were expected to answer the item "How well informed are you about the profession you aim for?" on a four-level scale from "1 - very well informed" to "4 - not at all informed". The process items "In the process of my vocational choice the suggestions of my parents are important", "I have no special profession in mind, I wait to see what I am offered", "I have long occupied myself with different vocational possibilities in order to make the right decision" and "I am still in the process of finding out about my skills and which profession suits me best" were also answered on a four-level scale ranging from "1 - I totally agree" to "4 - I do not agree at all".

### 3.2.2 Independent variables

#### Gender

Gender was coded by "1" for men and "2" for women.

#### Type of school

In German mainstream education all pupils go to a regular primary school for the first four years (six to ten years old). After primary school the system splits into three different secondary school forms, the "Hauptschule" (five year duration), the "Reals-

chule" (six year duration) and "Gymnasium" (eight or nine year duration). Pupil allocation to the school forms is principally based on their academic performance at primary school, with better-performing pupils joining the "Gymnasium". Although changing between school forms is possible, it is still rare.

Our study dummy codes the school form. As with six years of secondary school "Realschule" has a medium school attendance length, "Realschule" was set as the reference value in order to be able to see the effects of a longer or shorter school attendance on the dependent variables. All other school types, i.e. "Hauptschule", "Gymnasium", "Gesamtschule" (which is a school that combines all three classical types under one roof) and vocational school (which is a school apprentices visit parallel to their apprenticeship) were coded as dummy variables. The dummy variables were marked "1" when an adolescent attended the named relevant school form and "0" otherwise.

#### Leisure activities

The SOEP youth questionnaire encompasses different leisure activities, with answer possibilities ranging from "1 - every day" to "5 - never". For this analysis, we formed dichotomous variables, thus: "exercising/sports every day" (yes/no), "making music every day" (yes/no), "reading every day" (yes/no), "using the computer every day (internet and/or computer games)" (yes/no), and "volunteering at least once a week" (yes/no).

#### Personality

Answers to the personality question "What kind of person are you?" with the items "I am somebody who ..." were assigned to the five-factor model, i.e. openness to new experiences, conscientiousness, extraversion, agreeableness and neuroticism (shown in Table 1). The item "I am somebody who is reserved" characterizes an introverted behavior, i.e. a non-extraverted behavior. It is therefore included with a reversed order of values in the dimension "extraversion". The same holds true for "I am somebody who is sometimes a little rude", which expresses a negative agreeableness, as well as for "I am somebody who is relaxed, can cope well with stress" as an expression of a negative neuroticism. In the youth questionnaire (DIW Berlin/SOEP 2013) the items were coded on a scale from "1 - does not ap-

ply at all” to “7 – fully applies“. A mean was calculated over the items of each dimension of the five-factor model.

**Table 1** Assignment of the items of the question “I am somebody who ...” (DIW Berlin/SOEP 2013) to the factors of the five-factor model, (-): reversed order

Factor	Item “I am somebody who ...”
O (openness)	is inventive, has new ideas
	appreciates artistic and esthetic experiences
	has a lively imagination
	is thirsty for knowledge
C (conscientiousness)	works thoroughly
	fulfills tasks effectively and efficiently
E (extraversion)	is communicative
	is sociable
	is reserved (-)
A (agreeableness)	sometimes is a little rude (-)
	can forgive people
	treats others kindly and thoughtfully
N (neuroticism)	often worries
	gets nervous easily
	is relaxed, can cope well with stress (-)

Source: Author’s mapping of items to the five-factor model

### 3.3 Statistical methods

The statistics were computed with the statistical software package SPSS (IBM® SPSS® 22.0.0). Two-tailed statistics are reported throughout, a p-value less than 0.05 ( $p < 0.05$ ) is considered significant. The survey has an exploratory nature, so no adaptation of the significance level has been made for the multiple test situation.

Means and rankings are reported for the descriptive statistics of vocational expectations. The “vocational expectations” items are of an ordinal scale. The variables are ascribed values (“very important”, “important”, “less important”, “not at all important”),

which can however be regarded as being more or less equally spaced. The means and parametric tests, i.e. t-tests, in the inductive analyses are therefore considered to be reasonable. Additionally, medians are reported for some variables. The personality variables had values from “1 – does not apply at all” to “7 – applies fully“, with only the endpoints being depicted so that they can also be regarded as metric. The dimensions of the five-factor model were represented by the mean over all items fitting this factor. Leisure activities however, which had the values “every day”, “every week”, “every month”, “less often” and “never” could not be spaced at equal increments and were therefore dichotomized (see Section 4.5).

A multiple regression analysis was carried out to explain the adolescent expectations. The ingoing regressors were explained in section 4. Regression coefficients are denoted by “b”. The variance inflation factors ranged between 1 and 1.2 so that problems with multi-collinearity did not arise (e.g. Woolridge, 2013: 98).

The personality trait variables of the adolescents have only been recorded in the SOEP since 2006. Therefore, when these variables are included in a regression, only adolescents of the years 2006 to 2013 were considered. For comparison reasons, we conducted additional regression analyses without including the personality variables in the model.

It was the aim of this study to find out which time effects remain when all other factors have been explained. Additionally, the factors themselves can be time dependent. We therefore conducted logistic regression analyses for the dichotomous leisure activity variables, e.g. “Exercising/sports daily”, etc. In a logistic regression, the odds, i.e. the probability of the characteristic, e.g. “Exercising/sports daily” being given divided by the characteristic not being given, are estimated. The exponentiated coefficients of the regression give the odds ratio, indicating how much the odds change when the variable of interest changes by one unit.

In addition to the logistic regression analysis, chi-square tests on independency were carried out between the leisure activity dichotomous variables and other variables, like gender, school type and survey year. Rates are reported in this context.

#### 4. Results

4447 adolescents (age seventeen) were questioned between 2000 and 2013 by the representative survey of the SOEP. From these 37.9% attended grammar school ("Gymnasium"), 22.1% the six-year secondary school ("Realschule"), 8.4% the five-year secondary school ("Hauptschule"), 6.3% a secondary school in which the three other school types are mixed ("Gesamtschule") and 20.6% vocational school. 4.0% of the adolescents did not go to school at the time of the interview.

The adolescents are generally well informed about their desired profession, with a median of "2 - well informed" (Mean: 1.66). Young people who go to the five-year secondary school ("Hauptschule"), to vocational school or who do not go to school have a median of "1 - very well informed". This is due to two factors; first, the fact that at "Hauptschule" the decision is more present, because they would leave school at or shortly after the time of the interview and, secondly, that vocational school students already made their first decision at their transition from the general school system.

*Table 2 Means for the importance of certain aspects of professional life as well as ranking of items in the years 2000 and 2013 and in total, ("1 - very important" to "4 - totally unimportant"), \* -  $p < 0,05$  for the t-test on differences for the mean*

	2000		2013		Total	
	Mean	Ranking	Mean	Ranking	Mean	Ranking
Secure position	1.44	1	1.52	2	1.46	1
High Income	1.91	6	1.92	6	1.92	7
Career opportunities	1.94	7	1.94	7	1.91	6
Recognized profession	2.04	9	2.05	9	2.06	9
Leisure time	2.34	12	2.34	12	2.32	11
Stimulating tasks	1.50	2	1.45	1	1.46	2
Independent work	1.85	5	1.86	5	1.79	4
Contact to others	1.83	4	1.98*	8	1.93	8
Importance to society	2.33	11	2.27	11	2.35	12
Working conditions	1.62	3	1.60	3	1.64	3
Time for family	1.98	8	1.82*	4	1.89	5
Helping others	2.22	10	2.12	10	2.23	10

Source: Author's calculations based on the 30th version of the German Socioeconomic Panel (SOEP v30)

Grammar school ("Gymnasium") students seem to be significantly less informed (see Table 6 in the Appendix). This is because grammar school pupils have more time until they need to make a profession decision. Grammar school pupils also agree significantly more often with the item "I am still in the process of finding out about my skills and which profession suits me best" ( $p < 0,001$ ). In general, adolescents do not agree with "In the process of my vocational choice the suggestions of my parents are important" (median: "3 - do not agree", mean: 2.72) nor to "I have no special profession in mind, I wait to see what I am offered" (median: "3 - do not agree", mean: 2.99). The survey also shows that open ( $b = -0.192$ ), conscientious ( $b = -0.247$ ) and neurotic subjects ( $b = -0.233$ ) show a significantly higher agreement with "No special profession in mind". The conscientious ( $b = -0.354$ ) and neurotic ( $b = -0.646$ ) subjects also agree more strongly with "I am still in the process of finding out about my skills and which profession suits me best". The conscientiousness of a person seems to result in stronger information-gathering behavior and longer decision-time. Neurotic individuals seem to place more value than others in the choice: fears of making the wrong decision possibly play a role. The survey year seems to only affect the "no special vocation in mind" grouping, with significantly less agreement with increasing year ( $b = 0.02$ ). The effect is, however, rather slight.

**Table 3 Regression coefficients of significant regressors for the items concerning vocational expectations**  
 (\*\*\*) -  $p < 0.001$ ; \*\* -  $p < 0.01$ ; \* -  $p < 0.05$ )

	Secure position	High Income	Career opport.	Recogn. profession	Stim. tasks	Indep. work
Year of survey	0.012*	-	-	-	-	-
Gender	-	0.130***	0.128***	-	-	-
Do sports	-	-	-0.105*	-0.100*	-	-
Make music	-	0.082*	-	-	-	-
Read	-	-	-	-	-0.09**	-
Computer	-	-	-	-	-	-
Volunteer	-	-	-	-	-	-0.087*
Hauptschule	-	-	-	-	0.14*	-
Gesamtschule	-	-	-	-	-	-
Voc. school	-	-	-	-	-	-0.114*
No school	0.15*	-	0.242**	-	-	-
Gymnasium	0.091*	-	0.231***	0.156**	-0.107**	-
Openness	-	-	-	-0.049*	-0.08***	-0.092***
Conscientiousness	-0.068***	-	-0.074***	-0.077***	-	-0.039*
Extraversion	-0.047***	-0.051***	-0.097***	-0.047**	-	-0.046**
Agreeableness	-	0.048**	-	-	-0.053***	-
Neuroticism	-0.045***	-	-	-	-	-

	Leisure time	Contact to others	Import. to society	Working conditions	Time for family	Helping others
Year of survey	-	-	-0.018*	-0.019**	-	-0.024**
Gender	-	-0.328***	-0.104**	-0.072*	-	-0.288***
Do sports	-	-	-	-	-	-0.16***
Make music	-	-	-	-	-0.084*	-0.111*
Read	-	-	-0.092*	-	-	-
Computer	-	-	-	-	-	0.085*
Volunteer	-	-0.105*	-0.195***	-	-	-0.119**
Hauptschule	-	-	-0.243**	-	-	-0.232**
Gesamtschule	-	-	-	-	-	-0.15*
Voc. school	-	-	-	-	-	-
No school	-	-	-	-	-	-
Gymnasium	-	-	0.126*	-	-0.098*	-
Openness	-	-	-0.055**	-	-	-
Conscientiousness	0.062***	-	-	-0.055***	-	-
Extraversion	-	-0.204***	-0.081***	-0.027*	-0.04**	-0.086***
Agreeableness	-	-0.127***	-0.082***	-0.068***	-0.092***	-0.107***
Neuroticism	-	-	-	-0.037**	-0.059***	-0.055***

Source: Author's calculations based on the 30th version of the German Socioeconomic Panel (SOEP v30)

Table 2 shows the means and rankings of the different expectation items regarding future profession reported by adolescents between the years 2000 (n=229) and 2013 (n=256), as well as the total means. "A secure position" ranked best overall during this period, followed by "stimulating tasks". These two items switched importance between 2000 and 2013. Most other aspects of professional life remained stable in their ranking; neither did they change much in their absolute values. Examples are "high income" and "career opportunities" which figure at ranks six and seven. Both items, however, still had a mean above 2 and a median of 2 (in our rating "2" stands for "important"). "Importance to society" and "leisure time" figured on the lowest ranks with "importance to society" becoming more valuable in 2013. The ranking of the items "contact to others" and "time for family" changed considerably. "Contact to others" became less important (change of the mean by 0.15;  $p=0.042$ ) for the adolescents while "time for family" (change of the mean by -0.16;  $p=0.012$ ) became much more important.

Table 4 in the appendix shows a differentiation of the ranks according to gender and school type. For young women the classic status-oriented features of a profession are less important than they are for young men, i.e. a high income (rank 8 compared to rank 5 for men) and a recognized profession (rank 10 compared to rank 8 for men). They rank "contact to others" (rank 9 compared to rank 4 for men), "time for family" and "helping others" as more important than their male peers.

As far as school type is concerned, grammar school students indicate that "stimulating tasks" are most important to them, followed by a "secure position", while for all other school types "secure position" is the most important. For grammar school students "time for family" ranks higher than for pupils of other school types, while career opportunities are less important (rank 8).

A regression analysis for the perceived importance of professional aspects was carried out to discern the effects of all variables. For the sake of clarity, Table 3 only shows the coefficients of significant regressors. Table 5 in the appendix shows all the regression coefficient data.

The effect of gender is high for several items. Women indicate more often that a "high income" ( $b=0.13$ ) and "career opportunities" ( $b=0.128$ ) are

less important to them, with a very high significance ( $p<0.001$ ). On the other hand "contact to others" ( $b=-0.328$ ) and the possibility to "help others" ( $b=-0.288$ ) are significantly more important to them (each:  $p<0.001$ ). Additionally, young women place great value in their profession being "important to society" ( $p=0.009$ ) and having "good working conditions" ( $p=0.025$ ). We can therefore see that, even today, women meet common stereotypes, and tend to choose a caring profession over a high-income position.

As far as personality traits are concerned it is striking that extraverted adolescents assign a higher importance to all items except for "leisure time". This is also true for "stimulating tasks", but the effect is not as prominent (see appendix, Table 5). The reason why extraverted youngsters give more importance to almost all items might be that they are in general less timid when stating their preferences and opinions. The more conscientious an adolescent is, the greater the agreement to career-oriented characteristics like "career opportunities", a "recognized profession" and a "secure position" (each:  $p<0.001$ ). Additionally, as conscientiousness increases, so does the importance of "independent work" ( $p=0.02$ ) and "working conditions" ( $p<0.001$ ), while "leisure time" is less important ( $p<0.001$ ). More conscientious adolescents do not seem to associate "leisure time" with their profession. Adolescents who rank high on the "openness to new experiences" factor feel that a "recognized profession" ( $p=0.015$ ), "stimulating tasks" ( $p<0.001$ ), "independent work" ( $p<0.001$ ) and "importance to society" ( $p=0.009$ ) are significantly more important than for people with lower "openness" scores. It is remarkable that career-oriented aspects of the vocation do not show high importance for highly agreeable respondents. Significantly, a "high income" is even less important ( $p=0.004$ ) to people with higher agreeableness than to those with lower agreeableness scores. Furthermore, aspects like "stimulating tasks" ( $p=0.001$ ), "contact to others", "importance to society" and "helping others" are more important to agreeable respondents (each  $p<0.001$ ). There is a correlation between the importance of work-life-balance (items like "working conditions" and "time for family", each  $p<0.001$ ) and the agreeableness of respondents. More neurotic adolescents rate a "secure position" ( $p<0.001$ ), "working conditions" ( $p=0.006$ ) and "time for family" ( $p<0.001$ ) as well as the possibility "to help others" ( $p<0.001$ ) as important.

With respect to hobbies, it is remarkable that adolescents who practice sports every day rate “career opportunities” ( $p=0.012$ ), a “recognized profession” ( $p=0.026$ ) and the possibility to “help others” ( $p<0.001$ ) as being significantly more important than their less-active peers. Athletically active adolescents also seem to be ambitious and team-oriented in their careers. Adolescents who read every day hold “stimulating tasks” ( $p=0.007$ ) and “importance to society” ( $p=0.038$ ) to be particularly important. As expected, young people who volunteer at least once a week feel that the possibility to “help others” ( $p=0.009$ ), “importance for society” ( $p<0.001$ ), “contact with others” ( $p=0.015$ ) and “independent work” ( $p=0.040$ ) are significantly more important than their peers would. Adolescents who frequently play computer games or who use the internet very often do not differ much from their peers when it comes to vocational expectations. However, they are significantly less willing to “help others” ( $p=0.039$ ). People who make music every day, rate a “high income” as being a little less important ( $p=0.028$ ); they assign more importance to “time for family” ( $p=0.036$ ) and “helping others” ( $p=0.016$ ).

“Hauptschule” students attached less importance to “stimulating tasks” ( $p=0.014$ ). The “importance to society” ( $b=-0.243$ ) and the possibility to “help others” ( $b=-0.232$ ) items showed strong effects, i.e. these were more important to “Hauptschule” students compared to “Realschule” students (reference value). Vocational school students reported that “independent work” is important ( $p=0.038$ ), while those who do not attend school rated a “secure position” ( $p=0.029$ ) and “career opportunities” ( $p=0.004$ ) as significantly less important. The results for grammar school pupils (“Gymnasium”) are astonishing. They also indicate that a “secure position” is less important to them ( $p=0.013$ ). However, “career opportunities” ( $p<0.001$ ) and a “recognized profession” ( $p=0.001$ ) are also rated as less important, and to a relatively high degree (s. Table 3). This may be because grammar school students apply for higher level jobs on average, and take “recognized professions” for granted more often than pupils from the “Realschule”. Also, a profession that is “important to society” is less valuable to grammar school adolescents ( $p=0.011$ ). However, they do value “stimulating tasks” ( $p=0.004$ ) and “time for family” ( $p=0.022$ ) as being significantly more important than “Realschule” pupils.

After controlling for all other factors, the survey

year remains significant for the items “secure position” ( $p=0.042$ ), “importance for society” ( $p=0.026$ ), “working conditions” ( $p=0.004$ ) and “helping others” ( $p=0.004$ ). The “secure position” has become less important to adolescents during the time considered. The three other aspects have gained importance over the thirteen year study duration. This result remains when the personality factors and the use of computers that only have been recorded since 2006 were eliminated from the regression. The significance of survey year to the “importance to society” item even increases in this case ( $p=0.001$ ).

Furthermore, the variable “volunteering at least once a week” also changed with the survey year. The logistic regression gave a change in the odds for “volunteering at least once a week” of 1.069 for every year. In effect, the rates of adolescents volunteering rose from 9.7% in 2001 to 32.4% in 2010. After 2010 the rate then fell to about 16% again. Voluntary work is mostly done by grammar school pupils; from this population 38.5% engaged voluntarily while only 8.3% of “Hauptschule” students and 21.8% of “Realschule” students did so (rates over the whole period of 2001 to 2013,  $p<0.001$  in a chi-square test). We find it slightly surprising that male respondents worked voluntarily a little more often (17.5%) than female respondents (15.8%), the difference was, however, statistically insignificant ( $p=0.089$ ). Since “volunteering at least once a week” and the survey year affect the same vocational expectation variables, the effects result in a larger change over time. More recent respondents have higher expectations regarding “importance to society” and being able to “help others”. For “making music every day” the odds changed significantly by 1.08 with each further survey year. Similarly to the voluntary work there was a rise from 7.3% of respondents making music every day in 2001 to 35% in 2010 (in the mean about 30% in the years 2007 to 2010). The rate then fell to 14.7% in 2012 and 8.6% in 2013 again. However, making music did not affect the same vocational expectation variables as were affected by the survey year. “Doing sports every day” and “reading every day” were not significantly affected by the survey year. As expected, “using the computer every day (internet and/or computer games)” was the most affected by the survey year, with a change in the odds of 1.309 for each following year ( $p<0.001$ ). Adolescent internet usage has rapidly risen in recent years. While in 2006 20.4% of the respondents still answered that they would



never use the internet, this number fell to 0.8% in 2013 (once a month or less: 2.8%). The rate of adolescents that used the computer every day, i.e. either for computer games or for surfing the internet rose from 47.9% in 2006 to 85.9% in 2013. There is a huge imbalance between boys and girls with regard to computer usage. Over the whole time period of 2006 to 2013 42.9% of the boys and only 8.6% of the girls answered that they use the computer every day ( $p < 0.001$ ). This ratio holds for every year in the survey. However, as mentioned above, computer use did not affect vocational expectations. The personality traits were stable across the time period.

## 5. Discussion

Adolescents in this representative study from 2000 to 2013 stated that they were rather well-informed about the professions they were going to choose. Except for a reversion of the ranks for “contact to others” and “time for family” the rank order of important items was relatively stable over time.

A “secure position” ranked highest in the total sample, with a slight loss of importance in the subsample of 2013. However, a difference could be seen between boys and girls, where for girls a “secure position” only ranked second after “stimulating tasks”. The same is true for grammar schools pupils. While for other school types a “secure position” was the most important item, grammar school pupils (“Gymnasium”) and the Gesamtschule ranked “stimulating tasks” higher. These results correlate well with the results of Berger, Brandes and Walden (2000, cited in: Moser, Sende, 2014) who conducted a study of 7,000 pupils and found that for grammar school pupils a “profession that suits one’s skills” ranks before “interesting tasks” and “a secure position”. Since the present study did not record “a profession that suits one’s skills” the rank orders of both studies coincide. Another correlation could be found for adolescents attending “Hauptschule” (duration: 5 years). Both our study and the one by Berger, Brandes and Walden (2000) found that “Hauptschule” pupils ranked “high income” and “recognized profession” higher than adolescents from other school types.

To compare with other generations one can consult the study by Saterdag and Kraft (1979). Between 1976 and 1977, Saterdag and Kraft (1979) interviewed 60,000 pupils from ninth grade in secondary schools. In the analysis, the rates of pupils answering “very important” to specific items were compared; as such the operationalization is a little different from the current study. However, if we choose Saterdag and Kraft’s operationalization and apply it to our study on the SOEP data, we get almost the same ranking of items, with only marginal differences as with our original operationalization by means. The rank orders in both studies are therefore comparable. While in the Saterdag and Kraft study, a “secure position” ranked first, it did so, however, for both sexes (boys: 87%, girls: 85%). Although the rank remained the same, in our study “a secure position” was only judged as “very important” with a rate of 58%. “Contact to others” was rated moderately high in the Saterdag and Kraft study; it was chosen as “very important” by 24% of the boys and by 43% of the girls. The same is true for our study with the “very important” operationalization, with nearly the same numbers. A “high income” was on a low rank in the Saterdag and Kraft study, with only 28% of the boys and 16% of the girls rating it as “very important”, something which is reflected in our study. A “highly recognized profession” figured lower in the 1977 study (boys: 9%, girls: 5%). This may be partly due to a different question formulation; “a vocation being highly recognized by family and friends”. The item “secure position” has changed the most between generations X and Y. Although the ranking of a “secure position” has remained unchanged, it has, however, become less important in absolute terms.

For the present study, “importance to society” and “helping others” did not change in rank order during the years 2000 to 2013, although they did change in absolute values. These numbers seem to indicate a change in the attitudes of young people over the analyzed time period. Volunteers expected a profession to be “important to society” and to give them the opportunity to “help others”. The proportion of volunteers did indeed rise in the years 2000 to 2010. This change in attitude was not, however, exclusive to volunteers, since our analysis showed that survey year had an extra influence on both items.

## 6. Conclusion

It was the aim of the paper to find out about the generation effect, i.e. the time effect on vocational expectations after having controlled for possible other influencing factors. The effects of gender, school type, personality and leisure activities have been elucidated in the discussion. After controlling for these factors, time remained significant for a “secure position” which became less important, while “working conditions”, “importance for society” and “helping others” became more important. Thus, for generation Y a trend towards higher valuation of one’s individual social responsibility can be noticed. The question of human resources managers cited in the introduction of “how to bind members of generation Y to companies” could thus be answered in this direction. Employers who offer jobs to members of generation Y could stress the potential of their companies and offer jobs in which the individual might “make a contribution to society”.

The data was limited to the years 2000 to 2013. It would have been interesting to use the same data for a longer time span to be able to not only compare the time effect within generation Y but also between different generations. Unfortunately, the youth questionnaire was launched only in the year 2000. Since our study relied on secondary data, there was also no possibility to further elucidate adolescents’ reasons for particular choices. The reasons for the change in values of adolescents remain an open question. In future research, additional qualitative interviews could help illuminate the world views of young people.



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**APPENDIX**

**Table 4 Ranks for the importance of certain aspects of professional life for young men and women as well as for different school types (“Haupt.” – five-year-“Hauptschule”, “Real.” – six-year-“Realschule”, “Gym.” – eight-year-“Gymnasium”, “voc. school” – “vocational school”)**

	Gender		School type			
	men	women	Haupt.	Real.	Gym.	Voc. sch.
Secure position	1	2	1	1	2	1
High Income	5	8	5	8	6	6
Career opportunities	6	7	6	5	8	7
Recognized profession	8	10	7	9	9	9
Leisure time	10	12	12	12	11	12
Stimulating tasks	2	1	2	2	1	2
Independent work	4	5	4	4	4	4
Contact to others	9	4	9	6	7	5
Importance to society	12	11	11	11	12	11
Working conditions	3	3	3	3	3	3
Time for the family	7	6	8	7	5	8
Helping others	11	9	10	10	10	10

Source: Author’s calculations based on the 30th version of the German Socioeconomic Panel (SOEP v30)

**Table 5 Regression coefficients of all regressors for the vocational expectations (\*\* -  $p < 0.001$ ; \* -  $p < 0.01$ ; \* -  $p < 0.05$ )**

	Secure position	High Income	Career oppurt.	Recogn. profession	Stimulating tasks	Indep. work
Year of survey	0.012*	-0.001	0.001	-0.006	-0.009	-0.004
Gender	0.019	0.13***	0.128***	0.022	-0.038	-0.05
Do sports	-0.03	-0.053	-0.105*	-0.100*	-0.029	0.001
Make music	-0.002	0.082*	-0.019	-0.022	0.005	-0.028
Read	0.052	0.03	0.044	0.042	-0.09**	-0.042
Computer	0.016	-0.026	-0.014	-0.014	0.011	0.01
Volunteer	0.016	0.046	0.037	-0.012	-0.017	-0.087*
Hauptschule	-0.042	-0.003	-0.008	-0.073	0.14*	-0.025
Gesamtschule	0.101	-0.017	0.132	0.048	-0.075	-0.048
Voc. school	-0.022	-0.052	0.028	-0.091	-0.056	-0.114*
No school	0.15*	0.011	0.242**	-0.019	0.002	-0.122
Gymnasium	0.091*	-0.011	0.231***	0.156**	-0.107**	0.001
Openness	0.007	-0.001	-0.027	-0.049*	-0.08***	-0.092***
Conscient.	-0.068***	-0.009	-0.074***	-0.077***	-0.013	-0.039*
Extraversion	-0.047***	-0.051***	-0.097***	-0.047**	-0.01	-0.046**
Agreeableness	-0.025	0.048**	0.009	0.005	-0.053***	0.003
Neuroticism	-0.045***	-0.009	-0.013	-0.011	0.003	0.015

	Leisure time	Contact to others	Import. to society	Working conditions	Time for family	Helping others
Year of survey	-0.004	0.004	-0.018*	-0.019**	-0.012	-0.024**
Gender	0.057	-0.328***	-0.104**	-0.072*	0.037	-0.288***
Do sports	-0.021	-0.085	-0.087	0.004	-0.02	-0.16***
Make music	-0.075	-0.043	-0.019	0.03	-0.084*	-0.111*
Read	-0.038	-0.049	-0.092*	-0.039	-0.02	-0.06
Computer	-0.052	0.035	0.037	0.031	0.037	0.085*
Volunteer	0.014	-0.105*	-0.195***	0.027	-0.015	-0.119**
Hauptschule	-0.053	-0.078	-0.243**	-0.007	-0.071	-0.232**
Gesamtschule	-0.077	-0.03	-0.063	0.02	-0.089	-0.15*
Voc. school	-0.07	-0.074	-0.097	0.007	-0.074	-0.022
No school	-0.051	0.076	-0.043	0.118	0.118	-0.021
Gymnasium	-0.035	0.077	0.126*	0.008	-0.098*	0.052
Openness	-0.009	-0.027	-0.055**	-0.025	-0.026	-0.008
Conscient.	0.062***	0.02	-0.029	-0.055***	-0.017	-0.019
Extraversion	0.001	-0.204***	-0.081***	-0.027*	-0.04**	-0.086***
Agreeableness	0.012	-0.127***	-0.082***	-0.068***	-0.092***	-0.107***
Neuroticism	-0.016	-0.026	-0.02	-0.037**	-0.059***	-0.055***

Source: Author's calculations based on the 30th version of the German Socioeconomic Panel (SOEP v30)

**Table 6 Regression coefficients for the profession finding process (\*\* -  $p < 0.001$ ; \* -  $p < 0.01$ ; \* -  $p < 0.05$ )**

	Information	Suggestions of parents	No special prof. in mind	Intensive occupation	Still in the process
Year of survey	0.006	0.01	0.02*	-0.004	0.015
Gender	0.003	0.033	-0.021	-0.019	-0.134*
Do sports	0.041	-0.136**	0.043	-0.04	-0.009
Make music	0.037	0.007	-0.026	0.105	-0.104
Read	-0.094*	0.031	0.051	-0.018	0.006
Computer	0.046	0.008	-0.083	0.059	0.057
Volunteer	-0.058	-0.085	0.049	-0.15**	0.09
Hauptschule	0.003	0.007	0.016	-0.115***	0.044
Gesamtschule	-0.066***	-0.045*	0.093***	-0.078***	0.093***
Voc. school	-0.052**	0.028	0.086***	-0.068***	0.054*
No school	-0.023	-0.041	0.062**	0.012	-0.038
Gymnasium	0.035*	-0.047**	0.034	-0.042*	-0.082***
Openness	-0.171*	-0.044	-0.192*	0.038	-0.128
Conscient.	0.125	-0.036	-0.247**	0.137	-0.354***
Extraversion	-0.06	-0.056	-0.123	0.054	0.165*
Agreeableness	-0.125	0.113	-0.184	0.075	0.278*
Neuroticism	0.226***	0.161**	-0.233***	0.461***	-0.646***

Source: Author's calculations based on the 30th version of the German Socioeconomic Panel (SOEP v30)

*Kirsten Wüst*

## **ZANIMLJIVI ZADACI, NEOVISNOST ILI DOPRINOS DRUŠTVU - OČEKIVANJA GENERACIJE Y U VEZI SA ZANIMANJEM**

### **SAŽETAK**

Odabir zanimanja složen je proces i često utječe na više područja budućega života pojedinca. U reprezentativnoj studiji analizirali smo podatke o 4447 njemačkih sedamnaestogodišnjaka koji su intervjuirani u razdoblju od 2000. do 2013. Cilj studije bilo je utvrditi utjecaj spola, vrste škole, osobnosti i aktivnosti u slobodno vrijeme na očekivanja u vezi sa zanimanjem, kao i na stadije izbora budućega zvanja kod generacije Y. Osobito se pokušalo utvrditi koji se utjecaj zadržao kao generacijski vremenski utjecaj nakon kontrole navedenih varijabli. U okviru analize izračunati su pokazatelji deskriptivne statistike za ordinalna obilježja, kao i aritmetičke sredine, te je primijenjena linearna i logistička regresijska analiza. Uključenost u različite aktivnosti u slobodno vrijeme, spol i vrsta obrazovanja imaju velik utjecaj na percipiranu važnost karakteristika zanimanja. Dok djevojke općenito i učenici njemačkih gimnazija na prvo mjesto stavljaju „zanimljive zadatke“, mladići i učenici ostalih škola smatraju da je najvažniji „siguran položaj“. Nadalje, čimbenici osobnosti utječu na percipiranu važnost karakteristika zanimanja, tako da prijateljski raspoloženi i ekstrovertirani adolescenti daju znatno veće ocjene svojstvima „kontakt s ljudima“, „doprinos društvu“, „pomaganje drugima“ i sličnima. Nakon kontrole navedenih varijabli zadržala se značajna korelacija između godine anketiranja i termina „siguran položaj“ koji je postao manje važan, te termina „radni uvjeti“, „doprinos društvu“ i „pomaganje drugima“, od kojih su sva tri postala važnija. Prema tome, uočava se trend pridavanja veće važnosti osobnoj društvenoj odgovornosti.

**Ključne riječi:** izbor zanimanja, očekivanja, adolescenti, generacija Y

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# THE IMPACTS OF THE COMMON CONSOLIDATED CORPORATE TAX BASE IN CROATIA

## ABSTRACT

As of 1 July 2013, i.e. with Croatia's accession to the European Union, the number of Member States of the European Union rose to 28. The diversity of tax systems among the Member States causes interferences in cross-border activities of tax firms. That encourages transfer of income to countries with lower tax rates. The aim of this paper is to present the main points of view on the implications of the introduction of the Common Consolidated Corporate Tax Base (CCCTB) in Croatia. This paper also estimates the effects of the prospective apportionment procedure on corporate group entities in Croatia. The acceptance of the CCCTB system will make Croatia attractive to foreign investors. It will also enable foreign multinational companies to do business in Croatia, which will contribute to its economic growth.

**Keywords:** Fiscal policy, corporate income tax, common consolidated corporate tax base, formula apportionment

## 1. Introduction

In November 2004, the European Commission established a Working Group responsible for setting up basic standards and the structure of the CCCTB. The main objectives of the CCCTB Working Group were the following: discuss about principles that will govern the CCCTB, examine the technical definition of a common consolidated tax base for companies in more than one Member State, establish fundamental structural elements of a consolidated tax base and formulate a mechanism for the allocation of the consolidated tax base between different Member States. The CCCTB proposal aims to enable a simplified tax system for companies. It would

reduce tax compliance costs and remove existing tax obstacles that companies face when they operate in several Member States.

The CCCTB is a system of common rules for computing the tax base of companies which are tax residents in the EU and in EU-located branches of third country companies (COM, 2011: 121). A central feature of the CCCTB is cross-border consolidation and setting up a single rule that companies operating within the EU could use to calculate their taxable profits. The CCCTB regime ensures cross-border gain and loss offset and reduces operating costs in the long run. All of the above can be achieved through formula apportionment. The key benefit of the implementation of the formula apportion-

ment method among the tax system of EU Member States is the avoidance of double taxation and the prevention of income shifting. The main aim of its introduction is to establish tax profits and losses of international companies that have subsidiaries in different Member States. It would offer a possibility to cover profits and losses in order to reach common results of operations among companies. The overall taxable income, calculated in such a manner, would be assigned to individual Member States through a sharing mechanism. The introduction of a new consolidation and apportionment system would have two effects (Devereux and Loretz, 2007: 2). First, loss-making companies could benefit from international loss consolidation to the extent that they could offset losses against contemporaneous profits made by other companies within the same group in other countries. Second, the effects of the apportionment of group taxable profit to specific Member States depends on where the profit is allocated and the set of tax rates consequently applied.

Furthermore, the main aim of the paper will be explained, and the manner in which the formula apportionment impacts income distribution and tax burden will be succinctly discussed. Moreover, advantages and disadvantages of the CCCTB and some basic principles of the CCCTB and the European Commission's point of view will be presented, as well as the methodology for the calculation of the formula apportionment and implementation of the CCCTB system in Croatia.

## **2. Advantages and disadvantages of the CCCTB system**

The introduction of the CCCTB would compensate trans-border income among Member States. Such an income tax base emphasizes economic benefits because consolidated companies could use their overall economic potential in both Croatia and any other Member State. By applying the CCCTB, the profit or loss realised by funds transfers within a group is postponed until it is realized on the real market. Costs and corresponding revenues from transactions are then calculated within the group on the market. After the introduction of this system in all Member States, expected benefits would include (COM, 2001: 16):

1. Significant reduction of compliance costs;
2. Disappearance of the double taxation problem within the EU;
3. Removing a major obstacle to the free movement of capital and unrestricted exercise of the right of establishment, through cross-border loss compensation of tax losses by reducing taxable profits of parent companies;
4. Disappearance of tax avoidance practices by using transfer pricing because inter-firm transaction prices can not affect the distribution of taxable income to tax jurisdictions;
5. Comparability of effective tax burdens in each jurisdiction resulting in an improvement in the quality of investment and hence of resource allocation to the whole EU.

The European Commission and the CCCTB system representatives are certain that the new system will offer numerous advantages to both international companies and the overall European economy. Such advantages include a decrease in expenses of harmonization and simplification of procedures, possibility to consolidate the company's incomes and losses in the community, increased transparency, decrease of tax uncertainty and increase in economic efficiency, elimination of discrimination, elimination of double taxation and prevention of non-taxation and misuse. The EU, as a whole, will benefit the most from consolidation when the system becomes compulsory and the tax rates harmonised (Van der Horst et al., 2007: 31).

The Commission's decision to support the introduction of the CCCTB system is based upon the assumption that, for example, the common tax base advantages of such a system take into consideration its weaknesses as well. Potentially negative consequences include loss of national tax systems, loss of fiscal policy instruments for regulation of relations on the national market, reduction of system advantages due to problems in the taxation of incomes that European companies make outside the EU, and decrease of budget revenues from corporate taxation. If all countries join the CCCTB reform, this benefit will be partly offset by two possible negative effects (Bettendorf et al., 2010: 475). The first is due to the mechanical reallocation of the tax base, which depends on the choice of the formula. The second is induced by the factor reallocation towards

low-tax countries. High-tax countries suffer from an outflow of production factors by multinationals towards low-tax countries because corporate tax rates work as excises on formula factors. Under a common consolidated base taxation, all or a group of Member States would agree on a set of common rules for establishing a taxable base of certain enterprises (Weiner, 2007: 521).

### 2.1 Principles of the CCCTB system

The CCCTB must provide a comprehensive and autonomous set of rules. According to Freedman and Macdonald (2007: 7) the role of principles should be twofold. From one point of view, they should provide both a reference point for determining the scope of the tax base through a legislative statement of a central concept which encompasses the substantive nature of the tax base. From another point of view, a constitutionally valid framework is the form of criteria for interpreting and applying the provisions of the Directive.

The principles are essentially normative standards applied in designing the tax system of each country. The common principles of the CCCTB are in line with the general principles of the tax system. These principles are vertical and horizontal equity, efficiency, effectiveness, simplicity, transparency and certainty, consistency and coherence, flexibility and enforceability. In a tax system, the vertical equity principle implies that the burden of taxation should be shared in accordance with the taxpayers' respective ability to pay. In horizontal equity, taxpayers in the same economic circumstances should receive equivalent treatment. An EU CCCTB would aim to provide equity between countries as part of the consolidation process and the subsequent sharing of the tax base between countries (European Commission, 2004: 4). Capital Export Neutrality (CEN) and Capital Import Neutrality (CIN) are concepts whose aim is to ensure neutrality (European Commission, 2004: 4). Vital elements of tax systems are principles of effectiveness, simplicity, transparency and certainty, consistency, flexibility and enforceability. Effectiveness is essentially the capacity of the tax base to achieve its basic objectives. The principles must also be certain and clear, relating to the transparency requirement. General principles are viewed from a national perspective; therefore, the

CCCTB Working Group still needs to clarify in detail how these principles will be considered in a definitive or final way.

### 2.2 European Commission's point of view of the CCCTB system

In order to prevent or eliminate existing tax obstacles in cross-border activity, the European Commission presented a proposal for a common consolidated tax base through which it wishes to support business activities of multinational companies. Based on that system, taxation will not depend on either constituent of separate accounting nor on the principle of arm's length transactions, but rather it will be based on common European accounting rules. This system is in fact an additional tax regulation with common rules for all member states. One of its goals is to eliminate tax planning, especially loss compensation due to separate accounting, debt financing and intergroup transactions (Schreiber, 2012: 117).

According to Pirvu, Banica and Hagi (2011: 220) the main advantage of such a system is that it can create conditions for achieving important objectives of fiscal policy in the European Union. This can be achieved by supporting the success and development of a common market, thus allowing all Member States to compete fairly and have an advantage on the internal market, as well as sustainable reduction of the overall tax burden. A tax burden reduction ensures a balance between tax reductions, investments in the public sector and maintenance of fiscal consolidation.

According to Wendt (2009: 104), based on the CCCTB system there are three scenarios:

1. "The first scenario is a "no-change". This scenario is left on one side, as it would imply that the CCCTB is condemned.
2. The second scenario consists of providing companies with the possibility to opt for a Common Corporate Tax Base for the determination of taxable income resulting from their EU-wide activities. This scenario would not include a consolidation mechanism.
3. The third scenario would be the Common Consolidated Corporate Tax Base as originally intended by the Commission".

According to this concept, three distinct steps are necessary to arrive at the tax base for each jurisdiction (Wendt, 2009: 105):

1. "Each group member calculates its taxable profits separately but according to the same set of rules;
2. The individual tax bases are aggregated to the consolidated tax base;
3. The consolidated tax base is allocated to different Member States by applying specific factors (formula apportionment)".

Table 1 shows possible scenarios of a common tax base and their potential to eliminate tax obstacles.

**Table 1 Scenarios of a Common Tax Base and their potential to eliminate tax obstacles**

Tax Obstacle to be Reduced	Scenarios of a Common Tax Base	
	Common Corporate Tax Base Harmonized Tax Accounting Rules	Common Consolidated Corporate Tax Base Harmonized Tax Accounting Rules + Formula Apportionment
Compliance Costs	Achieved	Achieved
Cross-Border Loss Relief	Not achieved Except to the extent that Member States already provide cross-border loss relief	Achieved
Transfer Pricing Issues	Not achieved Transfer prices are still required for the division of the tax base	Achieved Transfer pricing are only relevant if they affect the allocation formula (e.g. of based on sales)
Double Taxation	Not achieved	Achieved
Tax Charges of Restructuring Operations	Achieved But only if the tax treatment of reorganisations is harmonised	Achieved But only if the tax treatment of reorganisations is harmonised

Source: Wendt, 2009, p. 107.

The European Commission proposed a directive as a tool for introducing the proposed CCCTB system with specific rules for determining a single tax base. Thus, the Commission proposes that companies be given a choice of opting for the CCCTB system or the former system for calculating the tax base according to national tax rules (European Commission, 2007a). The dilemma surrounding the mandatory or optional application of the CCCTB system and the consolidation of profits and loss has given rise to a divergence of opinions. An alternative so-

lution would be the mandatory application of the CCCTB system and the optional application of the consolidation of profits and loss. One possibility would be to leave the decision on mandatory or optional application of the CCCTB and consolidation in the hands of each Member State. Therefore, the Commission provides for the possibility of letting companies choose whether they want to use the CCCTB system or not due to the diversity of environments in which individual companies operate.

The Directive would apply to EU companies and third country companies which are subject to corporate income taxes in Member States of the European Union. Companies resident in the European Union would easily opt for the CCCTB system given that it would facilitate their business activities, but also companies not resident in the European Union which would use the system for their per-

manent establishments within the European Union. The option to choose this type of system would be valid for companies for 5 years and would be automatically renewed for another 3 years at the end of the annual period (European Commission, 2007a). The proposed system primarily depends on its level of attractiveness and efficiency for companies.

The proposed CCCTB system assumes a mandatory consolidation of profits and loss for all companies. These companies would include companies with a subsidiary or permanent establishment in another EU Member State (the 'all-in' or 'all-out' principle). Subsidiaries would have a total of 75% voting rights

owned directly or indirectly by a parent company or a group of companies. Groups of companies sharing 50-75% ownership would not have the possibility to consolidate profits and loss. Consolidation would not be possible for subsidiaries and permanent establishments from third countries since they already have permanent establishments in CCCTB countries (European Commission, 2007a)

The consolidated tax base would not include any profits and losses on intra-group transactions between members of the group (profits and losses on disposal of stock, fixed assets, etc.). Nor would it include intra-group provisions. This implies that only transactions between the group of companies and third parties, as well as other companies of the group not consolidating their tax base, have a tax effect (European Commission, 2007a). Any losses incurred by taxpayers before entering the CCCTB system would not be taken into account in the consolidation. "Such losses would be offset against the share of the future consolidated profits attributed to this taxpayer in accordance with national rules" (European Commission, 2007a: 26). When a taxpayer leaves a group, the loss remains in the group. When a group terminates, then the loss of the group is attributed to the taxpayers belonging to the company.

The European Commission maintains that the income of a taxpayer non-resident in the European Union would be subject to corporate income taxation under the worldwide principle. The CCCTB system would include equal treatment of income of EU companies and of third country companies. The income of companies located in a third country would be included in the tax base under the worldwide principle while adhering to the rules for relieving double taxation. The tax base would be calculated on an annual basis for the period of 12 months, while the following rules would be used to calculate the tax base (European Commission, 2007a: 8): "The tax base of a company would be calculated as the difference between income subject to tax less exempt income and deductible expenses and other deductible items".

The definition of tax income would be based on international accounting rules. It would be broad so as to cover monetary or non-monetary income, including proceeds from business activities and assets, interests, dividends, other profit distributions, subsidies, donations and compensation. Income such as subsidies directly linked to acquisition or

improvement of a depreciable business asset, proceeds from the disposal of pooled assets and certain dividend and permanent establishment income and capital gains would be exempt.

Deductible expenses would mean all business-related expenses that are fully and exclusively necessary for the production, maintenance and securing of taxable income. Along with costs of research and development, these would include costs related to debts for business purposes and other expenses. "Non-deductible expenses would mean profit distributions, repayments of equity and debt, any payment to and expenditure incurred for the benefit of shareholders or related persons; expenses related to assets that are not necessary; 50% of entertainment and representation costs; appropriation of retained earnings forming a part of equity; bribes; fines and penalties payable to public authority for breach of any legislation; management costs; monetary gifts and donation (except to charitable bodies meeting certain criteria); and costs relating to the acquisition, construction or improvement of fixed assets except those relating to research and development" (European Commission, 2007a: 9).

It is very questionable whether the specific idea can be concretized and realized through the common consolidated tax base. There exist three different interpretations of the harmonised tax base, with each of them presuming a different level of cooperation and elimination of tax obstacles in cross-border activities within the European Union (Mijatović, 2012: 92). At the minimal level would be a harmonised tax base built on a single set of tax and accounting rules. Although this system would reduce accounting costs, all other tax obstacles in cross-border activities would still remain. A harmonised tax base is the prerequisite for corporate tax relief for the current year due to the transfer of loss from the previous year in case of cross-border activity. Specific accounting rules for determining foreign losses along with all other accompanying difficulties should also exist. In order to completely eliminate tax obstacles in cross-border activities, a consolidated tax base should be designed. In this consolidation scenario, the distribution of the total taxable income incurred by subsidiaries will no longer be able to be based on accounting prices. Rather, a distribution system should be established that would include the distribution of the total tax base to different Member States.



The proposed CCCTB system would reduce harmful tax competition and introduce anti-abuse regulations for the protection of the CCCTB system tax base. The CCCTB system anti-abuse protection is structured on two levels in the form of general anti-avoidance rules (GAAR) and specific anti-avoidance rules (SAAR). Some countries apply general rules, while other countries implement specific rules. Regardless, many countries apply both sets of rules. Under the proposed CCCTB system, general rules aim to prevent fictitious transactions, i.e. such transactions are removed in order to calculate the tax base. Specific rules include: "thin capitalization rules or more general rules to limit the deductibility of interest, switch over rules from the exemption to the credit method, CFC rules, rules to re-characterise the scale of shares as a scale of assets to avoid the abuse of the consolidation rules in connection with the participation exemption, rules to avoid the possible double deductions (double dips) and possible rules to avoid the manipulation of the factors in the Formulary Apportionment" (European Commission, 2008: 3). Specific rules for legal tax avoidance always come hand in hand with general rules on legal tax avoidance and should be harmonised with the EC Treaty requirements. In 2011, 12 countries applied specific and thereby general rules for legal tax avoidance: Germany, France, United Kingdom, Sweden, Norway, Finland, Spain, Portugal, Denmark, Hungary, Estonia and Italy. Their common goal was to protect the domestic tax base from tax distortion. The harmonization of the corporate income tax base within the CCCTB system is not the only objective; another objective is the harmonization of regulations preventing tax avoidance in that system.

Once the CCCTB system is introduced, corporate income tax rates would become the leading tax element in making investment decisions. This would eliminate tax base differences in the European Union. Member states would be faced with increased pressure on their corporate income tax rates. High rates could no longer be compensated through better accounting and tax rules. The transfer of income by way of accounting prices and debt financing would no longer be possible in the CCCTB system. A common tax base would lead to companies having a transparent tax burden. As a result, the tax competition within EU Member States would intensify due to corporate income tax rates.

### 3. Methodology for calculating the formula apportionment

According to Fuest, Hemmelgarn and Ramb (2006: 20), the revenue effects of the introduction of the formula apportionment discussion in the EU include a system of cross-border loss relief. They also found an expected decrease in the tax revenues of EU Member States. Choosing the apportionment formula is important for two reasons (Bettendorf et al., 2010: 454). Firstly, the formula determines the distribution of the tax base across jurisdictions. Secondly, the formula apportionment imposes an implicit excise tax on the apportionment factor. Companies can influence their corporate tax liability by locating the factors that enter the formula in low-tax jurisdictions. As long as tax rates differ across jurisdictions, the allocation of investment and employment will be influenced based on the formula apportionment. Corporate income taxation is based on a consolidated tax base, and tax revenues are apportioned among countries according to the formula (Pethig and Wagener, 2007: 633). Based on the formula apportionment, a multinational would report its EU-wide taxable income to every EU country in which it is active and this income would be allocated among each EU country for tax purposes based on a formula that could use a variety of relative cost and revenue ratios (Gresik, 2010: 134). A multinational company's global income would be assigned to countries by a formula based on the fraction of their worldwide activity that occurred in each country (Clausing and Lahav, 2011: 99).

Within this taxation system international companies would be allowed to cover their losses on the EU level. Incomes and losses of one group of companies would not be separated by countries in which certain subsidiaries from a group are located. Instead, all taxable losses and incomes would be consolidated at the beginning. By doing so, spillover among particular companies from a group would become pointless. Taxable profit would be firstly governed by common rules. All parts of the group would be consolidated and the group profit would be allocated by formula apportionment to different member states. The corporate tax rate would be agreed upon according to a single taxing system. The apportionment formula includes three factors. These factors are Sales (S), Labour (L) and Assets (A). The labour factor is divided into two factors.

These factors are the payroll of the work force and the number of employees. According to Article 86 (COM, 2011: 47) the apportionment formula:

$$\text{Share A} = \left[ \frac{1}{3} \times \frac{\text{Sales}^A}{\text{Sales}^{\text{Group}}} + \frac{1}{3} \left( \frac{1}{2} \times \frac{\text{Payroll}^A}{\text{Payroll}^{\text{Group}}} + \frac{1}{2} \times \frac{\text{Employees}^A}{\text{Employees}^{\text{Group}}} \right) + \frac{1}{3} \times \frac{\text{Assets}^A}{\text{Assets}^{\text{Group}}} \right] \times \text{CTB} \quad (1)$$

with CTB representing the consolidated overall results of the group.

Equation (1) shows a system according to which distributed tax base would be located in different Member States.

The choice of apportionment factors of a formula should follow the objectives according to which the formula should (CCCTB, 2007: 5):

1. Be as simple as possible to apply for taxpayers and tax administrations and easy to audit for tax administrations,
2. Be difficult to manipulate by the taxpayers;
3. Be considered to lead to a fair and equitable distribution of the tax bases among the various entities concerned;
4. Not lead to undesirable effects in terms of tax competition.

The apportionment formula can only allocate a share of the consolidated group income to the group entity that equals the group entity's pre-consolidation income if all used apportionment factors are uniformly distributed between the group entity and the corporate group (Petutsching, 2010: 23).

As soon as Croatia joins the EU, each Member State will have the right to tax the allocated share of the consolidated tax base by applying its own national corporate tax base.

A multinational company consists of Company A and Company B. Company A resides and sells its output in Croatia, and Company B resides and sells its output in Slovenia. Information about sales, payroll, employees and assets for both countries are provided in Table 2. Corporate income tax rate for Slovenia in 2013 is 17% and for Croatia it is 20%.

**Table 2 Formula apportionment application**

Companies	Sales	Payroll and Employees	Assets	Taxable Income
Croatia (Company A)	50	50	50	40
Slovenia (Company B)	70	30	30	50
Total	120	80	80	

*Source: Author's calculation*

Considering the above information, the tax burden under separate accounting per company and the total tax burden for the group amounts to 16.5.

$$T_A = 40 \times 0.2 = 8 \quad T_B = 50 \times 0.17 = 8.5 \quad T = T_A + T_B = 16.5$$

Applying the apportionment formula from Article 86 and assuming an identical tax base, the tax burden per company and the total tax burden for the group amounts to 17.1.

$$T_A = 0.2 \times (40 + 50) \times \left( \frac{1}{3} \times \frac{50}{120} + \frac{1}{3} \times \frac{50}{80} + \frac{1}{3} \times \frac{50}{80} \right) = 10.1$$

$$T_B = 0.17 \times (40 + 50) \times \left( \frac{1}{3} \times \frac{70}{120} + \frac{1}{3} \times \frac{30}{80} + \frac{1}{3} \times \frac{30}{80} \right) = 7$$

$$T = T_A + T_B = 17.1$$

This example shows that formula apportionment would significantly change the total tax burden for groups of companies. It may also provide incentives to increase tax competition. Increasing tax competition under the proposed CCCTB may encourage Member States to further decrease tax rates on corporate profits (Spengel and Zöllkau, 2012: 14). According to this example, it can be concluded that Member States with a higher income tax rate have a higher total tax burden. This is one of the factors that adversely affects multinational companies' decision to locate their enterprises in those countries. By comparing companies in Croatia and Slovenia,



it can be concluded that it is easy for multinational companies to do business in Slovenia because their tax burden is lower. A lower tax burden allows companies to earn more. Besides, they become more attractive to foreign investors.

#### **4. Implementation of the CCCTB system in Croatia**

All rules of the CCCTB system should be implemented in the Republic of Croatia, now the youngest Member State. The application of the common consolidated corporate tax base would reduce tax compliance costs. By applying the formula apportionment, this consolidated tax base would be distributed among Member States. By applying the concept of consolidation, multinational companies that do business in several member states would have to calculate taxes according to only one tax system. The use of a consolidated base would mean that the profit and loss of the entire multinational company are accumulated to a simple general tax base. Thus, there would be no more need for transfer pricing and international double taxation would disappear. By accepting a consolidated base within income tax, multinational companies should be allowed to calculate overall income by applying common regulations.

The expected results of the application of the CCCTB are as follows (COM, 2011: 15):

1. To allow cross-border loss-offset;
2. To reduce occurrences of double or over-taxation;
3. To reduce undue or unintended tax planning opportunities for companies by the parallel application of 28 corporate tax system in the EU;
4. To introduce a one-stop shop approach for tax declarations and assessment;
5. To provide companies with the option to apply a common system for taxation in the EU;
6. To reduce transfer pricing compliance obligations.

Implementing the CCCTB system, Croatia will have a choice of implementing it as its individual tax base or as a tax base that is an alternative to the existing one. Furthermore, replacing the Croatian corporate income tax base with the CCCTB would cause numerous transitional problems of moving from the existing tax base to the CCCTB for both Croatian entities and entities moving between the two systems. Domestic tax incentives would no longer be available to firms on the Croatian market because they are not deductible under the CCCTB system. Likewise, issues on whether Croatia should adopt the CCCTB as its only tax base or as an additional tax base have been raised. The probability of Croatia implementing the CCCTB as its individual tax base is very limited. A more realistic situation would be the one in which the CCCTB exists side by side with the national tax base. If Croatia does not implement the CCCTB, at least as an alternative tax base, the CCCTB will be treated as just another foreign tax base. From a Croatian point of view, inbound and outbound investments in the CCCTB area would be taxed in the same way as investments in any other foreign jurisdiction. That would be very confusing and economically unacceptable to foreign investors on the Croatian market.

#### **5. Conclusion**

The current situation in the area of corporate taxation in the EU is characterized by diverse tax systems, great differences in tax burden on companies in particular Member States and strong tax competition. For individual Member States, the benefits from consolidation and formula apportionment are diverse and depend on the formula choice. The formula defines the distribution of the corporate tax base across EU countries and, thereby, the revenue implications of the reform.

The diversity of income taxation systems within the European Union causes interferences in cross-border business of multinational companies. Thus, it encourages shifting income to Member States with lower income tax rates in order to accumulate more profit. Besides having an adverse effect on the economic growth and economy of the country, it will also influence the European Union as a consolidated market. In order to eliminate these problems, the

European Union has taken precautionary measures. Establishing the CCCTB system is one of the measures.

On 16 March 2011 the European Commission published the adopted Proposal for a Council Directive on a Common Consolidated Corporate Tax Base with which it wishes to contribute to taxation favouring economic growth as advocated in the Europe 2020 strategy. This prompted intensive technical discussions regarding the proposal at the level of working groups of the Council of the European Union. A common consolidated corporate income tax base is one of the measures serving to reduce tax obstacles in cross-border activities within the European Union. It aims to establish a system of common rules for calculating the tax base of companies resident in the EU and EU-located subsidiaries of third country companies. The common fiscal frame-

work provides rules for calculating the business results of each company (or subsidiary), the consolidation of those results with other group members and the distribution of the consolidated tax base for each Member State in which the group operates, i.e. has established a company or subsidiary. Although some progress has been made with the proposal of a Directive on a Common Consolidated Corporate Tax Base, some Member States still have certain reservations and doubts regarding certain elements of the Directive Proposal. The implementation of this kind of system in Member States will present major challenges for the business sector. It will be a major challenge for Croatia as well since further modification of its tax system will be required. As a result, the Income Tax Act will be modified and companies will have to adjust to it.

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## UTJECAJ ZAJEDNIČKE KONSOLIDIRANE OSNOVICE POREZA NA DOBIT U HRVATSKOJ

### SAŽETAK

Nakon pristupanja Hrvatske Europskoj uniji, 1. srpnja 2013., broj zemalja članica povećao se na 28. Različitost poreznih sustava unutar 28 zemalja članica uzrokuje smetnje u prekograničnoj djelatnosti poreznih društava. To potiče premještanje dobiti u zemlje s nižim poreznim stopama poreza na dobit. Cilj ovoga rada jest prikazati glavne značajke uvođenja zajedničke konsolidirane osnovice poreza na dobit u Hrvatskoj. Rad također prikazuje učinke mehanizma za raspodjelu porezne osnovice na trgovačka društva u Hrvatskoj. Prihvatanje sustava zajedničke konsolidirane osnovice poreza na dobit, učinit će Hrvatsku privlačnom za strane investiture. To će također omogućiti stranim multinacionalnim kompanijama da posluju u Hrvatskoj što će doprinijeti ekonomskom rastu države.

**Ključne riječi:** fiskalna politika, porez na dobit, zajednička konsolidirana osnovica poreza na dobit, mehanizam za raspodjelu porezne osnovice

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# AUDIT MARKET CONCENTRATION – EVIDENCE FROM CROATIA

## ABSTRACT

Statutory audit is designated to protect the public interest and has a significant impact on the overall economy. There are concerns that the Big Four audit firms have become too dominant and that the collapse of one of these firms would disrupt the whole financial system. In terms of revenues received, the total market share of the Big Four audit firms for listed companies exceeds 90% in a vast majority of European Union Member States. Prior studies have shown that high audit market concentration limits the choice of auditor for large companies and sets a high barrier of entry for mid-tier audit firms, while the effect on audit quality and audit fees is still unclear. Therefore, the regulators are considering reforms to dilute the Big Four's dominance and improve competition in the audit market. The paper reviews the proposed and implemented measures that are the most common, together with their advantages and drawbacks. In addition, the characteristics of the audit market in Croatia are investigated, with a focus on market concentration measured by standard measures such as the Concentration rate, the Herfindahl-Hirschman Index and the Gini coefficient. According to market shares based on total clients' assets and revenues, the audit market for listed companies is moderately to highly concentrated, with a decrease in the five-year period (2013 compared to 2008).

**Keywords:** Audit, audit concentration, Big Four audit firms, audit market reforms, audit market in Croatia

## 1. Introduction

The audit market differs from other markets of goods and services due to its unique set of characteristics. It plays an important role in preserving transparency and improving the functioning of capital markets. An audit has a purpose only if stakeholders have confidence in the service provided and the auditor's opinion.

Moreover, since the statutory audit of financial statements is a legal obligation of certain companies, a significant part of the demand for audit services is mandatory. On the other hand, the supply side of the market is highly concentrated in most of the countries. Given its significant impact on the overall economy, it is understandable that the audit market is under constant monitoring of regulators

and professional bodies to ensure that disturbances in this market do not lead to instability of the entire financial system.

Due to the consolidation of large audit firms into even larger firms and the demise of Arthur Andersen, there are now a handful of global audit firms that are able to perform audits of complex institutions. The potential collapse of one of these firms would further limit the choice of auditors for major enterprises, but more importantly it would damage investor trust and could impact the stability of the whole financial system. Therefore, it is necessary to consider ways to mitigate this risk.

This paper gives an overview of the possible factors that led to such a high audit concentration, summarizes prior studies on the level of audit concentration, and analyses its consequences and potential measures suggested by different regulators. Also, an empirical research on audit concentration in Croatia was conducted on a sample of listed companies from the Zagreb Stock Exchange. The aim is to test the hypothesis that the Croatian audit market for listed companies is highly concentrated. The results can be used to evaluate if the regulators' concern is justified and whether it is necessary to consider implementing appropriate measures to reduce the concentration and stimulate competition.

## 2. Causes of audit market concentration

Measured by revenues or fees received, the Big Four audit firms as a group dominate the audit market for listed companies in the majority of European Union countries, with a market share which exceeds 90% (European Commission, 2010). There appear to be several reasons why auditing has become so concentrated on four global firms. The degree of concentration in the audit market has arisen as a direct result of market forces and, in particular, the demand from investors for audit quality as well as appropriate capability to undertake complex audits across the world (House of Lords, 2011a). Large audit firms can achieve greater economies of scale by spreading certain fixed costs over an expanded client base. Their size enables them "to develop sufficient technical expertise and the ability to conduct work globally to meet the needs of complex multinational audit clients and to do so at lower costs than could be provided by smaller audit firms" (The

United States Government Accountability Office, 2008).

Besides global reach, reputation is also an important driver. The Big Four audit firms are perceived as being better at offering value added services on top of the audit and providing insurance against reputational risks. According to the survey conducted by Oxera (2006), less than 10% of the United Kingdom FTSE 350 companies surveyed would consider using a mid-tier firm, which again highlights the importance of perception and reputation in this market.

Since the International financial reporting standards are recognized as being complex, a significant amount of technical expertise is required by the audit firms to adequately advise their clients (Chartered Institute of Management Accountants, 2010). The Big Four firms have more people in their technical departments and their staff have more experience in dealing with similar issues with other multinational businesses. Moreover, it is easier for them to attract and retain high quality experts.

Therefore, the internationalization of business, reputation, complexity of accounting standards, infrastructure investments and economies of scale are all factors that represent a major barrier to market entry for medium-sized audit firms.

## 3. Prior studies on audit market concentration

The literature review indicates that there are a variety of studies focused on measuring the level of audit concentration and its effect on variables such as the audit quality or audit fees. Some of the studies were conducted at the institutional level, while some of them were carried out by individual researchers.

### 3.1 Levels of audit concentration

Measuring the levels of audit concentration was the subject of many studies done by regulators and individual researchers. Commonly used measures of concentration are the Concentration ratio, the Herfindahl-Hirschmann Index, the Gini coefficient and the Lorenz curve as a graphic representation of inequality in the distribution. However, the results of different studies are not always comparable be-

cause of different methods of calculating the indicators and use of different input data.

Nevertheless, most studies agree that the level of audit concentration in most European countries is very high. The ESCP Europe analysis from 2009 showed that EU Member States can be divided into four groups according to the overall share of the Big Four audit firms, based on the aggregated turnover of companies audited by a certain audit firm. Group 1 represents countries with relatively low overall market concentration with the share of Big Four auditors less than 10%, like the Czech Republic, Estonia, Hungary, Poland and Slovenia. On the other hand, countries with a share of Big Four auditors above 30% belong to Group 4 (i.e. Denmark, Luxembourg, Sweden and the United Kingdom). Concentration levels on listed companies are very different from overall market concentration levels, especially for companies listed on the regulated national stock exchange. For the 21 analyzed Member States, 19 Member States are highly concentrated with a Herfindahl-Hirschmann Index (HH Index) above 2000, while only two states are moderately concentrated with an HH Index between 1000 and 2000 (i.e. France and Greece). The EU average for the HH Index is 3094 (Le Vourc'h, Morand, 2011).

The research published in 2010 by Grant Thornton confirms the dominance of the Big Four firms in the biggest Western economies. It found that the Big Four firms had an 84% share of audits in G8 countries and 70% worldwide. The only big European economy where the mid-tier firms have a sizeable market share of large company audits is France, where joint audits are mandatory. However, in many fast-growing emerging economies, audit markets are more open. For example, in India the Big Four share is only 41% and in China 14%, where the majority of companies are audited by firms other than the Big Four or mid-tier, many of them national firms (Huber, 2011). It should be noted that the Chinese audit market is very young, since the development began in the 1980s, but with a great potential, driven by broader enterprise reforms, the development of capital market and foreign investment (Yang et al., 2003).

When considering the United Kingdom audit market, which is a subject of many studies, in 2010, the Big Four auditors audited 99 of the FTSE 100 leading firms and around 240 of the next-biggest FTSE 250. In some important market segments like banking, the degree of concentration is even greater,

since only three of the Big Four auditors audit UK banks (House of Lords, 2011a). In addition, switching rates are low: around 4% on average for all listed companies and 2% on average for FTSE 100 companies (Oxera, 2006). This data shows that the Big Four's domination of the large firm audit market in the UK is almost complete.

Studies in the United States show similar results. According to the Government Accountability Office (2008), 82% of large public companies (i.e. Fortune 1000) saw their choice of auditor as limited to three or fewer audit firms. In 2006 four largest audit firms audited 98% of companies with total revenue above 1 billion USD and 96% companies in the category above 500 million USD company revenue. Although the market is concentrated overall, the degree of market concentration and the extent to which the largest firms dominate declines with the size of public companies.

Due to a number of studies that confirm the domination of a few large audit firms, it is justified that many regulators and interested parties are concerned about the effect of such high market concentration on competitiveness, audit quality and vulnerability of the whole financial system.

### *3.2 Consequences of high audit market concentration*

Studies on the effects of high audit concentration primarily investigated these five segments: 1) barriers to entry for mid-sized audit firms, 2) limited choice of auditors for large companies, 3) the effect on the level of audit fees, 4) the impact on audit quality, and 5) financial system vulnerability.

Significant barriers to entry into the audit market for large companies are the consequence of the high market power of the Big Four audit firms. These main barriers are in particular lack of size or insufficient capacity in terms of number of auditors in mid-tier audit firms, limited geographical reach of mid-tier audit firms, a strong preference among large companies to choose the Big Four auditors because of their reputation, resistance among companies and the absence of incentives to change the audit firm (Le Vourc'h, Morand, 2011). Oxera's analysis of the economics of entry by mid-tier firms into the UK FTSE 100 and FTSE 250 segments in-



dicates that the current market structure is likely to persist. Market entry is not attractive to firms outside the Big Four due the perception bias against mid-tier audit firms, the high costs of entry, a long payback period for any potential investment and significant business risks (Oxera, 2006). Oligopoly market structure with a few strong audit firms and a high barrier of entry seems to be persistent, which is dangerous because it makes it challenging for regulators to take corrective measures to mitigate or eliminate any adverse effects of high concentration.

Limited choice of auditors follows from the high concentration and entry barriers, especially for large companies. The reduction in the number of active audit firms in the market and especially in the number of top tier firms reduces client choice and increases the likelihood of conflicts of interest. Companies may find it increasingly difficult to identify a top tier firm that neither audits nor provides other sensitive services to a major competitor (Beattie et al., 2003). The United States Government Accountability Office found that 82% of the large companies surveyed see their auditor choice as limited to the Big Four because those firms have the technical expertise, capacity and reputation to undertake those audits (Bloom, Schirm, 2008). Moreover, over one-third of the UK FTSE 350 audit committee chairs do not feel that their company has sufficient choice of auditor (Oxera, 2006). Such a market structure where there are only few audit firms on the supply-side and a larger number of clients on the demand-side can lead to disorders such as a rise of audit fees or a reduction of audit quality.

In theory, oligopoly market structure may result in oligopoly firms using their market power to increase the price of their goods or services. The effect of the high audit concentration on audit fees remains unclear because various studies have yielded different results. For example, the Oxera study, based on data for 1995-2004 from the United Kingdom, showed that market concentration and market share of a given auditor in a given sector/year both have a statistically significant and positive impact on audit fees (Oxera, 2006). On the other hand, Eshleman (2013) finds that the effect of audit market concentration on the level of audit fees depends on the size of the audit market. When the audit market contains fewer clients and/or those clients are smaller in size, audit fees are increasing in audit market concentration. In markets where there are a large number of clients and/or the clients are large in size, audit mar-

ket concentration leads to lower audit fees. In the end, the United States Government Accountability Office analyzed the statistical relationship between audit fees paid by more than 12 000 companies from 2000 through 2006. It has come to the conclusion that public companies operating in industrial sectors with more concentrated audit markets were not paying higher audit fees than companies in sectors with less concentrated audit markets. Although audit fees increased significantly on average for all sizes of firms, the study indicated that factors other than concentration appear to explain audit fees (The United States Government Accountability Office, 2008). Therefore, it is obvious that the results depend on research design and the country in which the research was conducted, which means that a unique conclusion cannot be derived.

A similar situation applies to the effect on audit quality. From the one perspective, higher concentration could be associated with higher audit quality by enabling the auditor to maintain independence. If the auditor depends less on a single client and if there is a reduced probability of the client switching auditors, the auditor is in a better negotiation position to limit client-driven earning manipulations. On the other hand, audit firms with significant market power have the potential to reduce the quality of their services because the lack of competitive alternatives would limit clients' ability to obtain services elsewhere. It is unclear and difficult to empirically test which of these scenarios prevails. Boone et al. (2012) found evidence that auditor concentration manifests itself in increased auditor tolerance for earnings management by clients (Boone et al., 2012). Francis et al. (2013) concluded that the Big Four dominance does not appear to harm audit quality and is in fact associated with higher earnings quality, after controlling for other country characteristics that potentially affect earning quality (Francis et al., 2013). In addition, the US Government Accountability Office and ESCP Europe found no compelling evidence that audit quality was compromised due to market concentration (Bloom, Schirm, 2008; Le Vourc'h, Morand, 2011).

Regardless of the vague effect of high concentration on audit quality, it is clear that such a market structure does not contribute to the stability of the financial system. Audit as a service is meaningful only if the stakeholders have confidence in the auditor's opinion. The potential collapse of one of the major audit firms could disrupt the availability of

audited financial information on large companies, damage investor trust and impact the stability of the financial system. Therefore, there are concerns that the Big Four audit firms have become too dominant and that the failure of one of them would cause major disruption to the economy (Huber, 2011). It is understandable that regulators are considering reforms to dilute the Big Four's dominance and improve competition in the audit market.

#### **4. Possible reforms to reduce the audit market concentration**

There are many proposals on the reform of the audit market in order to reduce concentration, but few of them have actually been implemented. Institutions like the European Commission, ESCP Europe, the Institute of Chartered Accountants in England and Wales, the United States Government Accountability Office and the Selected Committee of Economic Affairs from the House of Lords have all released reports and studies on this subject. Many of the proposed measures overlap, with the following measures being most frequently mentioned:

- a) Mandatory audit firm rotation,
- b) Mandatory joint audit,
- c) Regular mandatory tendering of audit contracts,
- d) Change in ownership arrangements for auditors,
- e) Reform of the law of unlimited liability,
- f) Elimination of covenants which are restricting the choice of auditors,
- g) Establishment of the contingency plans for the potential demise of a Big Four audit firm.

Mandatory audit firm rotation is a measure that would limit the period of years that an audit firm could serve as the auditor for a particular company. It could potentially reduce concentration to the extent that more opportunities are provided for mid-size and smaller firms to compete to provide audit services to public companies (The United States Government Accountability Office, 2008). Moreover, clients and their auditors would have less incentive to build persistent client-auditor ties, which can also have a positive impact on auditor independence (Gerakos, Syverson, 2015). Italy is one of the

European Union Member States in which the rotation of audit firms has been mandatory since 1974. The maximum rotation frequency is nine years corresponding to three three-year mandates. In addition, there is also a minimum cooling-off period of three years before the previous auditor can be re-appointed. Similar rules exist in Brazil, South Korea, Singapore and India, while Spain, Austria and Canada have abandoned rotation rules (Le Vourc'h, Morand, 2011). Opponents to the rotation often argue that mandatory rotation would not necessarily reduce concentration because large public companies would likely rotate to another one of the largest firms. Rather, costs for both audit firms and their clients would increase (The United States Government Accountability Office, 2008). Hess and Stefani (2012) even predict that such measures would result in auditor changes from smaller to larger audit firms, thereby increasing supplier concentration (Hess, Stefani, 2012). Therefore, it is difficult to reach a consensus. However, the case of Italy does not go in favor of this measure, since the Italian audit market has one of the highest Herfindahl-Hirschman Indexes for listed companies (Le Vourc'h, Morand, 2011).

Joint audits are defined as audits in which two or more auditors simultaneously carry out the audit, which means that they issue a single audit report and share responsibility for the audit (Hess, Stefani, 2012). In order for it to be effective, there should be a ban on the appointment of two Big Four audit firms. This would contribute to the growth of mid-tier firms, enabling them to reach critical size on a national basis. Today France is the only EU Member State requiring by law joint audits for statutory audits of listed companies that publish consolidated accounts. In addition, France has a lower than average concentration level and a mid-tier firm that is present on the main index market segment. There are several benefits of joint audits. It lowers the level of concentration and favors the development of mid-tier and small audit firms. Furthermore, it minimizes the risk of demise of one of the Big Four auditors, since the joint auditor would much more easily take on its counterpart's work than a new entrant. It could potentially improve audit quality by increasing the overall number of cross-checks (Le Vourc'h, Morand, 2011). However, there are costs and risks that come along with this measure. The presence of two auditors increases coordination costs, especially in a consortium of a larger and smaller audit firm. Moreover, audit fees are ex-

pected to be higher and the risk of inconsistencies in methodologies is increased (Hess, Stefani, 2012). That is why Denmark dropped mandatory joint audits for listed companies in 2005 (Le Vourc'h, Morand, 2011). Taking into account its benefits and drawbacks, this measure needs to be considered as a serious option for lowering concentration levels.

Another possible measure is mandatory tendering with full transparency as regards the criteria according to which the auditor will be appointed. It could be a useful measure to make the audit market more dynamic, considering the currently low switching rates. Regarding the frequency of tendering, the Institute of Chartered Accountants in England and Wales (2011) recommends that the tendering process should be conducted at least every eight years. On the other hand, the UK Select Committee on Economic Affairs suggested that UK FTSE 350 companies carry out a mandatory tender of their audit contract every five years, adding that the audit committee should be required to include detailed reasons for their choice of auditors in their report to shareholders (House of Lords, 2011b). The main drawbacks identified during the study conducted by the ESCP Europe are related to increasing costs for both companies and audit firms. Moreover, such a measure could lead to a decline of audit quality if it results in price wars. Severe competition between auditors might enable clients to take advantage of the situation to negotiate lower prices. Consequently, audit quality could suffer (Le Vourc'h, Morand, 2011). Despite these drawbacks, mandatory tendering would definitely increase transparency in the audit market.

All European Union Member States require a majority of voting rights in audit firms to be held by qualified auditors, as stipulated in the European Commission Eighth Directive. Some have interpreted these specifications more strictly than others by requiring 75% or more of the owners of audit firms to be qualified auditors (Oxera, 2007). These requirements were intended to preserve audit quality by ensuring auditor independence. However, such a rule might limit the growth opportunities for audit firms, which is one of the barriers to the entry of small and mid-tier audit firms to audit market of larger clients. Allowing parties other than the audit firm's partners to own or invest in audit firms could increase these firms' financial resources and allow them to hire the additional staff needed to serve larger companies. The United States Government

Accountability Office (2008) interviewed midsize and smaller audit firms in order to explore the potential effectiveness of this measure. Several of them said that access to capital did not pose a significant barrier to expansion because firms currently raised sufficient capital through traditional channels such as loans. In their experience, shortage of qualified staff in the labor market rather than limited access to capital was their primary impediment to growth. Therefore, it seems that this measure would not contribute much to the reduction of audit concentration and the strengthening of small and mid-sized companies, but to the contrary could have an adverse effect on the auditors' independence.

It has been argued that auditors' unlimited liability discourages non-Big Four auditors from taking on large listed clients. Placing caps on auditors' potential liability would limit the overall amount that an audit firm would have to pay in connection with a lawsuit involving the work it performed for one of its clients. Even though the basic harmonization regime for statutory audit is unified with the European Directive, the liability part is left to the discretion of each of the Member States. Practices from different countries show that statutory auditors' liability can take different forms. For example, Spain has adopted a proportionate liability regime in 2010, which means that statutory auditors are now only responsible for the amount of damage equal to their share of liability, but not for that of other people if those people cannot pay. On the other hand, the liability of statutory auditors in Germany is limited by a monetary cap set in the German Commercial Code (Dufour et al., 2014).

Another possible measure is to ensure equal competing conditions for all participants in the audit market. It would mean publicly disclosing or even banning all restrictive covenants. Restrictive covenants (i.e. "Big Four-only" clauses) are clauses or requirements in contractual agreements between companies and their banks that state that only a Big Four audit firm can provide audit services to the company (Le Vourc'h, Morand, 2011). No particular measure has been taken to prohibit restrictive covenants in Europe and there is still a lack of data measuring how widespread this practice is. Prohibition on bank covenants is expected to have a positive impact on market competition since they are one of the barriers to the development of the mid-tier audit firms.

In order to limit the vulnerability of the financial

system in case of the collapse of one of the big audit firms, contingency plans and living wills for major audit firms have been suggested. Similar packages have already been discussed and introduced for large financial institutions, due to the experience from the latest global financial crisis. Contingency plan should allow for a rapid resolution in the event of the demise of a major audit firm, avoid disruption in the provision of audit services and prevent further structural accumulation of risk in the market (European Commission, 2010). Living wills would have the same goal, laying out all the information the authorities need to separate the good from the failing parts of an audit firm so disruption to the financial system from a collapse would be minimized (House of Lords, 2011b).

It is evident that there are a number of possible measures. The reason why they are not widely applied probably lies in the fear that their disadvantages overcome possible benefits. Moreover, there is no clear and convincing evidence that a high concentration reduces audit quality and level of competitiveness, which is why regulators are still reluctant to take serious actions. In any case, it is necessary to carry out further research on this issue.

## 5. Methods used in the research of audit market concentration in Croatia

The analysis of audit concentration in Croatia was conducted on a random sample of companies whose securities are listed on the Zagreb Stock Exchange, using standard concentration measures like the Coefficient rate 4, the Herfindahl-Hirschman Index and the Gini coefficient. Measures based on the latest financial data (Financial Agency - Fina), i.e. from 2013, are compared to measures from 2008 to be able to spot trends in the level of concentration. Results are not fully comparable to those analyzed from prior studies due to certain differences in methodology.

Currently, securities of 165 issuers are listed on the Zagreb Stock Exchange. Securities of state and local governments were eliminated for the purpose of the research, which left 156 public companies. Sample size was determined with a 95% confidence level and a confidence interval of 10, giving a sample size of 60 companies. Concentration measures were calculated using the latest annual financial statements

and auditor's reports from 2013. In order to be able to spot trends in the audit concentration, measures from 2013 were compared with their levels from 2008. In addition, two companies from each period were eliminated from the sample due to the lack of financial statements, resulting in a final sample size of 58 companies for each year.

### 5.1 Indicators of market concentration

Three measures have been selected to assess market concentration levels: the Concentration rate 4, the Herfindahl-Hirschman Index and the Gini coefficient. These were also standard measures in previous empirical studies. Concentration rate measures the percentage of the entire reference amount that is allocated to the biggest audit firms. Concentration rate 4 is most commonly reported, calculated as a sum of market shares of four largest audit firms:

$$CR4 = s_1 + s_2 + s_3 + s_4 \quad (5.1)$$

According to Velte and Stiglbauer (2012), oligopoly is present if at most three audit companies have a market share above 50% or at least five companies have a market share above 66.6%.

The Herfindahl-Hirschman Index (HH Index) is the sum of squares of the market shares of all audit firms:

$$HH \text{ Index} = \sum_{i=1}^n s_i^2 \quad (5.2)$$

Owing to squaring market shares, the HH Index is dominated by large audit firms and only insignificantly influenced by small carriers. It rates from  $1/n$  (in case of minimal concentration and equal share of all suppliers) to 10,000 (which indicates a complete concentration). The European legislation uses the HH Index to assess horizontal mergers and thus isolates three ranges of post-merger HH Index levels: 1) non concentrated markets if the HH Index is below 1000, 2) moderately concentrated markets if the HH Index is between 1000 and 2000, and 3) highly concentrated markets if the HH Index is above 2000 (Le Vourc'h, Morand, 2011).

The Gini coefficient summarizes the inequality in the distribution of audit market shares between in-

dividual audit firms. It is derived from the Lorenz curve, which plots the cumulative percentage of total market share against the cumulative number of suppliers, starting with the smallest audit firms. If all audit firms are the same size, the Lorenz curve is a straight diagonal line, called the line of equality. If there is any inequality in size, then the Lorenz curve falls below the line of equality. The Gini coefficient measures the area between the Lorenz curve and a hypothetical line of absolute equality, which can be approximated by the following formula (Xycoon):

$$G = \left( \frac{2}{n^2 \bar{s}} \right) \cdot \sum_{i=1}^n \left( \left( i - \frac{n+1}{2} \right) \cdot s_i \right) \cdot \bar{s} = \frac{1}{n} \cdot \sum_{i=1}^n s_i \quad (5.3)$$

In case of a complete uniform distribution, the Gini coefficient assumes the value of 0. When there is a perfect competition, the value comes close to 1. If the Gini is above 0.9, a very high concentration exists, while in a situation when the coefficient ranges from 0.6 to 0.9 the market is highly concentrated. Market concentration is moderate if the Gini is between 0.4 and 0.6 (Velte, Stiglbauer, 2012).

For the audit market, market shares can be measured using a variety of metrics, including the number of clients, audit fees and, since audit fees are not publicly disclosed for all audit firms, surrogates for audit fees such as client revenues or total assets (Beattie et al., 2003). All four variables were used and compared in conducting this research. The number of clients indicates the number of audit engagements per audit firm, but is not the best measure of concentration, given that there are large differences in the size of clients. Market share based on audit fees is the most representative. However, most companies do not comply with the provisions on the publication of audit fees paid for the statutory audit in the notes to the financial statements. Therefore, total revenues of the audit firm were used as a proxy.

## 5.2 Sample characteristics

Measures of descriptive statistics were calculated for the random sample of 58 listed companies from 2008 and 2013 (Table 1). This leads to the conclusion that there are considerable variations in the size of selected companies. For example, total assets vary from 26 million HRK to 104 billion HRK in 2008. In the same year, the minimum total revenue is 119 thousand HRK, while the maximum total revenue is 12 billion HRK. Due to significant differences among companies, it is obvious that the levels of market concentration based on the number of clients and those based on clients' total assets or revenues will also take on different values.

Listed companies from the 2008 sample have been audited by a total of 32 audit firms, which means that each audit firm on average had 1.81 clients (Table 2). The maximum number of clients was 9, referring to one of the Big Four audit firms (i.e. PricewaterhouseCoopers). On the other hand, only 25 audit firms have performed statutory audit for the same sample of public companies in 2013. The average number of clients has increased to 2.32. Two joint audits were performed in that period. For the purpose of the research, in case of joint audits, clients were equally divided among co-auditors, which resulted in a minimum number of clients of 0.5, since one audit firm had no other clients. At the same time, 42.86% of the companies in 2013 changed their auditor in relation to 2008.

As for the revenue level of audit firms included in the sample, the mean rose from 11.4 to 12.2 million HRK, with the coefficient of variation of 188% in 2008 and 163% in 2013. The median is significantly lower, since it is not affected by extreme values of revenues. The maximum level of revenues in both years refers to KPMG.

*Table 1 Descriptive statistics of selected variables for listed companies from the sample*

<b>Total assets of the listed companies from the sample (in 000 HRK)</b>		
	<b>2008</b>	<b>2013</b>
Mean	4,410,484.14	5,221,401.69
Median	586,794.13	619,265.73
Standard Deviation	15,251,299.63	18,715,232.83
Range	104,014,321.13	123,699,259.17
Minimum	26,200.76	24,892.77
Maximum	104,040,521.88	123,724,151.94
Sum	255,808,080.32	302,841,298.30
Count	58	58
<b>Total revenues of the listed companies from the sample (in 000 HRK)</b>		
	<b>2008</b>	<b>2013</b>
Mean	1,165,666.40	1,135,886.91
Median	299,591.41	241,427.73
Standard Deviation	2,318,026.93	2,466,321.07
Range	12,003,634.94	14,757,136.89
Minimum	119.06	321.11
Maximum	12,003,754.00	14,757,458.00
Sum	67,608,651.47	65,881,440.73
Count	58	58
<b>Earnings before tax of the listed companies from the sample (in 000 HRK)</b>		
	<b>2008</b>	<b>2013</b>
Mean	137,523.20	84,774.00
Median	4,539.91	3,441.72
Standard Deviation	482,146.04	325,844.30
Range	2,985,106.68	1,837,557.85
Minimum	-43,170.00	-208,413.69
Maximum	2,941,936.68	1,629,144.16
Sum	7,976,345.36	4,916,892.19
Count	58	58
<b>Altman Z-Score of listed companies from the sample</b>		
	<b>2008</b>	<b>2013</b>
Mean	1.41	1.31
Median	1.40	1.16
Standard Deviation	2.69	1.29
Range	24.55	6.54
Minimum	-14.55	-1.11
Maximum	10.00	5.43
Sum	-	-
Count	54	54

*Source: Calculated by the authors*



**Table 2 Descriptive statistics of selected variables for audit firms from the sample**

Number of clients of audit firms from the sample		
	2008	2013
Mean	1.81	2.32
Median	1	2
Standard Deviation	1.65	1.91
Range	8	7.5
Minimum	1	0.5
Maximum	9	8
Sum	58	58
Count	32	25
Total revenues of audit firms from the sample (in 000 HRK)		
	2008	2013
Mean	11,401.60	12,167.00
Median	2,496.70	3,101.21
Standard Deviation	21,423.79	19,777.01
Range	90,748.22	75,175.31
Minimum	115.83	104.64
Maximum	90,864.05	75,279.95
Sum	364,851.14	304,175.11
Count	32	25

Source: Calculated by the authors

**Table 3 Measures of audit concentration for a sample of listed companies in Croatia**

	Concentration Rate 4		Herfindahl-Hirschman Index		Gini Coefficient	
	2008	2013	2008	2013	2008	2013
Based on the number of clients	36.21	40.52	564.80	659.93	0.36	0.40
Based on the audit firm's revenue	69.47	67.18	1381.37	1414.58	0.72	0.69
Based on the total assets of clients	89.18	82.70	3074.24	2636.37	0.86	0.82
Based on the total revenues of clients	75.93	63.62	1662.16	1294.42	0.78	0.71

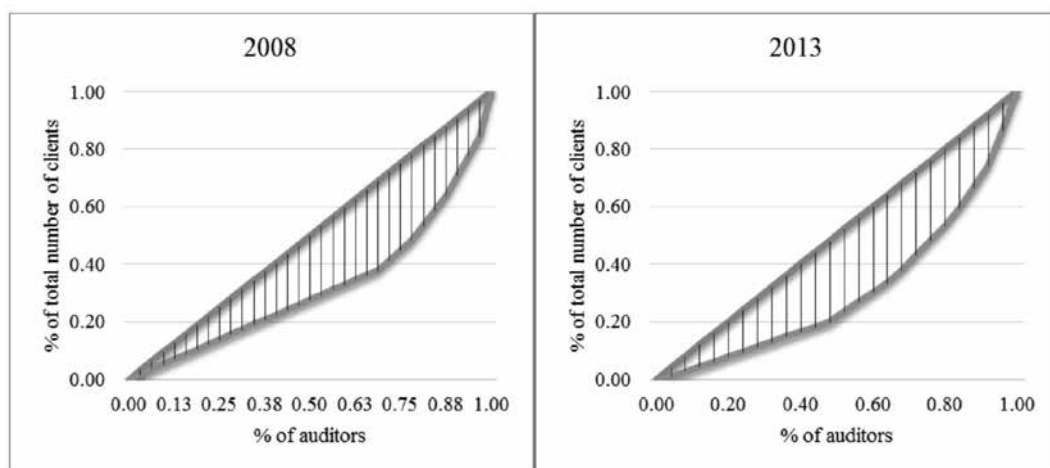
Source: Calculated by the authors

## 6. Results and discussion of findings

In order to calculate audit concentration measures, market shares were determined based on the number of clients, audit firm revenue, clients' total assets and clients' total revenues. Market shares were used to calculate the Coefficient rate 4, the Hefindahl-Hirschman Index and the Gini coefficient, wherein the level of inequality was also presented on the Lorenz curve. Results are given in Table 3.

The level of concentration is the lowest in a situation where the market shares are determined using *the number of clients*. According to all three measures, the audit concentration has increased in 2013 when compared to 2008. The concentration rate 4 shows that the four audit firms with the biggest market shares audited 36.21% (40.52%) of the total number of clients in the sample in 2008 (2013). Contrary to expectations, only two of them belong to the Big Four. In comparison, total market share of the Big Four audit firms, measured by the number of clients, was 27.59% in 2008 and 34.48% in 2013. The HH Index is below 1000, suggesting that the market is not concentrated. The same conclusion can be derived from the size of the Gini coefficient, which is also evident from the graphical representation in the form of the Lorenz curve (Figure 1).

Figure 1 Lorenz curve – market share based on the number of clients



Source: Created by the authors

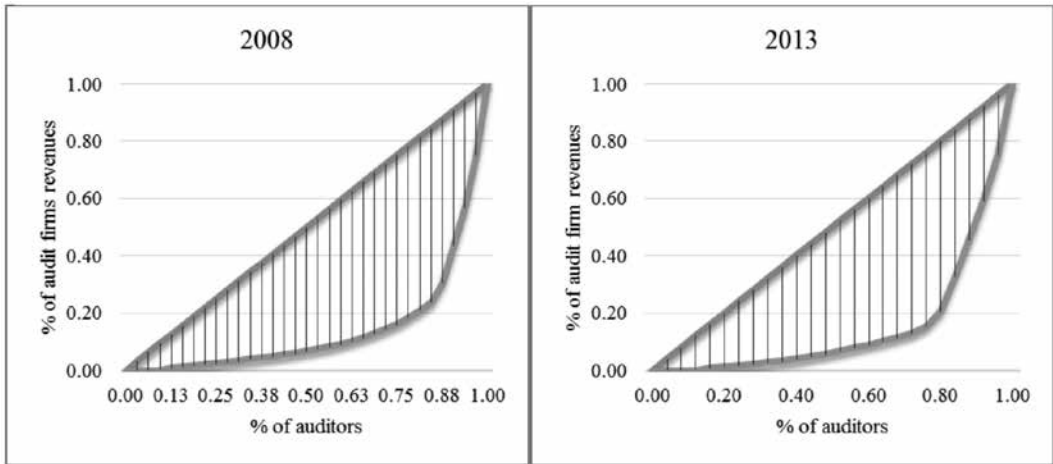
The level of audit concentration is significantly higher when the measures are based on the *total revenue of audit firms* as a proxy for audit fees. It should be noted that these measures should be taken with caution due to certain inconsistencies in the calculation. More specifically, because of the lack of data on audit fees paid by the companies in the sample, revenues of audit firms were taken as a surrogate. However, these revenues are not only a result of providing services to companies in the sample. Therefore, these values will be used only for comparison and not to form definite conclusions about the level of concentration.

The concentration rate 4 is doubled when the market share is based on the auditor's revenue, which is consistent with the increase of other two measures. According to these indicators, the audit market of listed companies, based on the random sample, is moderately to highly concentrated.

In a situation where the data on audit fees paid is not available, the most representative measures of audit concentration are those based on the size of the clients, since it can be assumed that the larger client requires more audit work and eventually pays a higher fee. According to the *total clients' assets*, market concentration is very high, with the HH Index above 2600 and the Gini coefficient above 0.8. Measures based on the *size of the clients' revenue* are less alarming: the HH Index is in the interval between 1000 and 2000, while the Gini coefficient is above 0.7.



Figure 2 Lorenz curve – market share based on audit firm revenue



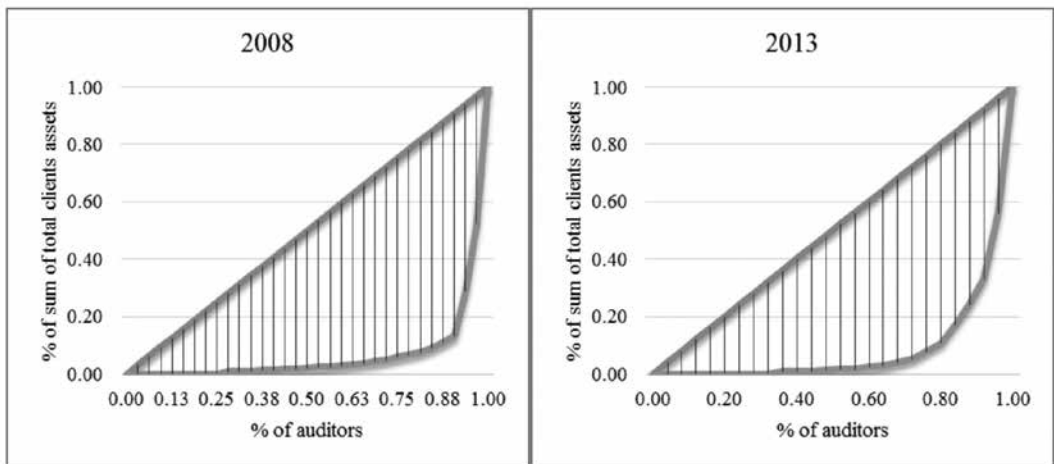
Source: Created by the authors

Moreover, the suggested decrease in the audit concentration in the five-year period is a positive indicator.

In conclusion, the audit market for listed companies in Croatia is moderately to highly concentrated, depending on the measure used. The conclusions drawn from this study are limited by the fact that they are based on a sample of listed companies and not on a whole population.

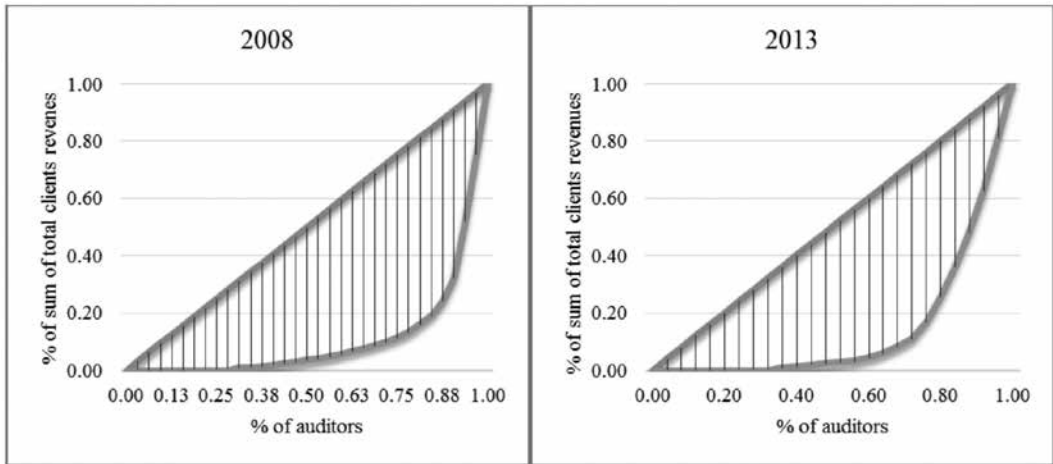
Additionally, a correlation analysis between the size of the client and its auditor has been conducted. The objective is to test if larger public companies hire a larger auditor, that is, one of the auditors from the Big Four. Total revenues were used as a measure of size. Correlation analysis was first conducted separately for each year, and then as a pooled correlation. Results in the form of Pearson and Spearman correlation coefficients are presented in table 4.

Figure 3 Lorenz curve – market share based on clients' total assets



Source: Created by the authors

Figure 4 Lorenz curve – market share based on clients' total revenues



Source: Created by the authors

According to the Pearson correlation coefficient, which evaluates the linear relationship between the variables, the relationship is weak, although technically positive. Moreover, the result for the year 2013 is not significant at  $p < 0.05$ .

Table 4 Analysis of correlation between the size of the client and its auditor

Correlation of client's and auditor's revenues in 2008						
	R	t	p (one-tailed)	p (two-tailed)	n	df
Pearson Correlation	0.4631	3.91	0.000126	0.000251	58	56
Spearman Correlation	0.4651	3.93	0.000118	0.000236	58	56
Correlation of client's and auditor's revenues in 2013						
	R	t	p (one-tailed)	p (two-tailed)	n	df
Pearson Correlation	0.2328	1.79	0.039352	0.078705	58	56
Spearman Correlation	0.5836	5.38	0.000001	0.000002	58	56
Pooled Correlation of client's and auditor's revenues						
	R	t	p (one-tailed)	p (two-tailed)	n	df
Pearson Correlation	0.3467	3.95	0.000069	0.000138	116	114
Spearman Correlation	0.5258	6.6	< 0.000001	< 0.000001	116	114

Source: Calculated by the authors

However, the Spearman correlation coefficient indicates a stronger measure is that the Spearman correlation evaluates the monotonic relationship between two variables, where the variables tend to change together, but not necessarily at a constant rate. Therefore, it is based on the ranked values for each variable rather than the raw data. In all three cases, the Spearman coefficient takes on values near or above 0.5. By normal standards, the association between the size of the client and its auditor would be considered statistically significant and positive.

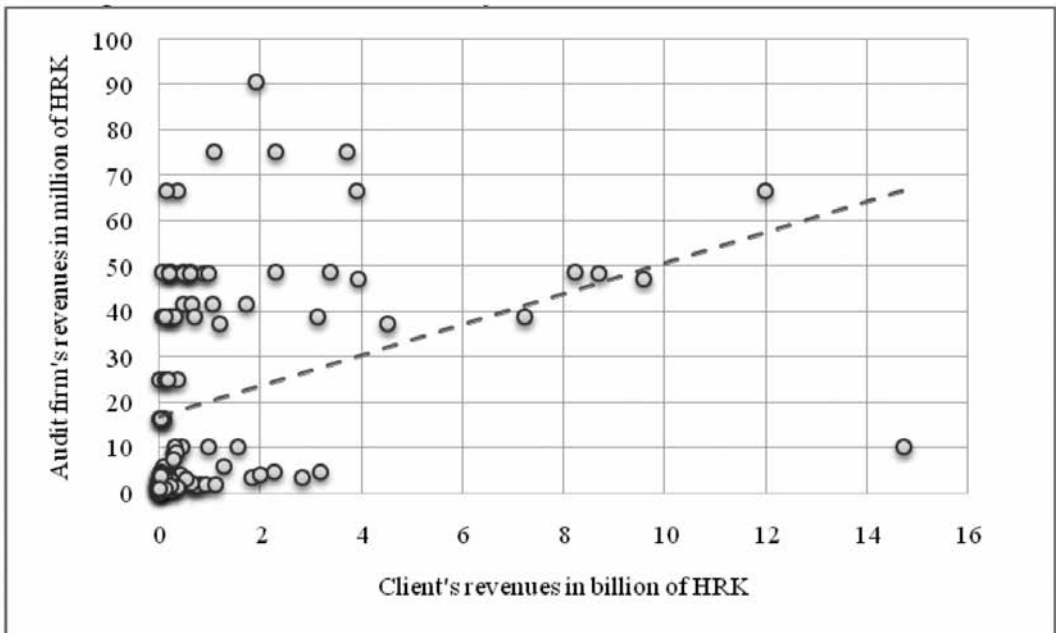
The Pooled correlation presented in the scatter plot (Figure 5) also indicates positive relationship.

Overall results of the empirical research indicate that the Croatian audit market for listed companies is dominated by large audit firms and that larger clients to some extent favor the Big Four audit firms. This does not necessarily mean that such market structure negatively affects audit quality or auditor independence, but serves as a warning that additional analysis should be conducted to investigate potential negative effects.

### 7. Conclusion

The requirement to have the annual and consolidated financial statements of certain companies audited by qualified professionals is designed to protect the public interest. Giving its significant impact on the overall economy, it is understandable that the audit market is under constant monitoring of regulators and professional bodies. One of the issues that has received a lot of attention lately is the level of audit concentration. Most studies agree that the level of audit concentration in most European countries is very high, confirming the dominance of the Big Four audit firms.

Figure 5 Scatter plot - Pooled Correlation of client's and auditor's revenues



Source: Created by the authors

Some of the factors that led to the increase in the concentration are the internationalization of business, reputation bias, complexity of accounting standards, infrastructure investment and economies of scale. The potential collapse of one of the large firms would damage investors' trust and could impact the stability of the whole financial system. In addition to the financial system vulnerability, negative consequences include limited choice of auditors for large companies and setting significant barriers to entry for mid-sized and small audit firms. The effect of high concentration on audit quality and audit fees is still vague. Therefore, it is necessary to consider ways to mitigate risk. Although there are many proposals on the reform of the audit market in order to reduce concentration, few of them have actually been implemented. Most common measures refer to mandatory audit firm rotation, mandatory joint audit, change in the ownership arrangements for auditors, reform of the law of unlimited liability and the establishment of the contingency plans for potential demise of a Big Four audit firm.

The analysis of audit concentration in Croatia in 2008 and 2013 was conducted on a random sample of companies whose securities are listed on the Zagreb Stock Exchange, using standard concentration measures like the Coefficient rate 4, the Herfindahl-Hirschman Index and the Gini coefficient. The level of concentration was the lowest when market shares of audit firms were determined using the number of clients, indicating that the audit market is not concentrated. However, more representative measures, based on the size of the clients, show differ-

ent results. According to market shares based on total clients' assets and revenues, the audit market for listed companies is moderately to highly concentrated, with a decrease in the five-year period (i.e. 2013 compared to 2008). Moreover, a correlation analysis between the size of the client and its auditor, using the Spearman correlation coefficient, indicates a statistically significant and positive relationship, which confirms that larger companies tend to choose larger auditors, usually one of the Big Four. Although the research has reached its aims, there were certain limitations. Since the data on audit fees paid was not available, surrogate measures based on clients' size were used to calculate audit market shares, such as total clients' assets and revenues. Moreover, the research was conducted on a sample of listed companies, and not on the entire population.

Future research could be directed towards expanding audit concentration analysis on unlisted companies. It would be interesting to compare audit concentration levels among various sectors and company sizes. Moreover, the existing research could be upgraded by investigating the effect of high audit market concentration on audit quality. The direct approach would imply conducting a survey among internal and external users of statutory audit. On the other hand, it could also be tested indirectly, by exploring the statistical correlation between audit firm's market share and indicator for audit quality, such as level of earnings management detected using accrual-based models.

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## KONCENTRACIJA NA TRŽIŠTU REVIZIJSKIH USLUGA – DOKAZI IZ REPUBLIKE HRVATSKE

### SAŽETAK

Zakonska je revizija u funkciji zaštite javnoga interesa i ima značajan utjecaj na cjelokupno gospodarstvo. Postoji zabrinutost da revizijska poduzeća iz skupine „Velike četvorke“ postaju previše dominantna i da bi slom jednoga od tih poduzeća doveo do poremećaja cijeloga financijskoga sustava. Ako se kao mjera koncentracije uzme udio u prihodima na tržištu revizijskih usluga kotirajućih poduzeća, ukupni tržišni udio revizijskih poduzeća iz skupine „Velike četvorke“ prelazi 90% u većini zemalja članica Europske unije. Prethodna su istraživanja pokazala da visoka koncentracija na tržištu revizijskih usluga velikim poduzećima ograničava izbor revizora te postavlja visoke prepreke ulasku srednjih revizorskih tvrtki na tržište, dok je učinak na revizijsku kvalitetu i iznos revizijskih naknada još uvijek nejasan. Sukladno tome, regulatori razmatraju reforme kojima bi smanjili dominaciju revizorskih poduzeća koja pripadaju „Velikoj četvorci“ i poboljšali konkurenciju na tržištu revizijskih usluga. U radu je dan pregled najučestalijih mjera smanjenja tržišne koncentracije, od kojih su samo neke predložene, a neke i implementirane, pri čemu se analiziraju njihove prednosti i nedostaci. Osim toga, istražene su karakteristike tržišta revizijskih usluga u Republici Hrvatskoj, s naglaskom na tržišnu koncentraciju koja je mjerena uobičajenim mjerama kao što su koncentracijski omjer, Herfindahl-Hirschmanov indeks i Ginijev koeficijent. Ako se tržišni udjeli revizijskih poduzeća mjere na temelju ukupne imovine i ukupnih prihoda klijenata, rezultati pokazuju da je tržište revizijskih usluga za kotirajuća poduzeća umjereno do visoko koncentrirano, pri čemu je primjetan trend smanjenja u promatranom petogodišnjem razdoblju (2013. godine u odnosu na 2008. godinu).

**Ključne riječi:** revizija, koncentracija na tržištu revizijskih usluga, revizijska poduzeća iz skupine „Velike četvorke“, reforma tržišta revizijskih usluga, tržište revizijskih usluga u Republici Hrvatskoj

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# EVALUATION OF CUSTOMERS' PROFITABILITY IN THE ACCOUNTING PRACTICE OF TUZLA CANTON COMPANIES

## ABSTRACT

The aim of the paper is to clarify and systematize the methods of evaluating customers' profitability on a scientifically based methodology. It also aims at investigating the relationship between business results achieved by individual sectors in the companies from the Tuzla Canton (TC) and the applied method of profitability management, in the function of generating such results. The analysis was conducted on the appropriateness of the current approach to profitability management according to information resources which served as the basis of the approach. Certain limitations were identified, which in practice lead to an inaccurate evaluation of customers' profitability. The transitional economy, characterized by macroeconomic instability and a low competitiveness factor in general, along with other numerous external limitations, requires that companies effectively rearrange their value chain, in the function of finding internal resources, in order to achieve long-term profitability of the customer portfolio management. The origin of modern trends in creation and maintenance of comparative advantages of the company lies in adoption of the "Customer Relationship Management" (CRM) business philosophy. The research results indicate insufficient knowledge of the management about the key "drivers" of success in achieving comparative advantages and point to inadequate organization of the accounting function which is not able to support a modern approach to business performance management.

**Keywords:** Profitability management, customers' profitability evaluation methods, sectorial analysis of business indicators, transition economy, Tuzla Canton



## 1. Preliminary discussion

The dynamic economic environment and trend of integration of the world economy sets new demands on the management of Bosnian-Herzegovinian (B&H) companies, particularly in terms of finding a more contemporary way of business management which will ensure survival on the market. The increased number of foreign competitors along with numerous unfavorable external variables of the business environment (such as macroeconomic instability, high fiscal and parafiscal charges, insufficiently developed financial market, inefficiency of the state administration and the judiciary), impose the need for an effective approach to the management of organizational resources. External variables of the business environment are determinants which cannot be managed, which is why companies need to find a way to effectively and efficiently recruit internal resources in the function of harmonization with the given constraints. The traditional approach to the company's business management through the management of products, goods and services profitability is not appropriate to the existing changed economic conditions. Contemporary trends of keeping the company's comparative advantages have their origin in meeting customers' needs. Companies are focused on meeting the growing demands of customers, and creating competitive advantages by joining numerous "pre-sale" and "post-sale" services to customers, offering them the so-called "total products", and consequently the "total services". Companies adopted the business philosophy of CRM, which becomes a means of differentiation and a key competitive tool in the brutal market competition" (Muller, Srića, 2005: 8). This shift of focus from products to customers provides an integrated approach to the company's profitability management, which in its theoretical concept already includes and expands the traditional system of profitability management by products. Jonathan Byrnes, a lecturer at MIT (Massachusetts Institute of Technology) and President of Jonathan Byrnes & Co. consulting company, believes that the cause of non-profitability of some companies lies in the fact that "all management information and management processes were developed in a previous business period". Accounting categories in companies do not have the ability to define the profitable customers, which is why it is usually assumed that more revenue results in higher profit. In fact, some revenues

from sales to customers are very profitable, while we also have a surprisingly large part of revenue which generates loss. In most companies there is no person in charge of supervising the interaction of revenue and their related expenditures in the function of profitability management (Byrnes, 2011: 1).

The size and quality of the customer base prove the success of the company's business strategy. They ensure its survival, growth and development on the market. The company's customer portfolio management is the ultimate goal, implemented by taking in consideration all the factors of the external environment, and harmonization of the company's value chain with the given determinants. In other words, the starting point is the market research (customer requirements, willingness to pay for a particular product or service, research of the value of that product/service for a customer, competition research, etc.), which is followed by the harmonization of the value chain in the company in terms of activities and costs generated by these activities. The harmonization of the value chain is directed towards the elimination of activities that do not add value, and cost optimization for the creation of value in all the processes. Additional value created in all business processes ultimately contributes to the growth of the value of the company's customer portfolio.

Adoption of the CRM business philosophy and focus on the company's customer profitability management, as well as the reorganization of the accounting function which needs to be able to support the management approach which is different from the legal and professional guidelines, directly impact the improvement of business performance (Kaplan, Narayanan, 2001: 1-12; Kaplan, Narayanan, 2001: 5-15; Teemu, 2004: 1-17; Muller, Srića, 2005: 8; Domazet, 2007: 2; Cokins, 2014: 16; and numerous other authors).

## 2. Research objectives

The advantages of a modern approach to profitability management, as opposed to the generally poor condition of the business results of legal entities in the TC, have led us to explore the above mentioned issues. The research objectives can be summarized as follows:

O1: To systemize the methods of customers' accounting profitability evaluation;

O2: To explore the management attitude towards the applied ways of profitability management;

O3: To explore the limitations in implementation of the modern concept of profitability management:

O3.1: To explore the degree of managers' awareness of differences in realized profitability per customer;

O3.2: To explore the development of the accounting function in the field of support in the evaluation of company customers' profitability;

O3.3: To explore the applied evaluation methods of profitability or groups of similar customers.

The realization of the set goals shall enable the conclusions based on scientific arguments.

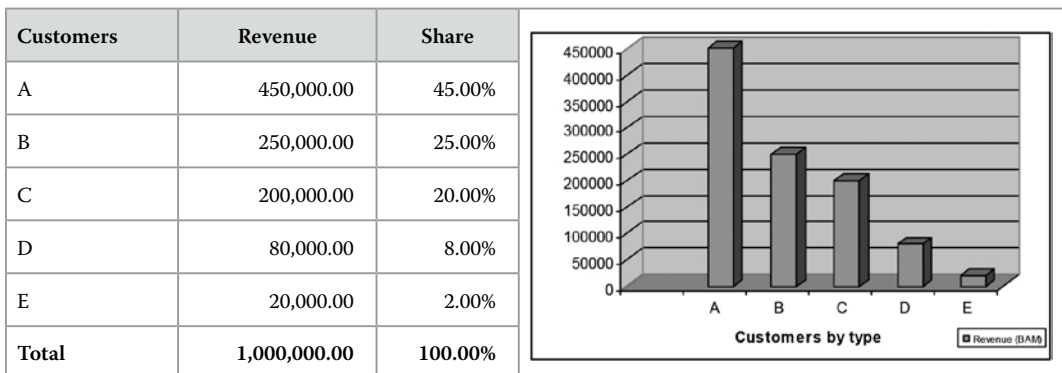
### 3. Background – accounting methods of customer profitability evaluation

The basis for carrying out the tasks of customer relationship management comprises the information about the "quality" of the customer. The largest part of this information is created in the company's accounting department. It strengthens the link between the organization of the accounting function and activities of CRM. Evaluation of the realized accounting profitability per customer is made by the methods of customer profitability analysis (CP analysis), analysis of the curve of cumulative customer's

profitability, analysis of customer profitability per segments (the so called ABC analysis), analysis of customer profitability ratio to the usage of business capacities (the so called XY analysis) by means of Stobahoff's index and ratio analysis. Reporting on the realized business results should be expanded by the report on the share of individual customers/groups of similar type of customers or market segments, in the company's achieved net profit.

The position of customers in the balance sheet of the legal entity presents the amount of uncollected receivables arising from the sale of products, goods and services. Financial reporting purposes do not require recognition or valuation of the company's client base, which would be entered as a means to the assets of a legal entity, although it can be said that the value of customers represents "invisible" assets. Thus the company may have contracts made with key customers for the annual delivery of products, goods and services at the contracted price, but in accordance with the requirements of financial accounting, the value of these contracts for the company cannot be recorded in business books. Such a reduced information basis of the companies' accounting systems results in wrong business decisions with long-term consequences on financial results in future accounting periods. The accounting systems of most companies efficiently monitor the share of individual customers in the total revenue structure. Hence, they are able to rank customers according to the volume of realized turnover. Let us consider the example of how useful this information can be to the company's management for business decision making (Figure 1).

Figure 1 Ranking customers by share in revenue



Source: Authors' interpretation

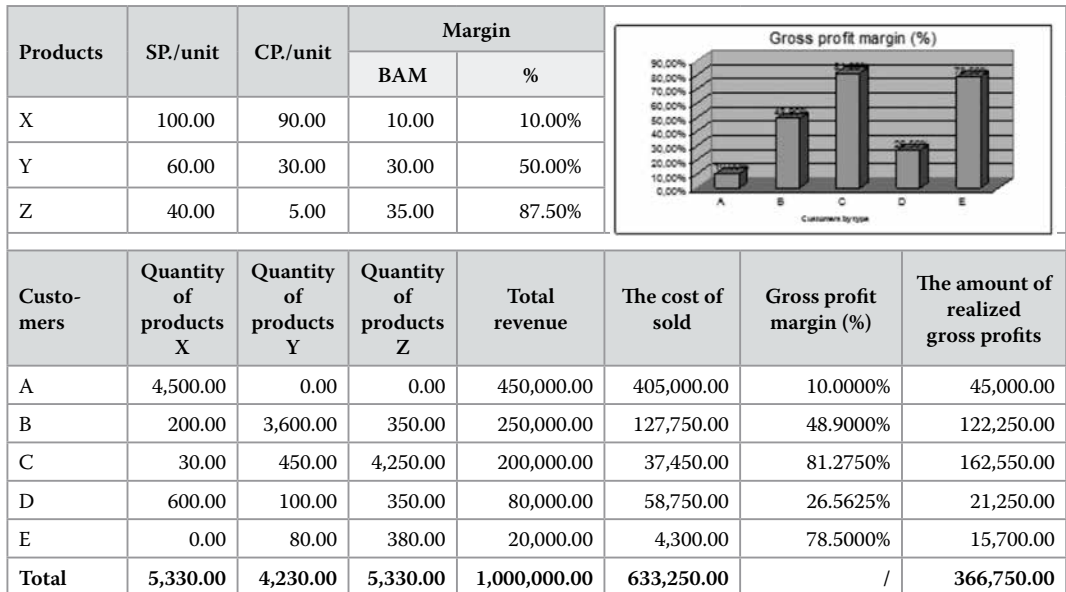
The above table and graphical representation give us the facts about the share of individual customers in the total revenue of the company. However, such an analysis does not show the percentage share of individual customers in the realized profit of the company. The fact that a large volume of turnover was achieved with some customers does not mean that those are the most profitable customers. The company's management can easily fall into a trap on the basis of these indicators. Blinded by a desire for the increase of the company's revenue, they can ignore the fact that an increase in revenue does not necessarily mean the growth of the company's net profit. Striving to increase the volume of business transactions, a company can offer to customer A some quantity discounts, numerous "pre-sale" and "post-sale" services, thus exposing itself to considerable costs to keep the client, without real knowledge about the client's actual contribution to profitability. Considering that the example shows the need for considering the share in the realized gross profit apart from the revenue share, we will expand our analysis in that direction. Depending on the product mix they buy, ranking customers by the level of profitability can be significantly different.

After matching revenue with the costs of goods sold, and determining the rate of gross profit margins, review of profitability per customer is as follows (Figure 2).

An extended analysis provides a new idea about the importance of individual customers in terms of their share in the gross profit of the company. Customer A, who has the largest share of 45% in the company's revenue, is in the last position in terms of the profitability ranking, with a gross profit margin of 10.00%. The most profitable customer is C (81.275%), who participates in company's revenue with only 20%. Thus, one can see that the data on the amount of revenue and the absolute amount of the realized gross profit per individual customer are not a reliable basis for decision making. Management business decisions cannot thus completely rely on such information.

In modern times, spending funds on marketing, sales, distribution and other administrative costs has risen sharply, in an effort to keep pace with different customer requirements. Some customers require modification of standard products, various certificates, special packaging, they carry out small quantity orders, complain about products, insist on specific channels of distribution, require a discount, and delay payment, "post-sale" support.

Figure 2 Ranking customers by the gross profit margin



Source: Authors' interpretation

**Table 1 CP analysis of customer profitability**

Customers	Total Revenues	The cost of sold	Gross profit margin (%)	The amount of realized gross profits	Customer service costs	Net profit margin (%)	The amount of realized Profit
A	450,000.00	405,000.00	10.0000%	45,000.00	47,000.00	-0.444%	-2,000.00
B	250,000.00	127,750.00	48.9000%	122,250.00	13,000.00	43.700%	109,250.00
C	200,000.00	37,450.00	81.2750%	162,550.00	55,000.00	53.775%	107.550.00
D	80,000.00	58,750.00	26.5625%	21,250.00	21,000.00	0.3125%	250.00
E	20,000.00	4,300.00	78.5000%	15,700.00	4,000.00	58.500%	11,700.00
<b>Total</b>	<b>1,000,000.00</b>	<b>633,250.00</b>	<b>/</b>	<b>366,750.00</b>	<b>140,000.00</b>	<b>/</b>	<b>226,750.00</b>

Source: Authors' interpretation

Therefore, considerable marketing efforts are required for keeping customers loyal. On the other hand, there are customers who order standard versions of the product, with standard terms of packaging and delivery, and have no need for "pre-sale" and "post-sale" support from the company. From this we can conclude, that the service costs, per individual customer, are different (Weinberg, 1999: 28, Kaplan, Cooper, 1998: 181; Kaplan, Narayanan, 2001: 4, etc.). Therefore, some customers are "more expensive" than others. Bearing in mind the fact that the customer is the one who almost completely determines the quantity of needs for organizational activities, we can say that the "spending of organizational resources is much more customer than product driven." Therefore, only CP analysis reveals the real rate of profitability per customer, and that within the sample, customer E is the most profitable with a share of 58.5%, while customer A generates a negative profit margin of 0.44% (Table 1).

The biggest problem of conducting CP analysis is the ability of the accounting function to monitor and allocate the costs incurred in connection with the servicing of individual customers. The methods of monitoring and scheduling operating costs per customer depend on the development of the company's costing system. In other words, the accounting function monitors costs that can be directly linked to individual customers or groups of the same customers, while the layout of overhead varies and depends on whether the company uses traditional methods in allocating costs (layout of indirect costs based on the number of transactions, share in revenue, etc.), layout based on activities (activity-based costing), layout based on time of

performance of certain activities (time-driven activity-based costing), and layout based on consumption of resources (resource consumption accounting). It is important that the appropriate usage of CP analysis is not possible without contemporary systems of cost accounting. Contemporary systems enable the correct settling of resource costs to various hierarchical levels of customer service.

After the conducted CP analysis of the customer profitability or the profitability of groups of the same type of customers, a report is created on the realized profitability of the entire company, and on the share of customers in the result, as shown in Table 2.

After the report is made on customer share in the realized business results, the curve can be created of cumulative profitability of the company's customers (Figure 3). The curve demonstrates the effect of cumulative profitability as a function of net profit margins per individual customer in the total base, ranked by the amount of the profit realized. The vertical axis on the graph represents the cumulative profitability of the customer base. On the other hand, customers are lined up on the x-axis, according to the degree of their profitability, so that the most profitable customers are positioned on the left side. The profitability of each successive customer is added to the profitability of the previous customer so as to form a curve of cumulative profitability of the customer base.

**Table 2 Report on share of customers in the company's realized profitability**

	[Group of customers No. 1]	[Group of customers No. 2]	[Group of customers No. 3]	[Customer X]	[Customer Y]	Total
<b>Customers' activity</b>						
Number of active customers at the beginning of the period	10	15	20	1	1	47
Number of additional customers	2	4	5			11
Number of lost/defected customers	-1	-2	-7			-10
<b>Number of active customers at the end of the period</b>	<b>11</b>	<b>17</b>	<b>18</b>	<b>1</b>	<b>1</b>	<b>48</b>
<b>Profitability Analysis</b>						
Sales revenue	1,500,000	1,800,000	2,500,000	800,000	790,000	<b>7,390,000</b>
Participation (%)	20.30%	24.36%	33.83%	10.83%	10.69%	100.00%
Number of invoices issued for the period	6000	2100	980	120	210	9410
The average value per invoice	250.00	857.14	2,551.02	6,666.67	3,761.90	785.33
Costs for sold:						
Cost of sold products, goods, services	1,100,000	1,200,000	1,500,000	579,000	646,000	5,025,000
Other direct costs	100,000	2,000	100,000	50,000	46,000	298,000
<b>Total cost of sales</b>	<b>1,200,000</b>	<b>1,202,000</b>	<b>1,600,000</b>	<b>529,000</b>	<b>600,000</b>	<b>5,131,000</b>
gross profit	300,000	598,000	900,000	271,000	190,000	2,259,000
Participation (%)	13.28%	26.47%	39.84%	12.00%	8.41%	100.00%
<b>Layout of operative indirect costs</b>						
Cost of acquisition	90,000	70,000	235,000	59,000	45,000	499,000
Marketing expenses	120,000	110,000	275,000	49,500	52,700	607,200
The cost of defection	5,000	7,000	140,000	0	0	152,000
The costs of receiving and processing customer orders	3,000	3,500	4,000	1,600	2,000	14,100
The costs of loading and delivery	105,000	55,000	37,000	4,000	7,000	208,000
The cost of special requests specified when ordering	3,000	500	0	0	500	4,000
The costs of complaints and return of goods	13,500	14,000	15,800	4,000	3,050	50,350
The financial costs of money transactions, loaning, warnings, lawsuits	24,000	19,000	31,600	16,000	18,000	108,600
Other costs	1,000	0	1,800	900	1,100	4,800
The cost of unused capacity caused by customers	5,000	0	0	0	0	5,000

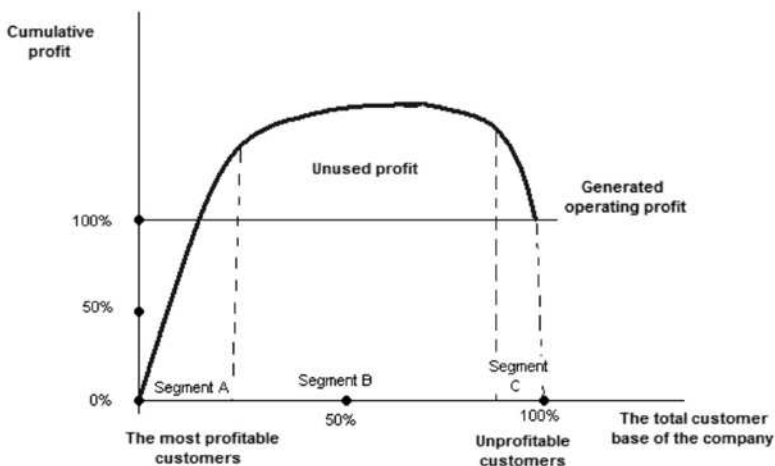
<b>Total indirect costs per customer</b>	<b>369,500</b>	<b>279,000</b>	<b>740,200</b>	<b>135,000</b>	<b>129,350</b>	<b>1,653,050</b>
<b>OPERATING profit (loss)</b>	<b>(69,500)</b>	<b>319,000</b>	<b>159,800</b>	<b>136,000</b>	<b>60,650</b>	<b>605,950</b>
Participation (%)	-11.47%	52.64%	26.37%	22.44%	10.01%	100.00%
General maintenance costs of sales that cannot be arranged individually per customer						50,000
Operating expenses of the company						70,000
The costs of unused capacity						100,000
<b>Net profit (loss) before tax</b>						<b>385,950</b>
<b>Summary indicators</b>						
The average costs of attracting customers	45,000	17,500	47,000	59,000	45,000	
The average costs of customer defection	5,000	3,500	20,000	0	0	
Average net revenue (loss) per customer	(6,318)	18,765	8,878	136,000	60,650	

Source: Authors' interpretation

The position of the customer on the curve of cumulative profitability depends on the revenue, cost of goods sold and assigned operating costs caused by the behavior of the customer in business cooperation. The curve of cumulative profitability can further be subjected to the ABC analysis.

When applying this analysis, customers will be divided into three groups: customers in segment A are highly profitable customers (who probably belong to the group of customers with low cost servicing) and are on the left side of the curve of cumulative profitability; customers in segment B, whose rate of profitability varies around break-even costs, and customers in segment C (probably belonging to the group of customers with high costs of servicing)

Figure 3 The curve of cumulative profitability

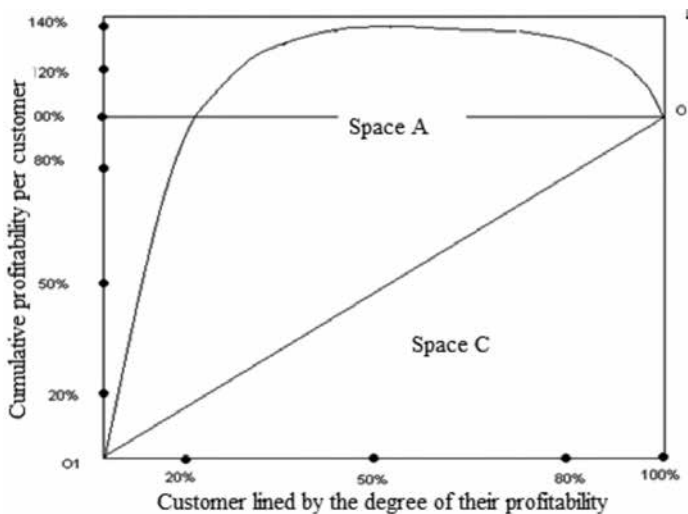


Source: Authors' interpretation

who are extremely unprofitable, and by generating losses reduce the function of cumulative profitability at 100%. The ABC analysis usually reveals that 20% of the most profitable customers generate between 150% and 300% of the total profit. 70% of the customers positioned in the central part of the curve are somewhere near break-even costs, while the remaining 10% of the customers generate a loss of 50% to 200% of the total profit (Kaplan, Narayanan, 2001: 4). The given indicators vary for different authors, but they all support the Pareto 80/20 Rule. Namely, some 80% of the customers make over 100% of the organization profit, while the remaining 20% reduce the company's profit to 100%, thus generating a loss. In addition, the Pareto 80/20 Rule suggests that most companies make 80% of their profit from 20% of their biggest customers.

The curve of cumulative profitability can be analyzed by means of the Stobachoff index. This indicator can be used for the evaluation/assessment of a customer portfolio, based on the shape of the curve of cumulative profitability. Assuming that every customer is equally profitable and that all customers are profitable, the curve of customer cumulative profitability would not be the curve but rather the linear function that passes through the points O1 and O2 (Figure 4).

Figure 4 The curve of cumulative profitability



The curve shape correlates with profitability distribution which depends on the ration of profitable and unprofitable customers. Based on this, the Stobachoff index of profitability was developed (Shajahan, 2004: 155):

$$S = A / T$$

S – the Stobachoff index,

A - surface bounded by the curve and the linear function (O1, O2)

T – surface A + surface C.

The Stobachoff index is the measure of deviation compared to the ideal customer base. When the value of the Stobachoff index is zero, the profitability is equally distributed to all customers, whereby they are all profitable. The theoretical maximum value of the index is one, reached only if the customer base structure includes one customer with infinite profitability, a large number of customers with zero profitability, and one unprofitable customer with infinite negative profitability.

The Stobachoff index, when combined with the share of profitable customers, can be used in several ways. It can be applied in an effort to create a satisfactory customer base, for the comparison of the value of different customer bases among companies, etc.

Source: Shajahan, S. (2004). *Relationship marketing: Text and Cases*. New Delhi: Tata McGraw Hill, p. 154.



**Table 3 Customers' profitability indicators**

Performance measure	Computing formula	Comment
Gross profit margin per individual customer (%)	(Gross profit made per individual customer / net sales per individual customer)*100	It shows the value of gross profit per each BAM 100 of the realized revenue per customer
Net profit margin per individual customer (%)	(Net profit made per individual customer / net sales per individual customer)*100	It shows the value of net profit per each BAM 100 of the realized revenue per customer
The average gross profit per order (in BAM)	(Gross profit made per individual customer / number of invoices issued per customer)	It shows average amount of generated gross profit per order
The average gross profit per item order (in BAM)	(Gross profit made per individual customer / number of items on invoices issued to some customers)	It shows the average amount of gross profit per one item order
The average gross profit per delivery (in BAM)	(Gross profit made per individual customer / number of deliveries per individual customer)	It shows the average amount of generated gross profit per delivery
The average gross profit per unit (in BAM)	(Gross profit made per individual customer / number of units sold per individual customer)	It shows the average value of gross profit per each unit sold (e.g. a box, pallet, ton, container, etc.)

*Authors' adaptation of the source: Credit Research Foundation, 1999. Available at: <https://www.crfonline.org/orc/cro/cro-16.html>*

The index gives information on the sensitivity of the customer base profitability and the risk involved in the relations with the individual customer segments. The best case would be the situation where the Stobachoff index is zero (0) and the proportion of profitable customers is one (1), which would indicate that all customers are profitable.

A high value of the Stobachoff index, combined with a large share of profitable customers, indicates that the customer base includes a rather low number of unprofitable customers that significantly erode the company's profit. In such a situation, a company may radically improve their profitability by identifying unprofitable customers and modifying or suspending its business relations with such customers.

A small share of profitable customers, combined with the low Stobachoff index, indicated that the customer base does not include extremely unprofitable customers and that slight corrections are needed in business relations with the customers whose profitability is negative, zero or close to zero.

The curve of cumulative profitability which indicates a high Stobachoff index, combined with a small proportion/share of profitable customers is the company's worst case scenario. In such a situation, a company depends on several key customers and it is exposed to the risk of competitive activities which may result in profitable customers leaving the company. On the other hand, negotiating the power of such customers is strong enough for them to require such conditions that may ultimately lead to their unprofitability. Faced with this, the company needs to apply the strategy of customer differentiation. Unprofitable customers need to be replaced by other customers whose market segmentation is made based on the characteristics of the existing profitable customers.

Prior to the management's decision on dropping certain customers, XY analysis needs to be conducted on the customers' portfolio. The XY analysis establishes the relation between the net profit margin per customer and the degree of the company's capacity utilization. Provided that the practical capacity of the company is 500,000 tons annually, while the actual capacity is 420,000 t, it means that the utilization of production capacity is 84%, which satisfies customer demand. The remaining 16% of the costs of unused capacity represents expenses for the period.



**Table 4 Quality indicators of receivables from customers**

Performance measure	Computing formula	Comment
Average time for collection of receivables from a customer	$(360 \times \text{The average customer receivables} / \text{net sale revenues from sales to the customer})$	It shows average time of collection of receivables from customers (in days)
Average receivables from customers per invoice	$(\text{The value of receivables per individual customer} / \text{number of issued invoices per individual customer})$	The amount of average receivables per issued invoice, which gives an insight into the size of individual purchases of customers

Source: Authors' interpretation

It is important for a company to investigate the percentage of customers that buy the largest amount of the company's products. The customer that generates a negative net profit margin, and buys a large volume (e.g. 25%) of annual production, is of great importance for the company. Such a customer allows the company to cover a part of the costs that would otherwise (as unused capacity costs) fall at the expense of the company. The company's largest customers are often either the most or least profitable ones.

The last method for the purpose of evaluating the quality of buyers is ratio analysis. Ratio analysis of business relationships with customers provides us with three types of information. Those are information about customer profitability (Table 3), information about the quality of receivables from customers (Table 4) and information about the change in the volume of business relationships with customers (Table 5). For the purpose of ratio analysis, all the necessary data are provided by the company's accounting function.

**Table 5 Indicators of changes in business relationships with customers**

Performance measure	Computing formula	Comment
The percentage of change in sales revenue (%)	$(\text{Net sales revenue [t]} - \text{Net sales revenue [t-1]} / \text{Net sales revenue [t-1]})$	Represents a measure of the percent trend changes in sales per individual customer
The percentage of change in gross profit (%)	$(\text{Gross profit [t]} - \text{Gross profit [t-1]} / \text{Gross profit [t-1]})$	Represents a measure of the percent change in gross profit per individual customer
The percentage of change in net profit (%)	$(\text{Net profit [t]} - \text{Net profit [t-1]} / \text{Net profit [t-1]})$	Represents a measure of percent change of the net profit per individual customer

Authors' adaptation of the source: Credit Research Foundation, 1999. Available at: <https://www.crfonline.org/orc/cro/cro-16.html>

The abovementioned measures of the evaluation of the company's customer quality are the basic tools in the application of modern management of the company's business performance. Bigger information potential and numerous proved advantages of the modern concept of profitability management induced us to conduct the research into the practice of profitability management in the companies in the TC. The research also included the level of management's awareness of customer structure and their profitability level, and indications on the relationship between business results per legal entity sectors and the applied method of profitability management.

#### 4. Research sample and methods

For the purpose of the research, the population was defined, made up of all the companies registered on the territory of the TC, followed by the analysis of the structure of legal entities by the type of their activities (standard Nace Rev.1). The sample was then made, which represents the population structure.

**Table 6 Population and sample**

No.	Activity	Population		Sample	
		Number of companies	%	Surveyed	%
1	A-Agriculture, hunting and forestry	88	0.02	3	0.02
2	B-Fishing trade	1	0.00	0	0.00
3	C-Mining and quarrying	26	0.01	1	0.01
4	D-Manufacturing industry	748	0.21	27	0.21
5	E-production and supply of electric power, gas, and water	34	0.01	1	0.01
6	F-Civil engineering	278	0.08	10	0.08
7	G-Wholesale and retail sale, repairs of motor vehicles, motorcycles, and personal use and household appliances	1316	0.37	48	0.37
8	H-Catering	79	0.02	3	0.02
9	I-Transport, storage and communication	418	0.12	15	0.12
10	J-Financial services	4	0.00	0	0.00
11	K-Real estate business, rentals, business activities	414	0.12	15	0.12
12	M-Education	30	0.01	1	0.01
13	N-Healthcare and social work	53	0.01	2	0.02
14	O-Other public utility, social and personal services	82	0.02	3	0.02
15	<b>TOTAL</b>	<b>3571</b>	<b>1.00</b>	<b>129</b>	<b>1.00</b>

*Source: Author's interpretation*

The data necessary for determining the population structure was taken from the State agency for financial, IT and intermediary services (AFIP). The data for the sample was taken from the Office for Statistics of the TC. The research was conducted by survey of the management of the selected legal entities. A total of 146 questionnaires were collected. However, due to an unequal rate of response from the companies in different segments, the final sample included 129 questionnaires. The survey was carried out in the period from November 2014 to January 2015. The structure of the population and the number of questionnaires collected are given in Table 6.

Research into the relationship between the applied method of profitability management and realized business results for manufacture, service and trade activities would not be possible without the comparative analysis of their profitability.

The sector analysis of profitability indicators was made based on the AFIP data. For the purpose of analysis, the collective profit-and-loss statements of the companies from the TC were taken, per individual sectors, for the period 2010-2013. Based on the data, the analysis was made into the level of coverage of expenses with revenue from business activities (Table 7).

Based on the conducted analysis we can conclude that the profitable sectors of the TC include the following business activities: F-Civil engineering, G-Trade, K-Real estate operations, I-Sector of transport and communications, M-Education and J-Financial services. Although these sectors are all profitable, the most profitable among them are M-Education and J-Financial services, considering that they generate the above-average rate of return. On the other hand, the non-profitable sectors in the TC, which generate the largest losses in business

**Table 7 Dynamic sector analysis of profitability**

Coverage of expenses with revenue from business activities (%)	Year						
		A	B	C	D	E	F
	2010	0.967	/	0.920	1.015	0.970	1.035
	2011	0.971	/	0.950	0.997	0.969	1.030
	2012	0.994	0.259	0.943	1.000	0.985	1.051
	2013	1.009	1.051	0.903	1.002	1.001	1.057

Source: Processed AFIP data

activities are C-Mining and quarrying, H-Catering and N-Health institutions and social work, respectively.

Although, at the level of all companies from the TC, total operating revenue covers total operating expenses and the realized net profit exceeds the loss, performance indicators are poor and far below the EU average. A closer analysis shows that the manufacturing sector has the biggest problem with profitability. Namely, out of all manufacturing companies, non-profitable sectors are C-Mining and quarrying, E-Energetics, A-Agriculture, hunting and forestry, while sector D-Manufacturing industry, only occasionally generates losses. The only profitable business activity in the manufacturing sector is F-Civil engineering. On the other hand, the sectors of trade and services achieve better business results. The question is why the sector which should be the bearer of economic development of the country, and the main indicator of the GDP, has the biggest problems in business?

**Table 8 Attitudes of the respondents toward the applied profitability management system**

Applied method of profitability management	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
By products	3	1	22	1	8	46	2	11	14	0	2	3	113	87.60%
By customers	0	0	2	0	1	1	1	3	0	1	0	0	9	6.98%
Unknown	0	0	1	0	1	1	0	1	1	0	0	0	5	3.88%
Other	0	0	2	0	0	0	0	0	0	0	0	0	2	1.55%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

One gets the impression that the manufacturing sectors are more oriented to the internal factors of business, without paying much respect to external business requirements and conditions, imposed by customers, competitors and the state. The paper investigated the relationship between the ways of profitability management in individual sectors and the realized business results.

The methods used for conducting the research and making conclusions are given as follows: ratio analysis, descriptive statistical processing, comparison, induction, deduction, analysis, and synthesis.

### 5. Research results

By observing management activity in domestic business practice, one gets the impression of their commitment to the aim of short-term increase of return on equity, rather than "profitability management". Their short-term orientation is divergent to the modern approach to business performance management in the function of creating competitive advantages. Therefore, we investigated the relationship of management in local business practices, towards the application of a modern concept of profitability management.

Type of activity (Nace. Rev.1)							
G	H	I	J	K	M	N	O
1.033	1.003	1.017	1.765	1.038	1.027	0.954	1.012
1.033	0.929	1.047	1.256	1.049	1.077	0.965	0.983
1.032	0.937	1.058	1.855	1.058	1.060	0.989	0.977
1.034	0.934	1.044	1.073	1.015	1.111	0.977	1.000

We have reached the conclusion of the research based on the responses given by managers to three key questions:

1. *Which of the following approaches do you use for managing profitability?*

The results indicate that a traditional approach to profitability management by products, goods, and services is present in the business practice of companies in the TC. Such an approach leads managers to think about profitability only in terms of the level of margin and turnover. Such a short-term focus of management on the realization of profitable business is wrong and it often directs managers and staff in trade toward the activities that result in losing a customer. They neglect the perspective of long-term management of business relations with customers, aimed at long-term realization of profitable business cooperation. Such a management system does not support the idea that that each unit of the generated revenue does not participate equally in the creation of the company's net profit.

Managers do not support the CRM business philosophy.

2. *Are the efforts of management primarily focused on selling large quantities of products, goods, and services with given market prices?*

The focus of management on increased sale speaks in favor of the fact that managers are focused on "making profit" instead on "profitability management". The term "making profit" denotes the focus of management on finding and contracting new business, determining the profitability of individual products (goods and services), organizational units, market segments, and finding internal reserves for rationalization of operating costs. Managers usually achieve operationalization of these activities by increasing the sales volume. However, that intuitive tendency of managers to increase revenue, may lead to short-term successful decisions, which in the long run can have negative effects on the business result. The increase in sales volume does not necessarily lead to increased profitability. Turnover growth may lead the company into the situation that long-term growth of costs is higher than the rate of revenue growth. This brings us to the third question, which is related to the testing of the degree of awareness of price elasticity.

*Table 9 Attitudes of the respondents toward the focus of management on increased sales revenue*

Focus of management on selling large quantities with market prices given	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	3	1	24	1	10	47	2	13	14	0	1	3	119	92.25%
No	0	0	2	0	0	0	1	2	1	1	1	0	8	6.20%
Unknown	0	0	1	0	0	1	0	0	0	0	0	0	2	1.55%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

**Table 10 Attitudes of the respondents toward the increase of net profit by increasing the sales revenue**

The primary goal of increased revenue is to affect the growth on net profit	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	3	0	24	1	8	48	2	15	15	1	1	1	119	92.25%
No	0	1	1	0	2	0	0	0	0	0	0	0	4	3.10%
Unknown	0	0	2	0	0	0	1	0	0	0	1	2	6	4.65%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

3. Do you primarily use increase in revenue to affect the growth of company's net profit?

The research results indicate that most of the respondents believe that the growth of revenue would necessarily lead to the growth of the company's business result. The respondents were not aware that sales volume growth often requires hiring additional personnel, purchasing additional transport means for delivery purposes, and other fixed assets for fulfillment of these activities, opening of additional business units, higher costs of administration, marketing and the like. The growth rate of these relatively fixed costs may thus be even higher than the growth rate of revenue. This implies that managers see the company's business activities through the prism of the results for the given fiscal year and the realization of the budget-defined net profit specified by the owner.

Based on the above, we can draw a conclusion about the relationship of management in local business practices, toward the applied ways of profitability management. The research results suggest that the management of domestic companies is focused on the traditional way of profitability management by products, goods and services. Their focus is on a short-term goal of "making profit", rather than on the long-term goal on "managing the company's profitability", as a factor of ensuring current and future profitability. Less than 7% of the respondents were oriented towards the modern system of profitability by the company's customers, while less than 3% of the respondents were aware that the company's realized profitability depends on the realized net profit margin of the customer portfolio.

When the company's structure is observed compared to the sector activity, it is evident that manufacturing companies, rather than trade and services sectors, are focused on the traditional approach to profitability management. Similar research results about profitability management within the industrial sector are obtained in developed market oriented economies: "The survey, which was conducted in over 150 leading industrial companies, indicates that industrial companies are focused on the value of the share capital, rather than the value of customers. Although 65% of the surveyed companies claimed to have been focused on customers, the study concluded that only 10% of them actually practiced that approach" (Allen, 2015: 1). This brings us to the next research goal - establishing restrictions on the acceptance of the modern concept of profitability management.

We will investigate whether the management's insufficient knowledge of the fact that different customers bear different costs for the company is the reason for such a small percentage of application of modern concepts of business management. Our conclusion will be made based on four questions:

1. Do you think there is a difference in realized profitability by different customers?

The results show that most managers are aware of the difference in the realized net profit margin per customer. However, this is not in line with the research results on the methods of profitability management. It is expected that the traditional approach to profitability management is the result of the lack of the managers' knowledge. Therefore, a more thorough analysis was made in order to make the final conclusion on the level of the managers' awareness of success drivers.

**Table 11 Attitudes of the respondents toward differences in customer profitability**

There is a difference in realized profitability by different customers	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	2	0	22	1	7	42	2	12	13	0	1	1	103	79.84%
No	1	1	4	0	3	5	0	1	1	0	0	1	17	13.18%
Unknown	0	0	1	0	0	1	1	2	1	1	1	1	9	6.98%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

2. *In your opinion, what are the causes of differences in the realized rate of profitability by customers?*

It can be said that most of the respondents are aware of the fact that there are costs related to customer requirements. However, after the question about the causes of difference in the customer profitability, we realize that a large percentage of reported management knowledge on a given variability is not realistic. In other words, a large percentage of the managers do not know the real causes which lead to fluctuations in the generated net profit margin. Most of the 103 respondents surveyed, who claim to be aware of the variability in achieved profitability per customer, see that difference in realized turnover volume.

It is a fact that a company generates the most revenue from the top 10 customers, but that does not mean that these customers generate an equally high share in the company's net profit. The second most important cause in the realized variability is seen in a different mix of required products, goods and services. It is true that companies have a different rate of price difference for a variety of products, goods and services, however, the mix of products that customers buy affects the absolute amount of the realized gross profit per customer, but it still is not an indicator of their share in generating the company's net profit. Managers see the third most important cause of the realized variability in the method of customer payments, i.e. whether to close a claim by compensation, payment overdue, paying in installments and the like. This is one of the common causes which generate costs that should be attributed to customers, especially in conditions of chronic lack of liquidity. This problem in particular is faced by almost all the companies in the TC, regardless of their sectors.

**Table 12 Attitudes of respondents toward the causes of differences in the realized profitability by customer**

Causes of differences in customer profitability	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Unknown	1	1	4	0	3	4	0	0	1	0	0	0	14	10.85%
Differences in retail prices	1	1	0	0	6	13	2	2	9	1	0	0	35	27.13%
Differences in volume of sales/services	2	0	12	1	1	8	3	8	7	0	2	3	47	36.43%
Differences in types of products/goods/services	2	0	12	0	1	9	1	4	5	0	2	3	39	30.23%
Differences in delivery types	2	0	2	0	0	3	0	3	6	0	1	0	17	13.18%
Differences in payment types	1	0	9	1	7	8	0	5	4	0	0	2	37	28.68%
Other	0	0	1	0	0	1	0	3	1	0	0	1	7	5.43%

Source: Author's interpretation

**Table 13 Attitudes of respondents toward the knowledge of the company's most profitable customers**

Do you identify your most profitable customers	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	2	0	20	1	6	39	2	12	13	0	1	1	97	75.19%
No	1	0	1	0	1	2	0	1	0	0	0	0	6	4.65%
We have never analyzed customer profitability	0	1	6	0	3	7	1	2	2	1	1	2	26	20.16%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

**3. Do you know which customers generate the highest profitability rate for the company?**

The answers to the question which customers generate the highest rate of profitability for the company imply that some 25% of the respondents did not know which customers have the highest share in the company's realized net profit. This questions the rationality of the managers' business decisions. If business decisions are not based on knowledge, than in the process of business decisions managers rely on intuition and past experience. On the other hand, 75% of the respondents believe that they know the company's most profitable customers. However, the question is what criteria serve as the basis for the identification of profitable customers and whether such criteria are appropriate for the analysis or not.

**Table 14 Attitudes of respondents toward the criteria necessary for determining the most profitable customers**

Criteria for determining customer profitability	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Based on sales revenue share	2	0	9	1	6	14	1	9	8	0	1	1	52	40.31%
Based on realized gross profit share	0	0	7	0	0	8	0	1	1	0	1	1	19	14.73%
Based on net profit share	0	0	8	0	1	9	1	1	2	0	0	0	22	17.05%
Knowledge through experience	0	0	7	1	2	10	0	2	1	0	0	1	24	18.60%
Unknown	1	1	3	0	2	6	1	2	2	1	0	1	20	15.50%

Source: Author's interpretation

**4. Based on which criteria did you specify customers with the highest rate of achieved profitability?**

The research results show that most respondents determine their most profitable customers by their share in the company's total sales revenue, followed by knowledge through experience, while only 17% of the respondents state that they apply the correct criterion "realized net profit". This indicates that a relatively high percentage of the respondents who believe to know their most profitable customers are not realistic. It is evident that managers lack the understanding of the structure of costs related to customer service.

Finally, we can make a conclusion about the managers' awareness of the realized customer profitability. It is evident that most respondents, who believe that there is a difference in the rate of customer profitability, have no proper understanding of the cause of existing differences. On the other hand, most respondents who understand the causes of the customer profitability volatility do not use the correct criterion for determining the most profitable customers.



**Table 15 Attitudes of respondents toward the appropriateness of the accounting function organization**

Organization of the accounting system supports the evaluation and management of profitability per customer	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	0	0	15	0	5	29	1	4	7	0	0	0	61	47.29%
No	2	0	7	1	2	8	2	5	3	1	1	1	33	25.58%
Unknown	1	1	5	0	3	11	0	6	5	0	1	2	35	27.13%
Total	3	1	27	1	10	48	3	15	15	1	2	3	129	100.00%

Source: Author's interpretation

We can conclude that there is insufficient knowledge of the management about the causes of the difference in realized rate of profit per customer, which is one of the reasons for the poor application of the modern business philosophy of CRM and customer profitability management. When the sector structure is observed, it is evident that trade company managers show a somewhat higher degree of awareness of customer variability causes and the correct criteria for their analysis, when compared to the managers of the companies in other sectors.

The company's information systems are practically reduced only to the accounting information system which serves as the backup to business decisions. This is why it is important to explore whether the inadequate organization of accounting information system is one of the reasons for practicing the traditional approach to business management. Basically, the traditional analysis of making profit is subject to organizational legal regulations and financial accounting management. Such an organization of financial accounting supports the monitoring of the realized sales revenue per customer. Assisted by advanced software solutions, it provides an insight into realized gross profit margins (for the purchased product mix with different margin), but not into the layout of operating costs per customer. Within the accounting function it is necessary to monitor revenue and expenses generated per individual customers, and allocate operational (administrative) costs in the function of obtaining indicators of the net profit margins. This brings us to the next research goal - appropriateness of the accounting function organization in the practice of companies in the TC. The conclusions will be made based on the following three questions:

1. Do you think the organization of the accounting information system in your company supports the ability to evaluate customers and profitability management per customer?

The research results show that less than 50% of the managers believe that their accounting function supports the evaluation and management of customer profitability.

This is not in line with the usage of such information in business decisions. Therefore, a more detailed research was conducted in terms of management knowledge on the organization of the accounting system in their companies.

2. Do you have a developed accounting model layout of operating costs (expenditures) per customer?

The results indicate the fact that a significant number of managers do not have sufficient knowledge on the organization of the accounting system in the function of support to profitability management per customer. This is clear from the structure of answers in tables 12 and 14. Although more than 75% of the respondents claim to perform customer profitability, there is significant variation in terms of the correct methodology for their calculations. The percentages of the variation show the degree of accounting function development, in terms of support to customer profitability management. Only 17% of the companies in the observed sample allocate the operating costs per customer.



**Table 16 Attitudes of respondents toward the appropriateness of the accounting function organization**

Developed model layout of operating costs (expenditures) per customer	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
Yes	0	0	11	0	3	24	1	2	3	0	1	0	45	34.88%
No	2	1	12	1	6	17	2	7	8	1	1	2	60	46.51%
Unknown	1	0	4	0	1	7	0	6	4	0	0	1	24	18.60%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

However, this still does not mean that the accounting systems of these companies use the appropriate basis for the allocation of operating costs.

3. *What is the basis for the allocation of operating costs (expenditures) in order to calculate the net profit margin per customer?*

The allocation of operating costs per customer is mainly performed arbitrarily.

The realized revenue is most often used as the basis for the allocation of operating costs. Since the amount of the realized revenue does not correlate with the costs of customer service, it is an inappropriate basis for allocation. This implies that there are a very small number of companies with a developed system of allocation. The application of modern methods of cost layout per customer (ABC, TDABC, etc.) is present in less than 15% of the companies. Besides, the results indicate that even in most companies with an advanced accounting system (as a part of the accounting management function), management does not implement the concept of management of the company's customer portfolio profitability.

**Table 17 Attitudes of respondents toward the appropriateness of the accounting function organization**

What is the basis for the allocation of operational costs (expenses) for the purpose of calculating net profit margin per customer?	A	C	D	E	F	G	H	I	K	M	N	O	Σ	Share
We do not perform allocation	1	1	9	0	4	9	1	3	2	1	1	2	34	26.36%
Basis for the layout consists of activities that are performed	0	0	5	0	0	7	0	1	1	0	0	0	14	10.85%
Basis for the layout consists of realized revenue	1	0	8	0	5	12	1	6	5	0	0	1	39	30.23%
Basis for layout comprises time spent on organizational resources	0	0	2	0	1	2	0	0	0	0	0	0	5	3.88%
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Not known	1	0	3	1	0	18	1	5	7	0	1	0	37	28.68%
<b>Total</b>	<b>3</b>	<b>1</b>	<b>27</b>	<b>1</b>	<b>10</b>	<b>48</b>	<b>3</b>	<b>15</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>129</b>	<b>100.00%</b>

Source: Author's interpretation

Finally, it can be concluded that inappropriate organization of the accounting function is one of the factors of the traditional approach to profitability management in the companies in the TC. However, the issue of development of the company's accounting system directly reflects the managerial awareness of its advantages. Managers are those who impose the structure of informational needs and the dynamics of information. Observing the practice of the TC companies, one may conclude that managers are passive users of accounting information. The information they receive are the results of the records of the financial accountancy. The structure of such information directs them to profitability management per product with a short-term focus. The management accounting function is insufficiently developed (Puškarević, Gadžo, 2014: 409-424). This is particularly evident in the segment of the applied systems of cost layout. It is interesting that trade companies have relatively better accounting systems than manufacturing and service companies (from the point of the information potential they produce). This is also reflected through the indicators of business success. Business indicators for more than a half of the sector activities are insufficient. They generate losses or vary around the point of break-even costs. This is accompanied by managers' inappropriate approach to management, which, along with poor macroeconomic indicators, produces such conditions.

## 6. Final considerations

The conducted analysis suggests that the management of legal entities of the Tuzla Canton does not have enough knowledge to focus on the modern approach to profitability management of the company's customer portfolio. Insufficient knowledge and ability to focus on key "drivers" of success, and a poor business environment is reflected through achieved performance indicators. Only 9 out of 129 respondents applied the modern concept of profitability management, and have developed an accounting function, which supports that approach. This implies that the management of other legal entities does not have the correct data on the company's most profitable customers or if their customer portfolio includes those that generate a negative rate of return. The causes of such conditions are the insufficient awareness of managers on key "drivers" of success and an insufficiently developed accounting information system which would be able to support a more modern approach to management. It is therefore important to mention that this is a cause-effect relationship, since the accounting information system is organized in such a way so as to satisfy managers' requests for information.

The authors of the paper aimed at investigating if certain sectors are more oriented toward the modern approach to business management and whether they can be linked to better business indicators. The conducted research did not prove the relationship among these three variables. The insufficient sample and a small number of managers who practice profitability management by customer portfolio did not provide the information required. This is a recommendation for further research that may be focused on establishing the existence and significance of relationships of these variables under the conditions of the transitional economy such as the one in Bosnia and Herzegovina.

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## **EVALUACIJA PROFITABILNOSTI KUPACA U RAČUNOVODSTVENOJ PRAKSI PODUZEĆA TUZLANSKOGA KANTONA**

### **SAŽETAK**

Cilj je rada pojasniti i sistematizirati načine evaluacije računovodstvene profitabilnosti kupaca na znanstveno utemeljenoj metodologiji te istražiti kakav je odnos između ostvarenih poslovnih rezultata po pojedinim sektorima djelatnosti poduzeća s područja Tuzlanskoga kantona i primijenjenoga načina upravljanja profitabilnošću, u funkciji stvaranja rezultata. Analizirana je primjerenost postojećega pristupa upravljanja profitabilnošću u odnosu na informacijski potencijal na kojemu je pristup temeljen. Utvrđena su ograničenja, koja u praksi dovode do netočne evaluacije profitabilnosti kupaca. Tranzicijska ekonomija, koja se odlikuje makroekonomskom nestabilnošću, te općenito niskim čimbenikom konkurentnosti, uz brojna druga izvanjska ograničenja, zahtjeva od poduzeća učinkovitu reorganizaciju lanca vrijednosti, u funkciji pronalazjenja unutarnjega kapitala, s ciljem dugoročnoga upravljanja profitabilnošću portfoliom kupaca kompanije. Suvremeni trend u kreiranju i održavanju komparativnih prednosti poduzeća ima ishodište u usvajanju poslovne filozofije „upravljanja odnosima s kupcima (eng. Customer Relationship Management-CRM)“. Rezultati istraživanja upućuju na nedovoljno poznavanje menadžmenta o ključnim elementima uspjeha u postizanju komparativnih prednosti, te neprimjerenosti organizaciji računovodstvene funkcije, koja nije u mogućnosti podržati suvremeni pristup upravljanja poslovnim performansama.

**Ključne riječi:** upravljanje profitabilnošću, metode evaluacije profitabilnosti kupaca, sektorska analiza pokazatelja poslovanja, tranzicijska ekonomija, Tuzlanski kanton



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# COMPARISON OF PERCEPTION OF PRIVATE LABELS BETWEEN STUDENTS STUDYING IN THEIR PLACE OF RESIDENCE AND STUDENTS STUDYING OUTSIDE THEIR PLACE OF RESIDENCE

## ABSTRACT

In order to be more successful and achieve higher profits, supermarket chains have recognized and used the possibility of creating their own brands. Creating private labels, modeled after manufacturer's products, enables differentiation from competitors, market competition, sales growth by accumulating new buyers and gaining their loyalty. In recent years, the trend of private label consumption in the Republic of Croatia has grown and positive perception has been created. Apart from lower price, which has been the most significant advantage, buyers' perception has lately been focused on the benefit with regard to their investment. As the private label is bought by various consumer categories, this paper focuses on the segment of students. The aim of this paper is to research how a place of study in relation to the place of residence of students has an impact on the perception of private labels. The primary research was conducted on two groups, namely students studying outside their place of residence and students studying in their place of residence aged from 18 to 26. Furthermore, the study analyzes students' shopping habits, the influence of other individuals on students in the final decision on buying as well as preferences of the respondents to a particular private label.

**Keywords:** Private label, students, buying habits, making the final purchase decision

## 1. Introduction

Students have always been a specific consumer group. Given that they are of legal age, they feel independent, but in most cases, they are supported by their parents. The most common form of support is for parents to give a monthly allowance to their children, i.e. to the students. As students differ from one another by relationship between the place of studying and the place of residence, factors that also differ are their spending habits, making the final buying decisions and the perception of the products available to them.

The assumption is that students studying in their place of residence live in the parental home, i.e. in a household with their parents and therefore their responsibilities and obligations to the household are significantly smaller, and the cost of studying is lower. On the other hand, students who are studying away from home spend most of the year in a rented apartment or a dorm and they are taking the responsibilities and obligations of that household. Also, students who are studying in their home town have smaller amounts of money at their disposal that are directed mainly to the personal needs, while students studying outside their place of residence usually dispose with a larger amount of money that is spent primarily on the rent, utilities, food and other household goods, and then on the personal needs.

Therefore, the assumption of this research is that the situation between place of studying and residence affects students' consumption, perceptions and habits while purchasing, and seeks to determine the extent to which the place of residence during the study affects consumption, perceptions and habits while purchasing.

The assumption is that consumers of smaller purchasing power, which students belong to, resort to the purchase of private labels because of their significantly lower price compared to other brands of the same product or manufacturer. The research sought to determine the differences in the perception of private labels between students studying in the place of residence and students studying outside their place of residence and their preference in the purchase of private labels.

The study hypothesis is the following: students studying outside their place of residence have a better perception of private labels and are more inclined to purchase private labels compared to students studying in their place of residence.

## 2. Methodology

There is some secondary research that determines and shows consumption trends of private labels and current perception of private labels on the market. Currently, the only data available is the data on the general state of private labels on the Croatian market, without specifications for individual groups. However, as this study closely determines the focus group which is researched, it was highly unlikely to find studies that deal with similar topics.

Primary research was conducted in order to determine the differences of the two groups in the perception of the private labels and how their lifestyle or housing/residence specifications affect their habits while purchasing and making the final purchase decision.

Primary research was conducted through an online questionnaire created using the Google Disc platform. The questionnaire was anonymously filled by respondents who belong to the aforementioned groups, i.e. students of both sexes aged from 18 to 26. The questionnaire was filled out by a total of 155 respondents. The study, using questionnaires, divided the respondents into two groups: students studying outside their place of residence and students studying in their place of residence.

The questionnaire consisted of:

- Closed-ended questions, with the possibility to mark only one answer
- Closed-ended questions, with the possibility to mark more than one answer
- Likert scale questions, or marking level of liking among the respondents
- Open-ended questions, where the respondents completely independently offered an answer.

The intention was to find the best way to obtain honest answers by asking different types of questions so the answers of respondents would be relevant for the research.

The first part of the questionnaire sought to determine the specifications of the respondents, which were used to determine further assumptions set by the hypothesis of the research. The determined data were on the age and gender of the respondents, followed by the place of studying and place of residence of students, and the source of income of the respondents.

The second part of the questionnaire dealt with purchasing habits, making purchasing decisions, the perception of the private labels in general and the specific, existing private label brands present on the Croatian market. A key part of this study was comparing the two defined groups based on the above factors.

### 3. Research results

#### 3.1 Secondary research results

##### 3.1.1 Trend of private labels consumption

The latest survey on private labels on the Croatian market was conducted in 2012/2013 and showcased some very interesting results. "The Best Buy Award survey for 2012/2013 showed that 76% of Croatian citizens bought a private label and 8% think that they will start buying private labels. The survey, conducted by the Centre for Market Research GfK, showed an increase of the purchase and use of private label products in comparison to conventional brand products and found that the economic crisis and recession significantly affected the spending habits of Croatians. A very interesting fact is that today already 76% of Croatian citizens buy private labels, it is equally impressive as the data from the Best Buy Award research that 59.5% of respondents stated that private labels are, on average, the same level of quality as the classic "brands" and as many as 9.3% of respondents believe that private labels are of higher quality than classic "brands". In addition, 31.3% of respondents pointed out that private labels are, on average, lower quality products. Of all respondents, 59% stated that private labels today are bought because these products offer approximately the same level of quality as well as classic brand products, or manufacturer's brands, but they offer a lower price. At the same time, 17% of respondents stated that private label products are bought today because of the crisis, or recession, which forces

them to buy such products, but as soon as the crisis is over, they will return to the classic brand products. A small number of respondents, 8.1% reported that they do not buy private labels, but think that they will start buying" (Kale, 2012).

Due to the increased investment of retailers in the quality and packaging, intensive promotion and emphasizing the positive characteristics of private labels, consumers are choosing to buy private labels. When they first appeared, private labels represented substitutes for producer brands. But today, thanks to all the visible innovations that chain stores pay a lot of attention to, they have become a serious competitor to the manufacturer's brands.

##### 3.1.2 The comparison of attitudes towards private labels and their consumption

The rise in popularity of private labels with Croatian consumers is particularly noticeable when the latest results are compared with those of Best Buy Award research in 2010 and 2011. In the latest Best Buy Award research in July 2012, 76% of respondents said they bought private labels, while in a similar survey in September 2010, 66.6% of consumers claimed that they bought private label of retail chains.

"The Best Buy Award survey for 2012/2013 shows a significant increase in consumption of private labels in 2012, compared to the previous researched 2010. It may be noted that the respondents have a positive opinion of the private labels and that the trend of their consumption is on the rise, partly due to the improvement of their quality, partly because of the economic situation in the country and the world.

Comparing the results of the private labels in 2010 and 2012/2013, we can see increasing dominance of Konzum together with its private label K-Plus, but also the popularization of new private labels that consumers haven't recognized or used few years ago. In 2010 Croatian consumers have cited only two private labels in a significant percentage: K-Plus (28.3%) and Clever (5.5%), while today six private labels are referred to in percentage greater than 4% (K Plus, Konzum, Kaufland, Clever, Lidl, Interspar)" (Kale, 2012).



### 3.1.3 Trends in private label advertising

Often the question is why private labels are cheaper than the original producer's products. Recently, there was a positive trend of buying private labels by end customers. Private labels are cheaper due to lower investments in marketing and advertising, and savings are made in distribution and marketing costs, but that does not necessarily mean that they are of lower quality. "In the very beginning of market placing, these products were not of good quality. But as time has passed and the competition increased, so the composition of these products got better and better", said Marijan Katalenić from the Croatian Institute for Public Health. As time passes, even more retail chains go into the development of their own private labels and so today there is almost no large retail chain without its own private brand. Even though the emphasis on selling and consumption of private labels is higher, advertising of private labels is still in its infancy. Due to lower prices of competitors, private labels are constantly invested in, so their recognition is achieved by quality and practical packaging. Sophisticated product lines, bold design and original packaging of private labels have put a higher pressure on branded manufacturers.

"As the premium private labels are becoming more common, retailers are trying to raise them to a higher level. It seems that the contribution of experts is an increasing opportunity for private labels of retailers; a product line with the signature of a famous chef can really improve the perception of the product with consumers. The origin and quality of the ingredients are increasingly important because customers often associate the origin of products with the premium label. Therefore, retailers actively search for the best quality ingredients so that their private labels could provide customers an added value and differ from the others" (Winkelman, 2012).

Although advertising of private labels is not as present in Croatia as in other countries due to opinion of lower price generated from savings in marketing, foreign retailers have recognized the importance of branding and investing in private labels. Therefore, they invest in advertising to acquire customers and build brand awareness.

As the competition on the consumer goods market intensifies each day, retailers increasingly invest in television advertising with campaigns which promote individual product lines of their private label and the entire corporate brand in general. By building the personality of their private label and adopting marketing solutions used by competitors, retailers achieve significantly higher levels of customer acquisition and loyalty.

As the trend of investing in private labels has started, we cannot discard the possibility that soon intensive investing in advertising of private labels will come to Croatia, at least in the cheaper versions. The days when private labels were just a substitute for branded products are behind us. Today, more than ever, private labels are an integral part of retailer's corporate brand and its communication with its buyers. Innovation and advertising are at the core of private labels development, but other, equally significant elements, such as formulation of the composition, origin of products and packaging, shouldn't be forgotten. As a result of these developments, for the branded manufacturers it is essential to nurture the brand and keep the loyalty of their customers. To make buyers buy a private label, they first must be informed of its existence, and that means that the private label needs its marketing or adequate promotion and advertising as its integral part. Large budgets for TV advertising are not immediately necessary, because advertising, like guerilla advertising, gives results and informs the consumers. In addition to advertising, basic communication tools for communication are available for each retailer, and those are packaging, design of the product and retailer's stores. How the product looks on the shelf, where it is, how it is structured, with what kind of promotional material, all these are communication elements which can attract the buyer.

### 3.2 Primary research results

The research was conducted on a total of 155 respondents. Respondents were anonymous, answering through an online questionnaire, giving all the answers in the comfort of their homes. Of the total number of respondents, 39% were male (61 respondents), and 61% were female (94 respondents). The demographic structure of the sample is shown in Table 1.

**Table 1 Demographic structure of the sample**

Characteristics:	Number of respondents	Percentage
<b>Gender</b>		
Male	61	39%
Female	94	61%
<b>Age</b>		
18-20	45	29%
21-23	88	57%
24-26	22	19%
<b>Residence</b>		
In place of studying	55	35%
Outside the place of studying	100	65%

Source: Authors

It can be seen (Table 1) that nearly two thirds of respondents are studying outside their place of residence. The respondents, according to the criterion of the place of study and place of residence, were grouped into two groups that were compared to each other.

### 3.3 Researched groups and their specifications

As it was previously stated, groups that are researched in this paper are students which differ by one main characteristic, and that is the place of studying in regard to place of residence. Based on that criterion, respondents are divided into two groups:

- Students studying outside their place of residence, i.e. students who do not share their household with their parents
- Students studying in their place of residence, i.e. students who share their household with their parents.

The assumption of main difference between these two groups of students/respondents is the amount of money they handle during a period of one month and the way they handle their money, in regard to their needs and priorities. Both groups are primarily supported by their parents, but there is a difference in spending, considering the place of studying in regard to place of residence.

#### 3.3.1 Students studying outside their place of residence

The representatives of this group are individuals who have temporarily moved from their place of residence, i.e. parental home, with the purpose of studying at university, or acquiring a higher education degree. Representatives of this group are meeting new obligations or expenses that they have to deal with independently. These expenses include rent, utilities and supplying for a new, their own household with needed groceries and other household and hygienic necessities. Even though in this situation, in most cases, members of this group have more funds at their disposal, their spending priorities are changing and therefore there is a different distribution of funds than there was before. Furthermore, the perception of consumption is changing, as well as purchasing habits and making the final purchase decision.

This group consists of 100 out of total of 155 respondents. From 100 respondents who study outside their place of residence, 33 respondents are male, and 77 respondents are female. Age groups of respondents are presented in the following table (Table 2).

**Table 2 Age of respondents studying outside of their place of residence**

Age	Number of respondents	Percentage
18 - 20	31	31%
21 - 23	58	58%
24 - 26	11	11%

Source: Authors

48% of respondents of this group have more than one source of funds. Respondents could mark more answers while answering this question, which leads to a percentage sum larger than 100%. An overview of the sources of funds of this group is as follows:

- Parents: 79% of respondents
- Scholarship: 38% of respondents
- Freelance student job: 19% of respondents
- Part-time student job: 8% of respondents
- Full-time student job: 4% of respondents
- Part-time job: 2% of respondents
- Full time job: 3% of respondents
- Other (internship, pension, student loan): 2% of respondents
- Two sources of funds: 41% of respondents
- Three or more sources of funds: 7% of respondents.

The most common combination of double funds source is a combination of parents and scholarship, which is the case for 30% of respondents, and combination of parents and some form of student job (freelance, part-time or full-time student job), which is the case for 16% of respondents.

Furthermore, the important characteristic of this group is accommodation in the place of studying. The research showed the following:

- 44% of respondents live in a student dorm
- 35% of respondents live in a rented apartment
- 13% of respondents live in their own apartment
- 6% of respondents live in relative's home
- 2% of respondents marked the option "Other", without any further clarification.

Furthermore, the research stated additional accommodation information in the place of studying, in terms of sharing a household. The research showed the following:

- With a roommate – 66%
- With a brother or a sister – 13%
- Alone – 7%
- With a boyfriend or a girlfriend – 7%
- With relatives - 1%
- Other – 6%

According to this research, a representative of this group would be a female aged from 21 to 23, who lives in a student dorm with a roommate in the place of studying. During her studies she is supported by her parents, and receives a scholarship.

### 3.3.2 Students studying in their place of residence

Representatives of this group are individuals, i.e. students who are studying in their place of residence. In other words, it could be said that representatives of this group haven't left their "parent's nest". This is the main characteristic by which they differ from the previously stated group. As representatives of this group live with their parents, the assumption is that parents take care of paying the rent, utilities, buying groceries and other household and hygienic necessities.

Due to this living situation, representatives of this group handle with smaller amounts of funds, but these funds are spent primarily and exclusively on their needs. These needs are secondary needs, as their primary needs, by Maslow's hierarchy of needs, physiological and safety needs have been fulfilled. Because of that, representatives of this group channel their funds to fulfill other, secondary needs. Their perception is not significantly changed, as well as their buying and process of making a final purchase decision.

This group consists of 55 out of the total of 155 respondents. From 55 respondents who study in their place of residence, 28 respondents are male, and 27 respondents are female. Age groups of respondents are presented in the following table (Table 3).

*Table 3 Age of respondents studying in their place of residence*

Age	Number of respondents	Percentage
18 - 20	14	26%
21 - 23	31	56%
24 - 26	10	18%

Source: Authors

58% of respondents in this group have more than one source of funds. Respondents could mark more answers while answering this question, which leads to a percentage sum larger than 100%. An overview of the sources of funds of this group is as follows:

- Parents: 73%; 40 respondents
- Scholarship: 20%; 11 respondents
- Freelance student job: 33%; 18 respondents
- Part-time student job: 5%; 3 respondents
- Full-time student job: 4%; 2 respondents
- Part-time job: 7%; 4 respondents
- Full-time job: 10%; 5 respondents
- Other (internship, pension, student loan): 8%; 4 respondents
- Two sources of funds: 51%; 28 respondents
- Three or more sources of funds: 7%; 4 respondents.

As in the previous group, the most common combination of double funds source is a combination of parents and some form of student job (freelance, part-time or full-time student job), which is the case for 31% respondents, and combination of parents and scholarship, which is the case for 13% of respondents.

According to this research, a representative of this group would be a male aged from 21 to 23, who studies in his place of residence and lives with his parents. During his studies he is supported by his parents, and he is earning additional allowance by taking freelance student jobs.

### 3.3.3 The comparison of two groups

For simpler comparison, the stated results of the research are presented in the following table. The group of students studying outside their place of residence can be found in the S1 column, and the group of students studying in their place of residence can be found in the S2 column.

**Table 4 Respondent's funds sources by groups**

Funds source	S1	S2
Parents	79%	73%
Scholarship	38%	20%
Freelance student job	19%	33%
Part-time student job	8%	5%
Full-time student job	4%	4%
Part-time job	2%	7%
Full-time job	3%	10%
Other (internship, pension, student loan)	2%	8%
Two sources of funds	41%	51%
Three or more sources of funds	7%	7%
Parents + scholarship	30%	13%
Parents + student job (freelance, part-time or full-time student job)	16%	31%

*Source: Authors*

### 3.4 Buying habits, making the final purchase decision and private labels perception

This part of the research was focused on the subject of going to the store, and habits during shopping, particularly regarding private labels. As in the previous chapters, each group will be separately presented, and the results will be compared afterwards.

As 70% of decision making happens in the store (Brajković, 2014), habits of going to the store were also researched. Basic information, such as frequency of going to the store, company while going to the store and the average amount of a receipt, says a lot about a consumer and his or hers decision making process.

### 3.4.1 Habits of going to the store of students who study outside their place of residence

Students who study outside their place of residence handle their household responsibilities independently or perhaps with a help from their roommate. Consequently, the assumption is that their habits of going to the store significantly differ from students who study in their place of residence.

The research found that frequency of going to the store is as follows (Table 5):

**Table 5** Frequency of going to the store of students who study outside their place of residence

Going to the store	Number of respondents	Percentage
Every day	16	16%
A few times a week	43	43%
Once a week	38	38%
Less than once a week	3	3%

Source: Authors

As a result, it could be concluded that representatives of this group in their occasional trips to the store buy more groceries and necessities in order to stock up for a few days to avoid repetition of going to the store.

Building upon frequency of going to the store, the average receipt amount is important information. The assumption is that representatives of this group, due to their habits of going to the store, have a smaller number of receipts, but with a larger sum spent, instead of more receipts with smaller amounts spent, which would happen by going to the store every day.

- The amount of 100 HRK has been set as an approximate amount for shopping and the research determined the frequency of 100 HRK receipt occurrence as follows:
- The amount of receipt is always higher than 100 HRK – 3%
- The amount of receipt is mostly higher than 100 HRK – 20%
- The amount of receipt is occasionally higher than

100 HRK – 49%

- The amount of receipt is rarely higher than 100 HRK – 21%
- The amount of receipt is never higher than 100 HRK – 7%

As a recommendation from a friend or a family member has a high influence in decision making process, the research determined how often people have company while going to the store. Friends and family members give recommendations and their opinions, even in the store, and they are undoubtedly an important part in determining buyer's habits. The research showed as follows:

- 50% of respondents go to the store alone.
- 21% of respondents go to the store in the company of friends.
- 9% of respondents go to the store in the company of roommates.
- 8% of respondents go to the store in the company of a boyfriend or a girlfriend.
- 8% of respondents go to the store in the company of a sibling.
- 2% of respondents marked „Other“, without any further specification.

Furthermore, the research questioned which person makes the final purchase decision, which is as follows:

- 73% of respondents make the final purchase decision independently.
- 9% of respondents make the final purchase decision in agreement with their roommate.
- 8% of respondents make the final purchase decision in agreement with their boyfriend or girlfriend.
- 6% of respondents make the final purchase decision in agreement with their sibling.
- In case of 2% of respondents, the final purchase decision is made by their sibling.
- In case of 1% of respondents, the final purchase decision is made by their roommate.
- 2% of respondents marked the answer „Other“.

According to their new responsibilities which the representatives of this group have taken over, decision making is undoubtedly one of them, which they use to show their independence.

### 3.4.2 Habits of going to the store of students who study in their place of residence

Students who study in their place of residence are still in their parent's „nests“, which means that the parents still bear most of household responsibilities. Due to those circumstances, their habits of going to the store and buying habits are significantly different from the other group.

The research found that frequency of going to the store is as follows (Table 6):

**Table 6** Frequency of going to the store of students who study in their place of residence

Going to the store	Number of respondents	Percentage
Every day	8	14%
A few times a week	23	44%
Once a week	15	27%
Less than once a week	9	15%

Source: Authors

As a result, it could be concluded that representatives of this group in their occasional trips to the store buy more groceries and necessities in order to stock up for a few days to avoid repetition of going to the store.

Building upon frequency of going to the store, the average receipt amount is important information. The assumption is that representatives of this group, due to their habits of going to the store, have a smaller number of receipts, but with a larger sum spent, instead of more receipts with smaller amounts spent, which would happen by going to the store every day.

The amount of 100 HRK has been set as an approximate amount for shopping and the research determined the frequency of 100 HRK receipt occurrence as follows:

- The amount of receipt is always higher than 100 HRK – 7%
- The amount of receipt is mostly higher than 100 HRK – 35%

- The amount of receipt is occasionally higher than 100 HRK – 47%
- The amount of receipt is rarely higher than 100 HRK – 11%
- The amount of receipt is never higher than 100 HRK – 0%

As recommendation of parents, friends and other family members has a high influence on final purchase decision, the research determined how often people have company while going to the store. Friends and family members give recommendations and their opinions, even in the store, and they are undoubtedly an important part in determining buyer's habits. The research showed as follows:

- 53% of respondents go to the store alone.
- 22% of respondents go to the store in company of parents.
- 15% of respondents go to the store in company of friends.
- 7% of respondents go to the store in company of a boyfriend or a girlfriend.
- 2% of respondents go to the store in company of a sibling.
- 1% of respondents marked „Other“, without any further specification.

Furthermore, the research questioned which person makes the final purchase decision. Unlike the other group, in this group family members are crucial, so the question was differently set. The research showed as follows:

- In case of 56% of respondents, the final decision is made by the mother.
- In case of 33% of respondents, the final decision is a family decision.
- 9% of respondents make the final purchase decision independently.
- In case of 2% of respondents, the final decision is made by the father.

As expected, the mother is taking care of the household. Consequently, the number of respondents who make their final purchase decision is significantly smaller.



### 3.4.3 Perception of private labels by students who study outside their place of residence

In order to determine respondent's familiarity with the subject of this research, the first task was to determine whether the respondents have already bought and consumed private label products. The research showed that 99% of respondents have already bought a private label, which means that respondents are familiar with the subject of this research.

The respondents were asked an open-ended question where they had to present their opinion about private labels. An open-ended question was used in order to get a completely honest answer, without insinuating an answer with provided responses. Even though the answers are various, they have been divided in several categories for transparency. The opinions of students who study outside their place of residence about private labels are:

- 31 respondents think that private labels have satisfying quality with a lower price.
- 20 respondents are satisfied with private labels and think that private labels are great for students.
- 13 respondents often buy private labels because of their lower price.
- 13 respondents think that some private labels are of good quality, and some are not.
- 9 respondents think that private labels are of solid quality.
- 5 respondents think that private labels are of lower quality and are not satisfied with them.
- 5 respondents have no opinion of private labels.
- 4 respondents think that private labels have lower quality and lower price.

It can be concluded that 60% of respondents have a positive opinion about private labels because of price and quality ratio, and tend to buy private labels.

Respondents were presented with private labels of larger store chains, available in the Republic of Croatia, to rate their satisfaction with those private labels. Respondents rated their satisfaction for each private label on a Likert scale. The results present the most used answers for each private label:

- Clever – Billa: mostly satisfied – 32%
- K-Classic – Kaufland: mostly satisfied – 34%
- K-plus – Konzum: mostly satisfied – 50%
- Cien, Crusti Croc, Pilos, W5 – Lidl: fully satisfied – 29%
- Aro – Metro: never bought the private label – 41%
- Plodine – Plodine: neither satisfied nor dissatisfied – 27%
- S-BUDGET – Spar: mostly satisfied – 28%
- Rial – Velpro: neither satisfied nor dissatisfied – 25%

### 3.4.4 Perception of private labels by students who study in their place of residence

In order to determine respondent's familiarity with the subject of this research, the first task was to determine whether the respondents have already bought and consumed private label products. The research showed that 95% of respondents have already bought a private label, which means that respondents are familiar with the subject of this research.

The respondents were asked an open-ended question where they had to present their opinion about private labels. An open-ended question was used in order to get a completely honest answer, without insinuating an answer with provided responses. Even though the answers are various, they have been divided in several categories for transparency. The opinions of students who study in their place of residence about private labels are:

- 15 respondents think that private labels have good quality with a lower price.
- 14 respondents are satisfied with private labels.
- 7 respondents think that private labels are of solid quality.
- 7 respondents think that private labels have lower quality and lower price.
- 5 respondents think that private labels are of lower quality and are not satisfied with them.
- 4 has no opinion about private labels.
- 3 respondents think that private labels have lower quality and lower price.



It can be concluded that 65% of respondents have a positive opinion about private labels because of price and quality ratio.

Respondents were presented with private labels of larger store chains, available in the Republic of Croatia, to rate their satisfaction with those private labels. Respondents rated their satisfaction for each private label on a Likert scale. The results present the most used answers for each private label:

- Clever – Billa: neither satisfied nor dissatisfied – 31%
- K-Classic – Kaufland: never bought the private label – 31%
- K-plus – Konzum: mostly satisfied – 42%
- Cien, Crusti Croc, Pilos, W5 – Lidl: never bought the private label – 24%
- Aro – Metro: never bought the private label – 35%
- Plodine – Plodine: mostly satisfied – 27%; never bought the private label – 27%
- S-BUDGET – Spar: mostly satisfied – 31%
- Rial – Velpro: never bought the private label – 42%

#### 4. Discussion

The research was intended to show if there is a difference in private label perception between students who study outside their place of residence and students who study in their place of residence.

It appears that the hypothesis „students studying outside their place of residence have a better perception of private labels and are more inclined to purchase private labels compared to students studying in the place of residence“ does not hold.

The research showed that private label perception and tendency to buy private labels is actually similar for both groups. In the same way, habits of going to the store do not differ very much between these two groups. The most significant difference is the process of making final purchase decision where the housing situation, i.e. household members, have higher influence on students who study in their place of residence.

Although the hypothesis has not been confirmed, the results of this research are surprising. A significant disproportion in opinions and perceptions of these two groups was expected, due to the difference in their housing situation. But, as the research showed, their opinions are very similar. Building upon this research, a new assumption arose. The assumption is that lifestyle has a higher influence on buying habits than housing situation. As students' life, compared to other lifestyles, is very specific, we can assume that is the reason why there is no greater difference between these two groups in private label perception and buying habits.

#### 5. Conclusion

Private labels have been present on the Croatian market for a longer time and they had a slow rise in their market share until the recession came. With the long period of recession, consumers had to find ways to lower their expenses, and they developed a tendency to buy private labels. Subsequently, private labels became a profitable business, leading to more and more store chains having even more than one private label.

As the competition of private labels grew, additional investments in products and their packaging have been made. That has led to the development of premium private labels, which have occupied a significant part of the market and have a rise in sales.

The research attempted to show if there is a difference in private label perception between students who study outside their place of residence and students who study in their place of residence, assuming that students who study outside their place of residence will be more careful with their funds, due to new costs. The assumption was greater tendency towards buying private labels among students who study outside their place of residence.

The research showed there is no difference between these two groups. Private labels today have a large share on the Croatian market, and thanks to their quality and price ratio, they satisfy more than 60% of respondents. Furthermore, their buying habits are not significantly different, even though their housing situation is very different. That leads us to a conclusion that lifestyle has a greater influence on private label perception than the housing situation,

i.e. relationship between place of studying and place of residence. Subsequently, it would be interesting to research and define the impact of other factors (e.g. level of education, lifestyle) on private label perception and tendency to buy private labels available on the Croatian market.

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## **USPOREDBA PERCEPCIJE TRGOVAČKIH MARKI IZMEĐU STUDENATA KOJI STUDIRAJU U MJESTU PREBIVALIŠTA I KOJI STUDIRAJU IZVAN MJESTA PREBIVALIŠTA**

### **SAŽETAK**

Kako bi bili što uspješniji i ostvarili veće profite, trgovački lanci su prepoznali i iskoristili mogućnost kreiranja vlastitih marki. Stvaranje trgovačkih marki, po uzoru na marku proizvođača pojedinoga proizvođača, omogućuje diferenciranje od konkurencije, tržišno nadmetanje, povećanje prodaje pridobivanjem novih kupaca i dobivanjem njihove lojalnosti. U Republici Hrvatskoj, posljednjih godina, povećava se trend potrošnje trgovačkih marki i stvara pozitivna percepcija. Osim niže cijene, kao najvažnije prednosti, percepcije potrošača sve se više usmjeravaju i na korist koju ostvaruju s obzirom na uloženo. Kako trgovačku marku kupuju različite kategorije potrošača, u radu je naglasak dan na studentskoj populaciji. Cilj je ovoga rada istražiti kako mjesto studiranja u odnosu na mjesto prebivališta kod studentske populacije ima utjecaj na percepciju o trgovačkim markama. Primarno se istraživanje provodilo na dvjema skupinama ispitanika, a to su studenti koji studiraju izvan mjesta prebivališta i studenti koji studiraju u mjestu prebivališta u dobi od 18 do 26 godina. Također, istraživanjem su analizirane navike studenata pri odlasku u kupovinu, utjecaj pojedinih osoba na studente pri donošenju konačne odluke o kupnji te preferencije ispitanika prema pojedinoj trgovačkoj marki.

**Ključne riječi:** trgovačka marka, studenti, navike pri kupovini, donošenje konačne odluke o kupnji



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# **INTRAPRENEURSHIP IMPACT ON GROWTH OF PRODUCTION COMPANIES IN BOSNIA AND HERZEGOVINA**

## **ABSTRACT**

Growth and development are among the main goals of every company. A dedication to the activities which create conditions for growth and development is an important management operation. Entrepreneurial activity provides prerequisites so that growth and development can be achieved. In large and existing companies, entrepreneurial activity presents intrapreneurship. The subject of this paper is to what extent are intrapreneurial activities present in production companies in Bosnia and Herzegovina. In addition, we explored organizational prerequisites for intensifying the impact of intrapreneurship, and the impact of intrapreneurial activities on company growth. Primary research was conducted in the field using the survey as a tool for data collection. By interviewing people we obtained the answer to the question, to what extent is intrapreneurship developed in the production companies in Bosnia and Herzegovina in terms of two key dimensions of intrapreneurship: innovation and autonomy of action, and their impact on the growth of production companies. Additionally, we reached an answer as to what is necessary to do in the field of management of the companies in order to create assumptions for intensifying the intrapreneurial activities of those companies. The sample represented 50 major production companies in the Federation of Bosnia and Herzegovina. We used statistical methods of data processing: descriptive analysis, factor analysis, regression, and correlation. By analyzing the results of the research, we confirmed the hypothesis that the implementation of intrapreneurial activities has a positive effect on the development of production companies. Recommendations were given in order to improve organizational presumptions for intensive intrapreneurial activities.

**Keywords:** Entrepreneurship, intrapreneurship, innovation, autonomy of action, growth of companies

## 1. Introduction

Finding appropriate models and management techniques that can contribute to the development and growth of the company is a challenge for management in companies. One area that occupies an important place is entrepreneurial activity, which in the existing and large companies is called intrapreneurship. The subject of this paper is to determine the level of the implementation of intrapreneurial activities and their impact on the indicators of company growth with regard to the value of assets, the value of total incomes, and the value of profits. The attitude of employees towards intrapreneurship is observed through creativity, innovation, and intrapreneurship. The theoretical part is seen through the ratio of innovation management and the importance of innovation. In addition, it is seen through encouraging innovation, and through performance of company growth.

On the example of the specific research, a research methodology was observed through an area of research, goals, hypothesis, samples, and methods of research as well as through the research process itself. The results of research on the impact of intrapreneurship growth of production companies in the Federation are presented in this paper. The analysis of the researched variables has been conducted. In addition, by using factor analysis and regression and correlation we established the connection, the direction, and intensity of the impact on intrapreneurial effects on the indicators of company growth.

It is concluded that the presented results of the research defined propositions of the activities which management needs to take into consideration in order to create organizational assumptions for intensifying intrapreneurial activities.

## 2. The research area

Intrapreneurship as entrepreneurship in existing companies is necessary as an activity that can improve business performance and create long-term conditions for growth and development. One of the goals of management in companies is to provide organizational assumptions in order to intensify later intrapreneurial activities.

This is significant, considering that large companies employ the largest number of employees and at the present in Bosnia and Herzegovina (B&H) one of the key problems is unemployment. In this paper, we have focused our research on intrapreneurial activities in large companies, because the development and growth of big companies creates necessary conditions for further employment. In the classical sense, the concept of entrepreneurship refers to the formation of new companies. The concept of intrapreneurship differs in that the entrepreneurial process takes place within an existing enterprise (Kuratko, Hodgest, 1995: 94).

On the one hand, with its organizational structure the company represents a framework and creates a climate that encourages innovation and a development of entrepreneurial initiatives, while on the other hand, the existing enterprise has the appropriate means that may easily be allocated for the development and implementation of entrepreneurial ideas.

The term intrapreneurship is linked to the name of Gifford Pinchot. With the term intrapreneurship he began to describe the activities of managers of large corporations who at the beginning of the eighties began to understand that entrepreneurial ideas have a positive impact on the profitability of the business. Intrapreneurship refers to the development of the entrepreneurial spirit and culture in the companies as well as to the help innovative entrepreneurs in order to develop their business ideas. In that case, they can use the infrastructure of the company, which gives a certain advantage compared to independent entrepreneurs.

According to some authors, intrapreneurship represents large enterprises of business, and it represents one of the possibilities for the large enterprises in which often inefficient bureaucratic structures "stifle" the development of new ideas and innovation and the entrepreneurial spirit. Today, specific conditions are set before small, middle and large intrapreneurships. There is a search for the extraordinary economic dynamism, innovation, and continuous adjustment. Traditional business structures disappear, because they are not able to maintain the game with time and quality which modern business conditions demand. Employees are required to do inventive and creative work, which as a direct consequence has an increase of quality, productivity, and cost-effectiveness.

**Table 1** Frequency of the entrepreneurial employee activity in the entities of Bosnia and Herzegovina and the Brcko District of Bosnia and Herzegovina in 2011

	Broad definition: involvement in entrepreneurial activity of employees in the last three years in a percentage of:		Narrow definition: currently involved in entrepreneurial activity in percentage of:	
	adult populations	employee	adult populations	employee
Federation of Bosnia and Herzegovina	3.8	12.3	2.8	9.1
Republic of Srpska	1.7	5.0	1.7	5.0
Brčko District of Bosnia and Herzegovina	2.3	7.7	1.8	6.1

Source: GEM research of the adult population (APS) 2011, Taken from Umihanić, B., Tulumović, R., Arifović, M., Simić, S. (2012), *GEM B&H 2011: To develop and strengthen the entrepreneurial spirit in B&H*. Tuzla: Harfo-graf, p. 143

In the literature that deals with the concept of entrepreneurship, we can see an increase of interest for the existing, large enterprises in terms of intrapreneurship, corporate entrepreneurship, internal corporate entrepreneurship, corporate enterprise, and so on.

If we summarize the above-mentioned definitions or understanding of intrapreneurship, we can conclude that intrapreneurship represents enterprises of large and existing companies and it includes:

- creating new jobs and activities within the existing company,
- the transformation of the company by changing key business areas,
- creating and innovating.

In reviewing the literature about intrapreneurship, Zahra et al. (1999) has identified 45 empirical studies about intrapreneurship, of which three appeared in the 1970s, 10 were published in the 1980s and 32 were published in the 1990s. The main reason for the increased interest in intrapreneurship is: legitimacy of the research about intrapreneurship, and an increased interest in the USA for intrapreneurship. Just like in other countries where there is a need for the revitalization of the companies and for improving their ability to innovate and take risks, there is an additional third factor, comprising the availability of instruments, which enabled the research

of this complex phenomenon. Social communities recognized the importance of entrepreneurship and the need to research this topic. Therefore, on the global level, every year these kinds of researches are conducted in the field of entrepreneurship through the GEM project.

According to the research of GEM B&H 2011: To develop and strengthen the entrepreneurial spirit in Bosnia and Herzegovina, it was noted that the rate of participation in entrepreneurial activity of employees in the Federation B&H and Brcko District of B&H is higher according to the broader definition than in relation to involvement in entrepreneurial activity of the employees according to the narrower definition. However, in the Republic of Srpska both extensive definitions of entrepreneurial activities of employees are at the same level (Table 1).

The general indicator of entrepreneurial employee activity in the Federation is 2.8. This indicator is higher when compared to the indicator for the Republic of Srpska (1.7). Certainly, further studies for this kind of entrepreneurial activity will contribute to a better understanding of the importance of its development. Already, certain positive characteristics were noticed among entrepreneurial-oriented employees who mostly have positive entrepreneurial attitudes and aspirations and for whom it was established that their entrepreneurial ventures usually are more innovative in relation to the earlier entrepreneurs in general. Taking into consideration all of the above mentioned, it is certainly significant to promote entrepreneurial activity of employees and to encourage the entrepreneurial spirit among employees in the public as well as in the private sector in all three administrative units in Bosnia and Herzegovina.



To what extent intrapreneurial activity in large manufacturing companies can influence the growth of the company, is also the subject of this research paper. The current level of intrapreneurial activity can be measured by examining attitudes through questionnaires with defined questions in the field of innovation and autonomy of action as the two main elements of intrapreneurship. On the other hand, other measures for determining the growth of the company are also the values of assets, transactions, and realized profit. The mutual connection of these dependent and independent variables is determined by the implementation of statistical methods of correlation and regression analysis.

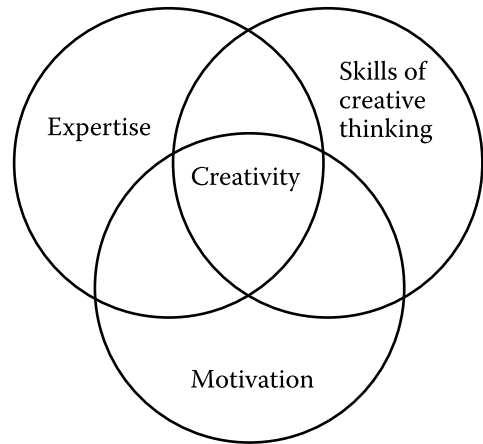
### 3. Variables in the research

Intrapreneurship is significantly determined by the activities of company employees. Intrapreneurship depends on their creativity, innovation, and motivation, which is reflected in the ways and forms of encouraging employees to intrapreneurship action. The independent variable in the research is innovation and autonomy of action, while dependent variables are indicators of the company growth.

#### 3.1 Creativity, innovation and intrapreneurship

Creativity is the ability to create original ideas or understand existing ideas in new ways. Originality or new ideas are not enough for analysis of the creativity from the organizational aspect. An idea must be useful and enforceable. The idea can be evaluated according to the positive effect, which has key organizational factors such as productivity, communication, coordination, and quality of products. Creativity involves looking at the problem from different aspects, and looking beyond the old rules and norms that bind us with the traditional methods of performing tasks. Creativity makes us different, and it helps us to find new answers and solutions for the old and as well for the new problems. Creativity is primarily linked with an individual and that is called individual creativity. The creativity of each individual is a function of three components: expertise, skills of creative thinking and motivation.

Figure 1 Three components of the creativity



Source: Authors (according to: Certo, S. C., Certo, S. T. (2009). *Modern management*. 10th edition. Zagreb: Mate, p. 455

**Expertise** is everything an individual knows and can do in the field of work, which a person performs. This refers to the techniques and procedures, which are associated with business and with the overall understanding of the working conditions.

**Creative thinking** is the ability to combine old ideas in a new way. It determines how flexible and imaginative an individual can be when it comes to approaching problems.

**Motivation** is a passion and the need of the individual to be creative. Expertise and creative thinking allows an individual to be creative, but motivation determines whether a person really will be creative. An individual can be stimulated to be creative by organizational rewards and punishments, or by satisfying personal interests and passions in a particular situation.

Innovation can be seen as a process or series of steps that need to be taken so that a creative idea can be realized. Therefore, managing innovations is carried out in several steps. Most often, the process of innovation is viewed through five steps:

- an invention as a step in which a new idea is determined,

- development which implies that the new idea becomes practical,
- a diffusion is the third step in which users and consumers put this idea into practice,
- an integration is the fourth step in which the product becomes a part of the organization, and
- the fifth step is the process of innovation in which the new idea is monitored in order to determine whether it needs to be perfected or canceled.<sup>1</sup>

Managing the innovation process implies taking appropriate actions in each step of the innovation process. The importance of innovation is reflected primarily in the fact that only innovative companies today have predispositions for growth and development. It is also often believed that innovation is a precondition for the survival of the company. The importance of innovation is particularly great for Entrepreneurship and Intrapreneurship. Entrepreneurship is often equated with innovation.

Enterprise culture is perhaps the most important element of the intrapreneurship development, i.e. if the enterprise culture is entrepreneurially oriented, then the company itself will act in an entrepreneurial way (Burns, 2005). It can be said that the enterprise culture has an impact on the development of intrapreneurship in the short term. If the company wants to encourage the entrepreneurial spirit of its employees and encourage them to act innovatively and proactively in the long term, it must provide and ensure a satisfactory system to its employees so that they are willing to take certain risks associated with their entrepreneurial activity. This ultimately means a necessity to give greater freedom to its employees whereby the company itself exposes itself to certain risks (Marvel et al., 2007). It should be stressed that the system of encouragement must also include a rewarding system, which is linked to the level of achieved results. In order to achieve an adequate system of encouragement and rewards, it is necessary that the company realize with that system the following goals: to develop an entrepreneurial company which is prone to take risks, to attract and retain top quality employees and to improve the results and success that have been achieved with this entrepreneurial undertaking.

### 3.2 Indicators of the company growth

The growth of the company is a very dynamic process, which is viewed from many different aspects such as financial, strategic, structural, and organizational aspects (Wickham, 1988).

**Financial growth** is related to the growth of the company from the business point of view. The financial growth of the company implies an increase in gross income, net profit, and material resources.

**The strategic growth** of the company refers to the way that the company responds to its business environment, and in what way the company is developing its competitive ability in relation to the existing competition.

**Structural growth** represents how the company is organized internally in terms of the company organization management, and how the company is organized in terms of responsibilities, hierarchical communications, and control systems.

**Organizational growth** of the company observes changes in the company in terms of structure of the company, the organizational culture, and the entrepreneur's role and style of running the business.

Although Wickham observes company growth from the aspect of variability of the above-mentioned factors, we believe that these factors such as strategic growth, structural growth and organizational growth actually represent the development of the company. Although they have a different semantic meaning, in the literature, very often the terms "growth" and "development" are identified as two same terms. The term "development" means "gradual transformation into more complex forms, into a more modern state, while the "development" of companies is defined as a process within which business activities are conducted. Through these activities, the company moves from one smaller format into another larger and more complex form, creating an increased business performance of the company. The term "growth" is manifested in the form of quantitative indicators, which with changes in size indicate whether something grows or shrinks.

The growth of the company can be shown in different ways, such as horizontal growth that takes place within the framework of an existing business enterprises, vertical growth, which takes place by connecting phases in advance (with the users of the products such as raw materials) or backwards (with suppliers), conglomerated which takes place by a total diversification of more activities. Depending on the environment, listed types of growth are divided into two categories:

- Organic company growth
- Inorganic company growth.

The organic growth of the company is based on the positive changes of internal factors, which affect business performance directly. In this case, the company records its growth through an increase of profit, through the market share of the company and through an increase in gross incomes of each new fiscal year. The growth of the company is based on the continuous increase of sales, on marketing of existing products to the new customers and on sale of new products. A characteristic of organic growth or as it is also called the internal growth of the company, is reflected in the growth which proceeds very slowly and can last for many years, creating uncertainty for the survival of the company. The management of the company achieves organic growth through the implementation of various strategies, such as:

- strategy of intensive growth or expansion of the company
- strategy for diferification of the company
- strategy for modernization of the company.

Inorganic growth of the company depends primarily on external factors whose actions affect the growth of the company. Inorganic growth of the company is far faster than organic growth, primarily because in addition to significantly higher incomes, the company can use the synergy effect of the merging. Thus, a company may buy another company or merge with that company, with the aim of a joint approach to the market, in order to create synergy. The effects of synergy increase its competitive ability. Inorganic or the external company growth can be achieved by using two strategies:

- mergers or acquisitions
- joint venture.

The growth of the company is manifested by continuous positive changes, which are reflected, in the following indicators (Isaković, 2010):

- an increase of the annual gross incomes
- an increase in net profit
- an increase in production
- an increase of productivity
- an increase of the employee number
- an increase of new customers
- an increase of market share
- a possibility to engage own and other people's resources in order to develop new products
- an investment in the development of human resources
- an investment in the facilities and infrastructure
- strategic orientation of the company
- organisational orientation of the company
- structural organisation of the company.

These factors represent indicators of growth, but their increase is not a guarantee that a company will grow. As Drucker (2006) said: *"The Company needs to distinguish the wrong kind of growth from the good. ...a healthy growth is any growth, which in a short period results by giving a total increase of company's productivity resource."* Thus, the growth of the company requires complex activities of managers. These activities are focused on developing a company in terms of forming the organizational structure of the company, selection, and development of human resources, as well as establishing of business systems. All this with an aim that the company "growth" is followed in parallel by the "development" and expansion of functions within the company. The company will be able to respond to the coming changes, differentiating itself from the competition, by proactively reacting through the development of new products and services, which the market needs or will soon need<sup>2</sup>. For the purposes of this paper as the most important quantitative indicators of the company growth we will mention the following:

- total income
- total assets
- profit.

Income is the gross inflow of economic benefits during a period arising from the ordinary operating activities of the subject, and which result in an increase of capital, besides the increase of capital which is related to the contribution of investors (Association of Accountants, Auditors and Financial Workers of Federation of B&H, 2014). Income includes only the gross inflows of economic benefits which a subject received or claims for its own account. The amounts collected on behalf of third parties such as sales taxes, taxes on goods and services and value added taxes are not economic benefits which a subject receives and this amount does not result with an increase in capital. Therefore, this amount is excluded from incomes. Similarly, when it comes to representation, the gross inflows of economic benefits include also the amounts which are collected on behalf of the principal and which do not result in an increase of the subject's capital. The amounts collected on behalf of the principal are not incomes. Instead, income is an amount of commission. Income should be measured at fair value of the fee, which is received or claimed.

Total assets are total means shown in the balance sheet. This is a bookkeeping value of the fixed assets and working capital. This is the most common measure of the value of assets, taking into consideration that the given amount is easily available and it is reflected in the financial statements of the company.

Profit or loss is a total income minus expenses, excluding the components of other comprehensive incomes (Association of Accountants, Auditors and Financial Workers of Federation of B&H, 2014).

#### **4. Methodological framework of the research**

Intrapreneurship can be observed as enterprises of large companies, which represent one of the possibilities for large companies in which usually inefficient bureaucratic structures "choke" the development of new ideas and the innovative and entrepreneurial spirit. Traditional business structures disappear, because they are not able to maintain the game with time and quality which modern business conditions demand. Employees are required to do inventive and creative work, which has a direct effect of quality increase, as well as the increase of productivity and cost-effectiveness. Intrapreneur-

ship can be viewed as a means to achieve and maintain competitive advantages, which emphasizes the innovative capacities of employees and at the same time increases the success of the company by creating a new corporate enterprise. In addition, intrapreneurship can be viewed as an important element of economic growth, as well as company and environment growth. Intrapreneurship is important for the country, not only because large companies provide more of the national output and more jobs, but because intrapreneurship and independent businesses are complementary, and at the same time they are competing against each other, which provides benefits for consumers and for the economy. According to the data of the previous research on intrapreneurship in Bosnia and Herzegovina, we can evaluate that the intrapreneurship in B&H companies is insufficiently explored. The reason for that can be in less recognitions and representations in our companies. It is indisputable that companies which first recognize the advantages provided by its practical application have an advantage over the competition. Written characteristics of the research problem prepare us to pose the following question in our research: *Will intensifying intrapreneurial actions increase the growth of manufacturing companies in the Federation of Bosnia and Herzegovina?*

##### *4.1 The subject of the research*

Taking into consideration the problematic issue, *the subject of this paper is research of intrapreneurship resources, its status, intensity, and connection with indicators of growth in manufacturing companies in the Federation of Bosnia and Herzegovina*. Intrapreneurial activities should be carried out in each company, because in addition to the short-term benefits, they represent a way for long-term sustainable growth and positive financial effects.

Namely, in order for companies in B&H to successfully compete in the dynamic and rapid environmental changes, it is necessary to understand the importance of introducing an innovative and enterprising management approach. One of these approaches or possibilities is certainly the development of entrepreneurship within the company, generally known as intrapreneurship. Intrapreneurial activities within the company indicate the opportunities for creating additional value. Creat-

ing of additional value is achieved by improving the existing products and developing new products and / or services, and with the development of new and improvement of existing business processes. In the research, in the context of intrapreneurial activities, there is a focus is on employees who have entrepreneurial potential as well as experience and relevant expertise. Those employees need to be ready to implement their potential within the company in which they work. The focus of the research is on determining the readiness of employees, primarily the management's readiness, to establish an intrapreneurship climate in the companies, and to recognize the individuals and groups who have entrepreneurial potential within the company.

#### 4.2 Goals

The topic for the research is the impact of intrapreneurship on the growth of production companies in the Federation of Bosnia and Herzegovina. The goals of the research are divided into the general (overall) goal and the operational goals.

The general goal of the research is to explore in practice, whether intrapreneurial activities can increase the growth in the manufacturing companies of the FBiH.

The achievement of the general goal demands the implementation of the following operational goals of the research:

- By using empirical research on a sample it is possible to investigate whether the strengthening of intrapreneurial activities can achieve an increase in the company assets value,
- By empirical research on a sample it is possible to investigate whether innovation and autonomy of action such as intrapreneurial activities may result in an increase in the total revenue value and profits in the company,
- To interpret the results of research versus the hypothesis.

#### 4.3 Hypothesis

In accordance with the requirements of scientific research methodology, we have set a central and two additional research hypotheses for the research.

The central research hypothesis is: "The implementation of intrapreneurial activities has a positive effect on the development of manufacturing companies". With this formulated hypothesis, we want to show that intrapreneurial activities, which are implemented through the innovation of individuals and their autonomy of action directly, increase the performance growth of manufacturing companies. These performances were measured with indicators of:

- Value of property/assets,
- Total income value,
- Profit value (gain/loss).

Apart from the central, the following additional hypotheses are defined:

H1: Increased intrapreneurial activities imply an increase of assets value.

H2: An innovation and autonomy of action as a result has an increased value of total income and profits in the company.

In order to confirm or negate the central research hypothesis, it is necessary to conduct research by using appropriate scientific methods in order to confirm the defined auxiliary hypotheses.

#### 4.4 The sample and methods of research

For the purpose of research, we collected secondary data using the literature of domestic and foreign authors in the field of management, organization, innovation, entrepreneurship, intrapreneurship, entrepreneurship culture, etc. These works are published in various different formats: books and manuals; dissertations, master's and specialist works; articles and studies; and from the Internet. Because of research from secondary sources, knowledge of the justification for this type of research is created in the Federation of Bosnia and Herzegovina. The existing literature offered the methodology for intrapreneurship research based on which data suitable for statistical analysis were collected.



Primary data were collected during field research. The research was conducted by interviewing with the aim of collecting data about the circumstances and experiences of large manufacturing companies with regard to intrapreneurial activities. For the purpose of research, an a priori assumption was set that the performance growth of manufacturing companies can be increased with entrepreneurial activity.

Based on data collected from the AFIP in 2011, classification was performed on large enterprises in accordance with the criteria of the FB&H Accounting Act. All large production companies (based on activity codes KD B&H 2006 - Classification of B&H Economic Activities in 2006, code 15.110 to 41.000) went through the process of classification, and in that way the size of population (set) for the research was formed and it comprised 182 companies. We decided that the sample contain 50 units which represents 27% of the number of units in the set. In order for the sample to be representative, in selecting the sample for the investigation we used a deliberate sample which was suitable for the qualitative study. In addition, since this allowed for a generalization of findings in such a study, we included in the sample at least one company from each type of business which is represented in the basic set. In order to provide a representative sample in terms of territorial representation, an application of a stratified sample was done where the strata's were administrative communities or cantons in the Federation of Bosnia and Herzegovina. In this way we ensured that the sample comprises an equal representation of manufacturing companies from each canton. The sample size is compared to the size of the set. For the companies in the sample a collection of data was carried out by a questionnaire and from the database of the AFIP report from 2012.

The questionnaire contained structured questions, which were taken from the available secondary data sources, and some questions are new and were formulated for this study. The questionnaire contained 16 questions grouped in 7 groups where we used closed type questions, dichotomous questions, multiple choice questions and a Likert-type scale. The Likert-type scale is defined with a scale from 1 to 5.

#### 4.5 Research procedure

From the marketing agency "New Market Consulting" which is located in Sarajevo, we procured data from the AFIP database from the year 2012 for specific companies which are located in the territory of the Federation of Bosnia and Herzegovina. These companies have registered production activity on the basis of activity codes to KD B&H 2006 - Classification of B&H Economic Activities 2006, code 15.110 to 41.000 and meet the requirements for classification as large business organizations in accordance with the provisions of Article 4 of the Law on Accounting and Revision in the Federation of Bosnia and Herzegovina<sup>3</sup>. The total number of 182 companies met these two criteria. A stratified sample was determined (strata are administrative community - cantons in FB&H) of 50 units. Data for the survey were collected from two sources.

- Data about indicators of growth (number of employees, value of property / assets, the value of total income, profit value) were procured from the AFIP<sup>4</sup> database. The data contain the final reports concerning business operations for the year 2012.
- General information about the company, its environment, intrapreneurial activities, organizational culture, intrapreneurship practice, and qualitative effects of growth were collected by a survey using questionnaires.

The survey was carried out by a questionnaire via e-mail. After completing the survey, the data from the questionnaires and from the AFIP database were processed. Statistical analysis of data was performed using SPSS 17.0. The processing of data was carried out in four phases.

In the first phase, an analysis of the survey sample was conducted. Data were collected from questionnaires and from the database of AFIP. These are the following data:

- the market in which the company operates
- type of company ownership structure
- additional information about the subjects who filled out the questionnaire.

In the second phase, an analysis of the researched variables was conducted by descriptive analysis. The following main characteristics of the sample were described: frequencies, its arithmetic mean, standard deviation, mode, and coefficient of asymmetry. Based on these data, conclusions were made

about the environment in which companies operate, also about the dimensions of intrapreneurship, the organizational culture, the intrapreneurship practice and the company growth.

A descriptive analysis of the following variables was conducted:

- environment
- innovation
- autonomy of action
- organizational culture
- motivation and rewarding
- managing changes
- creativity
- organizational learning
- qualitative effects of growth.

In the third phase, an analysis of the research on the impact of intrapreneurship on company growth was conducted. Intrapreneurship was observed through the elements of innovation and autonomous actions that were described in the questionnaire with 29 characteristic statements divided into two groups. The respondents expressed their agreement with these statements on the scale of 1 to 5. The analysis of the criteria satisfaction of the appropriate data for conducting factor analysis on computer tests was conducted using Bartlett's test and Kaiser-Meyer-Olkin measure (KMO). The factor analysis was conducted using *principal axis factoring* methods whose results are characteristic roots and variance. The calculation of communality of variables was conducted, followed by the rotation of factors and in the end eight factors were derived and given specific names.

In the fourth stage, multivariate regression analysis was used in order to determine a linear relationship between the elements of intrapreneurship presented by secreted factors and indicators of growth enterprises where the elements of intrapreneurship are the independent variable and the indicators of growth companies are the dependent variable. By the correlation matrix of intrapreneurship dimensions and indicators of growth in the companies, we determined a mutual connection and with the regression analysis we determined the impact of intrapreneurship dimensions on the company growth and thereby confirmed / negated the additional and central research hypothesis.

## 5. The analysis of the research variables

The impact of innovation and autonomy of action as intrapreneurship elements were studied using the Likert-type scale from 1 to 5. We asked from the respondents to evaluate to what extent an individual's claim describes the business practices of the company. For the innovation, 17 claims have been studied while for the autonomy of action 12 claims. The variables were evaluated at least once with the highest and lowest evaluation grade. A coefficient of asymmetry for all but one variable falls within the range of -1 to +1, and therefore we conclude that for all but one variable, a normal distribution is assumed. Using descriptive analysis of quantitative indicators of the company growth it is assumed that, according to the values of asymmetry coalitions each range from -1 to +1, variables: asset value, income and profits, they do not have a normal distribution.

### 5.1 The analysis of intrapreneurship impact on the indicators of the company growth

Intrapreneurship is now observed through the elements of innovation and autonomous impact of the described elements in the questionnaire with 29 characteristic statements, which are appropriately classified into two groups. The respondents on the scale of 1 to 5 expressed their agreement with these statements. The analysis of the criteria satisfaction of the appropriate data for conducting factor analysis on computer tests was conducted using Bartlett's test and Kaiser-Meyer-Olkin measure (KMO). KMO measure is 0.616 and given that higher for 0.5, we conclude that the criteria's were met for the implementation of factor analysis. The Bartlett test, whose value should be less than 0.05, is in our case 0.000, which confirms the same thing.

Given that there is an assumption that there are several factors that represent innovation and autonomous acting as elements of intrapreneurship, the *Principal Axis Factoring* method of factor analysis was conducted. The applying of the above-mentioned method has resulted in eigenvalue 5 and with the total explained variance shown in the next table.



**Table 2 Eigenvalue and totally explained variance**

Factor	Characteristic root	Percentage of variance	Cumulative percentage of variance
1	7.251	25.005	25.005
2	5.249	18.099	43.104
3	2.040	7.033	50.137
4	1.733	5.976	56.114
5	1.435	4.947	61.060
6	1.272	4.386	65.447
7	1.108	3.821	69.268
8	1.024	3.531	72.799
9	0.906	3.125	75.924
10	0.892	3.075	78.999
11	0.765	2.639	81.638
12	0.742	2.558	84.196
13	0.703	2.423	86.619
14	0.553	1.906	88.525
15	0.495	1.708	90.233
16	0.427	1.473	91.706
17	0.384	1.324	93.030
18	0.368	1.268	94.298
19	0.348	1.200	95.497
20	0.261	0.901	96.398
21	0.222	0.766	97.163
22	0.191	0.659	97.822
23	0.159	0.548	98.370
24	0.134	0.461	98.831
25	0.091	0.314	99.145
26	0.088	0.303	99.449
27	0.066	0.229	99.678
28	0.052	0.178	99.856
29	0.042	0.144	100.000

Source: Authors

According to the Kaiser-Guttman's criterion, factors, which have a characteristic root that is larger than the number one, are considered statistically significant factors. According to the percentage cri-

teria of the explained variance, several factors are used which are necessary in order to explain 60% of the total variance. There are eight factors in our example: autonomy of action; innovation and utilization of opportunities; workplace, resources and rewards; new methods and business; encouragement of the employees on the new products development; a new product development, extensiveness of changes and risk of innovation; and leadership.

Levels of communality range from 0.291 to 0.910, which indicates that the variance of the original values is very well explained with eight derived factors. Since the initial matrix of the factor structure is not interpretable, we carried out a factor rotation with the varimax rotation method, which represents one of the rectangular (orthogonal) methods of the factor rotation and has as a result a modified structure of the factor loadings allowing easier interpretation. All the factor loadings are greater than 0.3, which is considered a high load. The eight derived factors explained 63.616% of the variance and with these criteria the percentage of variance (which is over 60%) was met. Based on these data, it can be concluded that the variables are very well mutually connected with one another.

Considering the central and auxiliary hypothesis of the paper, a correlation and regression analysis of the intrapreneurship elements was performed through derivative factors and indicators of company growth: value of property / assets, the value of incomes and value of the profit.

The correlation between the independent variables and the value of property/assets is  $R = 0.604$  so we can say that there is a correlation between the observed variables, that is, through eight derived factors, innovation and autonomy of action have an influence on the value of the property / assets of the company. According to the coefficient of determination ( $R^2 = 0.365$ ) variables share 36.5% of the common factors. "Innovation and utilization of opportunity" has the highest value of beta, 0.368, at the level of 0.005. The regression coefficients in the connection analysis of intrapreneurship with the value of property / assets indicate that an increase in the scale results of "Innovation and utilization of opportunity" by one point, on the average, increases the value of assets by 48,255,887.42 KM.

The correlation in the amount of  $R = 0.363$  indicates that there is a correlation between the observed variables, that is, through eight derived factors, in-

novation and autonomy of action have an effect on the value of the property / assets of the company. According to the coefficient of determination ( $R^2 = 0.365$ ) variables share 13.2% of the common factors. "Innovation and utilization of opportunity" has the highest value of beta dimensions, 0.270, which is on the significance level of 0.073. An increase of the scale results of "Innovation and utilization of opportunity" by one point, on average, is associated with an increase in the value of income by 23,973,044.85 KM.

The correlation between the independent variables and values of profits is  $R = 0.527$  indicating that there is a correlation between the observed variables. According to the coefficient of determination ( $R^2 = 0.278$ ) variables share 27.8% of the common factors. "The extent of the change and innovation of the risk" has the highest value of beta, 0.324, which is on the significance level 0.019. The increase in the scale results of "The extent of the change and innovation risk" by one point, on average, is associated with an increase on the scale of profit values by 4,513,776.63 KM.

Taking into consideration the results of the analysis we can conclude that there is a positive impact of intrapreneurial activity on the asset value indicators. Therefore, with this we can confirm the auxiliary hypothesis  $H_1$ : Enhanced intrapreneurial activities imply an increase in the value of assets, as well as the fact that innovation and autonomy of action increase the value of incomes and profit. Based on that, the second auxiliary hypothesis is confirmed  $H_2$ : Innovation and autonomy of action as a result have an increased value of total incomes and profits in the company.

These results show that innovation and autonomy of action as elements of intrapreneurial activities increase the indicators of growth of the company: the value of assets, incomes and profit, on the basis of which, the central research hypothesis that the implementation of intrapreneurial activities positively effect on the development of manufacturing enterprises, is acceptable. Namely, the results on the scale of innovation and autonomy of action in all the cases were associated with an increase in results of the indicators of growth.

However, it should be noted that the high coefficient of determination does not mean that the independent variables have an impact on the value of the dependent variables, but they express the corre-

lation without causality implications. In fact, it can be argued that between these indicators of growth and innovation and autonomy of action exists as a positive linear relation.

## 5.2 Critical review of the research

In the research on intrapreneurship in the companies, we used an electronic questionnaire. The limiting factor was the subjectivity of the respondents in completing the questionnaire. The subjectivity arises from ignorance or confusion regarding the terminology of the asked questions and the tendency of the respondents to exaggerate their answers in order to make themselves look a little bit better. The problem of subjectivity can be reduced by using additional methods for data collection, e.g. an interview. The research was conducted on a sample of 50 companies that are located in the Federation of Bosnia and Herzegovina. These companies perform production activities and they are part of the large enterprises category. Taking into account that the total number of companies that meet these criteria was 182, we included 50 companies with whom we did a complete stratification of the sample where strata's were Cantons as administrative units. It can be said that the sample is representative for the Federation of Bosnia and Herzegovina.

Using this research, we have discovered that the implementation of intrapreneurial activities affects the indicators of large companies' production growth. Given the different approaches in identifying elements of intrapreneurship, it is possible that the instrument that we used does not include a researched area. Although a large number of researchers identify the multidimensionality of intrapreneurship, it is necessary to investigate the mutual influence of the individual elements in greater detail. There are a small number of authors, who explore all elements of intrapreneurship. They conclude that elements of intrapreneurship do not contribute equally to the company growth; therefore, the managers should focus on innovation and autonomy of action.

According to the results of the factor analysis, we can see that the elements of intrapreneurship are presented through eight factors. Those are autonomy of action; innovation and utilization of opportunities; workplace, resources and rewards; new methods and business; encouragement of the

employees on the new products development; a development of the new products, extensiveness of changes and risk of innovation; and leadership in introducing innovations, which deviates from previous researches. The confirmed results indicate that the greatest impact on the growth of the company is due to: innovation and utilization of opportunities; new methods and activities; encouraging employees to develop new products, new product development; extensiveness of the changes and the risk of innovation. In the research were used indicators of the company growth: value of property/assets; income and profit. However, although the intrapreneurial activities were described as a predictor of company growth, we cannot rule out the reverse connection. Interdependence of these variables is dynamic by its nature. Successful companies have the resources to invest in business projects, which make it possible to increase the innovation of the company. Describing one variable independent and the other dependent is still arbitrary.

Further research might include implications of intrapreneurship given the size of the company and explore the determinants of intrapreneurship in small versus large businesses. In addition, it would be interesting to investigate the influence of certain elements of intrapreneurship on the growth of the company with regard to the life cycle stage. At the same time, the impact of intrapreneurship on the company results may be deepened by including sophisticated measures of financial performances like evaluation of results and performances using BEX models and the BEX index. Parallel intrapreneurship research in Bosnia and Herzegovina and in one of the Western European countries would provide a basis for comparing the performance of Bosnian and European enterprises according to intensity of intrapreneurial activities.

## 6. Conclusion

Today, management in companies deals with the challenge to create preconditions for the implementation of activities in order to improve the growth and development of companies. One of those activities, which have this characteristic, is intrapreneurship in existing companies. Therefore, finding the mechanisms that create a favorable climate for intrapreneurial activities is a focus of managerial action.

In this paper, we measured an existing level of intrapreneurial activity observed through innovation and autonomy of action and by using the statistical method of regression and correlation; we have carried out analysis of the impact of intrapreneurship on the indicators of productive company growth. Thereby, we established that innovation and autonomy of action as elements of intrapreneurial activities affect the increase of company growth indicators: value of assets, incomes, and profits. We have also carried out measurement and analysis so that we can identify organizational assumptions for the creation of a suitable environment for the development of intrapreneurship (looking at the environment in which businesses work, organizational culture, and intrapreneurial practices through motivation and rewards, through managing of changes, creativity and organizational learning). The conducted analysis can define recommendations for managerial actions in order to create a favorable environment for intrapreneurial activities. These are:

- to take action in order to reduce the difference between the products that the company offers with respect to the market dynamics and uncertainty as well as to meet the needs of the market and to innovate products that meet the needs of consumers,
- to improve the mechanisms of decision-making and to speed up decision making on the acceptance of new ideas (enterprise) and to create an atmosphere which is characterized by positive and proactive thinking, mutual trust, openness and cooperation,
- to improve the policy of rewarding employees who take the expected risk and innovate, and those who obey and follow the rules,
- to develop and implement techniques which company management uses to successfully predict, control and reduce resistance to changes,
- to constantly encourage and motivate individuals who stand out in terms of creativity,
- to constantly explore and critically relate to assumptions that the company has with regard to its customers.

This research has scientifically confirmed that the company's management with more powerful implementation of intrapreneurial activities and implementation of the above-mentioned recommendations can achieve company growth.

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## (ENDNOTES)

- 1 Ibid: p. 461
- 2 As already mentioned, it is not enough to have good organizational structure of the company, human resources, or high productivity, if we are producing products, which the market does not need, or which are outdated.
- 3 Law on Accounting and Auditing of the Federation of Bosnia and Herzegovina, Official Gazette of the Federation Bosnia and Herzegovina, No. 83/09.
- 4 AFIP – Agency for financial information and mediation services, [www.afip.ba](http://www.afip.ba)
- 5 Eigenvalue (engl.) a characteristic root or eigenvalue, it is value of variance explained by a certain factor.

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## UTJECAJ INTRAPODUZETNIŠTVA NA RAST PROIZVODNIH PODUZEĆA U BOSNI I HERCEGOVINI

### SAŽETAK

Rast i razvoj osnovni su ciljevi svakoga poduzeća. Posvećenost aktivnostima koje stvaraju pretpostavke za rast i razvoj važna su aktivnost menadžmenta. Poduzetničko djelovanje osigurava pretpostavke ostvarenja rasta i razvoja. U velikim i postojećim poduzećima poduzetničke aktivnosti predstavljaju intrapoduzetništvo. U kojoj je mjeri prisutno intrapoduzetničko djelovanje u proizvodnim poduzećima u Bosni i Hercegovini te koje su organizacijske pretpostavke za intenziviranje intrapoduzetničkog djelovanja i kakav je utjecaj na rast poduzeća, predmet su istraživanja u radu. Primarno istraživanje provedeno je terenskim istraživanjem primjenom ankete kao instrumenta za prikupljanje podataka. Anketiranjem se došlo do odgovora na pitanje do koje mjere je intrapoduzetništvo razvijeno u proizvodnim poduzećima u FBiH iz perspektive ključnih dviju dimenzija intrapoduzetništva: inovativnost i autonomnost djelovanja i njihov utjecaj na rast proizvodnih poduzeća te što je neophodno učiniti na polju menadžmenta poduzećima kako bi se stvorili preduvjeti za intenziviranje intrapoduzetničke aktivnosti u tim poduzećima. Uzorak je predstavljalo 50 velikih proizvodnih poduzeća u Federaciji Bosne i Hercegovine. Korištene su statističke metode obrade podataka: deskriptivna analiza, faktorska analiza, regresija i korelacija. Analizom rezultata istraživanja potvrđena je postavljena hipoteza da implementacija intrapoduzetničkih aktivnosti pozitivno utječe na rast proizvodnih poduzeća. Dane su preporuke kako bi se poboljšale organizacijske pretpostavke za intenzivnije intrapoduzetničko djelovanje.

**Ključne riječi:** poduzetništvo, intrapoduzetništvo, inovativnost, autonomnost djelovanja, rast poduzeća



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# THE CONCEPT OF PUBLIC DEBT MANAGEMENT STRATEGY OF THE REPUBLIC OF CROATIA

## ABSTRACT

This paper attempts to answer the question whether transparent and timely preparation of the Public Debt Management Strategy of the Republic of Croatia can improve the quality of management of public debt in Croatia, and with that, if it can affect the quality of budget policy in general. The terms *public debt management* and *debt management strategy* are not new in the professional and scientific literature. Certain suggestions and solutions already exist, but failed to be implemented. Deadlines for the preparation, as well as the content of the public debt management strategy, are not legally regulated. As a result, only two strategies have been prepared so far, and only one has met the defined standards. Furthermore, PDMS<sup>1</sup> for the current period does not exist, and it is questionable by which guidelines public debt management in Croatia has been carried out. The paper is composed of two parts. The first part shows the theoretical overview and analysis of the current state of public debt in the Republic of Croatia. The second part deals with the theoretical guidelines and quality analysis of previous versions of PDMS.

**Keywords:** Public debt, management of public debt, Public Debt Management Strategy of the Republic of Croatia

## 1. Introduction

The development of the situation in Greece, related to the management of public debt, directly or indirectly brought forward the debate on public debt management (whether it is durable or unbearable, whether it is well managed or not, etc.). The current situation related to the public debt and public debt management in Croatia could result in the so-called Greek scenario.

If continued growth of the public debt and the ratio of public debt in relation to GDP are not adequately addressed, such a scenario can happen in Croatia. Each EU member state, in accordance with the Maastricht criteria and financial viability, wants to avoid such a scenario. Therefore, public debt management is one of the most important economic issues in Croatia.



**Table 1 Plans and projections of realization of the state budget**

mil. HRK	Plan 2014	Plan 2015	Projection 2016	Projection 2017
<b>Revenues</b>	<b>117,064</b>	<b>106,434</b>	<b>106,155</b>	<b>109,596</b>
Revenues from operating	116,749	105,265	104,998	108,445
Revenues from the sale of nonfinancial assets	316	1,168	1,158	1,150
<b>Expenditures</b>	<b>130,651</b>	<b>118,975</b>	<b>118,364</b>	<b>117,973</b>
Operating expenditures	128,088	115,669	115,712	116,203
Expenditures for procurement of nonfinancial assets	2,564	3,306	2,652	1,770
<b>Total deficit / surplus</b>	<b>-13,587</b>	<b>-12,541</b>	<b>-12,209</b>	<b>-8,377</b>
% of GDP	-4.1	-3.8	-3.5	-2.3

Source: Explanation of the proposal of the state budget and financial plans of extra-budgetary users for 2015 and projections for 2016 and 2017, Available at: <http://www.mfin.hr/adminmax/docs/Obrazlozjenje%20Prijedloga%20drzavnog%20proracuna%20i%20financijskih%20planova%20izvanproracunskih%20korinika%20za%202015.%20godinu%20i%20projekcije%20za%202016.%20i%202017.%20godinu.pdf> (Accessed on: August 21, 2015)

The status of Croatian public debt in relation to the Greek public debt, measured by certain indicators, suggests that for each of the analysed periods certain similarities can be noticed. Unclear and non-transparent insight into the current and previous borrowing, as well as non-compliance with the borrowing plan, indicate that guidelines, strategic targets and priority needs have not been adequately implemented. In order to identify and resolve any problems related to the management of public debt, it is necessary to have a transparent overview of the current situation and to develop an action plan for future periods in line with defined guidelines, stra-

**Table 2 Public debt of certain EU member states and total public debt in EU 28 (in mil. EUR)**

Country	2012 Q2	2012 Q3	2012 Q4	2013 Q1	2013 Q2	2013 Q3
EU 28	11,067,080.3	11,164,272.6	11,232,330.5	11,346,049.7	11,482,739.6	11,515,063.6
Belgium	409,584.0	408,418.0	403,175.0	422,679.0	426,757.0	423,861.0
Bulgaria	6,320.7	7,260.5	7,356.6	7,214.7	7,230.0	6,960.9
Germany	2,183,530.6	2,178,369.2	2,184,909.1	2,173,977.2	2,174,540.4	2,155,935.6
Spain	811,691.0	824,285.0	890,976.0	930,348.0	950,403.0	961,231.0
Greece	301,511.0	300,936.0	304,714.0	306,431.0	317,405.0	317,739.0
France	1,869,797.0	1,855,408.0	1,869,155.0	1,903,495.0	1,949,823.0	1,938,947.0
Italy	1,982,697.4	1,996,248.9	1,938,901.1	2,035,288.9	2,075,922.1	2,067,901.0
Hungary	77,159.0	78,053.9	76,681.7	76,772.1	78,929.1	77,531.9
Austria	261,935.1	257,841.6	258,525.6	262,079.9	262,165.4	269,429.3
Slovenia	17,516.2	17,4021.7	19,336.4	19,243.2	21,988.8	22,038.6
Sweden	148,027.2	155,444.2	156,968.5	174,769.9	165,500.0	168,967.9
Croatia	29,904.6	30,040.7	30,273.2	30,975.2	32,592.5	32,910.4

Source: Eurostat, Available at: <http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&code=teina230&language=en> (Accessed on: August 22, 2015)

tegic targets and priority needs. That is included in one of the most crucial documents for the sustainability of public finances – “Public debt management strategy”. The aim of this paper is to point out the importance of PDMS in Croatia, to stress its priority needs and compliance with a stabilizing fiscal policy. The methodological approach is focused on analyzing the current strategy and achieved results in the area of public debt management, more so as there is no clear model of analysis and presentation of public debt scenarios. This paper is trying to create better assumptions when defining the clearer parameters regarding debt management, as well as the precise strategic framework. The goal of this paper is to indicate the exceptional importance of the PDMS in Croatia and its compliance with the priority needs and stabilizing fiscal policy. Therefore, the research in this paper is directed towards presenting the latest strategies and efficiency analysis in the management of public debt. The main intention of this paper is to show and emphasize that a defined strict legal framework, together with the content and methods of public debt management strategy can contribute to the better management of public debt, satisfy the priority needs and achieve preferred intergenerational effects of public debt.

## 2. Public debt and public debt management in the Republic of Croatia

According to Rosen and Gayer, public debt is the sum of all budget deficits in the previous period. This definition indicates that in a year with a deficit the debt will increase, and in a year with a surplus the debt will decrease. In economic terms, debt is a *stock variable* measured at a given time, while the deficit and the surplus are *flow variables* measured over a period of time (Rosen, Gayer, 2010: 521, 522). In Croatia, the state budget deficit seems to be a predetermined and constant result. Table 1 shows the plan and future realization of the state budget, proving previously mentioned arguments.

In the case of extreme need, as in the case of the budget deficit, the state can provide funding in three ways: by increasing taxes and other charges, by sale of assets or by public borrowing (Rosen, Gayer, 2014: 474). Since the increase of taxes and the sale of state property are extremely unpopular measures and often insufficiently efficient and effective, public borrowing and public debt management is becoming one of the primary and highly complex tasks. The level of seriousness in the approach to public debt management, in addition to being extremely high in the current period, is increasing more and more in each reporting period.

2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1
11,566,286.5	11,735,520.0	11,949,798.0	12,005,322.2	12,100,632.7	12,405,539.5
412,770.0	431,068.0	434,054.0	433,663.0	428,365.0	447,843.0
7,532.0	8,056.0	8,444.1	9,838.4	11,603.6	12,537.8
2,171,447.1	2,159,903.7	2,167,532.6	2,168,309.3	2,175,713.5	2,175,885.1
966,169.0	995,832.0	1,012,585.0	1,020,302.0	1,033,848.0	1,046,192.0
319,178.0	315,025.0	317,529.0	315,462.0	317,094.0	301,527.0
1,953,409.0	1,998,942.9	2,027,608.9	2,035,428.9	2,037,771.9	2,089,360.9
2,058,721.8	2,119,470.6	2,167,689.1	2,133,293.1	2,134,906.3	2,184,491.7
77,716.8	81,137.8	82,213.2	80,794.8	77,703.8	83,411.0
260,976.8	263,002.6	268,233.2	264,707.5	278,083.8	280,246.9
25,427.1	28,083.9	28,737.8	28,813.0	30,132.6	30,747.8
165,081.3	168,443.7	166,603.3	171,359.1	182,894.9	187,627.6
34,895.9	35,002.7	35,361.9	36,333.8	36,506.8	37,733.6

**Table 3 Public debt to GDP ratio in certain EU member states and the average ratio of public debt in GDP of all EU 28 (%)**

Country	2012 Q2	2012 Q3	2012 Q4	2013 Q1	2013 Q2	2013 Q3
EU 28	83.4	83.6	83.7	84.5	85.3	85.4
Belgium	106.5	105.8	103.9	108.6	109.1	107.8
Bulgaria	15.8	18.1	18.0	17.5	17.6	17.1
Germany	80.0	79.5	79.5	79.0	78.5	77.3
Spain	76.2	77.7	84.4	88.6	90.7	91.7
Greece	150.3	152.5	156.9	160.1	168.4	171.0
France	90.2	89.2	89.6	91.3	92.8	91.9
Italy	121.7	123.1	123.1	126.5	129.3	128.6
Hungary	78.2	77.8	78.5	81.3	79.9	78.4
Austria	83.9	82.0	81.5	82.3	82.0	84.0
Slovenia	47.9	47.9	53.7	54.0	61.7	61.6
Sweden	36.3	35.7	36.6	39.4	39.1	39.1
<b>Croatia</b>	<b>67.9</b>	<b>67.7</b>	<b>69.2</b>	<b>71.2</b>	<b>73.3</b>	<b>75.8</b>

Source: Eurostat, Available at: <http://www.zakon.hr/z/283/Zakon-o-proračunu> (Accessed on: August 24, 2015)

That is due to the constant increase of total amount of public debt as well as the increase of ratio of public debt in GDP. These problems are not exclusive only for Croatia. A large number of EU member states are facing the problems of debt, high levels of public debt in GDP ratio and the constant growth of public debt in the observed reporting periods.

Table 2 shows the structure of public debt of randomly selected member states and the total debt of all 28 EU member states in previous twelve reporting periods (quarters) expressed in millions of euros.

Table 2 shows that Croatia is not the only country in the European Union faced with the problem of public debt structure and with constant increase of public debt in almost every reporting period (in this case, quarterly). Similarly, the sum of the public debt of all 28 member states is growing in each quarter, which leads to the conclusion that this is a problem of a large number of member states as well as the problem of the integrative community which comprises a total of 28 members. A similar issue occurs when observing the share of public debt in GDP, although in this case there are certain states that are temporarily improving this result. The Eu-

ropean semester is an important instrument for the implementation of fiscal reforms in EU member states, which implies a real potential of fiscal challenges and budgetary possibilities in accordance with the implementation of structural fiscal reforms, which should necessarily lead to an improvement in the structure of public debt, and with time and improved results, in the sphere of employment, growth and investment in line with the fiscal targets of the European Union.

Table 3 shows the share of the public debt in GDP in randomly selected member states, including the Republic of Croatia, and the average share of the public debt in GDP of all 28 member states.

Management of public debt includes decisions on refinancing or repayment of debt, conversion and rescheduling, emission of new loans or debt, selection of the maturity models that minimize the cost of borrowing etc. (Jurković, 2002: 135). Besides previously mentioned activities for management of public debt, it is crucial to develop a Public Debt Management Strategy as one of the essential documents related to the state finances. Borrowing and public debt are considered to be the main sources for financing the state budget and thus they represent an extremely important act of fiscal responsibility, imposing the necessity of transparency regarding the results, planning and legislation. The Budget Law (NG 87/08, NG 136/12, NG 15/15)

2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1
85.5	86.2	87.2	86.9	86.9	88.2
104.4	108.5	108.9	108.3	106.6	111.0
18.3	19.7	20.5	23.6	27.6	29.6
77.3	76.0	75.8	75.3	74.9	74.4
92.1	94.9	96.4	96.8	97.7	98.0
175.0	174.3	177.4	175.8	177.1	168.8
92.3	94.2	95.5	95.7	95.6	97.5
128.5	131.2	134.1	132.0	132.1	136.1
77.3	82.3	82.7	80.1	76.9	77.6
80.9	81.1	82.3	80.8	84.6	84.9
70.3	77.1	78.2	77.7	80.9	81.9
38.7	39.6	39.8	40.4	43.9	44.0
80.8	81.5	81.7	82.3	85.1	87.7

defines the fundamental objective of borrowing and public debt management in Croatia. According to this law, borrowing and public debt management is focused on covering the financial needs of the state budget by realizing the lowest middle term and long term financing expense, with a reasonable risk level. Annual laws on the execution of the state budget determine the total amount of the planned new state debt and the planned state guarantees that the state has to take or issue during the fiscal year, as well as the maximum amount of government debt achieved at the end of the budget year. Twice a year the Croatian Parliament reports on public borrowing, both on domestic and foreign capital markets, and on issued state guarantees and expenses. Reporting is conducted in the form of semi-annual and annual reports on implementation of the state budget. Legal regulation of public debt management is indirectly related to additional similar laws. Current amendments of the Fiscal Responsibility Act defining the *rule of public debt* are also relevant. The draft proposal of amendments of the Fiscal Responsibility Act passed a public debate, which officially lasted until 22 August 2015. That means the first step towards the adoption of the law is initiated. The draft proposal of the amendments to the Fiscal Responsibility Act is establishing the previously mentioned rule of public debt. The rule of public debt has two points (The draft bill on fiscal responsibility, 2015): (1) The share of public debt

in GDP must not exceed the reference value of 60% in accordance with the legal provisions of the European Union; (2) If the ratio of public debt in GDP exceeds the reference value of 60%, the difference shall be reduced by an average rate of 1/20 per year over the next three years from the year in which the ratio of public debt in GDP exceeded the reference value of 60%. The following question arises: is the *rule of public debt*, which has been constructed within the draft proposal of the Fiscal Responsibility Act, sufficiently ambitious and concrete and does it contain all the most important rules that should be followed? The Fiscal Responsibility Act is an instrument which can ensure the sustainability of public finances as it can achieve, with the application of fiscal rules, the necessary fiscal adjustment and ensure the sustainability of public debt (Public debt management strategy for the period 2011-2013, 2011: 5). Feasibility and implementation of the new regulatory framework is based on the requirements of the European Union, but also intends to define the financial behaviour of the state and all of the relevant subjects of the state. Fiscal rules in the framework of this law must be applied in all procedures of making the most important strategic documents that integrate future economic development at the national level, which includes additional controlling of the process of borrowing and improvement of the quality of borrowing.

**Table 4 Basic characteristics of the public debt management strategy 2007**

Public debt management strategy for year 2007
Legal and institutional framework for public debt management
Situation and projections of public debt
Projection of repayment of domestic public debt between years 2007 and 2009
Analysis of credit rating of the Republic of Croatia
Basic guidelines for public debt management 2007-2009

Source: *Annual Report and debt management strategy*, Available at: <http://www.mfin.hr/adminmax/docs/108-1.1%5B1%5D.pdf>, Accessed on: August 27, 2015)

### 3. Concepts and strategies for public debt management in the Republic of Croatia

The previous chapter points out that the borrowing and public debt management is one of the main ways of financing the needs of the state budget and therefore an important part of fiscal responsibility. For this reason, there is the need for transparency in planning of all activities related to the public debt management. A transparent analysis of recent results of public debt management and strategic planning of future activities require quality research and study. The primary and most important document containing the legal and institutional framework for borrowing and public debt management, structure

Figure 1 Basic guidelines for the public debt management strategy 2007

- **Prudent and careful public debt management**
- **Transparent and predictable public debt management**
- **Promoting liquidity and a wide circle of investors in government securities, and the development of an effective infrastructure on the domestic capital market**

Source: *Annual Report and debt management strategy*, Available at: <http://www.mfin.hr/adminmax/docs/108-1.1%5B1%5D.pdf>, Accessed on: August 27, 2015)

of public debt, general guidelines and strategic targets for public debt management and projections of borrowing needs is the public debt management strategy. If the aforementioned strategy for a given period is not prepared or if it does not exist, it can be considered that borrowing and public debt management is carried out randomly or according to the discretion of individuals responsible for the tasks. Consequently, it can be concluded how important it is to legally determine and define deadlines, content and other guidelines for the preparation of public debt management. A regulated deadline, content and methods of development of a public debt management strategy could directly influence the planning of public debt, increased level of transparency, and accordingly, it could lead to the increase of the quality of public debt management. Procedurally, the Directorate for Public Debt Management, in the Ministry of Finance, is responsible for preparing a three-year strategy for managing the state debt. The strategy is then submitted to the Government for approval. The Office of the Public Debt Management, in the Ministry of Finance, implements the public debt management strategy over the three-year period, following the approval of the Government, with the assistance of the Croatian National Bank (Dernaj, 2014: 42). In Croatia, in previous years, only two public debt management strategies have been developed. *Annual Report and the debt management strategy* (Available at: <http://www.mfin.hr/adminmax/docs/108-1.1%5B1%5D.pdf>, Accessed on: August 27, 2015) prepared in 2006, and *Public Debt Management Strategy for the period 2011-2013*, (Available at: <http://www.mfin.hr/adminmax/docs/GodisnjeIzvjescje.pdf>, Accessed on: August 27, 2015) prepared in 2010. As documents, the Annual report and the Public debt management strategy presents the legal and institutional framework for public debt management, the status and projection of public debt trends, the status of the central government debt by instruments

**Table 5 Results of the public debt management in the period 2006 - 2010**

Public debt in millions of HRK	2006	2007	2008	2009	2010
1. Domestic public debt	58,326.30	60,135.60	65,743.30	75,799.70	89,249.10
2. Foreign public debt	44,710.40	44,524.20	34,878.80	41,933.30	48,754.10
Total public debt (1+2)	<b>103,036.70</b>	<b>104,659.90</b>	<b>100,622.20</b>	<b>117,733.00</b>	<b>138,003.20</b>
Public debt (% of GDP)	<b>35.40%</b>	<b>32.90%</b>	<b>29.20%</b>	<b>35.10%</b>	<b>41.20%</b>

Source: *Annual Report of the Ministry of Finance for 2010*, Available at: <http://www.mfin.hr/admin-max/docs/Godisnjak%202010.pdf> (Accessed on: September 20, 2015)

bills and bonds), projections of repayment of domestic debt and international bonds, credit capacity of Croatia and foreign exchange rates at the end of the year. However, the report takes into account the analysis of projections of domestic debt repayment plans and borrowing needs for the medium term period from 2007 to 2009. The primary goal of borrowing and public debt should include management according to the financial requirements of the state budget, by minimizing the time period of financing cost and within the reasonable risk level.

An additional objective covered by the strategy is the development of the domestic market of government bonds. The development of the financial market is a basic requirement for effective management of public debt, i.e. the analysis of effective cost of borrowing and liquidity, as well as proper debt portfolio diversification (Prohaska, Olgic Drazenovic, 2010: 839). Table 4 shows basic characteristics of the public debt management strategy for 2007.

A major disadvantage of the strategy for 2007 arises from the fact that it shows projections only for the repayment of domestic debt, although it emphasizes foreign debt may cause larger difficulties than the domestic debt. Figure 1 shows the basic guidelines for the public debt management strategy for 2007.

The quality of PDMS, except in thoroughly prepared plans, guidance, projections and ability to address the potential problems, is best reflected in the public debt management results, which are usually expressed as the ratio of public debt in GDP and the amount of debt incurred in the period.

Table 5 shows results of the public debt management in the period 2006 – 2010 derived from the management of public debt on the basis of the

guidelines outlined in the “Annual Report and the public debt management strategy”.

According to the results of public debt management, shown in Table 5, it is visible that the public debt management achieved very good results according to both indicators: the total amount of public debt in million HRK and the public debt to GDP. The year 2009, and the following year even more, showed significant increase of public debt according to both indicators. Therefore, it can be concluded and confirmed by the results that the period with public debt management strategy realized better results than the period without existing public debt management strategy.

**Table 6 The main characteristics of public debt management strategy 2011 - 2013**

Public debt management strategy 2011-2013
Legal and institutional framework for public debt management
Structures of public debt and public debt development
Analysis of credit rating of the Republic of Croatia
Guidelines for public debt management 2011-2013
Display of maturity of government debt in the period 2011-2020
The main objectives of public debt management strategy 2011-2013

Source: *Public debt management strategy 2011 – 2013*

The public debt management strategy for the period 2011–2013 was prepared in a more professional way. It contained a detailed analysis of the legal and institutional framework for public debt management, structure of public debt (currency, interest rate and maturity of government debt and the structures according to the type of instruments) and the



**Figure 2** *The main objectives of public debt management strategy 2011 - 2013*

- **Contribution to the stabilization of the public debt-to-GDP ratio**
- **Extension of the average deadline maturity and reducing the share of short-term debt in the total amount of public debt**
- **Establishment of mechanisms of protection against currency risk**
- **Development of the yield curve on domestic and foreign markets**
- **Continuous development and improvement of the domestic securities market**

Source: *Public Debt Management Strategy 2011-2013*

basic guidelines for public debt management for the period from 2011 to 2013.

The public debt management strategy for the period from 2011 to 2013 indicated that public debt management is a process in which the main efforts are focused on the evaluation and analysis of the debt structure in order to minimize generated risk due to its direct impact on the state budget, financial system, capital market and fiscal and macroeconomic stability of the country (Public Debt Management Strategy for the period 2011-2013, 2011: 19).

In order to achieve the quality level of public debt management and following the example of other EU countries, preferred high level of transparency is achieved by determining the objectives of public debt management and preparing annual reports on borrowing and public debt management.

In accordance with the specific objectives, the Directorate of Public Debt Management, which operates within the Ministry of Finance, brings decisions on the debt management strategy and sets strategic

targets based on the results of the expected costs and risks in a given moment. Strategic targets are defined as desirable values of debt portfolio with an acceptable level of risk within a stipulated period. Potential strategic targets are an integral part of the proposal of public debt management strategy, developed by the agency, government or the sector for public debt management. Minister of Finance approves the public debt management strategy that is consistent with the national risk tendency (Bajo et al., 2011: 97). Table 6 shows the main characteristics of public debt management strategy 2011 – 2013.

The more serious approach in the development of the public debt management strategy for the period 2011 - 2013, when compared with 2007, arises from the fact that it provides a more detailed description of the legal and institutional framework for public debt management, as well as precise guidelines for public debt management in the medium term, i.e. a three-year period, and shows the long-term maturity of government debt, i.e. over a ten-year period.

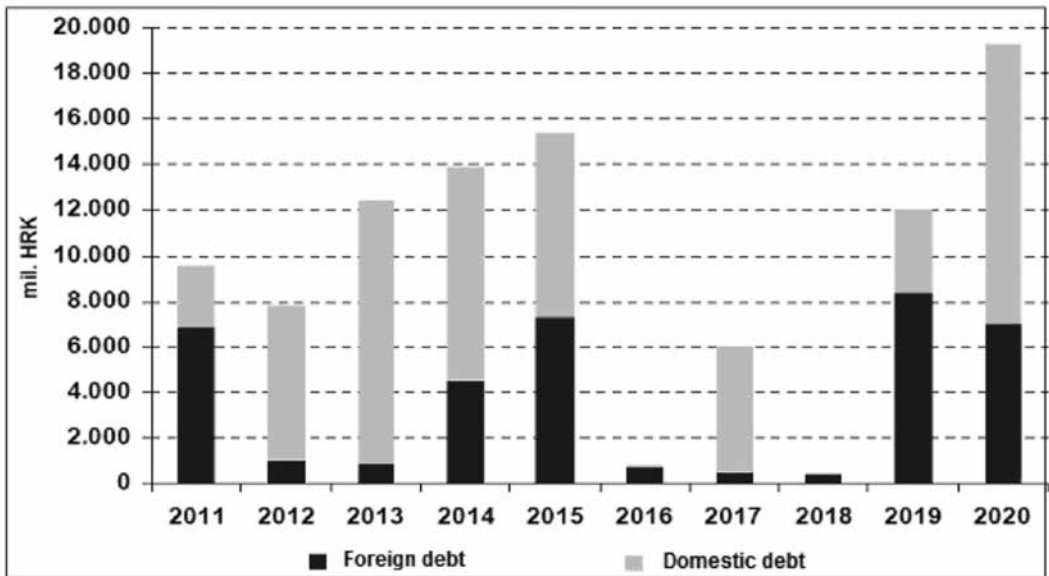
**Table 7** *Results of public indebtedness in the period 2009 - 2013*

Public debt in millions of HRK	2009	2010	2011	2012	2013
1. Domestic public debt	86,218.20	104,361.80	125,709.10	131,504.20	152,273.70
2. Foreign public debt	60,936.20	68,725.70	73,602.00	81,494.00	97,787.50
Total public debt (1+2)	<b>147,154.40</b>	<b>173,087.50</b>	<b>199,311.10</b>	<b>212,998.20</b>	<b>250,061.20</b>
Public debt (% of GDP)	<b>44.50%</b>	<b>52.80%</b>	<b>59.90%</b>	<b>64.50%</b>	<b>75.70%</b>

Source: *Annual Report of the Ministry of Finance for 2013*, Available at: <http://www.mfin.hr/adminmax/docs/Godisnjak%202013.pdf> (Accessed on: September 20, 2015)



Figure 3 Maturity of government debt in the period 2011 - 2020



Source: *Public Debt Management Strategy for the period 2011–2013 (2011)*, p. 11

In addition, the main objectives of public debt management strategy 2011 – 2013 were specific, comprehensively elaborated and explained in detail.

The results of public debt management between 2009 and 2013, which are largely the result of the public debt management strategy 2011 – 2013, are shown in Table 7.

The data presented in Table 7 once again confirm that the results of the public debt management are better in the period for which the public debt management strategy is prepared, showing a small increase of public debt and the ratio of public debt in GDP. It is necessary to clarify that the results of the public debt management in the period from 2009 to 2013 are clearly different and significantly inferior to the results of the previous period shown in Table 6.

The reason for this is the fact that the results of the public debt management presented in annual reports for 2010 and 2013 have been calculated according to different methodologies. Furthermore, the results of public debt shown in the Annual Report of the Ministry of Finance (for all periods) differ from the results of EUROSTAT. This is presented in Tables 2 and 3. The methodology used for EUROSTAT calculations is ESA, 2010.<sup>2</sup>

The contribution to the transparency of borrowing and planning of future public debt management within the Public Debt Management Strategy for the period 2011 - 2013 can be seen in the overview of the maturity of government debt. This is described in the chapter Maturity structure of government debt. In order to achieve further progress in preparation of debt management strategy it is proposed to show the maturity structure of public debt classified according to its use.

The projected debt repayment, which indicates increased burden of repayments in the first half of the period, up to date, is certainly significantly changed because one of the basic guidelines of PDMS 2011 – 2013 is the prolongation of the average maturity and reduction of the share of short-term debt in total amount of debt. Therefore, it is assumed that the implementation of the basic guidelines of PDMS 2011 - 2013 influenced the harmonization of maturity of the debt over the years. Further implementation of the same guidelines proved to be essential. If harmonization of debt repayment is not taken into account, it can bring into question the impact of inter-generational fairness in the management of public debt.

Figure 4 Proposal of main guidelines of PDMS for future period

- Stabilization of public debt to GDP ratio by stimulating the growth of GDP and export
- Extension of the average deadline maturity and reducing the share of short-term debt in the total amount of public debt
- Continuous development and improvement of the domestic securities market
- Legalization of the time limit and manner of drafting of public debt management strategy through law on the fiscal responsibility
- Development of the project for decrease of unemployment, demographic renewal and mitigation of emigration of young and educated people from Republic of Croatia

Source: Authors

Simply put, each accounting period in which there is a strong burden of debt repayment is likely to lead to aggravation or inability to prioritize investments directed towards the present generation, e.g. reduction of the unemployment rate, lack of funds for pension benefits (members of the so-called previous generation), or to a further increase for future generations to finance the costs of the previous periods. Inter-generational fairness in the management of public debt emphasizes the need to minimize government borrowing in order to relieve future generations of financing costs from the past. At the same time, it does not influence the lack of priority investment of the present generation nor does it call into question the payment of pension benefits.

This could probably be achieved by limiting public borrowing for financing the deficit of the state budget, and with efficient and effective management of public debt (Šundalić, Dernaj, 2012: 240, 241). Accordingly, as seen through the chronology of the development of the strategic framework, more consistent framework for public debt management is proposed.

Points from 1 to 3 of the proposal of basic guidelines of PDMS for the future three-year period present a continuation of positive activities in the public debt management strategy 2011-2013. Point 4 is described in detail above. Point 5 can be achieved by establishing the Fund for the decrease of unemployment, demographic renewal and mitigation of emigration of young and educated people from the Croatia. The fund could be financed through public borrowing, donations and EU funds. A guarantee for the financial viability of the fund could be ensured by state properties and assets, and managed by DUUDI.<sup>3</sup> A number of properties and assets that are not in the function of financial resources represent untapped potential in the structure of guarantees. On the other hand, within the framework of the privatization process and quality management of debt they could affect the improvement of the value of financial collateral. A high level of transparency, timely, regular and efficient management strategy, and comprehensive view of the maturity of the public debt, are the basis for successful management of the public debt. Secrecy in reporting, incomplete data in the historical period, and a vague framework of borrowing on international markets that does not comply with the real objectives of borrowing are elements that lead to the need to incorporate a strategic document into government policy planning. Such a document would encompass future activities in the short-, medium- and long term and thus facilitate access to public debt management, particularly in the transition periods when there is a change of government.

#### 4. Conclusion

One of the biggest problems in the management of public debt is its legal definition, where the major issue arises from the fact that it is extremely difficult to predict the results of future realization of the state budget and the public needs for the future period. This problem might also be emphasized and influenced by the economic developments, on EU level and beyond, or by certain crises and natural disasters. However, legal determination of the date and conditions of development of the public debt management strategy, in order to maximize the level of transparency and enable quality planning of public debt management with better macroeconomic forecasting, would make a significant step towards achieving the desired level of impact of inter-generational fairness in the management of public debt. According to the guidelines, goals and strategic targets adopted in PDMS, management of the public debt is considered to be fully justified and can minimize the possibilities of decision-making processes based on personal discretion of responsible individuals. The solution of this problem could be achieved with amendments of the Fiscal Responsibility Act. The main purpose of PDMS is to maximize the level of transparency of the results of public debt management, and thus to enable the predictions of future activities and quality planning

of public debt management, with the main goal of meeting the priority needs and to achieve the desired level of impact on intergenerational fairness in the management of public debt in Croatia. Given that PDMS represents a crucial document for the country's finances, there is extreme need for legal regulation of its contents, models and deadlines. In accordance with the implementation of structural fiscal reforms, which should lead to the improvements in the structure of public debt, and indirectly to improvement of employment, growth and investments, in line with the fiscal targets of the EU, it is necessary to come up with activities that would encourage the growth of GDP and exports. Fiscal reforms should also include better allocation of planned maturities and borrowing components as well as a framework for the development of the financial market of securities with active role of the population. Furthermore, the establishment of the Fund for the unemployed and youth would make it possible to respond to the EU guidelines for employment and growth, and help in improving the management of public debt. As a conclusion, it is necessary to systematize in advance the time frame and conditions for developing the strategy for each time period, because it is evident that the management of public debt has been neglected, with adverse effects on the budget policy, as well as on the preconditions for achieving better credit rating.

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**(ENDNOTES)**

- 1 Public Debt Management Strategy (hereinafter PDMS)
- 2 European system of national and regional accounts (ESA) refers to the harmonized methodology to be used in the preparation of required data on national accounts in the EU. Usage of unified methodology at the level of the entire EU is extremely important in order to achieve a unified, comparable, reliable and modernized production of economic statistics in the Member States.
- 3 DUUDI – State Office for State Property Management

Domagoj Karačić  
Bruno Dernaj  
Mario Raič

## KONCEPTI STRATEGIJE UPRAVLJANJA JAVNIM DUGOM REPUBLIKE HRVATSKE

### SAŽETAK

Rad nastoji dati odgovore na pitanje može li transparentna i pravovremena izrada Strategije upravljanja javnim dugom Republike Hrvatske unaprijediti kvalitetu upravljanja javnim dugom Republike Hrvatske te time utjecati i na kvalitetniju proračunsku politiku. Pojmovi *upravljanje javnim dugom i strategija upravljanja javnim dugom* u stručnoj i znanstvenoj literaturi nisu novi, postoje određeni prijedlozi i rješenja, ali u stvarnoj primjeni nisu zaživjela. Rokovi izrade kao i sadržaj same strategije upravljanja javnim dugom Republike Hrvatske nisu zakonski propisani što je rezultiralo činjenicom da su do danas izrađene svega dvije strategije od kojih samo jedna udovoljava zadanim standardima. Nadalje, Strategija upravljanja javnim dugom Republike Hrvatske (SUJD RH) za trenutno razdoblje uopće nije izrađena te je upitno prema kojim se smjernicama u ovome trenutku provodi upravljanje javnim dugom. Rad se sastoji od dva dijela. U prvome dijelu prikazan je teorijski pregled i analiza aktualnoga stanja upravljanja javnim dugom u Republici Hrvatskoj. U drugom dijelu prikazuju se teorijske odrednice i analiza kvalitete izrade dosadašnjih SUJD RH.

**Ključne riječi:** javni dug, upravljanje javnim dugom, Strategija upravljanja javnim dugom Republike Hrvatske

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# THE IMPACT OF FINANCIAL OPERATIONS OF UTILITY COMPANIES ON THE FINANCIAL POSITION OF THE CITY

## ABSTRACT

In this paper, the main topic will be the financing of utility companies and the financial impact on the budget of the local business units. A special emphasis will be placed on the financing of utility companies in Slavonski Brod. The paper defines each area of utility services and presents the utilities as services of public interest as well their privatization in general. The paper reports on the financing of these services and on the European Union regulations and directives concerning them.

In addition, the paper includes an overview of the sources of funding of utility companies and loan opportunities. Guarantees and subsidies are included as financing measures of the activities of communal companies.

The practical part presents an interview with key individuals of the city of Slavonski Brod with regard to the impact of the budget on the financing of utility services of the utility company in this city – “Komunalac Ltd.”.

**Keywords:** Utility companies, financing, Slavonski Brod city, “Komunalac Ltd.”, budget, public interest

## 1. Introduction

Utility companies are not geared to maximize profits, but rather to meeting the needs of users of public services. Actual revenue should be sufficient to cover the marginal operating costs. Utility companies give priority to fulfilling public duties in relation to profits. Therefore, as the owners of utility companies, local governments should control the performance, to encourage rationalization and increase the efficiency of their operations. The utilities sector in Croatia includes the provision of public utility services of interest to individuals and legal entities, and the construction and maintenance of facilities and equipment of communal infrastructure as a comprehensive system in the area of local government units. The utility services sector through the provision of energy supply, water treatment and disposal of wastewater and solid waste provides key prerequisites for improving the quality of life and work of the population and economic entities.

The main aim of the study is to determine the impact of the financial operations of utility companies on the financial position of the City. For the implementation of the main goal of this paper, it presents and analyses the financial performance of utility companies, and especially the funding sources. In order to cover the given topic, primary and secondary publications related to the financial operations of utility companies are used as well as the methodological framework for the analysis and assessment of the financial position of local government units.

The work is divided into three parts. In the first part, the descriptive approach depicts the main features of the utility services and public utilities. The second part exhibits sources of financing of utility companies through the aspect of public prices and fees. Furthermore, there will be mention of subsidizing utility services by the local governments and discussion of the financial performance of utility companies through the impact on the budget of the local unit. The third part presents the impact of the financial performance of utility companies on the budget of local government units through the example of Slavonski Brod.

## 1.1 Methodology

The main features of the utility services shall be explained by methods of description and statistical analysis, in order to calculate selected indicators of financial operations that are based on the budgets of local government units and the financial statements of utility companies. Secondly, the paper will use the methods of interviews that will be conducted with officials of the local public administration, and the executives of selected utility companies.

## 1.2 Review of previous research

The authors were guided by several previous researches. Many of those are cited throughout this paper. The theoretical background is drawn from mr. sc. T. Antić and his book *Komunalno upravno pravo (Public Utilities Legal System)*. Several other domestic authors were consulted: dr. sc. A. Bajo and dr. sc. M. Primorac on their researches about local utility companies and local government funding. The authors have derived several definitions and theoretical framework from the book *Public-private partnerships: Principles of Policy and Finance*, Oxford (Yescombe, 2014). However, the second part of the paper, in which the authors discuss a case study, consists mainly of internal company data, for which the authors did not find other previous researches.

## 2. The concept and fundamental features of utility services

The utilities sector implies municipal activities, in particular the provision of municipal services of interest to individuals and legal entities, the finance of construction and the maintenance of facilities and equipment of the communal infrastructure as a comprehensive system in the area of local government units (also in the counties as provided by law (Antić, 2007). It includes part of the economy that relates to the provision of utility services, which because of their specificity require special rulings and relations within this area (HGK, 2010).

## 2.1 Communal activities as activities of public interest

Communal activities are those connected to the public infrastructure. The public infrastructure can be defined as facilities that are necessary for the functioning of the economy and society. These are thus not an end in themselves, but a means of supporting a nation's economic and social activity (Yescombe, 2014). This public infrastructure is usually maintained by companies from the public sector. The specificity of the public sector is reflected in the type of services they cover, and it is about the services that are the foundation of urban living. The utility system is integrated and determined by the Utility Services Act. Special features in this sector are related to:

- defining the respective service as a utility service,
- determining the way in which municipal services are performed,
- pricing of utilities and price controls,
- financing of the utilities from special sources (Zakon o komunalom gospodarstvu / Law on Utility Services, 2003).

Public utility services delivered to users are services of public interest. Communal activities are carried out as a public service. Because municipal services are of public interest, it has become evident that nowadays, life in the cities and municipalities would be unthinkable without them.

Utility services are activities that serve the public interest and ensure the key living and working conditions of citizens as well as the work of economic and other entities. They constitute an indispensable condition of life and work, and in accordance with the above-mentioned municipal economies are based on the following basic principles:

- communal activities are performed as a public service,
- they should ensure continuous and ongoing operations of the utilities,
- they should ensure the maintenance of utility facilities in working order,
- they should ensure the performance of the utilities according to the principles of sustainable development (Kemeter, 2009).

## 2.2 The privatization of municipal services

The question of ownership of structures and facilities of the communal infrastructure is important to the previous question for investment in the construction of structures and facilities of communal infrastructure, which have been intensified in recent years in the Republic of Croatia. Investments in the construction of the municipal infrastructure to protect the environment and to ensure the level of European standards of utility services to the citizens is a precondition for the development of JLSs and the overall Croatian economy, which the state encourages through important projects of building facilities and equipment of the communal infrastructure.

Nevertheless, the issue of transformation of utility companies is of decisive importance for establishing the owner of utility facilities and municipal infrastructure, which are used for public utility services of potable water, sewage and wastewater, transportation of passengers in public transport, sanitation, waste disposal and retail markets. This is a special process for the Republic of Croatia in which the best solutions are being sought for the determination of the owners of legal entities registered for the performance of public utilities (Sarvan, 2007).

Yescombe questions why there has been such a worldwide growth in interest in utility companies. For him the reason is limitation of public budget funding (Yescombe, 2014). Modern tendencies are increasingly focused in the area of privatization of municipal services with the aim of maximizing the efficiency of their realization. In the future, public services will also develop with a focus on quality and cost-effectiveness, but with great caution, because a public service must serve the public interest. It is there for the people, so the public interest should not be neglected nor should the users be cheated or exploited. In the case of privatization, there must be strong supervision (Pusić, 2006).

In order to achieve effectively managed utilities, privatization is inevitable. Utilities that will be provided according to market principles, with the best bidders entering into performance contracts for utility services with local governments, are currently probably the most appropriate way of performing the utility activities. The local government will have to be an expert in all segments, in order to have a strong supervisory role.

### 2.3 The impact of the financial operations of utility companies on the local governments' budget

Thanks to the accelerated process of urbanization, investment in capital infrastructure has become a significant factor in improving the quality of life of the population of local units and a key prerequisite for economic growth. Along with the increase in the standard of living of the population, rises the need for increasing the quality and diversity of supply from public services in local communities.

Local units in Croatia often entrust the providing of a certain segment of the public utility services to specific legal entities (utility companies) that are controlled mainly through its ownership stake. The analysis of the financial performance of utility companies in Croatia raises the question of the impact on the financial performance of utility companies in the local governments' financial health.

The conditions for local governments borrowing from 1996 to 2010 are shown in Table 1.

Local units may borrow by means of credit, loans and issuing securities. Through the aforementioned legislative framework, individual and cumulative (aggregate) limitations of local government borrowing were identified. The scope of possible borrowing of the local units includes consent for:

- borrowings of legal persons with direct or indirect ownership of local units that are in the annual accounts for the year preceding the year in which the borrowing suffered a loss;

- borrowings of legal persons with direct or indirect ownership of local units to borrow for a period of two years from the date of entry of the establishment in the court register;
- borrowing institution founded by the local unit (Zakon o proračunu, The Budget Act, 2008).

Since local governments have limited support for the borrowing, they are borrowing through the utility companies bypassing budgetary constraints. The negative consequences of overloading utility companies debt does not refer exclusively to the likelihood of converting latent liabilities of local government units into direct. Even the much smaller effects are large enough to start approaching with caution the borrowings of utility companies. The mere insolvency of utility companies may result in increased prices of local government borrowing on the market due to the connection of their financial operations, and indirectly by creditworthiness.

Although the bodies of the local unit are not authorized in making financial plans of utility companies, because of the interconnectedness of local government and utility companies, it is necessary to observe a consolidated (consolidated) view of the financial health of local government units and companies owned by them. This fact is gaining in importance in the current economic conditions that threaten with an increase in the utility sector insolvency and politically unpopular measures to increase the prices of public services (Bajo, Primorac, 2010).

The current financial crisis has affected the business of local government units and companies owned by them. Aggregate revenues of local government units will be reduced from 25 billion 2008 to 23.3 billion HRK 2009.

**Table 1 The conditions for local governments borrowing from 1996 to 2010**

Year	Permitted purpose of borrowing	Annual debt service limit	Additional limitation (% income on the business of all local government units)
1996-1997	Reconstruction and Development (financing of capital projects)	30% of budget expenditures	Does not exist
1998-2002			
2003-2004		20% of income in the year preceding the year in which it is borrowed	3%
2005-2006			2%
2007-2010			2.3%
2011			2.5%

Source: Zakon o proračunu (The Budget Act), Narodne novine (The Official Gazette) 92/94, 96/03, 87/08

**Table 2 Financial operations of local units and utility companies**

The numerator	The denominator	Local units	Utility companies	Other
<b>2008</b>				
Current revenue	Total revenue	0.74	0.95	0.94
Total expenditure	Total revenue	1.01	1.00	1.01
Operating expenditures	Total expenditure	0.74	0.95	0.80
Operating expenditures	Current revenue	0.80	1.00	0.85
Total expenditure	Population	5.704	2.144	7.848
Business expenditures	Population	4.235	2.043	6.278
<b>2009</b>				
Current revenue	Total revenue	0.96	0.96	0.96
Total expenditure	Total revenue	1.08	1.01	1.06
Operating expenditures	Total expenditure	0.77	0.94	0.82
Operating expenditures	Current revenue	0.86	0.99	0.90
Total expenditure	Population	5.693	2.182	7.876
Business expenditures	Population	4.374	2.060	6.434

Source: City of Slavonski Brod (2010). *Annual Financial report for the City of Slavonski Brod for year 2009*, Available at: <http://www.slavonski-brod.hr/> (Accessed on: August 28, 2011)

In the same period, expenditures remain unchanged (25.3 billion HRK) resulting in an increase in the total deficit from 257 to almost 2 billion HRK and with the addition deficits by utility companies, the deficit of the consolidated local sector in 2009 was 2.1 billion HRK (Bajo, Primorac, 2010).

The liquidity of the consolidated local sector in the observed period (2008 and 2009) was mainly threatened due to the poor liquidity of utility companies. However, it should be noted that the aggregate liquidity of local units was so good that even after consolidation it is still quite high. The ratio of cash and short-term liabilities as well as cash and current expenditure reflects the extent to which an entity is capable of financing short-term liabilities and current expenditure with the most liquid assets. The ratio of cash and short-term liabilities of local government units decreased from 1.12 to 0.67 or from 0.52 to 0.36 for the consolidated local sector. This means that the subjects of the consolidated local sector in 2009 on average could almost instantly meet about 36% of the current liabilities.

Analogously, the local unit in 2009 could pay with the most liquid assets about 13% of the current expenditures, and utility companies, only about 5%, which is why the ratio of cash and current expenditures for the consolidated local sector in 2009 is 0.1. Liquidity of local units and utility companies is shown in Table 3.

The existing stock of net financial assets of utility companies threatens the financial position of local government units that support the operations of utility companies by various mechanisms. Exposure of local units to poor financial performance of utility companies also affects the credit risk of local government units and may ultimately have a negative impact on their borrowing costs, and in case of financial instability on a wider scale, will have an impact on the fiscal sustainability of the entire local government sector.

Global financial instability has prompted the recent growing interest in studying the borrowing and debt of public sector entities, as well as privately owned enterprises and the population on the whole. Although, due to its apparently small share in the total state debt, the local government debt is often overlooked, particularly local government borrowing represents an indispensable segment of public sector borrowing.

**Table 3 Liquidity of local units and utility companies**

The numerator	The denominator	Local units	Utility companies	Other
<b>2008</b>				
Current assets	Current liabilities	8.41	1.48	4.28
Total surplus	Current revenue	- 0.02	0.00	-0.01
Money	Current liabilities	1.12	0.11	0.52
Money	Current expenditure	0.18	0.05	0.14
<b>2009</b>				
Current assets	Current liabilities	6.87	1.16	3.76
Total surplus	Current revenue	-0.08	-0.01	- 0.06
Money	Current liabilities	0.67	0.10	0.36
Money	Current expenditure	0.13	0.05	0.10

Source: City of Slavonski Brod (2010). *Annual Financial report for the City of Slavonski Brod for year 2009*, Available at: <http://www.slavonski-brod.hr/> (Accessed on: August 28, 2011)

In the context of the management of local public debt, it is necessary to address indirect (potential) obligations not only because of the (un)certainity of their conversion into direct debt, but also because of the seriousness of the potential effects that such conversion may have (Primorac, 2010).

With the explicit conditional and unconditional obligations of local units, which with the issued loans and securities include arrears and guarantees issued, the local sector is often faced with the implicit obligations arising from borrowing of utility companies. Even though local government units and utility companies are formally separate, local units often support the financial operations of utility companies with subsidies and capital grants, but also indirectly by providing guarantees. In addition, by borrowing through public utility companies, local units bypass budgetary constraints on borrowing prescribed by the budget and the annual Law on State Budget Execution of the Republic of Croatia (Bajo, Primorac, 2010b).

It is therefore necessary to observe together the financial operation of local units and utility companies in order to create a complete picture of the financial "health" of the local public sector. Croatian legislation does not provide for the consolidation of local government units and companies owned by them, but a stronghold for such action can be found in the International Public Sector of Accounting Standards.

All this points to the necessity of formal consolidation of the financial statements of local units and utility companies. In addition, the role of the local units in the financial planning of utility companies should increase, whereby every major borrowing by utility companies should be preceded by a thorough analysis of the impact of the planned borrowing on the financial operations of the utility company and on the local unit in which the company operates. Due to the expanded scope of the obligations included in the scope of possible borrowing of local government units, it is necessary to introduce a system of credit risk assessment of local units and utility companies with the goal of optimal allocation of consent for borrowing. Credit risk assessment should be a mainstay for giving guarantees to local government units and their utility societies (Bajo, Primorac, 2010b).



### 3. Influence of the financial performance of utility companies on the local governments' budget

As we mentioned in the introduction, the purpose of utility companies is not to make profits. Therefore, the funding impact of the utility companies on the local government budget can only be negative, or may lead to the condition where the utility companies need too much funding from the budget for their functioning. Utility companies should operate sustainably, in a way that as few resources as possible are allocated from the budget, while, at the same time, the services offered to citizens are as low cost as possible.

#### 3.1 Sources of financing of utility companies (public prices and fees)

Providing of utility services is financed from municipal services charges, utility charges, local budgets and other sources under special regulations (Sarvan, 2009). The issue of pricing of municipal services in the Republic of Croatia necessarily includes the issue of controlling the amount of utility charges. The municipal services provide funds for operations of the utilities: water supply, drainage and wastewater treatment, storm water drainage in addition, public passenger transport, maintenance of cleanliness in the part relating to the collection and disposal of municipal waste, municipal waste disposal, retail markets, transport of the deceased, chimney sweeping.

The price, method of calculation and method of payment for utility services is determined by the supplier of services, who is paid for the utility services. The payer of the price is the owner of the property (which is connected to the system of communal infrastructure), or the user when the owner of the obligation transferred the contractual commitment to the user. The price of the utilities can contain an amount for the maintenance and financing of the construction of facilities and equipment of the communal infrastructure in the area or for the needs of the LGUs in which the service is delivered, in accordance with the Programme of facilities construction and communal infrastructure equipment.

From 1 January 2000, the process of determining the price of utilities has been amended and now, the provider of utility services is obliged before every change of the price, that is, tariffs of the services, to obtain prior approval from the executive and the LGU in the area where the service is provided. That body shall respond within 15 days from the date of application for obtaining the previously mentioned consent. If the executive body of the LGU in the mentioned period does not respond, it is considered that the consent has been given. However, when the same approval is withheld for the new rates and prices, the tariffs and services are applied when they are accepted by the LGU that own the largest ownership stakes as providers of utility services (Sarvan, 2010).

The price list report must contain the elements according to which it is possible to assess whether the price changes of utilities are justified. This includes the type of utility services and the method of calculation and payment of services, the structure of the existing price of utilities, the proposed new price of the service and its structure, the percentage of price change compared to the existing price, the reasons for the change in the price with detailed explanation and calculation, and the date of application of the new prices. The LGU on whose territory the service is delivered shall, within 15 days from the date of application of the new charge for utilities, notify the ministry responsible for the price and the county office responsible for the economic activities.

#### 3.2 Borrowing of utility companies

The growing trend of local government borrowing through the utility companies is worrying. Institutions and corporate entities whose founder and majority owner is the local unit may contract debt only with the prior consent of the representative body of the local unit. Utility companies owned by local units may borrow short and long term. In the short term, borrowing is due to the uneven dynamics flow of funds in their budget, usually in a commercial bank in which they have their accounts for regular operations (Bajo, 2007). Although the law has not been determined, the local unit should not give consent to institutional and utility companies to finance current expenditure, but only consent for capital investment. For the financing of capital pro-

jects of local institutions and companies in the long run, they take loans from banks and, increasingly, by issuing corporate bonds.

Local units cannot borrow in the name of and on the account of establishments and utility companies, but they can give, without any Government consent, the guarantee for the fulfilment of their obligations. The detailed procedure for issuing guarantees is determined by the statutes of the local unit, and approval, conditions and procedure of borrowing is determined by the representative body of the local government unit. The total amount of debt and granted guarantees are prescribed in the yearly decision on the execution of the local unit budget. The local government unit shall notify the Ministry of Finance on the number of guarantees issued. However, there are no additional requirements of the Government and the Ministry of Finance in terms of reporting (Bajo, 2007). In the Republic of Croatia, borrowing by local government units is prescribed in the Budget Law and the Law on Annual State Budget Execution of the Republic of Croatia. Local units may borrow by raising means of credit, loans, and issuing securities. According to the Budget Law, a legal person in direct or indirect ownership of the local unit and institutions founded by the local unit may use long-term borrowing only for investment with the consent of the majority owner or founder. The scope of possible borrowing of the local units includes consent for:

- borrowings by legal entities with direct or indirect ownership of local units that are in the annual accounts for the year preceding the year in which the borrowing suffered a loss;
- borrowings of legal entities with direct or indirect ownership of local units to borrow for a period of two years from the date of entry of the establishment in the court register;

- borrowing institution founded by the local unit.

The above legal provisions clearly indicate the possibility of undisturbed unlimited borrowing by utility companies if in the year, preceding the year in which they borrow did not suffer a loss, and that it has been more than two years from the date of their establishment in the court register. In the segment on granting guarantees, the legal provisions prevent imprudent behaviour, so that the local unit may issue a guarantee to fulfil the obligations of the legal entities and institutions, to the legal entity holding the majority of direct or indirect ownership and the institution of which it is the founder. However, the given guarantee is included in the scope of possible borrowing of the local unit.

### 3.3 Subsidizing of utility services from the budget of local units

According to the Budget Law, the budget users are government bodies, institutions, boards of minority self-governments, budgetary funds and local self-government whose expenses for employees and / or material expenses are funded from the budget. Users of local units' budgets are those who are funded by local units, whose source of income comes from the budget of the local unit in the amount of 50% or more and who are listed in the register of budget users (Zakon o proračunu, The Budget Act, 2008).

This can include for e.g. employees in museums, kindergartens, social service agencies, health care institutions whose founders and majority owners of the unit (Bajo, 2009). The Utility Services Act stipulates that the zone coefficient determines the representative body of local self-government in some zones, and the highest ratio in the first zone LGU is 1.00.

**Table 4 Subsidies and capital grants to local government units (in m/HRK)**

	Towns		Municipalities		Counties		TOTAL	
	2008	2009	2008	2009	2008	2009	2008	2009
Subsidies	1,010	1,102	37	38	10	10	1,057	1,150
Capital grants	58	32	23	18	179	133	260	182
<b>TOTAL</b>	<b>1,069</b>	<b>1,134</b>	<b>60</b>	<b>56</b>	<b>188</b>	<b>143</b>	<b>1,317</b>	<b>1,333</b>

Source: City of Slavonski Brod (2010). *Annual Financial report for the City of Slavonski Brod for year 2009*, Available at: <http://www.slavonski-brod.hr/> (Accessed on: August 28, 2011)

**Table 5 Shares and equities in local units**

		Shares and equity (total)	Banks and other financial institutions in the public sector	Trade associations in public sector	Domestic banks and other financial institutions outside public sector	Domestic trade associations outside public sector
2008	Towns	11,430	1	9,927	46	1,466
	Municipalities	1,724	5	1,434	31	250
	Counties	617	0	290	0	345
	<b>Total</b>	<b>13,771</b>	<b>6</b>	<b>11,651</b>	<b>77</b>	<b>2,061</b>
2009	Towns	11,720	1	10,022	47	1,661
	Municipalities	1,935	2	1,632	37	260
	Counties	585	0	302	0	336
	<b>Total</b>	<b>14,240</b>	<b>2</b>	<b>11,957</b>	<b>84</b>	<b>2,257</b>

Source: City of Slavonski Brod (2010). *Annual Financial report for the City of Slavonski Brod for year 2009*, Available at: <http://www.slavonski-brod.hr/> (Accessed on: August 28, 2011)

The representative body, depending on the location of facilities and communal equipment of a certain area determines the areas on their own terms and criteria.

Subsidies in the public sector amounted to about 79% of total subsidies of local government units in 2008, and in 2009, this share increased to almost 82%. The total amount of subsidy has increased in the observed period from 1.06 to 1.15 billion HRK, where most of the subsidies are received by cities (over 95%). The amount of capital assistance in the same period decreased and the total amount of aids to the local units' utility companies remained at around 1.3 billion HRK per year.

### 3.4 The finances of the utility companies and the impact on the budget of the local unit

Thanks to the accelerated process of urbanization, investment in capital infrastructure has become a significant factor in improving the life quality of the local units' population and a key prerequisite for economic growth. The increase in the living standard of the population has raised the need for in-

creasing the quality and diversity of public services supply in local communities. Local units in Croatia often grant a certain segment of public services (municipal services) to specific legal entities (utility companies) that are controlled mainly through its ownership stake.

According to the latest figures in Croatia, 167 companies operate in major ownership within the local units. They provide services in the field of water supply, retail markets, transport, waste collection and waste management, funeral services and preserving the environment. They are mostly organized as companies and are liable to income tax. Only the City of Zagreb joined all companies in a holding company. In the majority-owned companies, there may be several local units (mostly in cities). Financial operations of local public companies are often beyond the reach of public policy because they do not undergo the same system of supervision and control such as the budgets of local units that are regularly under debate in the local representative bodies. It is the same with the pricing of public services that through the years has to undergo formal discussion at meetings of shareholders, rather than be analysed in the local representative bodies. Insight into the structure of the equity portfolio for local units can be obtained by observing the structure of stocks and shares and equities.

The total value of shares and equities in the local government units has increased from 13.8 billion HRK in 2008 to 14.2 billion HRK in 2009, whereby the structure (with 84% share) is dominated by

stocks and shares in the equity of companies in the public sector. The ownership structure of utility companies implies potential interdependence of financial operations of local units and utility companies.

#### **4. Impact of the financial performance of utility companies on local governments' budget – the example of Slavonski Brod**

As already mentioned in the paper, "Komunalac Ltd." will be taken as an example of a utility company. "Komunalac Ltd." from Slavonski Brod is a utility company established in 1946 under the name City Maintenance. Over time, the company has changed its name and structures including RO, KRO, and OOUR and in 1996 it came to its present organization structure. It was registered in the Commercial Court in Slavonski Brod under the Public Utilities Act as a company "Komunalac Ltd." from Slavonski Brod, fully owned by the City.

The company deals with the following activities: removal and disposal of municipal waste, maintenance of cemeteries and funeral activities, maintenance of public roads and green areas, vegetable - nursery production, services, retail markets, retail and funeral equipment. Until mid-2002 the company employed 290 workers. Due to accumulated financial obligations, organizational collapse of human relations, and political conflicts, bankruptcy proceedings were initiated which ended in October 2003 by the adoption of the Bankruptcy Plan by the creditors. The company, once again, found itself, at the beginning; the formation of the Assembly, the Supervisory Board and the Management Board, and the total number of employees decreased to 170 employees. The main body of the company is the Assembly appointed by the City Council and has only one member. The company is largely financed from its own resources. Below, we analyse the financial performance of this company.

#### **4.1 The financing of the municipal association "Komunalac Ltd."**

The revenues of the company "Komunalac Ltd." for performing utilities are provided by the prices of municipal services and the city budget. The budget allocation that funds activities to maintain public transport and green spaces have been the same for eight years and the volume of business has increased significantly. The Income Statement for the company "Komunalac Ltd." for 2011 and 2010 is shown in Table 6.

**Table 6 Income Statement of the company "Komunalac Ltd." for 2011 and 2010 (in 000 HRK)**

	2010	2011
Sales revenue	25,483	26,833
Other operating income	1,665	2,178
Total operating revenues	27,148	29,011
Changes in inventories of finished goods and work in progress	99	44
Material costs	5,260	5,016
Staff costs	12,692	12,136
Amortization	2,608	2,127
Other operating expenses	5,997	7,890
<b>Total operating expenses</b>	<b>26,513</b>	<b>27,268</b>
Profit from operations	635	1,743
Net financial expenses	238	174
Profit before tax	397	1,569
Income tax	134	319
Net profit	263	1,250

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

Operating income includes income arising from deliveries of finished products and services rendered based on original invoice amount. Revenues are also recognized in accordance with the financial reporting standards and for the delivery of products and services. Income from the sale of "Komunalac Ltd." is shown in Table 7.

**Table 7 Sales revenue (in 000 HRK)**

	2011	2010
Revenue from utilities	20,609	19,610
Income from cemetery services	2,867	2,520
Income from rent	2,276	2,236
Other	1,081	1,117
<b>Total</b>	<b>26,833</b>	<b>25,483</b>

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

The largest share of sales revenue is the revenue from municipal services and they make up almost 90% of total revenues. Other operating income of "Komunalac Ltd." in 2011 amounted to 2,178m HRK, and in 2010 to 1,665m HRK. These revenues include revenues from the collection of previously written-off receivables, income from reversal of deferred costs and the liabilities write-off.

#### 4.2 Debt amount and structure

Payables and receivables of the company "Komunalac Ltd." are shown in the following tables.

**Table 8 Trade receivables (in 000 HRK)**

	2010	2011
Domestic customers	14,838	13,363
Impairment of trade receivables	6,533	-10,135
	8,305	3,228

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

The Company conducts value adjustment for receivables that are overdue for a period of 120 days from the due date. In the course of these financial statements, the Company does not consider these receivables uncertain, because it is a matter of regular customers with whom the Company realizes significant revenues from operations. These actions were undertaken to collect a certain portion of the receivables and were billed in 2011.

**Table 9 Other receivables (in 000 HRK)**

	2010	2011
Receivables from government and other institutions	285	81
The service of "tow car"	135	181
Employees	214	214
Other	642	292

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

**Table 10 Liabilities to banks and leasing companies (in 000 HRK)**

Commitments	2010	2011
Loan	4,253	2,081
Finance lease	912	456
<b>Total</b>	<b>5,165</b>	<b>2,537</b>

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

Borrowings related to bank loans refer to the bank loan approved in 2003 for reprogramming the bankruptcy plan. The loan for HRK was approved with an interest rate in the sum of the one-month Euribor + 1.9 percentage points, and due on 1 November 2012. Other long-term liabilities are shown Table 11.

**Table 11 Other non-current liabilities (in 000 HRK)**

Commitments	2010	2011
According to the state for sold apartments	443	448
Provision for retirement benefits and jubilee awards	847	704
Provision for litigation	209	209
<b>Total</b>	<b>1,499</b>	<b>1,361</b>

Source: "Komunalac Ltd.," income statements from 2010, 2011, internal company documentation

These include long-term liabilities to the state of sold apartments, provisions for bonuses and retirement benefits and provisions for litigation.

#### *4.3. The impact of the financial operations of utility companies on the financial position of the City of Slavonski Brod*

The fundamental problems that arise when looking at the financial operations of utility companies in relation to the financial picture is low liquidity and high liability associations, which affect the price increase for public services. From the utility revenues in 2011, the City realized HRK 1,029,000.00. These revenues consist of municipal contributions, utility charges and connection fee.

Municipal contributions are the largest and amount to HRK 9,000,000.00. The billing of the municipal contribution is governed by the Act. Municipal contributions are intended to finance the construction of facilities and equipment of the communal infrastructure: public areas, unclassified roads, public lighting. Communal tax was planned for HRK 10 million and, based on the Act on the Utilities Sector (Official Gazette no. 26/03-cleared text 82/04, 110/04-Regulation 178/04) Decision on communal compensation (Sl. Vjesnik, The County no. 14/01, 08/09).

Funds of utility fees in full are allocated for implementation of the program of work on maintaining the municipal infrastructure. Fees for connection to municipal infrastructure amounted to HRK 1,000,000.00, based on the Act on connecting to the utility infrastructure, and in agreement with the Programme for construction of facilities and equipment of communal infrastructure.

"Komunalac Ltd." considers that the budget allocation assigned by the city for their services is rather low for a company that operates in four working units (1. Work Unit "Hygiene", 2. Work Unit "Green and Clean", 3. Work Unit "City Cemetery" and 4. Work unit, "City Market"). It is difficult to allocate resources and select priorities. However, the company is aware of the situation in which is the city of Slavonski Brod finds itself and hopes that the situation will improve in the future.

Total revenues of the company are mostly fully anticipated so that it cannot count on any extra income. The company is working to reduce costs and with the eventual implementation of cost reduction, it could count on some increment. "Komunalac Ltd.", regardless of being a utility company and owned by the city, must adapt to changes in the environment, technological changes, political and legal, as well as market and demographic changes.

Legal entities in direct or indirect ownership of the town of Slavonski Brod and institutions founded by the City of Slavonski Brod can make long-term borrowing for investment only with the consent of the majority owner or founder.

The representative body decides on the total value of activities and projects that are planned and approved in the budget. The programs of these activities are listed in the relevant governing bodies and adopted in the budget of the City by the City Council if they exceed 0.5% of receipts and revenues, i.e. if their value exceeds one million HRK. The decisions regarding the acquisition and alienation of movable and immovable property also have to be taken by the representative body. The City Council authorizes the Mayor to carry out the procurement procedures of goods, works and services and concluding contracts for the all of the activities and projects whose value exceeds the amount of Article 48 of the Act in accordance with legal regulations.

Asked whether the budget allocation is sufficient to fund activities that are financed from the City budget, the city responded that: the City budget financed only "Komunalac Ltd." for the work of cleaning the sidewalks and streets, street washing, mowing and maintenance of greenery. For the past several years, 5 million HRK have been foreseen in the budget for the cleaning and maintenance of public spaces. "Komunalac Ltd." argues that these funds are not sufficient. The actual i.e. real or market price could be obtained when the City would call for tenders and anyone in the market could make bids.

## **5. Conclusion**

The utilities sector includes the part of the economy that relates to the provision of utility services, which due to their specificity require special legal provisions and management of relations within this



area. It consists of nine main activities, which include a specific segment of the business operations and each of these units are managed separately. Trade associations, public institutions, services – own work units, as well as any person or entity may provide utility services. The funds for municipal activities are provided from the utilities prices, utility charges, the budgets of local governments and other sources pursuant to special regulations.

There are utility companies engaged in public water supply, sewage and water treatment, waste management, maintenance of public areas, city markets, maintenance of cemeteries and crematoria, public lighting, public transport passenger transport, maintenance of unclassified roads and sweeping chimneys. As public interest activities, utility services are activities that serve the public interest, and ensure the satisfaction of vital living and working conditions of citizens, as well as economic and other entities. Local government units can entrust individuals or legal entities to provide communal utility services that are financed from their own budget and based on a written contract. Modern tendencies are increasingly focused on the privatization of municipal services with the aim of maximizing the efficiency of their realization. In the future, public services with a focus on quality and cost will develop, but with a great caution since public services must serve the public interest.

The financing of municipal activities is done according to dual instruments. First, instruments of business financing are incomes based on price of utility services. The second are instruments of public funding, such as income-based utility charges, budget funds, funds from contributions and funds from other sources under special regulations. The funds for municipal services are provided through the price of utilities, the utility charges, and the local government budget and from other sources according to special regulations.

As an example, in the case of the company "Komunalac Ltd.", revenue for performing utilities is provided from municipal services and the city budget. The budget allocation, which funds activities to maintain public transport and green spaces, has remained the same for eight years and the volume of business has increased significantly. The same operating income includes income arising from deliveries of finished products and rendered services based on the original invoice amount. Revenues are also recognized in accordance with the financial record-

ing standards, and by the delivery of products and services. The largest share of sales revenue is the revenue from municipal services and they provide almost 90% of total revenues.

As far as the city of Slavonski Brod is concerned, in relation to the financial operations of the company "Komunalac Ltd.", which is owned or majority-owned by the city, HRK 5,000,000.00 is allocated to the company and this allocation has been constant over the years. From the interviews, we have learned how much is appropriated for which activity, how profitable they are, and how income flows from unit to unit and such. From all that was mentioned, we can conclude that the city has an impact on the company's operations to the extent that it provides funding for the construction of municipal infrastructure and the like while the company generates revenues that are solely related to their activity.

Looking at the hypothesis of this study it can be concluded that the financial operations of utility companies affect the financial position of local government units because the city also sets aside their own funds from the budget for their activities. Although the amount is fixed and in principle does not change in emergencies, revisions may occur and in such situations, the impact is felt the most.

The debt of utility companies is not the main cause of instability because along with the utility companies' debt, there are debts from other companies that participate in the city budget and distort the financial picture of the city. Budgetary support certainly helps utility companies but it is still insufficient for all the activities that the utility companies should and want to provide.

In the end, authors propose guidelines for further research. Undoubtedly, as it was shown, utility companies affect the local government budget. Tax reforms that occurred in Croatia in the last year resulted with less income for local governments. Therefore, the question remains whether the budgets of utility companies should be furthermore consolidated from local government budgets. Another proposal questions whether a price increase of utility services brings more benefits for the local population. The last, and maybe most important research proposal is the question should the local government allow private utility companies to perform tasks that are still reserved for public companies.



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## **UTJECAJ FINACIJSKOGA POSLOVANJA KOMUNALNIH DRUŠTAVA NA FINACIJSKU POZICIJU GRADA**

### **SAŽETAK**

Radom se istražilo financiranje komunalnih društava, odnosno utjecaj financijskoga poslovanja na proračun lokalnih jedinica. Poseban naglasak stavljen je na financiranje komunalnih društava Slavnskoga Broda te njihov utjecaj na proračun. U radu je definirano svako od područja komunalne djelatnosti te je prikazana komunalna djelatnost kao djelatnost javnoga interesa, kao i privatizacija te djelatnosti općenito. Rad govori o praksi financiranja djelatnosti te o direktivama u smjernicama Europske unije.

Rad sadrži i pregled izvora financiranja komunalnih društava i mogućnosti kreditiranja. Obuhvaća također jamstva i subvencije kao mjere financiranja aktivnosti komunalnih društava.

U praktičnome dijelu bit će prikazan intervju s čelnim ljudima grada Slavnskoga Broda vezano za utjecaj proračuna na financiranje komunalnih djelatnosti komunalnoga društva Komunalac d.o.o.

**Ključne riječi:** komunalna društva, financiranje, Slavonski Brod, Komunalac d.o.o., proračun, javni interes



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# DIAGNOSING THE CORPORATE SOCIAL RESPONSIBILITY CULTURE

## ABSTRACT

The contemporary business environment places demands on companies to go beyond economic survival and self-interest and satisfy the needs of various stakeholders. Organizations embark on the path of responsibility and sustainability, but many argue that CSR becomes embedded in an organization when it permeates all aspects of organization, including the organizational culture. Existing organizational culture typologies only provide the framework for analysis within the traditional business paradigm, but they are of limited use in the context of corporate social responsibility. After the analysis of major scholarship in the field, this paper defines CSR culture and identifies four types of organizational cultures based on companies' CSR orientations, namely CSR-related values and strategy. In order to fully embed CSR culture, CSR has to be both strategic and value driven. This paper explores different CSR orientations and makes recommendations needed in order to achieve the desired state. Furthermore, through exploratory factor analysis, it identifies two cultural elements, CSR values and employee engagement in CSR, which indicate the existence of CSR culture. Identification of these cultural elements is intended to help in analyzing the direct and indirect effect of CSR culture on organizational outcomes, especially employee attitudinal and behavioral outcomes.

**Keywords:** Corporate social responsibility, organizational culture, strategy, values, employee engagement

## 1. Introduction

The new business reality, according to Lazslo and Zhexembayeva (2011), is influenced by three interconnected trends of declining resources, radical transparency and increasing expectations. In order to stay in business, companies will need to reassess their goals and their capabilities, and respond, appropriately, with organizational change. Increas-

ingly, they are being pressured and challenged to respond to issues outside of the business realm.

Implementation of CSR is a complex, reiterative process. CSR involves learning by doing, and requires involvement of all relevant stakeholders, which essentially requires a new management model (Jonker, de Witte, 2006; Zwetsloot, 2003; Wieland, 2011). Jonker and de Witte (2006) explain that CSR needs to pervade all aspects of the organization,

and be aligned with the business strategy specific to the organization. The idea of an integrated CSR approach, holistic thinking and value orientation resonates through literature (Welford, 1997; Sanford, 2011; Porter, Kramer, 2011; Lazslo, Zhexembayeva, 2011). The need for integration of CSR into the core business is recognized and advocated by scholars who point that the creation of CSR culture is the culmination of this process (McLagan, 1999; Carlisle, Faulkner, 2004). So far, integration of CSR into the organizational culture has been acknowledged as the path to CSR, but without comprehensive CSR culture definition, ways to measure this culture type, or the way to differentiate between different aspects and levels of CSR orientation.

The effects of CSR are of great interest to scholars and practitioners, who have studied the interconnectedness of CSR and financial performance (McWilliams, Siegel, 2001; Orlitzky et al., 2003), and CSR and other organizational outcomes (Brammer et al., 2007; Hansen et al., 2010; Turker, 2009b). From the organizational culture perspective, CSR has been mostly addressed through ethical behavior (Gottlieb, Sanzgiri, 1996; Schwartz, 2013). Although they are valuable contributions, ethical behavior studies describe only a part of a larger whole. A very limited number of explorations of socially responsible cultures are available (Duarte, 2010a, 2010b; Lingard, 2006), in spite of considering that CSR integration into organizational culture to be the crown of CSR efforts and a sign of long term dedication to responsible behavior (Carlisle, Faulkner, 2004; Lazslo, Zhexembayeva, 2011).

A better understanding of CSR culture is particularly relevant to studies that address CSR's impact on outcomes relevant to employees' perceptions and experiences (organizational commitment, job satisfaction, trust). The way employees perceive and experience organizational CSR efforts is likely to affect their beliefs and values, as well as involvement in organizational processes, which can have a great impact on effectiveness (Denison, Mishra, 1995) and identity and reputation (Schultz, Hatch, 1996). Although scholarly discussions have been pointing to CSR being a participative and integrative process (i.e. McLagan, 1999), it often occurs in practice that top management dictates the desired values, without employee involvement (Bolton et al., 2011), and fails in embedding it into its core functions.

Understanding the most prominent characteristics of CSR-oriented culture, such as employee engagement, is also crucial to practitioners in charge of CSR design and implementation, as recognition of these traits in the beginning of the process can lead to successful organizational change.

Studying organizational culture is a complex task, without much agreement on what should be studied or how it should be conducted (Smircich, 1983; Alvesson, 2002; Martin, 2002; Schultz, Hatch, 1996; Barley et al., 1988). What researchers agree on is the importance of culture and the need to further explore the ways to study it. In this paper, we draw on relevant CSR and organizational culture literature to differentiate four types of organizational cultures based on CSR orientations, and explore the meaning of (embedded) CSR culture. It is here proposed that companies can be characterized and affirmed as socially responsible only when they succeed in embedding CSR into their culture. Companies with both strategic and value orientations to CSR are more likely to embed CSR into their cultures than companies without these orientations. We therefore hypothesize:

H: Embedded CSR culture is characterized by CSR-specific cultural traits

While CSR is generally often related to reports of increased trust, respect, honesty and responsibility in an organization (Lowe, 2010), we wanted to further explore the traits that characterize embedded CSR culture. For this reason, we conducted an exploratory factor analysis which identified two dimensions of embedded social responsibility culture. In an organization recognized for its social responsibility, 290 participants took part in the research, which exposed two cultural traits of CSR culture, namely employee involvement in CSR programs, and shared CSR values. Once identified, these traits can be a useful tool in quantitative studies that address effects of CSR on various organizational outcomes, such as organizational commitment, employee satisfaction, motivation, turnover, etc.

## 2. CSR and organizational culture

Corporate social responsibility and all of its synonyms denote a greater role and responsibility that business has toward the society and the environment. It is, however, difficult to determine when exactly a company can be called socially responsible, and there is a great need for differentiation between those that occasionally support social or environmental causes through donations, and those who strategically integrate CSR in all their operations. The question of how to go about becoming socially responsible is an important one. Depending on the starting point and previous records and reputation of the company, it may take more or less effort and resources. Change is required at all levels of the organization, and many scholars agree that the commitment to becoming socially responsible has to come from everyone in the organization. Morsing and Vallentin (2011: 249) explained: "...CSR is not just the domain of top management, it involves other actors located at different levels of the organization who might serve as internal change agents continually pushing the boundaries of the company's commitment to CSR. The integrated form thus leads to a view of CSR as a continuous process of learning, change and development that ideally affects the whole organization..." Undergoing changes to reflect CSR principles means fostering the environment in which employees can develop values and beliefs that support the goal of becoming more responsible, in other words, creating the culture of social responsibility.

Different typologies of organizational cultures have been developed over time. The most used model is the Competing Values Framework (CVF) which recognizes four types of culture within an organization – clan, adhocracy, market, and hierarchy – and the extent to which each is present in an organization (Cameron, Quinn, 2011). CSR has been studied as an "overlay" to the four CVF culture types, by examining which type is more likely to develop a CSR culture (Linnenluecke, Griffiths, 2010; Linnenluecke et al., 2009; Übüs, Alas, 2009). It has also been explored through case studies in which interviews with employees have given an idea of what a culture of CSR may look like (Duarte, 2010a; 2010b; 2011). The concept of CSR culture is a new frontier in organizational writings. It is present in the literature but still insufficiently explored.

As is the case with CSR, many different names have been used to describe CSR culture. Organizational cultures that are ethical, respectful, oriented towards common good, sustainable, positive and healthy all have the same underpinning idea – a shared belief that the purpose of those organizations is more than amassing material capital. Ethical culture, according to Trevino et al. (1995), is "a subset of organizational culture, representing a multidimensional interplay among various formal and informal systems of behavior control that are capable of promoting ethical or unethical behavior" (in Key, 1999: 12). Additionally, organizational culture that fosters dialogue and dissent, coupled with leaders who have integrity and a strong sense of social responsibility, and organizational willingness to reflect on past actions and learn from them are considered the factors that are vital to development of ethical organizations (Gottlieb, Sanzgiri, 1996). Ethical culture was also used as a base for development of stakeholder culture classification from those that are strictly focused on self-interest to those that are largely concerned with the interests of others (Jones et al., 2007).

Melé (2003: 4) approached the question of business ethics not only by distinguishing between acceptable and unacceptable behavior at work, but also from the perspective of human fulfillment. While in many cases the introduction of ethical values and development of ethical culture is expected to improve reputation and efficiency, the organizational humanizing culture is focused on behavior that is "appropriate to the human condition and foster[s] human fulfillment". Recognition, respect and nurturing the environment of care and service can help foster trust and cooperation. Organizations that care about human fulfillment within also care about involvement in external issues. They go beyond the satisfaction of self-interest, and work towards the common good (Melé, 2003).

From the traditional management perspective, it can be viewed as unusual to discuss human fulfillment as a potential generator of capital. However, changes in the society also have an impact on organizational life. A genuine interest and effort to develop a humanizing culture comes from the desire to create a place of work where workers will benefit from working as much as the organization benefits from their work. Lowe (2010) explains that a healthy organization is created when attention is paid to vibrant workplaces, inspired em-

ployees, positive cultures and shared leadership. A healthy culture is described as a positive culture, within which employees' work has greater sense of purpose and meaning. Positive values, such as respect, responsibility, honesty, fairness and integrity contribute to the overall health of an organization. The culture that recognizes the importance of its employees and invests in their well-being can be characterized as and interchangeably called humanizing, healthy, spiritual and positive, but regardless of the name, evidence shows that such cultures are essential building blocks of sustainable success.

Finally, many companies today promote sustainability and aim to build corresponding cultures. Sustainability usually refers to the potential for long-term well-being of the natural environment, and sustainable culture might be characterized by paying greater attention to natural resources. Environmental sustainability, however, is only one aspect of sustainability. A truly sustainable approach must encompass economic, environmental and social sustainability (Dyllick, Hockerts, 2002). A large number of development values may be translated into business sustainability values. Based on Leiserowitz et al., (2004) and Gladwin (2005), they include, but are not limited to: development of economy, society and people; sustaining and respecting nature; human rights and equality; democracy; good governance and accountability; interdependence; fairness; accepting uncertainty; exploration and innovation for betterment; support to self-realization, spirituality and culture. Corporate cultures that are based on these and similar values are therefore likely to be characterized as sustainable.

Matten and Moon (2008) consider CSR as a cluster concept that overlaps with those of business ethics, sustainability, environmental responsibility, corporate citizenship. Hancock (2005) described CSR culture as the one emphasizing values over financial issues (in Duarte, 2010b), and Duarte (2010b: 358) described it as the culture whose values "endow an organization with its distinctive character of being ethical, equitable and transparent in relation to social groups and the environment".

Presently, there are no other definitions that deal specifically with CSR culture. This paper draws on the previously discussed concepts and defines CSR culture as a common understanding shared among organizational members that 1) *they* have environmental and social responsibilities which are fulfilled by taking into consideration, balancing and ad-

ressing the needs of all relevant stakeholders; 2) *they* create value for many stakeholders, rather than financial gain for shareholders only; 3) decisions are made and conduct is based on the well-known and applied code of ethics; and 4) *their* involvement and commitment yields effectiveness, innovation and improvement. The emphasis is on employee ownership of the process of social responsibility and transparency in decision making. CSR culture can be seen as a culture that balances the material, social and spiritual dimensions in the workplace for the benefit of all of the stakeholders (Zohar, Marshall, 2004).

In the past, organizational culture has been largely the domain of researchers, who uncovered and studied those meanings. Employees, although directly involved in organizational life, were often considered to be unaware of the greater whole. Availability of resources, continued education and trainings, and flow of information put workers in a better position altogether. The vagueness of "the way we do things around here" does not apply anymore, as employees are both expected to know and willing to analyze why things are done in a certain way and understand their contribution to the organization. Since organizational culture has first been identified as a possible source of competitive advantage (Barney, 1986), conscious efforts have been made to shape organizational culture into the desired type. The overall CSR strategy and commitment depend on the existence of internal support, that is, the existence of CSR culture. The values that are likely to correspond to the notion of responsibility – honesty, fairness, trust – will be further embedded in specific structures (such as CSR division), practices (such as policies and initiatives that relate to the community) and symbolic manifestations (such as the code of conduct or specific events), which again reinforce the desired values, beliefs and actions (see Duarte, 2011).

### **3. Culture types based on corporate responsibility to society**

Some authors (Übuis and Alas, 2009; Linneluecke and Griffiths, 2010) have used the competing values framework (CVF) to determine which of the four major culture types are likely to exert the responsible behavior. Übuis and Alas (2009) conducted a



study in which they tested how each of four culture types can predict two facets of corporate social responsibility – the firm performance on social issues and the firm respects the interests of agents. Their findings show that the hierarchy, adhocracy and clan cultures predict both mentioned facets, while market culture only does so partially. Linnenluecke and Griffiths (2010) also used the four CVF culture types and the likelihood that each will adopt corporate responsibility. They concluded that organizations may attempt to adopt responsible and sustainable practices for different reasons, whether for pure competitive advantage, genuine interest in such practices for everyone's betterment, or because that kind of thinking is in line with the already existing culture.

This paper acknowledges the usefulness of the CVF framework in preliminary diagnosis of culture, but does not consider it to be an adequate tool for the analysis of CSR culture. The paradigm change in managerial thought prompted extensive research on the topic of responsible and sustainable business and it still appears to be in the elaboration stage. The change is also slow to be implemented in the world of business, as it requires experimenting with what works for specific business or industry, as well as justifying the costs. It is quite common to find CSR as "cosmetic treatment" rather than genuine CSR (Morsing, Vallentin, 2011). The reason for this may also be the current management systems' dependency on rationality and rational control. Zwetsloot (2003: 203) recognized that such systems can limit development of CSR, and consequently CSR culture, because the focus on rational control "can easily lead to denial of the human aspects of business practices, where recognition, pride, the feeling to be meaningful, as well as emotions, frustrations and conflicts may play a role".

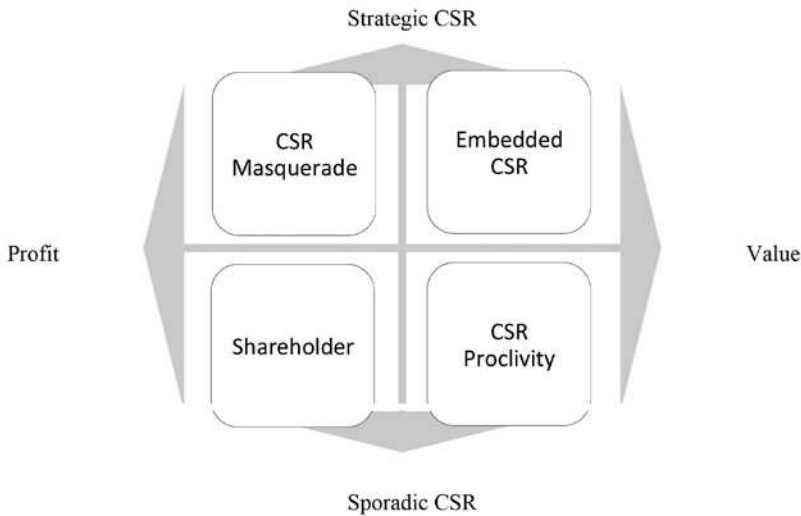
According to our definition, CSR culture must have all of the above noted elements, of which some are contradictory in terms of the CVF framework. The underlying assumption of the CSR culture is that all relevant stakeholders' demands must be continuously balanced. Depending on the power of the stakeholder group, and legitimacy and urgency of its demand, the focus may frequently shift between internal and external, or even focus on both simultaneously. In CVF, however, culture has either dominantly internal (hierarchy, clan) or dominantly external focus (market, adhocracy).

CSR culture has elements of both clan culture (participation, commitment, communication) where employees are considered as important stakeholders, and adhocracy culture (innovation, creativity, agility) where long-term commitment to innovation and improvement exists. In CSR culture, it is the values, not the work, that are managed. On the dimension of stability/flexibility, CSR culture must be flexible as it is constantly searching for ways to achieve both social and environmental sustainability.

CVF therefore can be used to determine the starting point in organization's CSR efforts, but embedding CSR into the culture would only be possible from two upper quadrants characterized by flexibility. Linnenluecke and Griffiths (2010) argued that we presuppose the motives for CSR implementation based on the characteristics of CVF cultures. In the hierarchy culture, the quest for efficiency gains may result in benefits that can be interpreted as CSR oriented. However, the hierarchy culture is not likely to institute CSR policies and programs unless they prove to have competitive advantage measured by traditional metrics. The market culture is willing to institute CSR oriented changes if they are expected to bring profit at a later time. Unfortunately, as Morsing and Vallentin (2011: 246) note, the reasons and motives behind instituting CSR policies and activities are "inaccessible to empirical enquiry". The motives are likely to be discovered only in the long run, if CSR policies and practices are not embedded into organizational strategy and culture.

A hybrid of clan and adhocracy culture would have a potential for developing CSR culture. A company that would be open to various stakeholder demands and influences cannot retain stability and control in the sense of the board of directors and CEO decision-making. The two cultures are high on flexibility, which allows for participation and creative innovations, but to be responsible to different stakeholders they cannot have a permanent internal or external orientation, rather be flexible depending on stakeholders' demands. It is, however, difficult to apply the traditional model to the new paradigm. The nature of the business-society relationship is viewed differently today, with an increasing attention paid to corporate social and environmental responsibility due to stakeholders' activism. The shift in management theory is requiring us to reinvent the framework of analysis for the entire organization, including its culture.

Figure 1 Culture classification based on CSR orientation



Source: Own research

The model proposed in this paper relies on Jones et al. (2007) stakeholder culture typology and OCAI instrument (Cameron, Quinn, 2011) to classify and describe organizational cultures according to their shareholder/stakeholder (profit/ value) orientations with an added dimension of strategic/sporadic CSR involvement.

The horizontal axis represents culture's orientation towards financial reward or sustainable value creation. It reflects the model of governance, whether it be the shareholder oriented or stakeholder management model. The vertical axis represents the level of CSR engagement. It differentiates between occasional and sporadic involvement in CSR, and strategic orientation towards CSR.

### 3.1 The Shareholder culture

The Shareholder culture represents the "traditional" business orientation towards profit making. This is what Jones et al. (2007) refer to as corporate egoist, and what mostly resembles Cameron and Quinn's (2011) market culture. Here, the Shareholder culture is an umbrella term, and such a culture can have different orientations (i.e. controlling, compet-

ing), but their common denominator is increasing the wealth of shareholders. Such cultures resonate Friedman's belief about the role of business in the society, and there is no interest in investing into socially responsible programs and policies. The organizations are likely to have a reactive or defensive response to the stakeholders' demands, that is, either doing less than required or doing the least that is required. At its best, CSR efforts may be sporadic, and only when it is in the interest of shareholders. In case that shareholders and investors agree that reputation and subsequently profit is seriously affected, they will support actions that benefit other stakeholders.

The Shareholder culture is aggressive and results-oriented, in both leadership and employee management. Employees are treated as resources, without much regard and flexibility to satisfy their needs. Profits dictate both hiring and firing, and employees do not have a sense of job security. Such a culture promotes competition and praises accomplishments. Strategically, the focus is on short term profit maximization, which is the criterion of success. The Shareholder culture cannot be transformed into the Embedded CSR culture without the change of both its values and CSR orientation.

### 3.2 The CSR Masquerade culture

The CSR Masquerade culture represents the organization led by managers who see opportunities in CSR engagement. The main interest lies in achieving profit, and if profit can be increased, either directly or indirectly, through CSR activities, CSR will be incorporated into the company's strategy. In Jones et al. (2007) classification, the CSR Masquerade culture equals to the instrumentalist culture. Such organizations are likely to have espoused CSR values, but those values, for the lack of genuine interest in employee participation (and other stakeholders' involvement) will not be embraced. These cultures are still a product of traditional approach to business. CSR is a window dressing for the outside world, but is not implemented and embraced within the organization.

The leadership of the CSR Masquerade culture is result- (profit) oriented, but also innovative and more future-oriented than the Shareholder culture. In exploring the role of transformational leadership in CSR, Waldman et al. (2006) distinguished between those leaders who incorporate CSR into strategy to reach the optimal level of profit to satisfy stakeholder demands, and those guided by their personal values. Groves and LaRocca (2011) found that economic values in leaders are more related to transactional leadership. While still focused on productivity, this culture may incorporate some new trends in employee management (i.e. more flexibility in scheduling). Achievement and goal accomplishment, however, are still the main characteristics of this culture. Greater awareness of business behavior and stakeholder pressure can help push the Shareholder culture in the direction of CSR Masquerade culture. While that change is largely strategic in nature, the change from CSR Masquerade culture into Embedded CSR culture is all-encompassing. The attention must be paid equally to external, business and internal contexts. Changing values may take a long time, and may require a change in leadership and human resource practices and policies.

### 3.3 The CSR Proclivity culture

The CSR Proclivity culture is characterized by a genuine interest in embracing CSR, but has not achieved that stage yet. The idea of doing the right thing is present within this culture, however, the idea of social responsibility has not been fully translated into action. Organization is inclined to invest into CSR but still does not have a strategic approach. The CSR Proclivity culture is characterized by the desire to be part of a greater good, and can be a fertile ground for different CSR programs. The speed and intensity of investment into CSR may depend on financial and other resources. This culture type may be characterized as accommodative, in that it is accepting responsibility for its actions and does all that is required. Most organizations that embark on the CSR journey with the support from top management start from this point, and over time develop into the embedded CSR culture. The already existing values help in translating CSR into the strategy.

The CSR Proclivity culture may already have visionary and transformative leadership (Groves, LaRocca, 2011). The management style in the organization is characterized by employee involvement in decision making, and the organization is held together by loyalty and trust. Although CSR may not have permeated the strategy of the organization at this stage, there exists strategic emphasis of value creation and overall development. Many organizations with CSR proclivity culture are often accepted – and often referred to – as socially responsible.

### 3.4 The Embedded CSR culture

While this paper presents how different approaches to CSR can reflect on organizational culture, its main interest lies in understanding that culture that exists and revolves around social responsibility. The Embedded CSR culture is the one with well-established moral principles oriented towards creating value for the benefit of all the stakeholders. It is characterized by participation, commitment and innovation. CSR culture is usually characterized by accepting and even anticipating responsibility and doing more than is required at the time. Notable differences exist between those that have responsibility "bolted-on" and those that have it fully integrated into their core business. Integrating sustainability requires

understanding and adapting underlying assumptions and values to pursue sustainable value, build transformative relationships, and make sustainability everyone's job (Lazslo, Zhexembayeva, 2011).

The culture of social responsibility is created and reinforced through specific values and beliefs, structures and practices and symbolic manifestations (Duarte, 2011). While values tend to be similar, structures, practices and symbolic manifestations may vary greatly, as each organization has a specific focus and develops in its own unique way. It is important that all three dimensions are influenced by responsible thinking. Duarte (2011) notes the values such as a sense of fairness and equity, respect for human beings and the environment, ethical behavior and transparency to be the ones that characterize CSR cultures. Structures and practices may vary from one organization to another, as some are likely to have CSR Officers, others CSR Divisions, Committees, or, as Lazslo and Zhexembayeva (2011) propose, not having a specific unit dealing with CSR but make it everyone's responsibility. Practices may also vary; depending on the industry to which the organization belongs, a greater emphasis may be placed on social policies or environmental policies. Of the three dimensions, it is the practices that are most easily observable, and organizational reputation largely depends on them. Finally, CSR cultures are likely to use symbols, language, metaphors and stories that depict responsible behavior.

While the leader's awareness of CSR issues is likely to produce relevant policies which may be the onset of organizational culture change, it takes much longer for the overall CSR philosophy to enter the culture. The espoused values are those defined by top management, however, to develop them into shared values takes much time and effort. To internalize them so that they become underlying values, Zwetsloot (2003) proposed relying on raising awareness and socialization of values, which can be done only if they are lived and actively promoted by managers. Carlisle and Faulkner (2004) suggested that only after the company becomes aware of the issues and defines and operationalizes its focus, it can enter the mainstreaming stage. It is in the last stage that the company adopts CSR culture and integrates CSR in all policy decisions. Anchoring changes in organizational culture is the last step, but it is crucial that the change process is extremely well planned and communicated, involving and empowering employees (Kotter, 1996).

Traditionally, businesses largely focused on economic benefits to the firm, so it is not surprising that CSR was often seen as the means to achieve a competitive advantage, rather than create a different relationship between business and its stakeholders. To fully benefit from CSR, however, firms must reconsider and align their values, strategies and core business (Jonker, de Witte, 2006; Lazslo, Zhexembayeva, 2011). In short, it requires embedding CSR in the organization. A number of interdependent factors can affect the creation of CSR culture (Epstein et al., 2010). Proposals and suggestions, however, are yet to be empirically tested. Qualitative studies give rich accounts of organizational cultures; Quantitative approach allows for easier comparison of CSR-specific cultural features, and exploration of their effect on organizational outcomes. We therefore believe it is necessary to develop the scale that can help measure the elements that most strongly represent the culture of corporate social responsibility.

#### **4. Measures of embedded CSR culture**

##### **4.1 Scale design**

The scale was conceptualized based on the previously presented definition of (embedded) CSR culture. Organizational culture is shaped by various influences; in case of CSR, the emphasis placed on responsible behavior will, over time, reflect on the culture. Espoused values, coming from the top, are not likely to be shared among employees until they personally become involved (see for example Bolton et al., 2011; Kim et al., 2010). While it is possible that a company conducts some activities that fall under the CSR umbrella, those are most likely to be occasional events and/or philanthropic contributions. Such activities are usually intended to project the image of responsibility than to build a responsible business. As insiders, employees can differentiate between genuine vs. cosmetic approach to responsibility, and therefore embrace or reject proposed values.

Questions about CSR culture were generated through literature review (Duarte, 2010a, 2010b; Bolton et al., 2010; Linnenluecke, Griffiths, 2010; Schwartz, 2013; Morsing, Vallentin, 2011; Lowe, 2010) of case studies and theoretical propositions, and discussions with managers of companies rec-

ognized for their social responsibility. While some argue that the concept of organizational culture is quite complex and shouldn't be reduced by the quantitative approach (i.e. Alvesson, 2002), identification, measurement and comparison of similar, CSR-related elements of culture can help further study the effect they have on organizational effectiveness. Initially, 23 items relating to values, practices and symbols were generated. While important manifestations of culture, symbols of CSR can greatly differ from one company to another or have a different meaning. To avoid ambiguity, questions relating to symbols were excluded following interviews with employees and subsequent academic discussions, reducing the number of statements to 18. After the correlations were checked for multicollinearity by scanning the R-matrix, two items were removed from the list and a scale with 16 items was constructed.

#### 4.2 Sample selection, data collection, and analysis

In order to identify the elements that characterize the culture of embedded social responsibility, data was collected from a company recognized for its CSR, recipient of multiple DOBRO awards for socially responsible behavior and good governance in Bosnia and Herzegovina (<http://dobro.mozaik.ba/vijesti/item/211-historijat-nagrade-dobro>). The organization is a European FMCG company that has stores in 11 European countries. Research was conducted in Bosnia and Herzegovina, where the company has been present since 2006, currently with 53 stores and over 430 employees. The vast majority of employees are sales people, with a small number of distributors, managers and office staff. The company enjoys a good reputation among its workforce, 85% of which, according to internal surveys, are satisfied with its employer. Additionally, 9 out of 10 employees are proud to work for the company. The initial contact with the company was through the HR department which offered to help explain the purpose of the study to employees and motivate them to participate. The researchers were also given permission to visit the company to distribute questionnaires and conduct interviews.

A total of 230 questionnaires were distributed, and 202 responses were collected. The researchers first approached the store manager, presenting the approval to conduct research, and left the exact number of surveys to be filled out and envelopes to secure anonymity, agreeing on the collection time and date. Office staff with headquarters in Sarajevo was surveyed in the same way. Participation in the survey was voluntary. The response rate was 88%. Of 202 responses, missing data reduced the number to 196 responses which were used for the analysis.

The vast majority of the respondents were female (88.3%); 5.1% were males, and 6.6% omitted this question. The majority (56.9%) of respondents were aged 26-35, 9.4% were aged 18-25, 27.6% were aged 36-45, 5% were aged 46-55, and 1% were aged 56-65. In terms of education, 88.3% had high school education, 11% had a university diploma, and 0.5% had a master's degree. In terms of tenure, 23.5% have been with the company for 2 years or less, 41.8% have been with the company for 2-5 years, and 16.3% for 6-10 years. 18.6% did not answer this question. Only about 67% of respondents gave information about the position they held in the company. Of those, 63.2% were employed in the store (48.9% salespersons, 5.6% store managers, and 8.7% of assistants to store managers), 1% of headquarters managers, 2.5% of headquarters staff, and 0.5% distribution personnel.

The sample size of 196 can be considered acceptable for exploratory factor analysis, especially considering that each factor has 4 or more loadings over .6 – according to Field (2013: 690) it can be considered reliable. After applying direct oblimin rotation, as factors were expected to correlate, factor analysis revealed two factors with eigenvalues greater than 1, explaining 61.588% of the variance. The KMO measure of sampling adequacy was .918, which means that analysis should yield distinct and reliable factors. Considering that the communalities are largely in the .5-.6 range, and only two factors, the samples between 100 and 200 are acceptable (see Field, 2013: 690; Hair et al., 2006: 115).

Factor analysis was further analyzed using the split sample analysis. The main sample was divided into two samples of 98 cases each, and factor analysis was conducted for both. The loadings and communalities resembled each other, therefore showing that results are stable within two samples.



**Table 1 Total variance explained and rotated factor loading matrix (OBLIMIN)**

No.	Items	Factor		Communalities	
		Factor 1	Factor 2	Initial	Extraction
1.	I am familiar with the mission of our company	.810		.638	.565
2.	In its mission, our company clearly states commitment to social responsibility	.896		.663	.638
3.	I understand the goals that our company aims to achieve	.741		.611	.632
4.	I support the goals that our company aims to achieve	.668		.587	.537
5.	I regularly receive information about our company's activities	.629		.670	.562
6.	I regularly receive information about our company's responsiveness efforts	.598		.619	.517
7.	I feel free to contribute ideas for betterment of our company		.599	.687	.619
8.	Employees are invited to contribute ideas relating to improvement of our business		.548	.680	.529
9.	I participate in the socially responsible activities of our company	.475		.660	.569
10.	My colleagues are like my family		.831	.616	.598
11.	I trust the leaders of our company		.812	.629	.594
12.	Our company rewards honesty		.802	.625	.597
13.	Many of my colleagues share our company's values		.416	.641	.560
14.	Our company motivates employees to participate in socially responsible activities that it creates	.543		.630	.561
15.	In my opinion, my colleagues feel a strong sense of belonging to our company	.612		.579	.557
16.	I feel that my personal values and organizational values are aligned	.486		.513	.468

Note: Factor loadings below .40 have been suppressed

Source: Own research

The average inter-item correlation for 16 items is .506, which exceeds the value of .30 suggested by Hair et al. (2006: 137). To further test for reliability, Cronbach's alpha was calculated. For Factor 1 it was .909, and for factor two .907. The 16 item scale had a Cronbach's alpha of .942.

Exploratory factor analysis identified two factors, which, in accordance with the relevant literature, can be labeled "employee engagement in CSR" and "CSR values". Responses to the 16 items reflected a higher-order construct of organizational culture of social responsibility, with a higher overall score suggesting a stronger CSR culture.

We have hypothesized that embedded CSR culture is different from other cultures presented in the model because of the combination of strategic and value orientation, and we have found support for this hypothesis by uncovering two cultural elements. Employee engagement in CSR has already been discussed and recognized as crucial in CSR implementation (Bolton et al., 2011), and identification of this factor concurs with conclusions from qualitative studies. The other factor, CSR values, is present when ethical values (respect, responsibility, honesty, fairness) are practiced. Identification of this factor highlights the difference between espoused values – CSR present in top management speeches – and values that are translated into practice in everyday organizational life.

**Table 2 Inter-item correlation matrix**

Item	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1.																
2.	.748															
3.	.617	.604														
4.	.489	.613	.618													
5.	.474	.519	.568	.587												
6.	.463	.495	.539	.526	.749											
7.	.504	.466	.551	.470	.577	.547										
8.	.476	.471	.496	.475	.416	.462	.742									
9.	.482	.455	.575	.539	.563	.500	.535	.513								
10.	.333	.364	.387	.436	.432	.366	.600	.659	.503							
11.	.342	.361	.474	.482	.431	.414	.568	.479	.438	.632						
12.	.371	.359	.408	.397	.450	.434	.564	.439	.489	.573	.699					
13.	.519	.478	.591	.462	.527	.485	.512	.434	.677	.429	.524	.605				
14.	.455	.531	.558	.553	.556	.543	.506	.535	.718	.456	.390	.479	.569			
15.	.424	.411	.501	.370	.493	.507	.581	.539	.533	.542	.530	.524	.593	.546		
16.	.388	.410	.512	.457	.419	.452	.484	.488	.505	.437	.463	.526	.581	.517	.614	

Note: Correlations significant at the 0.05 level

Source: Own research

If we consider the existence of embedded CSR culture to be the “stamp of approval” for the company’s dedication to responsibility and value-building in the long term, then these cultural elements can be further used in studies that relate CSR to different organizational outcomes, and therefore purport arguments that CSR culture produces, or at least to some extent affects, these outcomes. Earlier studies (i.e. Hansen et al., 2011) have shown that trust mediates the relationship between CSR and turnover intentions and organizational citizenship behavior. If we observe increased organizational trust to be subsumed under CSR values, we can further expand this type of research on various employee attitudinal and behavioral outcomes and test for the direct effects, but also for the moderating and mediating effects of factors that represent CSR culture – employee engagement in CSR and CSR values.

#### 4.3 Limitations of the study

This study identified two underlying dimensions of embedded CSR culture. Considering the complexity of organizational culture, however, other influences must also be explored in order to give a complete picture of Embedded CSR culture. So far, shared CSR values and employee engagement in CSR indicate that CSR has to some extent permeated the culture, and further analysis with possible expansion of the scale is recommended.

Additionally, the research was conducted in only one country, even though the company operates in a number of European countries. The specific conditions of the Bosnian economy may affect employee perceptions of their employer. With a high unemployment rate and many corrupt employers, employees working for a company that applies European standards and doesn’t go against the law may be more grateful and assess it more favorably than their counterparts elsewhere in Europe. In confirming the current structure of the scale, future studies should also address this issue.



## 5. Discussion and conclusion

Culture is often considered crucial for long-term organizational success. Culture change in an organization, however, requires a deep understanding of the existing and the desired state. While most companies have had some experience with CSR efforts and practices, seeing and understanding their business through the prism of responsibility to society is still fairly uncommon. Corporate social responsibility as a strategy requires transformation of the business model, which most often includes the change of culture as well. Both the scope of change and intensity of the effort will depend on the state in which the culture currently finds itself. Although the purpose of this paper was better understanding of embedded CSR culture, it would be useful to analyze the most dominant traits of other cultures in the proposed model. Such findings would be useful to practitioners in evaluation of the culture at the beginning of CSR implementation, and in decision making about the best CSR path.

In addressing the implementation of CSR, this paper makes two contributions. First, it diagnoses organizational culture based on CSR orientation. This is a useful preliminary approach in identifying the best path to embedding CSR. In the case of the Masquerade CSR culture, where CSR is viewed as a strategic advantage to improve the corporate reputation rather than genuinely contribute to the society and environment, the firm still operates within the paradigm of profit making for shareholders. The only way that such a company can set out on the path to make the CSR culture is through an enlightened leader who will focus on institutionalizing values and coordinating those values with company strategy. A change in values will influence the change in underlying motives. For companies that have the Proclivity CSR culture, the process may be easier since the values are already present and they have to be translated into strategy. This culture is likely to have elements of CSR culture, as well as some social and spiritual capital, but it still requires coordination between vision and strategy. Finally, the embedded CSR culture reflects the last stage of

CSR, the maturation that is characterized by shared values and employee ownership of CSR achieved through active engagement in the process. While this initial framework conceptualizes different CSR orientations, it measures only one type of culture. As already suggested, future research should focus on the identification of the most prominent elements of other culture types, and their effects should be tested on outcomes as well.

The second contribution of this paper is the identification of two underlying dimensions of Embedded CSR culture – CSR values and employee engagement in CSR. Values often associated with CSR are trust, honesty, fairness and integrity (Lowe, 2010). The authenticity of the organization's CSR is evaluated through the existence of these values within the organization. Employee involvement in general has been found to positively affect organizational effectiveness (Denison, Mishra, 1995; Peters, Waterman, 2006), and employee engagement in CSR helps create the family feeling and create bonds that further reinforce the noted values. Other cultural elements certainly exist, and extension of this initial study would be necessary for the identification of additional elements that characterize the culture of social responsibility.

As CSR is becoming the new standard in business operations, the need for a thorough understanding of its meaning and implementation is increasing. An integral part of becoming socially responsible is building the culture that reflects CSR values, and furthermore, integrating those values in organizational strategy. Conceptualizing culture based on the company's responsibility to society is a precondition to diagnosing the culture. Being aware of cultural elements that need to be present in order to create and maintain CSR culture, and furthermore, being able to compare cultures of different companies on the CSR path can greatly contribute to an understanding of the effects of CSR culture on different organizational outcomes. Further theoretical discussions and empirical research will greatly contribute to understanding the role of culture in instituting and maintaining responsible behavior and organizations.

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## **UTVRĐIVANJE KULTURE DRUŠTVENE ODGOVORNOSTI PODUZEĆA**

### **SAŽETAK**

Suvremeno poslovno okruženje zahtjeva od poduzeća da se bore za ekonomski opstanak i svoje interese. Istovremeno su poduzeća prinuđena zadovoljiti najrazličitije potrebe svojih dionika što ih, između ostalog, prisiljava da izgrađuju odgovornost i održivost. Brojne su tvrdnje da društvena odgovornost postaje sastavni dio organizacije kada se integrira u sva njezina gledišta, uključujući i organizacijsku kulturu. Postojeće tipologije organizacijskih kultura nude okvir za analizu samo unutar tradicionalne poslovne paradigme, ali su od veoma ograničene koristi kada se radi o kontekstu društvene odgovornosti poduzeća (CSR). Ovaj rad se nakon analize ključnih učenja u ovome području bavi definiranjem CSR kulture i identificira četiri tipa organizacijske kulture koje se zasnivaju na CSR orijentaciji poduzeća, odnosno njezinim vrijednostima i strategijama u relaciji s CSR-om. Kako bi bio u potpunosti integriran u CSR-kulturu, CSR mora biti rukovođen strategijom i vrijednostima. Rad istražuje različite orijentacije u CSR-u i daje preporuke neophodne da bi se postiglo željeno stanje. Osim toga, u radu su pomoću istraživačke faktorske analize identificirana dva kulturalna elementa: CSR vrijednosti i služba zaposlenika u CSR-u, koji ukazuju na postojanje CSR-kulture. Identifikacija ovih elemenata kulture je namijenjena analizi izravnih i neizravnih utjecaja CSR-kulture i organizacijskih ishoda, posebno onih koji se tiču stavova i ponašanja zaposlenika.

**Keywords:** kultura društvene odgovornosti poduzeća, organizacijska kultura, strategija, vrijednosti, sudjelovanje zaposlenika

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# INVESTMENT CRITERIA SET BY VENTURE CAPITALISTS

## ABSTRACT

Different funders, like bankers, business angels or venture capitalists, put the accent on various investment criteria while making investment decisions. Entrepreneurs need to be familiar with these criteria or different requirements of potential investors in order to adjust their business plans. Motivated by the phenomenon of venture capital, numerous researchers worldwide are trying to identify the venture capitalists' investment criteria. Despite the large number of studies, there is still no unambiguous answer to what the key venture capitalists' investment criteria are. This paper provides an overview of research about investment criteria set by different suppliers of capital with a special emphasis on venture capitalists' investment criteria. The most used VCs' investment criteria discussed in the literature are identified and analysed in order to provide a new set of VC investment criteria.

**Keywords:** Venture capital, venture capitalists, entrepreneur, investment criteria

## 1. Introduction

Without initial capital, which is mostly in the form of money, but can also be in the form of assets and rights (Župčić, 2006), companies cannot be established, registered or obtain the required production factors. After the establishment, additional capital is necessary for business operations and development. It is obvious that funding is very important for the establishment, ongoing operations and development of the company (Marković, 2000), i.e. raising capital is a continuing process (Rogers, 2009).

Seeking capital for entrepreneurs is a difficult task (Callegati et al., 2005). Entrepreneurs looking for necessary financial funding for their companies should be aware that the preparation of a business plan differs depending on the category of potential funders or capital suppliers. Family, friends and fools, business angels, banks, repayable short-term loans, venture capital, foundation, government, public funding, etc. can be suppliers of capital (Callegati et al., 2005; Rogers, 2009; Vidučić, 2012).

Banks, venture capitalists or business angels make a funding decision by taking into account different investment criteria and emphasize different types of information (Mason and Stark, 2004). According to Callegati et al. (2005), different investors have different criteria that are crucial when approving funds, as well as different goals they want to achieve. For family, friends and fools, a personal relationship based on trust is important (Callegati et al., 2005), while for bankers the most important is the ability of loan repayment and collateral. For venture capitalists and business angels that are equity investors, market (size, level of competition, growth) and financial information (level of profitability, use of the money, etc.) are very important, while the financial aspects of the company are significant primarily for bankers (Mason and Stark, 2004). A more detailed display of different criteria set by various suppliers of capital is listed in Table 1.

**Table 1 Investors Investment Criteria – Examples**

Suppliers of capital	Criteria for accessing funding sources
Family, Friends and Fools	Personal relationship based on trust
Business angels	Meeting or matching of individual entrepreneurs with business angels
	Atmosphere of trust between individuals
	Credible business plan in the eyes of the Business Angel
	Good management team
	Fiscal incentives
	Market knowledge of the entrepreneur
	Availability of exit route
	Return on investment (capital gain)
Banks	Availability of guarantees or collateral
	Perceived ability to repay the loan
	Company track record
	Rating Good management
Repayable short-term loans	Innovative nature of business projects
	Business plan quality
	Management team

Venture capital	Business plan credibility
	Business plan with patent technology
	Track record (over previous years)
	Ability to grow fast and deliver quick
	Management team quality
Public funding	New jobs
	Investment in productive tools

Source: Callegati et al. (2005)

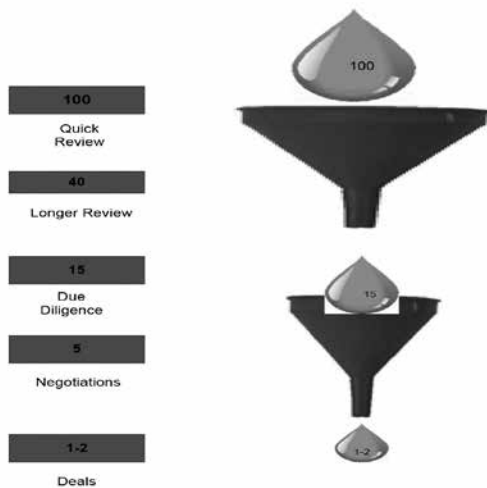
Hoping to get the necessary capital, thousands of entrepreneurs every year submit their business proposals to venture capitalists (Petty and Gruber, 2009). The venture capitalists start analysing hundreds of potentially perspective proposals annually through the filtration process (Figure 1). It is a very challenging and complex process for the entrepreneurs, because there is still no unique and universal filtering process set by venture capitalists. Empirical research shows that on a hundred proposals, more than half are rejected after twenty to thirty minutes of scanning the business plan, the director's summary or after a short conversation, because something essential is missing (Albers, 2006; Cvijanović et al., 2008; Norton, 1995). Since apparently they do not satisfy the "criteria" according to certain stages of the investment process, about 60% of the proposals are rejected in the first phase. However, about 40% of the proposals are sent to a more detailed review after which another 25% of the proposals are rejected. About 15% of the proposals reach the stage of due diligence where the proposals undergo a more complex research. From these 15% of proposals, only 5% is considered suitable for investment and enter the phase of negotiation. Finally, the share of undertaken investments by venture capitalists is less than 3% (Albers, 2006; Hudson and Evans, 2005; Metrick and Yasuda, 2011; Norton, 1995; Visagie, 2011).

According to Hudson and Evans (2005), the problem of presenting entrepreneurs' proposals to venture capitalists is a consequence of the absence of a distinctly defined venture capitalists' decision-making process. Researchers often point out how venture capitalists do not understand their own process of decision-making (Hudson and Evans, 2005; Zacharakis and Meyer, 1998).



According to Strelitzki and Schulte (2013), there is still no comprehensive empirical model based on historical data for the whole venture capital market. Furthermore, an additional reason for the sadly low numbers of attractive investment proposals arises from the fact that venture capitalists and entrepreneurs have a different opinion on the investment readiness of companies for financing through venture capital (Proimos and Murray, 2006).

*Figure 1 Venture capitalists' filtration process*



*Source: Author, modified according to Albers, 2006.*

In this paper, the emphasis is put on the literature review of investment criteria set by venture capitalists from its beginnings, and the definition of venture capital. The goal is to identify and analyse the most used VCs' investment criteria discussed in the literature in order to provide a new set of VC investment criteria. Fulfilling the proposed set of VC investment criteria could increase the chances to pass the first phase of the VC investment process.

## 2. The Private equity and venture capital industry

### 2.1 History of private equity and venture capital

"Equity investments in risky new ventures are as old as commerce itself" (Metrick and Yasuda, 2011).

In the United States of America (USA) and in the United Kingdom (UK) during the 1920s and 1930s activities related to private equity (PE) and venture capital (VC) started to develop (Cvijanović et al., 2008), although in the end of the 19th century and the first decade of the 20th century activities in the branch were based on wealthy individuals and families such as the Rockefellers, Phippes, Vanderbilts, etc. (Gompers, 2004; Lerner et al., 2012). The wealth of these families was under the management of family offices and they counseled and invested in different companies, including the forerunner of AT & T, Eastern Air Lines and McDonnell Douglas (Gompers, 2004; Lerner et al., 2012).

The first PE firm in Europe was the Charterhouse Development Capital established in the UK in 1934 (Cvijanović et al., 2008; Mayilvaganan and Sakthivel, 2014) for the purpose of filling the financing gap for small and medium enterprises (Jesch, 2004). Shortly after that, a private equity fund 3i was founded in 1945 in the UK. This PE fund still exists today and is one of the largest PE funds. At the same time, the private equity and venture capital industry began to develop in the United States, but its development over the Atlantic proceeded much faster than in Europe (Cvijanović et al., 2008).

It can be said that the modern venture capital was born in 1946 when the American Research and Development Corporation (ARD) was launched by general Georges Doriot, a professor at Harvard University together with Karl Compton, president of the Massachusetts Institute of Technology, Merrill Griswold, CEO of Massachusetts Investors Trusts and Ralph Flanders, president of the Federal Reserve Bank of Boston. The aim of ARD was raising funds from wealthy individuals and university foundations with the goal of investing in entrepreneurial "start - up" technology - based manufacturing (Gompers and Lerner, 2001; Bottazzi and Da Rin, 2002; Metrick and Yasuda, 2011; Lerner et al., 2012). ARD was organized as a corporation, unlike modern funds (Metrick and Yasuda, 2011) and during its existence has invested in numerous companies based on high technology. Its invest-

ment in 1957 in the Digital Equipment Corporation increased by 5,000% until 1971 (Cvijanović et al., 2008). ARD was sold in 1972 to a conglomerate.

Through the Small Business Act of 1958, the U.S. government started its own venture capital efforts in 1958, whereby the creation of Small Business Investment Companies (SBICs) was allowed. SBICs are federally guaranteed risk-capital pools (Metrick and Yasuda, 2011; Lerner et al., 2012). Since the mid-1970s, the UK and the US have adopted a series of laws that encourage PE/VC. The introduction of new investment rules for institutional investors, particularly pension funds (prudent man rules in 1979) (Gompers, 2004), started significant investments in this type of asset. The Silicon Valley cluster began to develop from the 1950s and inside it PE/VC funds realized their full potential and synergy with state institutions, various individuals, businesses and universities (Cvijanović et al., 2008).

A half century later, venture capital has become a form of financial intermediation. Amazon, Apple, Cisco, e-Bay, Genentech, Genetic Systems, Intel, etc. are just few of today's successful companies that attract venture capital in their initial stages of their company lives (Bottazzi and Da Rin, 2002; Gompers, 2004.).

Venture Capital is primary an American phenomenon, which spread in Europe and Asia.

## 2.2 Definition of private equity and venture capital

According to Lerner et al. (2012), terminology is one of the most confusing things about private equity. In the investment world there are several widely-known expressions, such as private equity and venture capital. However, the definitions of these terms are unclear, and there is no internationally recognized definition that distinguishes venture capital from private equity (Araghy and Björkman, 2009). It can be stated that the number of definitions of private equity (PE) and venture capital (VC) equals the number of authors who were exploring the indicated area.

Private equity represents "investments in private companies in a privately negotiated transaction" (Demaria, 2010). "Institutionally, PE is the provision of capital and management expertise given to com-

panies to create value and, consequently, generate big capital gains after the deal" (Caselli, 2010).

Venture capital is a subcategory of private equity (Landström, 2007; Metrick and Yasuda, 2011). According to Bottazzi and Da Rin (2002), venture capital "consists of financing young, unlisted dynamic ventures through equity or equity-like instruments by limited partnerships of professional investors who raise funds from wealthy and/or institutional investors". Venture capital can be seen as a method of financing (Chotigeat et al., 1997) primarily high-tech, new or young small- and medium-sized enterprises (Chotigeat et al., 1997; Gompers and Lerner, 2001). Venture capital is "an independently managed, dedicated pool of capital that focuses on equity or equity-like investments in privately held, high-growth companies" (Hudson and Evans, 2005). Gompers (2004) pointed out how venture capital is frequently construed as "many different kinds of investors". According to the European Private Equity and Venture Capital Association (EVCA), private equity is a form of equity investment into private companies not listed on the stock exchange, while venture capital is a type of private equity focused on start-up companies. Private Equity comprises of the universe of equity investments made in private companies, whereas Venture Capital is the sub-universe of equity investments in private companies referring to early stage, start-up and expansion capital (CVCA – Croatian Private Equity and Venture Capital Association, 2015).

Table 2 Definition of private equity/ venture capital

Author	Definition of private equity/ venture capital
Wright and Robbie (1998)	Venture capital involves the financing of new or radically changing firms which contrast in many important informational ways to established companies quoted on a stock market, notably the problem of asymmetric information.
Bottazzi and Da Rin (2002)	Venture capital consists of financing young, unlisted dynamic ventures through equity or equity-like instruments by limited partnerships of professional investors who raise funds from wealthy and/or institutional investors.

Hudson and Evans (2005)	Venture capital is an independently managed, dedicated pool of capital that focuses on equity or equity-like investments in privately held, high-growth companies
Demaria (2010)	PE can be described as investments in private companies in privately negotiated transaction.
Caselli (2011).	Institutionally, PE is the provision of capital and management expertise given to companies to create value and, consequently, generate big capital gains after the deal.
EVCA (European Private Equity & Venture Capital Association, 2015)	Private equity is a form of equity investment into private companies not listed on the stock exchange. It is a medium to long-term investment, characterised by active ownership. Private equity builds better businesses by strengthening management expertise, delivering operational improvements and helping companies to access new markets. Venture capital is a type of private equity focused on start-up companies. Venture capital funds back entrepreneurs with innovative ideas for a product or service who need investment and expert help in growing their companies.
NVCA (National Venture Capital Association, 2015)	Private equity – equity investments in non-public companies, usually defined as being made up of venture capital funds and buyout funds. Real estate, oil and gas, and other such partnerships are sometimes included in the definition. Venture capital – a segment of the private equity industry which focuses on investing in new companies with high growth potential and accompanying high risk.
CVCA (Croatian Private Equity and Venture Capital Association, 2015)	Private Equity comprises of the universe of equity investments made in private companies (not public and listed on the stock exchanges), the term is normally used for buyout activity. Venture Capital is the sub-universe of equity investments in private companies referring to early stage, start-up and expansion capital.

Source: Author's own compilation according to different sources

### 3. Literature review of investment criteria set by venture capitalists

Investment (decision) making criteria applied by venture capitalists are a source of admiration for entrepreneurs who are looking for funding, venture capitalists seeking comparability and scientists seeking wisdom (Visagie, 2011).

In their work, Hall and Hofer (1993) emphasized how knowledge of investment criteria (which funds to take into account when they make an investment decision) is of crucial importance for entrepreneurs who intend to attract funding from venture capital funds. Understanding the investment criteria would allow entrepreneurs easier access to the necessary finance. Furthermore, Fried and Hisrich (1994) stated that, besides knowing the investment criteria used by venture capitalists when evaluating potential investments, it is also necessary to know the venture capital investment process. According to Cope (2004), venture capital practices are heterogeneous and the venture capital decision making process is unscientific.

From the phenomenon of venture capital, authors worldwide try to answer the question what the most important investment criteria are within specific main categories of business evaluations that venture capitalists take into account when making investment decisions. Considerable research on investment criteria exists (Table 3): Wells (1974), Poindexter (1976), Ruby (1984), Tyebjee & Bruno (1984), MacMillan et al. (1985), MacMillan et al. (1987), Siskos & Zoponuidis (1987), Robinson (1987), Timmons et al. (1987), Hisrich & Jankowicz (1990), Roure & Keeley (1990), Dixon (1991), Hall & Hoffer (1993), Rah et al. (1994), Fried & Hisrich (1994), Muzyka et al. (1996), Boocock & Woods (1997), Zacharakis & Meyer (2000), Boehm (2002), Beim (2004), Kaplan & Stromberg (2004) and Martel (2006), but no research has come to a unique conclusion. Moreover, the same authors in different studies have come to different conclusions. Most research have shown that each proposal goes through multi-phase estimation, taking into account five basic categories: the entrepreneur/team characteristics, characteristics of the products/services, market characteristics, financial and other characteristics.

In his study conducted on VCs in the United States, MacMillan et al. (1985) identified 27 investment cri-

**Table 3 Overview of past research about investment criteria**

Information factors										
Study	Wells (1974)	Poindexter (1976)	Ruby (1984)	Tyejee & Bruno (1984)	MacMillan et. al. (1985)	MacMillan et al. (1987)	Siskos & Zopounidis (1987)	Robinson (1987)	Timons et al. (1987)	Hisrich & Jankowicz (1990)
Method	personal inter-views	questionnaire		Phone survey& questionnaire	questionnaire	questionnaire		questionnaire	Unstructured interviews	
Sample size	8	97		46 (study 1) 41 (study 2)	100	67	1	53	47	
<b>Entrepreneur/Team Characteristics</b>		X			X	X	X	X	X	
Mgmt. skills/Leadership		X	X	X	X	X	X	X	X	X
Completeness of team					X			X		
Marketing Skills										
Mgmt. Financial skill										
Mgmt. stake in firm		X		X						
Articulate about venture	X				X	X		X		
Personal motivation	X							X		
Capable of sustained effort					X	X				
Ability to evaluate risk					X	X				
Relevant track record				X	X	X		X	X	X
Market familiarity				X	X	X			X	
Entrepreneur personality	X				X					
References								X		
<b>Product/Service Characteristics</b>		X								
Product attributes				X	X	X				
Proprietary	X		X	X	X	X		X	X	
Uniqueness/ differentiation	X		X	X			X		X	X
Technical edge / Innovation				X						X
Stage of development		X		X			X			
Technology life cycle				X					X	
Expected profit margin				X						
Project Growth in Turnover										
Resistance to risk				X						
Scalability										

used in VC decision											
Roure & Keeley (1990)	Dixon (1991)	Hall & Hoffer (1993)	Rah et al. (1994)	Fried & Hirsch (1994)	Muzyka et al. (1996)	Boocock & Woods (1997)	Zacharakis & Meyer (2000)	Boehm (2002)	Beim (2004)	Kaplan & Stromberg (2004)	Martel (2006)
	interviews	Verbal protocol	personal interview & questionnaire	personal interview & questionnaire	personal interview & questionnaire	personal interview & questionnaire					
36	30	10	10 74	18	73	1					
		X		X			X	X		X	1
X	X	X	X		X	X					
X					X						
X	X		X								
	X		X								
			X								
			X								
			X								
X			X			X					
			X								
			X	X							
				X							
							X				
			X	X				X			
			X								
			X			X					2
X						X					3
	X										
											4
											5

Barriers to entry				X					X	
Product superiority										
Existing customer base	X									
Market acceptance/ interest				X	X	X				
Potential for partnerships										
Prototype / R&D Level					X		X		X	
<b>Market Characteristics</b>		X			X					
Market size	X		X	X					X	
Market growth/potential			X	X	X			X	X	
Projected market share										
Competitive strength/ number					X	X			X	
Sensitivity to business cycles				X			X			
Buyer concentration										
Venture creates new market					X					
<b>Financial Characteristics</b>		X								
Cash-out method				X			X			
Expected rate of return		X		X	X				X	
Expected risk		X								
Percentage of equity		X								
Investor provisions	X	X								
Size of investment				X						
Funding base	X									X
Liquidity of investment				X	X	X		X		
Valuation										
<b>Other</b>										
Continuity of company										X
Geographic location										

Mgmt: management; mkt: marketing; entr: entrepreneurial  
Source: Martel, 2006

teria which were classified into six categories: the entrepreneur's personality, the entrepreneur's experience, the characteristics of the product or service, the characteristics of the market, the financial considerations and the venture team. According to MacMillan et al. (1985), five of ten most important investment criteria are related to the experience or personality of the entrepreneurs. They said: "There is no question that irrespective of the horse (product), horse race (market), or ads (financial criteria), it is

the jockey (entrepreneur) who fundamentally determines whether the venture capitalist will place a bet at all".

The study of MacMillan (1985) was replicated on VCs in different countries: the Canadian by Knight (1994), the English by Sweeting (1991), the Singapore by Ray (1991), Japan's by Ray and Turpin (1991), the South Korean by Rah, Jung and Lee (1994) and the European by Riquelme (1994), and

											6
X			X							X	
											7
			X								8
											9
							X			X	
		X	X	X	X			X			
	X		X	X	X	X					10
X											
X								X			11
X											
					X						
							X			X	12
		X									
				X	X						
				X		X					
											13
											14
						X					

all the studies have come to similar conclusions as MacMillan et al. (Zutshi et al., 1999), i.e. the personality of the entrepreneur and his experiences are in the main focus. However, all studies were conducted on a very small research sample, which is a major problem in the study of venture capital.

According to Zutshi et al. (1999), investment criteria applied by venture capitalists in Singapore do not differ significantly from those applied in other countries, including the United States. The primary indicators of a company's potential are entrepreneurial characteristics or capacity of top manage-

ment. Furthermore, they emphasized that the investment criteria applied by the successful venture capitalists do not differ from the criteria used by less successful venture capitalists.

In their study, Vinig and de Haan (2002) compared the screening process of business plans by management companies that invest in the early stage of a venture, in the Netherlands (10 management companies) and in the US (9 management companies). According to them, there is no significant difference between the basic criteria such as Entrepreneur, Product, Market and Finance, even though there is



a distinction in the relative importance of the sub-criteria.

Beim and Levesque (2004) pointed out that venture capitalists take into account three broad criteria during the evaluation process of potential companies. These criteria are: unique product or market opportunity, quality of management, and potential for capital appreciation.

Information collected from these criteria are supplemented with subjective factors such as intuition and “gut feeling” of venture capitalists (Beim and Levesque, 2004; Cope, 2004).

Khanin et al. (2008) noted that the literature concerning venture capital investment criteria can be divided into two groups of researchers.

One group of researchers are those who consider management skills essential for making an investment decision by venture capitalists. The other group are researchers who find the market size, growth rate and product quality more important than management skills. Furthermore, key investment criteria that they have identified on the basis of past research are: top management, market and market growth, product, risk, return, exit, quality contracts, strategies, customers and competition.

According to Jell et al. (2010), the criteria that venture capitalists take into account are: the attractiveness of the market, product, financial aspects, competencies of the founder, as well as the possibility to exit from the investment.

Kollmann and Kuckertz (2010) again raised the question “on what criteria do venture capitalists actually base their decision about investment during the process”.

**Table 4** *Venture capitalists investment criteria*

Factor	Investment criteria	Evidence of criterion's relevance
Personality of the entrepreneur	“VC character”	Pretest
	Leadership capabilities	MacMillan et al. (1985), Robinson (1987)
	Commitment	Dixon (1991), Muzyka et al. (1996)
Experience of the entrepreneur	Track record	Flynn (1991)
	Technical qualification	Shepherd (1999b), Franke et al. (2006)
	Business qualification	Shepherd (1999b), Franke et al. (2006)
Product or service	Innovativeness	MacMillan et al. (1985), Mason and Stark (2002)
	Patentability	Tyebjee and Bruno (1984), MacMillan et al. (1985)
	Unique selling proposition	Mason and Stark (2002)
Market characteristics	Market volume	Tyebjee and Bruno (1984), Mason and Stark (2002)
	Market growth	Tyebjee and Bruno (1984), Mason and Stark (2002)
	Market acceptance	Tyebjee and Bruno (1984), Mason and Stark (2002)
Financial characteristics	Fit to investment strategy	Muzyka et al. (1996), Mason and Stark (2002)
	Return on investment	Tyebjee and Bruno (1984), MacMillan et al. (1985)
	Exit possibilities	Muzyka et al. (1996); Mason and Stark (2002)

Source: Kollmann and Kuckertz, 2010

Because of the overabundance of identified investment criteria during past empirical studies, researchers have to restrict themselves to just a few of the most important. Kollmann and Kuckertz took into account 15 investment criteria (Table 4) and conducted an empirical study on 81 venture capitalists from German-speaking Europe. They tried to combine investment criteria, the investment process and evaluation uncertainty in order to explain the mechanisms of the venture capitalists' selection and decision making process. According to them, "entrepreneurs should signal their readiness and commitment to the intended venture from the very beginning of the process in the most credible way. Postponing this to a later phase of the process heightens the risk that this part of the process will not be reached, because the negotiations will have been terminated by the venture capitalist".

Researching sixteen VCs in the UK, Visagie (2011) concluded that the order of importance of the investment criteria is as follows: Management Team, Market, Product, Scalable Business Model, Commercial Proof of Concept and Specific factors set by VCs. Entrepreneurs should be aware that VCs can analyse the criteria in different order of importance which depends on the way of funding (variant investors) and the country in which they operate.

Narayansamy et al. (2012) conducted an exploratory research on 16 venture capitalists in Malaysia and concluded that management integrity and exit opportunities are of greater importance than business ideas. According to them, venture capitalists experience does not match to expertise in decision making.

Venture capitalists often discuss the "chemistry" that is created between them and the entrepreneurs. The absence of the same leads to the discontinuation of the cooperation, although the entrepreneur meets the basic criteria. This intuition, or "gut feeling" in deciding is difficult to quantify or analyse objectively. According to Hudson and Evans (2005), the decision-making process applied by venture capitalists is more an art than a science and venture capitalists do not understand their decision making process. Different authors in different empirical studies disagree on which of the above criteria within individual basic categories are essential, fundamental, or more important than another in making an investment decision (Khanin et al., 2008). The authors also emphasize the heterogeneity of venture capital practices and the subjective nature

of the decision-making process (Cope et al., 2004).

According to Hudson and Evans (2005), there is no general agreement about the use of investment criteria while evaluating investment proposals by venture capitalists which leads to the conclusion of certain authors that it is necessary to observe each fund independently. Furthermore, the inability of developing decision-making frameworks or models which uniformly describe the process of scanning and evaluation of investment proposals by the venture capitalists is the result of the inconsistencies and diversity of existing research results.

Majority of studies about venture capital investment criteria were conducted in developed equity markets (Wells, 1974; Poindexter, 1976; Tyebjee and Bruno, 1981; Tyebjee and Bruno, 1984; MacMillan et al., 1985; MacMillan et al., 1987; Khan, 1987; Sandberg et al., 1988; Riquelme and Rikards, 1992; Hall and Hofer, 1993; Fried and Hisrich, 1994; Boocock and Woods, 1997; Zacharakis and Mayer, 1998; Shepherd, 1999), while for emerging equity markets, small equity markets and transition economies the number of studies is minor (Karsai et al., 1997; Tan, 1997; Bliss, 1999; Silva, 2004). The most frequently used research samples are venture capital funds and venture capitalists, while investments as a sample are studied only in two papers. Between different methods of data collection, interviews and questionnaires dominate. The most used methods of data processing are: descriptive statistics, content analysis and factor analysis (Table 5).

Visagie (2011) states that in the framework of the investment process of venture capital scanning and evaluation phases are dynamic, not static phases, and the whole process is continuously updating or changing over time. In these stages venture capitalists are using different criteria for making decisions. Furthermore, there is a general conclusion among researchers that the criteria that venture capitalists indicated that they use when making investment decisions (so-called espoused criteria) are not a basis for decision making. It is an unclear, implicit mental and social process of the integration of various information, such as information about market conditions, enterprise/business and the requirements of the venture capitalists fund (Martel, 2006).

A large number of theoretical and empirical researches show that there is no unified conclusion about the importance of certain criteria defined by the venture capitalists, as well as who ultimately

**Table 5 Overview of research method, sample sizes, data sample and analysis method**

Study	Wells (1974)	Poindexter (1976)	Tyebee Bruno (1981)	Tyebee Bruno (1984)	MacMillan et al. (1985)	MacMillan et al. (1987)	Khan (1987)	Robinson (1987)	Timmons et al. (1987)	Sandberg et al.
<b>Type of research</b>										
Criteria research	X									
Processual Research	X									
<b>Sample size</b>										
VCF	8	97		41	100	67	36	53		
VCs			46		14					
Investments						150	104			
Proposals/applications				90						
Profiles										
<b>Type of proposals assessed</b>										
None in specific	X	X	X		X					
Proposals under consideration				X						X
Successful investments						X	X			
Unsuccessful investments						X	X			
Hypothetical ventures										
<b>Context of the study</b>										
Developed equity market	X	X	X	X	X	X	X			X
Cross-national comparison										
Transition economy										
Emerging equity market										
Small equity market										
<b>Data gathering method</b>										
Interviews	X				X					
Questionnaires		X	X	X	X	X	X			
Archival records search										
Verbal protocols										X
Experiment (full profile)										
Experiment (trade-offs)										
Participation observation										
<b>Data analysis method</b>										
Descriptive statistics	X	X	X	X	X	X				
Content analysis	X		X							X
Factor analysis				X	X	X				

(1988)	Riquelme Rikards (1992)	Hall, Hofer (1993)	Fried, Hisrich (1994)	Knight (1994)	Muzyka et al. (1996)	Boocock & Woods (1997)	Karsai et al. (1997)	Tan (1997)	Zacharakis Meyer (1998)	Bliss (1999)	Shepherd (1999)	Boehm (2002)	Silva (2004)
						1		31		6	47		1
1	13	4	18	429	73		9		51	6	66		9
		16				232							16
	40								50		39		
				X			X	X					
X		X											X
			X							X			
	X				X				X		X		
X		X	X			X			X		X		
				X	X			X					
							X			X			
								X					X
	X		X		X		X			X			X
			X	X	X		X	X		X			
	X					X							X
X		X							X		X		
	X				X								X
			X	X		X	X	X		X			X
X		X	X			X				X			X

Discriminant analysis				X						
Cluster analysis					X	X				
Conjunctive modelling							X			
Disjunctive modelling							X			
Regression analysis						X				
Conjoint analysis										

VCF: Venture Capital Fund; VCs: Venture Capitalists  
 Source: Martel, 2006.

makes the decision about the investing - fund manager or investment board composed of representatives of the investors in the fund.

#### 4. Methodology

The research design is exploratory and involves an extensive literature review of past articles on venture capital investment criteria published in international journals like Journal of Business Venturing, Journal of Business Research, the Journal of Private Equity, conference papers, books and master theses. Data were collected using secondary sources of data collection.

#### 5. Discussion

From the first research about venture capital that dates back to the 1970s, investment criteria set by venture capitalists are in the focus of a large number of different researchers worldwide. Since then, researchers have been questioning over and over again about the most important VC investment criteria. With respect to the previously mentioned, it can be pointed out how venture capitalists take into account five major categories: entrepreneur/management characteristics, product/service, market, financial consideration and other. Researchers about venture capital can be classified into two categories:

Table 6 The most used venture capitalists' investment criteria in the past studies

VENTURE CAPITALISTS INVESTMENT CRITERIA			
CATEGORY	MacMillan et al. (1985) US VCs	Zutshi et al. (1999) Singapore VCs	Vinig and de Haan (2002) Comparison US and Dutch VCs
I.a) The entrepreneur's personality	Capable of sustained intense effort.	Capable of sustained intense effort	Market/industry knowledge
	Able to evaluate and react well to risk.	Able to evaluate and react to risk well	Track record
	Articulate in discussing venture.	Articulate in discussing venture	Leadership
	Attends to detail.	Attends to detail	Referred by reliable source
	Has a personality compatible with mine.	Has a personality compatible with mine	Reputation



<b>I.b) The entrepreneur's experience</b>	Thoroughly familiar with the market targeted by venture	Thoroughly familiar with the market targeted by venture	
	Demonstrated leadership ability in the past	Demonstrated leadership ability in the past	
	Has a track record relevant to venture	Has a track record relevant to venture	
	The entrepreneur was referred to me by a trustworthy source	The entrepreneur was referred to me by a trustworthy source	
	I am already familiar with the entrepreneur's reputation	I am already familiar with the entrepreneur's reputation	
<b>II. Characteristics of the product or service</b>	The product is proprietary or can otherwise be protected	The product is proprietary or can otherwise be protected	Proprietary, protected
	The product enjoys demonstrated market acceptance.	The product enjoys demonstrated market acceptance.	Market acceptance
	The product has been developed to the point of a functioning prototype	The product has been developed to the point of a functioning prototype	Development stage
	The product may be described as "high tech"	The product may be described as "high tech"	Innovative
		The target market enjoys a significant growth rate.	Global potential
		The venture will stimulate an existing market.	
<b>III. Characteristics of the market</b>	The target market enjoys a significant growth rate.	The venture is an industry with which I am familiar.	Not much competition in the first year(s)
	The venture will stimulate an existing market.	There is little threat of competition during the first three years.	The VC is familiar with the market
	The venture is an industry with which I am familiar.	The venture will create a new market.	There are established distribution channels
	There is little threat of competition during the first three years.		Fast growing
	The venture will create a new market.		Existing market
			New market
<b>IV. Financial considerations</b>	I require a return equal to at least 10 times my investment within 5-10 years.	I require a return equal to at least 10 times my investment within 5-10 years.	Require return within 5-10 years
	I require an investment that can be easily made liquid (e.g., taken public or acquired).	I require an investment that can be easily made liquid (e.g., taken public or acquired).	Easily made liquid (e.g., IPO, M&A)
	I require a return equal to at least 10 times my investment within at least 5 years	I require a return equal to at least 10 times my investment within at least 5 years.	Require a return within 5 years



	Track record	Investing own money	Flexibility
	Technical qualification	Inter-team Acquaintance	Leadership
	Business qualification	Education	General management
	Innovativeness	Flexibility to adapt	Potential for earning growth
	Patentability	Satisfy a need or want	Brought to market within 3 to 5 years
	Unique selling proposition	Non-appropriability	Significant competitive advantage
		Persistence	Reasonable capital requirement
First mover	Market volume	First mover	
Potential Market Size (billion US\$)	Market growth	Second mover	
Proprietary Technology / Patent Protection	Market acceptance	No preference	
Exit Opportunities	Fit to investment strategy		Exit opportunity
Time to Achieve Profitability	Return on investment		Potential for high rate of return (%)
	Exit possibilities		Potential for high absolute return (\$)

	I will not be expected to make subsequent investments.	I will not be expected to make subsequent investments.	Will not participate in latter round
	I will not participate in latter rounds of investment (requires my participation in the initial round of investment).	I will not participate in latter rounds of investment (requires my participation in the initial round of investment).	Will not be expected to make subsequent investments
			Investment more than 1 million
V. Others	Venture team (The venture is initiated by one person with the relevant experience to his idea; The venture is initiated by more than one individual, each having similar relevant experience; The venture is initiated by more than one individual, the individuals constituting a functionally balanced management team; None of the above are essential for the venture to go forward.)	Venture team (The venture is initiated by one person with the relevant experience to his idea; The venture is initiated by more than one individual, each having similar relevant experience; The venture is initiated by more than one individual, the individuals constituting a functionally balanced management team; None of the above are essential for the venture to go forward.) Country risk criteria (political risk, foreign exchange risk, foreign exchange control risk, trade control risks, Socio-culture risk, other).	

Source: Author's compilation

Furthermore, the majority of the studies are related to investment criteria defined from the supply side of the market, from the point of the VCs (entrepreneur/team characteristics, product/service characteristics, market characteristics, financial characteristics and other). The point that should also be addressed is the demand side, that is, the way of VC seeking conducted by companies. It is necessary to explore the attitudes of business owners about what they considered to be the key for attracting venture capital, i.e. whether the VC criteria that entrepreneurs consider crucial differ from the VCs' crucial criteria at different stages of negotiation. With respect to the previously mentioned, the investment criteria should be supplemented with the following criteria: the willingness of entrepreneurs to renounce ownership, readiness to change the management, readiness for dialogue, readiness for the achievement of set goals, the VCs' intuition and "gut feeling" and personal sympathy for the management (Table 7), because VCs often emphasize that a venture capital deal is like a marriage. If those criteria are not satisfied it is difficult to expect that a venture capital deal will be finalized.

Table 7 Proposed new set of criteria

Venture capitalists investment criteria	
Category	Šimić
Investment readiness	The willingness of entrepreneurs to renounce ownership.
	Readiness to change the management.
	Readiness for dialogue
	Readiness for the achievement of set goals.
	VCs intuition and "gut feeling"
	Personal sympathy for the management

Source: Author

Feasibility of Proposition (Realistic Approach to Financing; Well thought out milestones)		VC factors (fund phase, portfolio, timeframe for generation)	

**6. Conclusion**

The aim of this article was to contribute to a better understanding of investment criteria set by different suppliers of capital with a special emphasis on venture capitalists’ investment criteria by providing an overview of research. Furthermore, the goal was to identify and analyse the most used VCs’ investment criteria discussed in the literature in order to provide a new set of VC investment criteria. Fulfilling the proposed set of VC investment criteria could increase the chance to pass the first phase of the VC investment process.

Suppliers of capital can be: family, friends and fools, business angels, banks, repayable short-term loans, venture capital, foundation, government, public funding and etc. Entrepreneurs should be aware that a preparation of a business plan differs depending on the category of potential funders or suppliers of capital they want to attract because they have different investment criteria and emphasize different types of information. Criteria important for family, friends and fools are personal relationships based on trust, for bankers it is the ability of loan repayment and collateral, and for venture capitalists and

business angels it is market and financial information.

Despite the large number of studies, there is still no unambiguous answer what the key venture capitalists investment criteria are. Most research has shown that each proposal goes through multi-phase estimation, taking into account five basic categories: the entrepreneur / team characteristics, characteristics of the products/services, market characteristics, financial and other characteristics. In order to increase the chances of attracting venture capital, entrepreneurs are supposed to be familiar with this form of financing, and should be investment ready. Entrepreneurs are investment ready if they are aware what conditions they have to meet at which stage of negotiations, primarily in the first stage. Consequently, a new set of VC investment criteria is provided and relates primarily to the following criteria: the willingness of entrepreneurs to renounce ownership, readiness to change the management, readiness for dialogue, readiness for the achievement of set goals, the VCs’ intuition and “gut feeling” and personal sympathy for the management.

Considering the fact that venture capital has spread all over the world in the last twenty years, especially

in developing countries, studies about VC investment criteria in emerging equity markets, small equity markets and economies transition are deficient. The question that appears is do the criteria set by

VCs in those countries differ from the previously analysed. Furthermore, it is necessary to explore the existence of the differences between the entrepreneurs and the VCs' crucial investment criteria.

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Marija Šimić

## INVESTICIJSKI KRITERIJI ULAGAČA RIZIČNOG KAPITALA

### SAŽETAK

Različiti ulagači, kao što su bankari, poslovni anđeli ili ulagači rizičnoga kapitala stavljaju naglasak na različite investicijske kriterije prilikom donošenja odluke o ulaganju. Poduzetnici trebaju biti upoznati s navedenim kriterijima, to jest različitim zahtjevima potencijalnih ulagača kako bi im prilagodili svoje poslovne planove. Od pojave rizičnoga kapitala veliki broj istraživača u svijetu pokušava identificirati investicijske kriterije značajne za ulagače rizičnoga kapitala. Unatoč velikom broju istraživanja, još uvijek ne postoji jedinstveni odgovor na pitanje koji su to ključni investicijski kriteriji za ulagače rizičnoga kapitala. Stoga se u ovom radu daje pregled investicijskih kriterija različitih dobavljača kapitala s posebnim naglaskom na investicijske kriterije rizičnoga kapitala. Identificiraju se i analiziraju najčešće korišteni investicijski kriteriji ulagača rizičnoga kapitala koji se navode u literaturi. Navedeni pregled rezultira novim skupom kriterija ulagača rizičnoga kapitala.

**Ključne riječi:** rizični kapital, ulagači rizičnoga kapitala, poduzetnik, investicijski kriteriji





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# THE EFFECTS OF THE WTO AND THE TTIP AGREEMENT ON THE CROATIAN ECONOMY

## ABSTRACT

Immediately after becoming independent on 15 January 1991, the Republic of Croatia became a member of the IMF. Although, as a successor of the former Yugoslavia, it had full GATT membership, and thus membership in the WTO, the Croatian government did not know how to exercise its rights and therefore had to go through the entire procedure in order to access the organisation in 2000. Presently, Croatia is the 28th Member State of the EU and has scarce information about the TTIP, the effects of which will directly affect Croatia as well as all Member States. The purpose of this paper is to realistically analyse the possible effects on our economy in relation to this globally important agreement. The TTIP is a trade agreement between the EU and the USA which has an important economic and geo-strategic interest, since its role is connecting two powerful economies and their common position on the global market as well as long-term pace-setting in relation to other regions in the world, which refers to the standard and the way of doing business. Therefore, we can conclude that the long-term strategic goal is market integration and establishment of grid plans which, once established, will not be able to undergo significant changes. The aim of this paper is to examine the default hypothesis and thus establish facts in relation to trends in international trade and its adaptation to globalization and economic changes in the world as well as its impact on Croatia. The scientific methods used in this paper are methods of systematic analysis, the dialectical and logical method, mostly in the inductive-deductive combination, and vice versa. The scientific contribution is reflected in the development of scientific thought about the importance of the effects of globalization on trade and the economy in general in the world and in Croatia.

**Keywords:** WTO, TTIP, trade, effects on the economy, cooperation with Croatia

## 1. Introduction

The World Trade Organization (WTO) is an international organization that operates and creates an institutional and legal framework for the multilateral trading system in the field of customs and trade in goods, services and intellectual property. The main hypothesis: The WTO operates in order to create rules and their interpretations within international trade, which are negotiated through various WTO agreements, all aimed at facilitating trade between countries. PH1: Negotiations between the Member States enable further trade liberalization processes and the aim is to create a non-discriminatory system for the settlement of trade disputes. PH2: There are many regulations and obligations on both the US and the European market, but the point is that they are carried out in different ways. There are many arguments against the TTIP agreement as well as the opportunistic attitude of the public, NGOs, trade unions and others with regard to the whole purpose and intent of the agreement and the fact that the cooperation between the EU and the USA has been well regulated. Additionally, there is also the Transatlantic Trade Council which continuously negotiates on specific issues. This agreement is aimed at boosting true transnationality of corporations that is dictated by a variety of other interests rather than trade, which was the case before. Today, EU countries have more than 1400 bilateral and multilateral agreements relating to the provision of certain guarantees and resolution of disputes with individual investors, which have nowadays become an accepted economic standard. The TTIP agreement should result in additional guarantees.

## 2. The Development of the Croatian Economy Through Cooperation with the WTO

Since the end of World War II, trade between countries has been growing three times faster than the growth of the world gross domestic product (GDP). To understand the meaning of this, for the purpose of comparison, it should be noted that the expansion of trade between various countries from 1870 until the beginning of World War I, a period of the first wave of globalization, was marked by strong growth of trade but was two times slower than in the post 1950s (Maddison, 2001: 363). In response

to this phenomenon, several explanations are offered. Firstly, there was a strong development of technology at the time and we can speak of a technological revolution that significantly reduced the costs of transport and communication. The open trade policy was implemented between countries, changes occurred in the organization of work etc. In short, based on the above mentioned facts, it can be concluded that the main benefits of membership in the WTO are the following (Understanding the WTO):

- Maintaining peace at the global level;
- Dealing with various disputes in mutual agreement<sup>1</sup>;
- The new system is based on agreed rules;
- Costs of living in the world are being reduced;
- Selection of goods and services in the world is greater and the quality of products is better;
- The steady growth of foreign trade increases the income of all countries;
- The newly established system protects the governments of all countries from narrow individual interests;
- The battle against corruption is being developed<sup>2</sup>.

On the other hand, there are studies that prove exactly the opposite, with completely conflicting findings about the effects.

The benefits of WTO membership are already well known, but will be further clarified in the text<sup>3</sup>. It is particularly important to note that the WTO decisions are made by consensus, which is a big difference compared to other international institutions where decisions are made only by members of the Board of Directors. However, this way of reaching an agreement which requires consent of all Member States, has proven inconvenient. Its purpose was to reduce inequalities, thus giving smaller countries a greater say and at the same time relieving the largest economic powers from the obligation to establish trade agreements with each of their numerous trading partners (Eichengreen, 1995).

Furthermore, one of the benefits of membership in the WTO is the system in which, by means of negotiations and applying the non-discrimination principle, trade barriers are reduced, which results in reduced production costs (imported goods used for manufacturing are cheaper), lowering of the price

of the final product and services and, ultimately and logically, lower costs of living (Hoda, 2001).

### 3. TTIP Partnership - Agreement between the EU and the USA

Immediately after becoming independent on 15 January 1991, the Republic of Croatia became a member of the IMF. Although, as a successor of the former Yugoslavia, it had full GATT membership, and thus membership in the WTO, the Croatian government did not know how to exercise its rights, and had to go through the entire procedure in order to access the organisation. Since its accession to the WTO, Croatia became a full member in November of 2000, thirty days after the Parliament ratified the conditions of accessing the WTO, which is manifested through (WTO, 2003):

- launching of various rounds of negotiations;
- systematic multilateral trade liberalization and strengthening of the WTO system;
- flexibility in taking new commitments until the end of the contractual period of transition in the areas of agriculture and market access;
- the special position of the Republic of Croatia within the RAM initiative<sup>4</sup>, including longer transition periods known as *grace periods*<sup>5</sup> due to compromises that the Republic of Croatia made when accessing the WTO;
- supporting negotiations, that is, the inclusion of new areas, the relationship between trade and investment, competition and environment in the WTO's multilateral system;
- trade liberalization within regional cooperation frameworks such as the WTO system of complementary processes;
- supporting non-trade aspects of agriculture, that is, the principle of multi-functionality of agriculture;
- supporting special treatment for developing countries.

Croatia and other countries in transition are, to a great extent, mere objects in the globalization process. They are poor, technologically backward and have large deficits in foreign trade. Another problem Croatia faces, is an extremely low real base of

exports and a weak basis for its increase due to destroyed production. In addition, the expansion of liberalization in the sectors of agriculture, services and intellectual property, while increasing standards of protection of the environment, brings new and specific problems of development of the national economy.

Despite certain difficulties and possibilities of regression or a trend change, liberalization and globalization are a common reality. Therefore, our country, which gains 60 per cent of the gross domestic product from foreign trade, must responsibly face the processes of economy restructuring and completion of privatization processes. The latter were significantly delayed and deviated by war and adverse political circumstances. Any negligence or attempt to delay and slow down the necessary adjustments can only bring greater difficulties in the long run (Matić and Lazibat, 2001: 692-707).

The purpose of WTO operations is improving the lives of people in the member countries. The measure of success of WTO activities is not the volume of the world trade and the level of tariff reductions, but rather the improvement of living conditions of all nations, especially developing countries like Croatia (Mesarić, 2007). The importance of the WTO for Croatia was already pointed out in 2001 by Branko Horvat. This confirms the thesis that nowadays, a country that is not a member of the WTO is not a world power and does not have much chance on the market. Out of 530 000 farms, only 150 000 professional food manufacturers remained active after entering the WTO (Matutinović, 2000: 1203).

A senior official of the same Ministry stated that "the integration into the world economy is, without any alternatives, our political and economic interest and most of our manufacturers must realize that they are not ready to enter the world market" (Poslovni svijet, 2000). Jakovljević says that "data from this period indicate that Croatian companies are most likely entering a new stagnation period, due to a decline in domestic orders and export transactions" (Jakovljević, 2001: 6).

Recession has also taken hold in the textile industry, leather and footwear, as well as in the food and timber industry. It should be noted that the real gross domestic product (GDP) in 1989, had not been reached until 2006, only to be followed by the economic crisis. In the period between 1990 and 2010, the GDP declined by 3.7 per cent. In 1989, the

Croatian GDP was 76.9 per cent in comparison with the EU, while in 2010 it was 54.1 per cent which is a decrease of 22.8 percentage points.

Therefore, it can be concluded that the results of the economic policy in the period between 1990 and 2010 were devastating, while the industrial production was still about 20 per cent lower than that of twenty years ago<sup>6</sup> (Domazet, 2011).

Croatia's industrial production continues to decline. The decline in the industry turnover is even more dramatic. It accounts for about 9 per cent in comparison with the previous year, which is also reflected in exports. The value of merchandise exports in 2014 fell from 67 to 62 billion, with a decrease in imports. Approximately seven billion in annual revenue from tourism kept the country afloat, but good tourism results were not sufficient to make up for all other declines. Croatia has not benefited from joining the EU like other countries, because domestic exporters did not do well on the large market. Therefore, at the end of November, exports to EU Member States decreased by two billion, and exports to non - EU countries also declined (Gatarić, 2014).

However, the current economic situation in Croatia<sup>7</sup> and the problems or crisis elements can be summed up in at least four economic indicators that are analysed in the previous paragraphs, and they are:

- Low employment, around 45 per cent (the employed in relation to the working age population), which is one of the lowest rates in relation to the EU Member States. 19.5 per cent of the people are at risk of poverty; out of the total of 1.29 million people employed, there are 10,000 pensioners more than there should be in order for the system to be sustainable. 500,000 pensioners receive less than HRK 2,000, and 55,000 employees do not receive a salary; there are 80,500 people working for a minimum wage of about HRK 2,400 and 115,000 of those who receive some kind of social welfare. Companies lost 102,697 employees in five years, which accounts for almost the amount of two Agrokor companies (FINA, 2014). There has been a trend of emigration; but no one can claim for certain how many educated people have left the country due to lack of research. German statistics presents data of 24,845 Croatian emigrants while the CBS mentions figures of 2,069 people (Jutarnji list newspaper, 6 December, 2014);

- Croatia is already heavily indebted (the amount of EUR 45.9 billion in 2013). In 2014, the external debt amounted to EUR 46.5 billion, with an increase of EUR 1.1 billion. In 2014, the share of external debt amounted to 108 per cent of the GDP, the state's share and the share of banks and other financial institutions amounted to EUR 12.8 billion. In 2014, the total external Croatian debt amounted to EUR 8.4 billion (Jutarnji list newspaper, 8 January 2015);
- With the decline of GDP for the sixth consecutive year, lowering of the credit rating of the country that rejected the earlier investment level amounting to 89.6 billion to 37.3 billion in 2014 was confirmed. In the same year, the share of non-performing loans, partially or fully irrecoverable, was less than 17 per cent, which is 1.25 per cent more than in 2013. Exports in 2014 increased by 8.4 per cent, while private consumption stagnated due to high unemployment<sup>8</sup>;
- Private consumption remains a major factor in GDP growth. According to estimates, private consumption has a share of about 60 per cent in the GDP. The share of other factors, such as investments, is about 20 per cent, while the remaining 20 per cent relates to public spending (PBZ, 2014);
- The appreciated exchange rate and relative prices are a separate issue because they affect the relations between industry and further development. Monetary policy and extreme transactional focus on buying and selling foreign currencies, has always been a problem. At the time of growing public debt, which had started to grow in the period from 2000 to 2009, the liquidity issue was resolved. After 2009, the external debt ceased to grow and insolvency reappeared. Banks stopped giving loans as this meant loss of liquidity, so they began collecting liquidity of the Croatian kuna. Parallel to the beginning of the crisis, the Central Bank had not developed other transaction channels and therefore caused a bad position of banks with high liquidity which cannot achieve economic growth.

Statistical errors are especially common when tracking the moving ratio of state variables and flow, which are due to changes in the assessment of the value. These changes in the assessment of the value can be caused, for instance, by changing the value of fixed assets (due to depreciation, revaluation, etc.).

Moreover, they can be caused by the influence of the structure of the currency of individual components and by the influence of changes in the exchange rate between these currencies, on the value of state variables reported in one currency.

It is necessary to strengthen the Croatian economy in order to secure a stable and sustainable economic growth that would lead to an increase in exports and promote Croatia to a higher rank in the WTO. Although, its membership in the WTO favoured development of the economy, a number of other factors that are analysed in the paper negate it. The World Economic Forum<sup>9</sup> classifies Croatia as a country with a transition economy, from one driven by efficiency towards one driven by innovation. In this group of countries are also Chile, Estonia, Hungary, Poland, Turkey and Slovakia. In this category, Croatia has all the “typical” features of a national economy in transition between two phases of development (WEF, 2014-2015).

Economy-driven efficiency is forced, primarily due to higher prices of labour, to develop more efficient production processes and to raise the quality of products. At this stage of development, its competitiveness is increasingly determined by the quality of higher education and training, an efficient goods market, a functional labour market, a sophisticated financial market, a rising domestic and export market, and the ability to use available technologies.

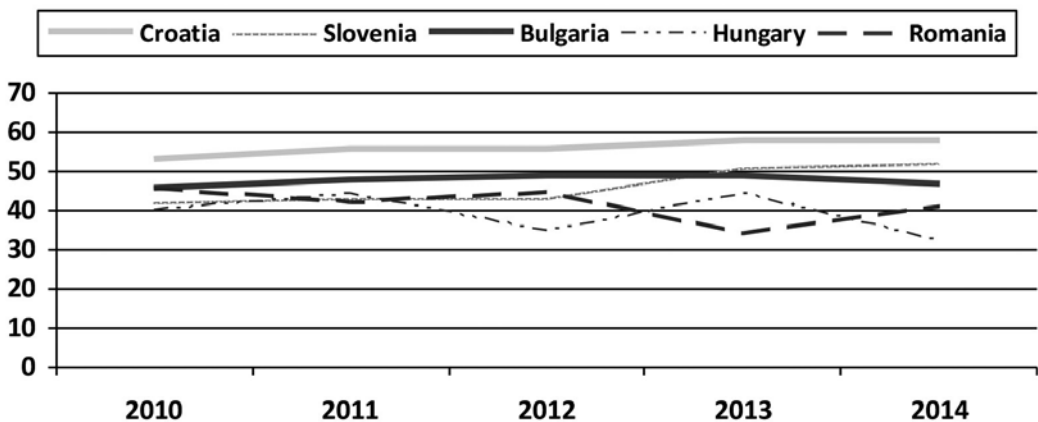
The analysis of the annual WEF report clearly indicates competitive advantages as well as disadvantages of Croatia that limit its further development. Unlike the “pillars of competitiveness” such as infrastructure, macroeconomic stability, health and primary education as well as technological readiness, in which we achieve the expected results that are “typical” for transition countries, we deviate from these images and lag behind in all other “pillars”. This is particularly visible in “pillars” such as innovation, development, efficiency, market size (export) and higher education. It can be concluded that Croatia is losing its competitive advantage due to lags in those areas.

Figure 1 shows the competitiveness assessment of Croatia and the selected EU countries.

New EU members, such as Croatia and its peers, recorded some improvements of their positions (Romania, Poland) which indicate a slight level of recovery after a significant drop in the previous year (Slovakia, Slovenia), while Hungary and Bulgaria dropped on the scale in relation to 2010.

According to the Global Competitiveness Report, Croatia is ranked 77th of 144 countries in the world. The analysis presented in Global Competitiveness Reports of the WEF in the period from 2002, when Croatia was first included in the GCR, has shown that the competitive position of Croatia has been continuously weakening. Croatia’s competitiveness declines linearly, so there is a steady downward trend from year to year (GCR, 2014-2015).

Figure 1 Competitiveness Assessment - Comparison between Croatia and the Selected EU Countries



Source: (IMD, 2014)



This decline is particularly pronounced in relation to the comparative group of countries from the 'transitional' stage of development, where Croatia currently has the lowest rank and is close to losing its transitional character (World Investment Report, 2014). Capital investment is an investment made in a higher long-term material object (property) which requires significant investment and the expected life that is longer than one year. The value and expected life are often specified by law. In this way, for instance, each local government defines what is considered capital investment on the basis of local needs and legal requirements. Hence, it can be concluded with respect to the previous analysis of the situation in Croatia, that the situation is far from good. In the budget for 2014, expenses were cut by half a billion on investments and subsidies (Večernji list newspaper, 30 October 2014). Planned investments in the budget projections for last year amounted to 1.9 billion, and out of 77 original projects that the Government sent to Brussels as eligible for funding under the new European investment plan, 25 of them were selected as final, worth EUR 9 billion. Although every investment is welcome because it corresponds to the revival of the economic activity and job creation, it can be concluded that the financial crisis in Croatia mostly affects investment. The difficulties faced by the Republic of Croatia and its economy, affected by the global economic crisis, such as low levels of total and per capita GDP, low level of purchasing power and spending as well as low levels of living standards and high poverty rates, arise from very small levels of employment, high government consumption, proportionately high number of pensioners, expensive production, low exports and high imports, high levels of external and internal debt which produces a chronic lack of liquidity in the economy and in state institutions. The inconsistent model of conversion of the manufacturing and service sector ownership has led to the multiplication of economic difficulties, with a tendency of further deterioration. After a pronounced decline of Croatia's global trade value in 2009, and its slight recovery and significant growth of exports in 2010, Croatian exports amounted to 78.9 billion last year, which is 6.3 billion more than in 2013. Industrial production is still about 20 per cent lower than that of twenty years ago. It is constantly on the decline, and there is even a dramatic drop in the industry turnover, about 9.2 per cent in 2009, while in 2013, it declined by 1.8 per cent compared to the previous year. In 2014, the situa-

tion started improving when an increase of 2.9 per cent was recorded in November in comparison to 2013. The value of merchandise exports fell from 67 to 62 billion, and there was a decrease of imports in 2014. Croatia has not benefited from joining the EU like other countries because it is an export-focused country such as Poland. Domestic exporters could not find their bearings on the big market and at the end of November 2014, exports to EU Member States decreased by two billion, and so did exports to non-EU countries (Večernji list newspaper, 2015).

#### **4. The TTIP Partnership Agreement Between the USA and the EU**

The Transatlantic Investment and Partnership Agreement (TTIP), between the USA and the EU, is a free trade agreement between the USA and the EU, which aims to bring down certain barriers, not customs-wise, but rather differences in systems that impede further development, reduction of business costs and prices of products and services. Officially, the TTIP was created in June 2013, when President Barack Obama and former President of the European Commission, José Manuel Barroso began the first round of negotiations after a complex preparation period of twelve years. This agreement also marks the set of acquired experiences in agreement defining: TISA (General Agreement on Trade in Services), the Free Trade Agreement between the European Union and countries of the Maghreb and ultimately the TPP, the Trans-Pacific trade agreement between the United States and Asian countries, but without China, North Korea, Vietnam and India. It is an economic agreement, frequently called the "economic NATO" because it could economically connect the US and the EU like NATO did with America and Western Europe during the Cold War, in the military, security and defence sense, thus connecting these two historically well-connected large markets worth EUR 3.8 trillion.

In 2011, the total trade amounted to EUR 455 billion with 720 million different products in the EU, and economic benefits of the TTIP for the rest of the world would amount to EUR 100 billion per year. The EU and the USA account for almost half of the world GDP and one third of the total world trade-exchange takes place between them. The



TTIP would create a single market covering this entire area and an additional 119 billion euros at the annual level of the entire EU economy, an average of EUR 500 per household (Krasnec, 2015).

US investments in Europe are three times higher than US investments in Asia, while European investments in the United States are eight times higher than all European investments in China and India together. The high standards of the EU are focused to protect health, safety, workers' rights and people's right to privacy, financial security and a clean environment. These are also the most important points of the TTIP agreement. These negotiations are aimed at achieving economic benefits for all members, through more investments that will boost job creation and create greater opportunities for small and medium-sized enterprises that have so far been faced with many regulatory barriers. The necessary procedures, registration and certification were usually too expensive for small exporters because it was difficult to cover the required costs with the amount of their production.

The TTIP could define that the necessary certificates in the EU also apply to the United States. This would facilitate business and exports, lower prices of certain products and introduce new innovative approaches related to pharmaceutical products. It is about the harmonization of chemical, medical, pharmaceutical and automotive industry and new hygiene standards from which the USA would have EURO 95 billion of economic benefits per year, and the EU, EURO 119 billion per year. The EU would save about EURO 12 billion, while the USA would save EURO 1.6 billion on certificates alone.

The responsible parties point out that the agreement is not going to reduce standards of certain groups, since the perception of each party is that standards are lower for the other side and that they would prevail. The TTIP is trying to make changes in three important areas (downloaded from "*Treća runda*" show):

- Further deregulation and "harmonization" of market space between the US and the European Union;
- Privatization of public services and endangering the welfare state that exists in the EU;
- Introduction of a legal mechanism called the ISDS (Investor to State Dispute Settlement) which operates one way (corporation against State) and al-

lows foreign corporations to file lawsuits and to receive payment of damages from the state, if it enacts laws or regulatory standards that may affect the reduction of their profits.

This way of legal 'protection' of corporate interests bypasses the existing legal mechanisms and the courts of the EU, creating an unnecessary parallel legal system in the form of arbitration court whose transparency is questionable. A number of non-government organizations for the development of civil society in the EU are critical to some parts of the agreement and consider it the most vile trade agreement in the history of Europe.

The biggest problem is that the basic principle of the negotiations is not set or is not clearly communicated. Politicians and large companies negotiate in secrecy, and the public is afraid of bad news for consumers, workers and the environment. Leaked information is the only information released on this agreement. This has cast doubt and provoked fear. It is considered that if companies are given hands free in deciding, it will only be in favour of unilateral interests of the companies.

Regulatory co-operation is in the core of the TTIP agreement which means that corporations are allowed to do what they want. Corporations will be able to participate in drafting rules and to influence the adoption of negative legislation. Whenever the Commission in the EU gets an idea for new rules, they will have to be presented to the US government and business groups before residents and elected representatives see what has been proposed. If a certain group has an objection, the Commission will be forced to report that it has a detrimental effect on trade. Business groups will be able to give their own proposals and we already have examples in Brussels of private businessmen in the US Chamber of Commerce lobby and the business lobby called Business Europe, who have been doing the same thing for years.

Their plan is to establish a new body called the Council for Regulatory Co-operation, to ensure that everything will be in accordance with the corporations' requirements. A priority of the Council is to protect trade but it still puts profit before people undermines key democratic principles and encourages the power of companies.

There are many regulations and obligations in the EU and USA market, but they are implemented in different ways. The TTIP wants to "align regulations

and reduce non-tariff barriers that prevent” multinational and large US companies to literally flood the European markets with their products. In practice, the TTIP is a kind of leverage that Chevron and other large energy companies like Monsanto and Cargill, along with other industrial giants of agribusiness, pharmacology, chemistry, electricity, transportation and financial conglomerates in the United States use, in order to undermine the normative elements that have hindered US exports to the European Union so far.

Products offered by these large US corporations have no guarantees like those available to consumers of European products. The alignment of regulations is actually the alignment of European regulations with US multinational companies, where they managed to avoid the precautionary principle, which the European Union adopted in 1992, after the UN summit in Rio de Janeiro. The principle is based on the logic of priority of absolute rights of individuals in relation to the rights of legal entities.

For this reason, a product must not be sold in the European Union unless it has passed a series of mandatory testing and unless there is a confirmation of the agencies that it will not harm consumers. It is a principle that does not exist in the United States where control agencies, according to the logic of economic liberalism, allow direct product placement, which is discontinued only when thousands of consumers submit evidence of poisoning or other damages of physical nature.

In addition, American consumers must bear all legal costs in lawsuits against the company from which they seek compensation. With this agreement there is a legitimate fear of the public and of democratic institutions that the fact that a coordination of standards related to the industry, which will primarily be negotiated in the working stages after the agreement has been signed will be kept secret and many questions will remain open and many more will be decided at the levels unavailable to the public.

Some examples of standards are: chlorinated chicken, beef treated with hormones, genetically modified experimental vegetables, and generally better protection of consumers. The USA fear chlorine on salad that is used in the EU. The USA want the EU to loosen laws on GMOs, hormones, various additives and processing techniques that are not allowed in the EU and want to impose their own standard in

the production of food and drinks. The standard is a lot stronger in the EU than it is in the United States.

The US is afraid of lowering standards in the automotive industry. Moreover, the United States has regulated financial markets after the global crisis in a better way, and it is afraid some banks could use these standards to sabotage standards in their own country to ensure better protection of workers.

Furthermore, France wants to completely exclude their cultural production from the agreement due to fear of Hollywood, the EU seeks liberalization of maritime transport between US ports because trade is only permitted when ships are at least 75 per cent owned by the US and where 3-4 crew members are Americans (Kozmas, 2015).

The application of TTIP will result in a potential average growth of EU GDP by only 1 per cent by 2027. However, according to a study conducted at the Tufts University in Massachusetts, which also emphasizes negative effects, including those on the internal European market, the growth will only be 0.1 per cent.

Most EU countries will experience a reduction in domestic demand and consequently a reduction of the GDP. It is estimated that there could be between 600 000 to 1 300 000 jobs lost, and Europe will lower wages and equalise them with those in the USA, therefore European citizens rightly ask whether such a small average of GDP growth justifies such great changes in almost all spheres of life of European residents (Gong, 2015).

There is a contradictory attitude toward the entire purpose and intent of the agreement and towards the fact that, so far, the cooperation between the EU and the USA has been successfully regulated by customs barriers of only 3 per cent, except for certain textile products and parts of motor vehicles, where customs reached 8 per cent, which is little and burdens the trade exchange. The Transatlantic Trade Council continuously negotiates these issues.

What this contract wants to impose is true transnationality of corporations that is dictated by a variety of other interests, rather than trade. Today, EU countries have more than 1400 bilateral and multilateral agreements relating to the provision of certain guarantees and the resolution of disputes with individual investors, which is nowadays an accepted economic standard.

Thanks to this agreement and with the introduction

of a legal mechanism by the ISDS, which Hungary and France oppose, an additional guarantee should be gained. In fact, there are examples in which companies sued a particular country in which they had investments by changing their strategy. It resulted in disturbance of further investment development and it disrupted the flow of return of capital, i.e. profit. Companies in litigation demand review of decisions, review of application of the law and the possible discriminatory application that occurred in practice. It is possible that "breakers" that prevent companies from abusing the mechanism of unreasonable lawsuits against sovereign states at non-transparent arbitration courts, will be agreed on during the negotiations.

It is visible in the presented analysis that democratic standards are in this way indirectly lowered as it was the case with transition countries where many governments favoured the entry of certain companies and their corrupt actions. The companies were often stronger than the economy of the countries themselves and later it was impossible to stop the harmful, and unsustainable actions. The fact is that only 2 per cent of trade and investment agreements end in a courtroom, mainly in the domain of small and medium-sized enterprises. This is another argument against the purposes of the TTIP.

There is a strong need for increasing competitiveness and economic growth in the world. The TTIP has an important economic and geo-strategic interest, since its role is to connect two powerful economies and their common position on the global market as well as long-term pace-setting in regions on other regions in the world, which refers to the standard and the way of doing business.

Therefore, we can conclude that the long-term strategic goal is market integration and establishing of grid plans which, once established, will not be able to undergo significant changes.

Why is it fictitiously democratic? Negotiations were conducted in a non-transparent and undemocratic way from the beginning. Its far-reaching consequences will be felt by 500 million citizens of the EU, while the negotiations are held behind 'closed doors', which is unacceptable to public interest. The full text of the negotiations led by two main negotiators, the Spanish Ignacio Garcia Bercero for the EU and Dan Mulley for the USA, is still top-secret and only eight officials of the European Commission know its contents.

Even the members of the European Parliament, who are supposed to ratify the text of the agreement this year, are noncognizant of all secret negotiations. Only several chapters are known: chapters on trade in public services and electronic communications. Moreover, the Huffington Post described three more chapters on energy, and the US Center of International Environmental Law published small extracts and standards in determining tariffs in the chemical sector (Babić, 2015). Negotiations are led by some members of the EU Commission, the administration of the United States and about 600 lobbyists (from financial and industrial companies, mostly multinationals). The EU Parliament is almost completely excluded from the negotiations. Only six former EU parliamentarians are familiar with the actual flow and content of the negotiations. It is undemocratic that the trade agreement bypasses almost all previous EU legislation (EU standards), which took years to make in a transparent and democratic procedure by making long-term strategic policies for individual sectors by the democratically elected representatives of the citizens of the EU. However, under heavy pressure of the EU Parliament, the Public Advocate and the civil society, there was a change brought about by the new Juncker Commission.

Namely, in the first two years of all consultative meetings, 92 per cent of the meetings were held with representatives of corporations who have access to the process as experts. In negotiations it is common practice that a part of the document remains confidential. The largest part was made available to the public in October 2014, when the European Commission published the negotiating mandate and opened a public consultation on solving disputes between investors and the state, where 97 per cent of all comments were published. Likewise, the media reported briefly on the progress of the negotiations. Currently, the agreement has been submitted for review to the European Parliament and the European Council, and 2000 pages of the text are made available to the representatives of the European Parliament to be read in a limited time of 2 hours per official in a separate room in the presence of guards as a precaution, so that data would not leak. Active documents are made available to officials in a very limited way and the disparity in availability between those who have expertise in this field and those who are elected representatives is obvious. It should be noted that by the end of 2014, only 13 of 751 MPs

had access to the so-called reading room. The Confederation of Trade Unions advocates the so-called "Golden Rule", that is, to choose the one standard that will guarantee a higher level of quality, protection and opportunities for sustainable development.

All Member States will have to agree unanimously, ratify and accept the TTIP by consensus in order to get it approved by the European Parliament. The TTIP has to be accepted by the European Parliament. Then it has to be unanimously adopted by the Council of Europe and eventually pass the national parliaments of all EU Member States. The Member States should be positioned unambiguously in relation to this decision in order to become actively involved in the process.

Each country should make an analysis of the economic impacts and see what the new agreement will bring. Decisions directly related to all of us should not be made in a hurry, and should not be made solely by politicians.

Furthermore, decisions should be made in cooperation with professionals and experts in the field, in cooperation with the interested public.

## 5. Conclusion

Membership in the WTO is particularly important for Croatia, because it was one of the requirements for entering the European integration. Currently, Croatia is a full member of the EU. Croatia must also economically connect with countries of similar economic circumstances since this is the only opportunity to enter the market. Regional connectivity with traditional markets, where our products are already known, is also necessary. Markets of countries at a similar level of development should be used for the realization of scale economies and acceleration of exports. For six years, there have been continuous negative trends in the Croatian economy, while a slight growth in the GDP has been predicted for this year. Unemployment is of a structural nature and does not fit the classical theoretical presentation of a seasonal technological or cycli-

cal type. The sudden increase in unemployment in the past twenty years is the result of radical social and political changes, which, along with the consequences of war, defined the past period as a period of crisis. When examining the Global Competitiveness Reports of the WEF in the period from 2002, it is evident that the competitive position of Croatia has been weakening. Thus, its importance as a member of the WTO is reduced, and investment climate, which is a key lever for economic recovery, has been declining.

It is difficult to find a development strategy in as deep a crisis as the one in Croatia. The first step of getting out of the crisis focuses on introducing new investments and creating jobs. Therefore, it can be concluded that the general bad situation in the economy makes us less desirable for commercial, or any other cooperation within the WTO, although the primary purpose of the WTO is to improve the welfare of the people of the Member States.

The measure of success of the WTO activity is not the volume of world trade and level of tariff reductions, but rather the improvement of living conditions of all nations, especially that of developing countries like Croatia.

In 2014, the value of trade between the US and Croatia was relatively low and amounted to USD 496 million. NATO membership has not helped in strengthening economic ties, either. The total of exports amounted to USD 293 million, which is a decline of 11.6 per cent, and imports amounted to USD 203 million, which is lower by 9.5 per cent lower. The largest exporters to the United States in 2013 were: Pliva, HS Produkt, Uljanik, Ina and Dok-Ing. Investments have almost been neglected since 1993. Americans invested only EUR 59.3 million. Production volume and organizational forms can only be planned when the market is open.

Since our country cannot realistically compete with the Western market, the question is whether it will ever get out of this deadlock, seeing that our products cannot possibly compete with the imported ones. The TTIP agreement will push our country deeper into economic dependence, and we will become hostages in the battle for the interests of the powerful.

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**(ENDNOTES)**

- 1 Greater stability in trade derives from the process of resolving disputes within the WTO, which cannot guarantee that Member States will literally and strictly abide by their obligations, but it ensures that state violators must pay a high price.
- 2 Transparency (such as disclosure of all information related to trade regulations), other aspects of “trade facilitation”, clearer criteria for regulations relating to safety and product standards, as well as non-discrimination, reduce the possibility of fraud and arbitrary decision-making.
- 3 Membership in the GATT was not, nor is today in the WTO, reserved only for sovereign states. It is sufficient that a potential member is a separate customs territory with full autonomy in economic relations with foreign countries.
- 4 The special position of the Republic of Croatia within the RAM initiatives (Recently Acceded Members), which refers to a group of countries admitted to the WTO just before the Ministerial Conference in Doha. At that time the position of these countries, the Republic of Croatia as well, emphasized in Art. 9 in the Doha Declaration include longer transition periods and a grace period due to concessions which Croatia provided when entering the WTO.
- 5 A grace period (German *Gnadefrist*) is usually a term that denotes the period of time after a payment becomes due. A grace period is a time of “mercy” from creditors toward the debtor, approved in general so that the debtor makes preconditions for the orderly repayment of the credit (construction of a factory, starting a business, achieving a stable income, etc.). It is contracted when larger sums are concerned, usually long-term loans, but more often with most loans. The delay of the payment is contracted for several years, and this convenience, is to some extent compensated by a higher interest rate on the loan and commissions. In our country, we sometimes use the term “moratorium”, although it marks a break in the payment of the loan for a specific time period, in order to provide a break to debtors so that they could solve problems with the payment. Interest can flow, but its payment can also be postponed (Grace period, March 1st, 2014.).
- 6 Similarly the structural crisis of agricultural production should be emphasized. The beginning of this crisis started already in the 1980s and many events that intensified the crisis in the course of thirty years have been added to it. Furthermore, residential construction has been halved; the fleet has partly been sold out; rail, river and port transport achieved only half of the turnover they used to achieve.
- 7 The neutrality of the debt shows that real variations in tax revenue (current and anticipated), balanced by equal variations of real amount of net public borrowing in the opposite direction, do not have real effects. It should be noted that the theory of debt neutrality, is Barr’s version of Ricardo’s thought about the economic equivalence of tax financing and debt financing. Although today Barr’s theorem about debt neutrality is called Ricardo’s equivalence, the difference between Ricardo’s and Barr’s conclusion still exists, and it is in the fact that Ricardo did not persist in his belief about the identity of financing taxes and debt financing, noting that taxpayers suffer from what is today called a “fiscal illusion”.
- 8 Statistical errors are especially common when tracking the moving ratio of state variables and flow, which are due to changes in the assessment of the value. These changes in the assessment of the value can be caused, for instance, by changing the value of fixed assets (due to depreciation, revaluation, etc.) Moreover, they can be caused by the influence of the structure of the currency of individual components and by the influence of changes in the exchange rate between these currencies, on the value of state variables reported in one currency.
- 9 The World Economic Forum is a non-profit organization founded in 1971, based in Geneva, Switzerland. In 2006, the Forum opened branches in New York and Beijing. The annual meeting is held in Davos, where leading businessman, politicians, intellectuals and journalists gather in order to discuss current world problems. In addition to meetings, the Forum conducts numerous researches. It has the status of an observer in the Economic and Social Council of the United Nations. The supreme body of the Forum is the Founding Board, which consists of 22 members including the former British Prime Minister Tony Blair.

Ana Vizjak  
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## UTJECAJ WTO-A I UGOVORA TTIP NA HRVATSKO GOSPODARSTVO

### SADRŽAJ

Republika Hrvatska postala je članicom MMF-a, odmah nakon osamostaljenja 15. siječnja 1991. Iako joj je kao slijednici bivše Jugoslavije pripadalo članstvo u GATT-u, a samim time i u WTO-u, vodstvo Hrvatske nije znalo ishoditi svoja prava, već je moralo proći cijeli postupak za pristup toj organizaciji 2000. godine. Danas je Hrvatska 28. sastavnica EU-a, a u novije vrijeme dolaze šture informacije o TTIP-u čije će se posljedice izravno odnositi na sve članice, tako i na Hrvatsku. Svrha ovoga rada je realno sagledati moguće posljedice na naše gospodarstvo u odnosu na ovakve globalno važne ugovore. TTIP je sporazum o trgovini između EU-a i SAD-a koji ima, osim gospodarskog, i važan geostrateški interes jer se radi o povezivanju dviju moćnih ekonomija i njihovoga zajedničkog pozicioniranja na globalnom tržištu te dugoročnom diktiranju tempa drugim regijama u svijetu, što se odnosi na standard i način poslovanja. Iz svega se može zaključiti da je dugoročan strateški cilj integracija tržišta te utvrđivanje trasa koje jednom, kada se uspostave, više neće moći bitno mijenjati. Cilj je ovoga rada istražiti zadane hipoteze i time utvrditi činjenično stanje u odnosu trendova u međunarodnoj trgovini te njihove prilagodbe globalizacijskim i ekonomskim promjenama u svijetu, te kako će se sve to odraziti na Hrvatsku. Znanstvene metode korištene u ovome radu su: metode sustavne analize, dijalektičke i logičke metode, i to ponajviše u kombinaciji induktivna-deduktivna te obrnuto deduktivna-induktivna. Znanstveni se doprinos očituje u razvoju znanstvene misli i važnost globalizacijskih učinaka na trgovinu i opću ekonomiju u svijetu i Hrvatskoj.

**Ključne riječi:** WTO, TTIP, trgovina, utjecaj na ekonomiju, suradnja s Hrvatskom





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# THE DANUBE DELTA BIOSPHERE RESERVE - REGIONAL CLUSTERS IN PROTECTING AND PROMOTING THE LOCAL AREA AND LOCAL FISHERIES PRODUCTS

## ABSTRACT

The intensification of fishery activity through the intervention of regional clusters can have a positive impact at the local level – social impact (reducing unemployment), environment impact (reducing pollution effects and protecting the species within the biosphere reserve), tourism impact (increase the number of tourists and improve the “public image” of the region), market impact (increase the potential clients for local fishery products and improve the products quality). This paper will focus on fishery activity within the local area of the Danube Delta Biosphere Reserve from Romania, through the perspective of regional clusters’ actions in protecting and promoting the local area and local fishery products.

**Keywords:** Regional clusters, fishery, marketing instruments, Danube Delta, European Union

## 1. Introduction

### 1.1 Context

The United Nations Educational, Scientific and Cultural Organization (UNESCO) characterizes the Danube Delta from Romania as one of the largest and best preserved deltas in Europe, hosting over 300 species of birds and 45 freshwater fish species<sup>1</sup>. Through the UNESCO program “Man and the Biosphere”, the Danube Delta is included in the international network of biosphere reserves (1990) due to its impressive characteristics: fisheries and reed resources; sustainable local production; monitoring, research, education and training programs in the natural ecosystems domain; etc.

Local public authorities highlighted the importance of ensuring real conditions for the socio-economic development of local communities in the Danube Delta area, by elaborating the Danube Delta Strategy for the period 2011-2015<sup>2</sup>.

A SWOT analysis of the Danube Delta provided by the Local Action Group of the Danube Delta<sup>3</sup> reveals important weaknesses and threats in developing the local area, namely low interest in practicing traditional crafts, insufficient local budget for project implementation, insufficient awareness in sustainable management of natural resources (as weaknesses), opposition to changes by the local community, competitiveness with similar European products within the Commune Agricultural Policy, labour migration, natural risks (as threats).

Starting with 1<sup>st</sup> January 2007 Romania became part of the European Union (EU), and as a member state of the EU had to adjust its legislation, policies and procedures to comply with the requirements of EU policies and law to function more effectively within the EU framework. The European policies of agriculture, fishery and environment had a great impact on the way in which the regional clusters from the Danube Delta Biosphere understood to act.

### 1.2 Objectives

The main activities within the local area are fishery, tourism, agriculture, forestry and logging, reed harvesting, and hunting (source the Danube Delta Biosphere Reserve Administration).

This paper will focus on fishery activity within the local area of the Danube Delta Biosphere Reserve.

The starting assumption of the paper is that the intensification of fishery activity through the intervention of regional clusters can have a positive impact at the local level – social impact (reducing unemployment), environment impact (reducing pollution effects and protecting the species within the biosphere reserve), tourism impact (increase the number of tourists and improve the “public image” of the region), and market impact (increase the potential clients for local fishery products and improve the products quality).

Thus, the research aims to investigate the following dimensions:

1. European and national legislation and institutional actors on fishery domain, from which we will try to highlight some convergence aspects regarding the practices imposed by the EU;
2. Regional clusters' actions;
3. A marketing vision on local area and local fisheries products.

### 1.3 Research methodology

The qualitative research represents a top-bottom analysis, from European level to national, regional and local level.

The main research instruments are legislation analysis, comparison, market segmentation, reference standard, and the main information sources are the European and national documents, reports, communications, legislation and institutions websites.

## 2. General overview on the Danube Delta Biosphere Region – DDBR

As the Danube approaches the last stage of its long journey to the Black Sea it forks into two branches, the Chilia (120 km) and the Tulcea (17 km). The Tulcea branch further divides into the Sulina channel (63.7 km) and the Gheorghe channel (109 km). These channels, together with 400 freshwater lakes of varying size and a network of interconnecting waterways form the largest delta in Europe and sustain a unique pattern of closely tied habitats and ecosystems (Bell et al., 2001: 11).

The wetlands of the Danube Delta are rich in biodiversity and serve as a bird breeding and migration stop. 320 bird species have been observed. The largest populations of globally endangered Dalmatian Pelican and Pygmy Cormorant take refuge here. Fish species, including Sturgeon, Mullet and Black Sea Herring rely on the wetlands for spawning and feeding. Based on a recent assessment of the World's Biodiversity by scientists from the World Wildlife Fund (WWF), the Delta ranks as one of the world's 200 most important areas of biodiversity (Bachmann, Wurzer, 2010: 88).

For these reasons, in 1990, the Romanian Government established the *Danube Delta Biosphere Reserve Authority* to manage 5800 square kilometres of wetland. About the same time, the government also signed the Ramsar Convention, placing the Danube Delta on the international importance wetlands list and acknowledging the role of its reed beds as a filter for the Black Sea<sup>1</sup>.

The DDBR Administration is a public institution with legal personality, subordinated to the Ministry of Environment, Waters and Forests and whose activity is based on *Law no. 82/1993* on the establishment of the DDBR, as amended by *Law no. 136/2011*.

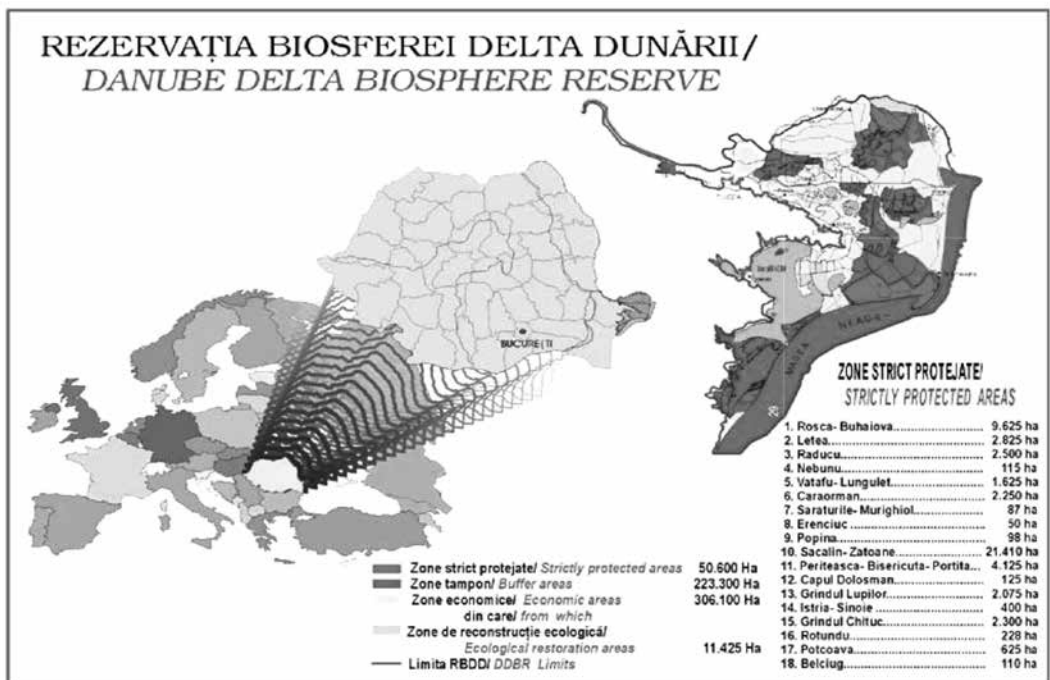
According to the law, the main activities of the DDBR aimed to achieve the objectives of the Government Programme on Environmental Protection to the management of sustainable natural resources and biodiversity conservation.

As it can be observed in Figure 1, the localities of the DDBR are concentrated mostly along the Danube's arms and occupy small areas.

The active population represents 35.3% of the total reserve, with occupancy rate of approximately 81.4% assigned differentiated activities<sup>2</sup>:

- fishing and fish (15.3%)
- agriculture and forestry (29%)
- industry, construction, trade, services (15.7%)

Figure 1 Danube Delta Biosphere Reserve Map



Source: Danube Delta Biosphere Reserve Authority, Available at: <http://www.ddbra.ro/en/ddbra-map> (Accessed on: January 23, 2014)

- tourism, transport, communications (15.4%)
- health (1.9%)
- education and culture (5.7%)
- public administration (13.5%)
- other activities (3.6%).

The economic zone covers a total area of 306,100 ha (52.8% of the reserve) and includes land in easily flooded land reclaimed from the sea for agricultural use, fisheries and forestry, and land on which settlements are located<sup>6</sup>.

The practicing of tourism can be also sustained in the area by the natural and cultural values of the Danube Delta and by the uniqueness and specific architecture and its outstanding attractions.

The diversity of the resources of the Danube Delta Biosphere Conservation makes possible tourism in its various forms<sup>7</sup>: tourism for rest and recreation; tourism knowledge; tourism specialized (scientific); ecotourism has a role in promoting sustainable use of biodiversity; rural tourism (in which guests are hosted and guided by locals); tourism for fishing highly appreciated by visitors of all ages, in any season, for any species of fish, and hunting sources.

The main activities regarding fisheries which can be practiced in the DDBR are: commercial fishing, sports fishing, science fishing and family fishing<sup>8</sup>.

Most industrial facilities are concentrated in urban areas in the adjacent area of the Delta itself. Thus, industry is developing on operation and exploitation of natural resources, primarily fisheries and agriculture (vegetables, grain, livestock, etc.). Between specific resources, fish and reed presents the greatest importance, both locally deltaic habitat economy and the functioning of industries of national interest.

The freshwater lakes and channels of the delta contain seventy-six species of fish. Fishing is a vital mainstay of economic subsistence for the delta's population and the most important commercial species are carp, bream, perch, sturgeon and shad. There are eighteen strictly protected areas within the borders of the reserve, two of which are rare oak/ash forests. The other sixteen areas cover channels and lakes that were previously available as fishing grounds, but are now strictly off limits to fishermen and protected by DDBR wardens (Bell et al., 2001: 11).

### 3. Aspects regarding the fisheries domain and its importance in the DDBR

Fishing has been and still is the most representative economic activity in the Danube Delta, given its structure, about 85% of the floodplains<sup>9</sup>.

For all these reasons, the fishery activity constituted a key point in all the strategies of developing the region, especially after the accession of Romania to the European Union on January the 1st 2007. Due to its policies, legislations and funds, the EU has made important contributions in transforming the intervention of regional clusters regarding the fishery activity and the protection of environment.

**The European interventionist policy** is much stronger on the regional level than on the national states level. Each economic activity in Europe's regions now has its own place on the European market economy. The creation of a single market will determine the dimensions of this market and the flexibility required by further economic increase as well as a remarkable expansion.

As long as the individual nations and regions maintain their independence and cultural and linguistic diversity, the unique market will have a major influence on the economic development<sup>10</sup>.

Creating a European market is important due to its size and economic potential. Central and Eastern Europe is a potential area of new markets expansion and organization. Moreover, expansion and trade are becoming important to the entire European economy as well as all its regions.

All these facts are important in creating the conditions of practices of convergence imposed by the EU. A subject of these common practices is also the fisheries domain, which is strictly regulated at the EU level by the EU Common Fisheries Policy (CFP).

#### 3.1 EU policies and fisheries legislation with impact on the DDBR

European integration through its policies and legislation aims at leading to a more powerful convergence and less divergence in the regional economic zones and to the contribution of reducing the disparities between the EU countries.

One of these euro-zone subjects of all the regulations of the EU is also the Danube Delta Biosphere Reserve.

One of the EU instruments with impact on the DDBR is the European *Fund for Orientation and Agricultural Guarantee*. It represents the financing instrument of the *EU Common Agricultural Policy*. The financing objective of this fund is to contribute to the agricultural re-structuring in the community zone and to support the agricultural products market. There are two sections which are specific to this fund:

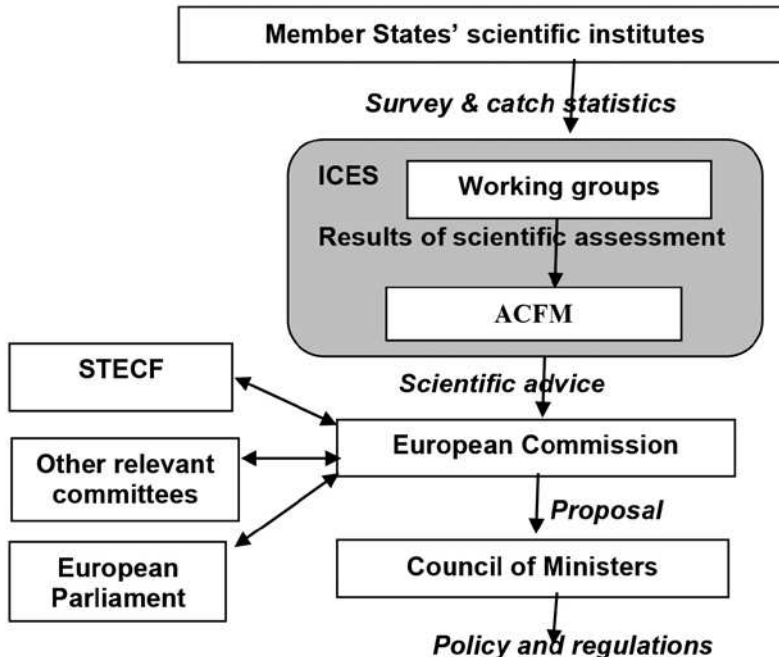
- *The European Regional Development Fund* (ERDF) – which is meant to reduce the development discrepancies between member countries' different regions.
- *The Financial Instrument of Fisheries Guidance* (FIFG) – intended for the fisheries sector and has as a main objective the promoting of a durable balance between the sector's exploitation capacity and the seas regeneration capacity.

The CFP was first introduced in the 1970s and went through successive revisions, the most recent of which took effect on 1 January 2014<sup>11</sup>.

The CFP is a set of rules for managing European fishing fleets and for conserving fish stocks. Designed to manage a common resource, it gives all European fishing fleets equal access to EU waters and fishing grounds and allows fishermen to compete fairly. Stocks may be renewable, but they are finite. Some of these fishing stocks, however, are being over fished. As a result, EU countries have taken action to ensure the European fishing industry is sustainable and does not threaten the fish population size and productivity over the long term.

One can observe in Figure 2 that an important role is given to the *stakeholder organizations* which provide the Commission and EU countries with recommendations on fisheries management matters. This may include advice on conservation and socio-economic aspects of management, and on simplification of rules. The Advisory Committees are consulted in the context of regionalization. Advisory Committees should also contribute to data for fisheries management and conservation measures.

Figure 2 Actors on the CFP<sup>12</sup>



Source: Daw T., Gray T. (2005), "Fisheries science and sustainability in international policy: a study of failure in the European Union's Common Fisheries Policy", *Marine Policy*, Vol. 29, No. 2, pp. 189-197



The CFP was also subject to an important reform in the last years. The Lisbon Treaty now explicitly mentions common fisheries in Article 38, Treaty on the Functioning of the EU (TFEU), although there are still no separate or differentiated objectives for the two policies. In addition to this, the Lisbon Treaty also changes other aspects of fisheries policy. For example, it introduces new and differentiated legislative procedures that both add and detract from the involvement of the European Parliament depending on the type of measure (and therefore legislative procedure) involved.

The most important document regarding CFP reform was the *Green Paper Reform of the Common Fisheries Policy*. The Green Paper proposed a liberalizing agenda intended to transfer detailed decision making away from the European institutions and relocate it in the regions. By seeking to create 'a clear hierarchy between fundamental principles and technical implementation,' the Commission means to redistribute the burden of micromanaging the EU's extensive and complex fisheries. Firstly, the Commission would be able to delegate some of its responsibilities to member states acting together in some form of regional framework. Secondly, it proposes involving the fishing industry directly in providing technical and tactical solutions to fisheries management issues within a system of results based management, preferably at regional and local levels. This would allow the European institutions to concentrate their energies on elaborating the broader strategies<sup>13</sup>.

The most important EU laws regarding the matter of fisheries are:<sup>14</sup>

- REGULATION (EU) No 1380/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC,
- REGULATION (EC) NO. 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No. 2847/93, (EC) No. 1936/2001 and (EC) No. 601/2004 and repealing Regulations (EC) No. 1093/94 and (EC) No. 1447/1999,

- REGULATION (EC) NO. 1198/2006 of 27 July 2006 on the European Fisheries Fund,
- REGULATION (EC) NO. 498/2007 of the EU Commission of 26 March 2007 laying down detailed rules for the implementation of Regulation (EC) No. 1198/2006 on the European Fisheries Fund,
- REGULATION (EC) NO. 26/2004 of 30 December 2003 on the Community fishing fleet register.

In a significant change to EU policy, instead of being generally subject to exclusive EU competence, agricultural and fisheries policy are now in principle subject to shared competence between the EU and Member States - except as regards the conservation of marine biological resources (see Article 4(2)(d), TFEU) in relation to which Article 3(1)(d) provides for EU exclusive competence, but restricted to the conservation of marine biological resources under the CFP only). Member States should now be able to pass and implement national fisheries management measures in areas that are not specifically covered by EU legislation - unless they fall within exclusive competence under Article 3(1) (d)<sup>15</sup>.

To ensure that fishing rules are applied in the same way in all member countries, and to harmonize the way infringements are sanctioned, the EU has established a list of serious infringements of the rules of the common fisheries policy. EU countries must include in their legislation effective, proportionate and dissuasive sanctions, and ensure that the rules are respected<sup>16</sup>.

As from 1 January 2012, EU countries should have introduced a point system for serious infringements. Under the scheme, national authorities will<sup>17</sup>:

- assess alleged infringements involving vessels registered under its flag, using standard EU definitions;
- impose a pre-set number of penalty points on vessels involved in serious infringements (points are recorded in the national registry of fisheries offences);
- suspend the vessel's license for 2, 4, 8 or 12 months when a pre-set number of points have been accumulated in a 3-year period.

At the **national level** the most important actors which have competence in implementing the CFP are:



1. Ministry of Environment, Waters and Forests – The Department of Waters, forests and fisheries;
2. Ministry of Agriculture and Rural Development – The General Direction of Fisheries – Management Authority.

These two bodies are in charge of creating the National Strategy of Fisheries Sector 2014 – 2020. The Danube Delta Biosphere Reserve Administration is in charge for the implementation of the Strategy and all other regulations at the local level.

### 3.2 Regional clusters in fisheries domain

A deep overview on the national stakeholders in fisheries domain reveals various regional clusters involved in the elaboration and implementation of national policies direction in the region.

Based on the common and particular strategic directions regarding the fisheries domain within their programs, the analysis will focus on four main regional clusters: the Danube Delta Biosphere Reserve Administration (DDBR Administration), the Local Group for Sustainable Fisheries in Danube Delta (FLAG DD), the Local Action Group of Danube Delta (GAL DD), and the Local Action Group North Dobrogea (FLAG DN). They are fully regulated and they are acting as *de facto* regional clusters.

The **Ministry of Environment, Waters and Forests** (The Ministry) awards to the **DDBR Administration** the role of fisheries resources administrator and monitoring and control responsibilities.

The DDBR Administration is the regional representative of the Ministry, thus it is the legislative supervisor of the regulations in the fisheries domain.

Also, the DDBR Administration is the fisheries activities supervisor in the region. The DDBR is the only region where disembarkation points and first-sell centres are organized and adequately equipped (in 2013, there were 49 disembarkation points and 31 first-sell centres registered, and in 2012 there were 1720 fishermen registered).<sup>18</sup>

Important projects as the Up-Grade Black Sea Scientific Network (FP7) and the Danube River Network of Protected Areas – Development and Implementation of Transnational Strategies for the Conservation of the Natural Heritage at the Danube

River (SEE Program), are aimed at protecting the habitats and biodiversity preservation, at developing its own infrastructure and public procurement.<sup>19</sup>

In partnership with public and nongovernmental organizations, the DDBR Administration implemented a project that aimed at gathering stakeholders in the region for identifying and implementing the best strategy for sustainable fisheries – the **Local Group for Sustainable Fisheries in Danube Delta** (Fisheries Operational Program 2007-2013).

The necessity to create FLAG DD was determined by the difficulties that the fisheries sector was confronting (e.g. the fisheries sector regress) and by important opportunities that the local authorities believed could be explored (e.g. improve the quality the fisheries products and create fishermen jobs) (FLAG DD, 2012: 9).

The Strategy of FLAG DD has an open and dynamic approach regarding all the social and economic stakeholders in the region, namely leader groups, communities, societies, commercials and nonprofit organizations.<sup>20</sup> The Strategy of FLAG DD has a bottom-up approach, in terms of highlighting and satisfying all the fisheries local communities' needs.

**The Local Action Group of Danube Delta** was established as a non-governmental organization, in the lines of National Program for Rural Development. The Local Development Plan of GAL Danube Delta territory county Tulcea targets the implementation of 16 projects within the frame time 2013-2016 in the region of Danube Delta on three main priorities: increase in life quality of rural population, sustainable improvement of natural and cultural resources within the region and consolidation of cooperation initiatives.<sup>21</sup>

**The Local Action Group North Dobrogea** was set up by the stakeholders in fisheries domain, namely fishermen associations, water quality and aquatic resources maintenance associations, education and research institutions, and local authorities. FLAG DN elaborated the Strategy of Development “North Dobrogea – the wild land between the waters”, for a sustainable development of fisheries and aquaculture activities in the North of Constanța County.

A description of the regional clusters in the Danube Delta Biosphere Reserve is provided in Table 1. The table underlines the legal status of each cluster and the strategic objectives.

**Table 1 Regional clusters in the Danube Delta**

No.	Name	Targeted-territory	Legal status and mission
1.	Danube Delta Biosphere Reserve Administration (DDBR) <sup>22</sup>	Danube Delta	Public institution – administrative responsibility for the preservation and management of biodiversity, eco-systems and natural resources of the Danube Delta
2.	Local Group for Sustainable Fisheries in Danube Delta (FLAG DD) <sup>23</sup>	Danube Delta	Nongovernmental organization – sustainable development of fisheries area
3.	Local Action Group of Danube Delta (GAL DD) <sup>24</sup>	Danube Delta	Nongovernmental organization – sustainable development of the Danube Delta territory
4.	Local Action Group North Dobrogea (FLAG DN) <sup>25</sup>	North side of Dobrogea Region	Nongovernmental organization – sustainable development of fisheries area in the North side of Constanța County and entire region and to provide the necessary support for the national, regional and local strategies for developing the fisheries areas

Source: Authors elaboration on data collection

#### 4. Key-actions of regional clusters in fisheries domain (Strategies, Programs and Reports analysis)

In order to understand the key-actions of regional clusters in protecting and promoting the DDBR, and to understand the social actions, it is important to underline the normative acts which constitute the basis for these actions.

##### 4.1 Legislative priorities

Due to a large number of legislative documents in the fisheries domain and the differences in application and interpretation, the DDBR Administration targets a normative project for the harmonization of normative documents (*Program of Activity of the DDBR Administration for 2012*, 2011: 8).

In order to respect and implement the environmental legislation (see Table 2), the DDBR Administration is also responsible for the economic activities regulation (*Program of Activity of the DDBR Administration for 2012*, 2011: 9).

**Table 2 Proposal for regulation activities in fisheries domain 2012**

Sustainable use of natural resources	
Authorizations for commercial fishing	1,300
Permits for commercial fishing	1,400
Permits for sportive-leisure fishing	10,000
Permits for family-purpose fishing	1,500

Source: *Program of Activity of the DDBR Administration for 2012 (2011: 10-11)*

In accordance with the implementation and the effects of European legislation in fisheries domain, the DDBR Administration considers that it is necessary to review the Management Plan of the DDBR. This is for the reason that the results-objectives targeted needed to correspond to new European legislation demands.

FLAG DD, GAL DD, and FLAG DN are responsible for the correct application of legislative dispositions given by the Ministry and under the strict surveillance of the DDBR Administration.

In 2014, there were a large number of legislative proposals with direct impact on the good administration and functioning of the DDBR, namely:

- Draft Government Decision on the Management Plan and the Statute of the DDBR;

Strategic objectives	Observations
The creation and application of a special administrative regime for the preservation and protection of biological diversity within the natural ecosystems of the DDBR, local communities development and activities organization, ensuring the legal regulations' application	Jurisdiction of the Ministry of Environment, Waters and Forests
The attainment of a correct and realistic diagnostic regarding the area, the identification of the advantages and problems, opportunities and risks, the formulation of priorities, objectives and the necessary measures to implement in order to achieve a sustainable development of the fisheries area	Members – public institutions and nongovernmental organizations
To increase the life-quality of the population in rural areas, sustainable improvement of natural and cultural resources within the region and to consolidate the cooperation initiatives	Members – public institutions, private companies and nongovernmental organizations
To implement the Development Strategy “North Dobrogea – The Wild Land between the waters”, to create a common understanding upon the main problems, needs and opportunities, to develop a general awareness regarding the common external threats and opportunities	Members – public institutions, private companies, nongovernmental organisations, individuals

- Draft Government Decision on the approval of Statute as regards wearing uniforms in service and the methods of distributing them to the staff of the DDBR;
- Draft Government Decision on the approval of Regulations regarding the access and movement of ships and boats on the canals and inland lakes within the perimeter of the DDBR;
- Draft Law on fisheries and aquaculture in the area of the DDBR.

Currently, none of these legislative proposals were adopted.

#### 4.2 Protecting DDBR actions<sup>26</sup>

The DDBR Administration is the body of the Ministry responsible for the implementation, management and evaluation of projects in the region, at both the national and the international level (the Trilateral Agreement Romania-Republic of Moldova-Ukraine, UNESCO, European, Commission, Schubz Germany project, etc.).

The DDBR protection key-actions were identified as follows:

- preserving the biodiversity and natural habitats: parameters assignation, monitoring and evaluation for natural habitats status; monitoring special fish species; information dissemination;

- sustainable use of renewable natural resources: monitoring the use of natural resources and fishing tourism; monitoring the programs for fish species with high economic and ecological value (in danger);
- participation in the elaboration and implementation of environmental and sustainable development local policies and strategies.

The FLAG DD protection key-actions that could be identified are the following:

- keeping the region attractiveness by investing in protection, preserving and valuing actions;
- investing in protection, preserving and valuing actions for cultural patrimony;
- population awareness on fisheries issues;
- rehabilitation/construction of fisheries landmarks patrimony.

GAL DD protection key-actions were identified as follows:

- creation and development of public services for rural population;
- improvement of living conditions for local communities;
- rehabilitation and preserving cultural patrimony landmarks;
- acquisition of special equipment for preserving the patrimony.

Regarding the FLAG DN the protection key-actions identified are the following<sup>27</sup>:

- rehabilitation and development of fisheries villages;
- creation of a multifunctional centre for fishermen and their families.

#### 4.3 Promoting DDBR actions

The actions of the regional clusters in promoting the Danube Delta Biosphere Reserve can be synthesized as the following<sup>28</sup>:

##### **DDBR Administration:**

- creation of an information system;
- awareness, information, ecological education, visiting campaigns;
- evolving the local communities;
- development of Public Relations: events, newspaper "Deltaic Universe".

##### **FLAG DD:**

- creation, modernization and/or rehabilitation of fishing tourism infrastructure;
- education and training for fishing tourism;
- mapping the fishing tourism routes;
- development of economic activities for fishing tourism.

##### **GAL DD:**

- training programs in fisheries;
- information actions and knowledge dissemination;
- elaboration and implementation of a marketing plan;
- leisure activities, information centres;
- development of marketing tourism services.

##### **FLAG DN:**

- rehabilitation and development of fisheries villages;
- creation of a multicultural centre for fishermen and their families.

#### 4.4 Socio-economic actions

**Socio-economic actions** were identified in the strategies and development local plans of FLAG DD, GAL DD, FLAG DN, as follows:

**FLAG DD:** investments plan for fisheries competitiveness, investments plan for jobs creation (fishermen and workers), education and training for fisheries workers;

**GALL DD:** creation of small and medium enterprises (SMEs) in fisheries, encouraging business initiatives (traditional fisheries crafts), job creation, especially in rural areas;

**FLAG DN:** infrastructure for fisheries commerce and market competition, jobs creation and training.

#### 4.5 Mapping regional clusters' actions

The regional clusters in the Danube Delta Reserve Biosphere have a linear and common vision in protecting and promoting the local products. This statement can be underlined also by the Figure 3, which groups the actions of the regional clusters.

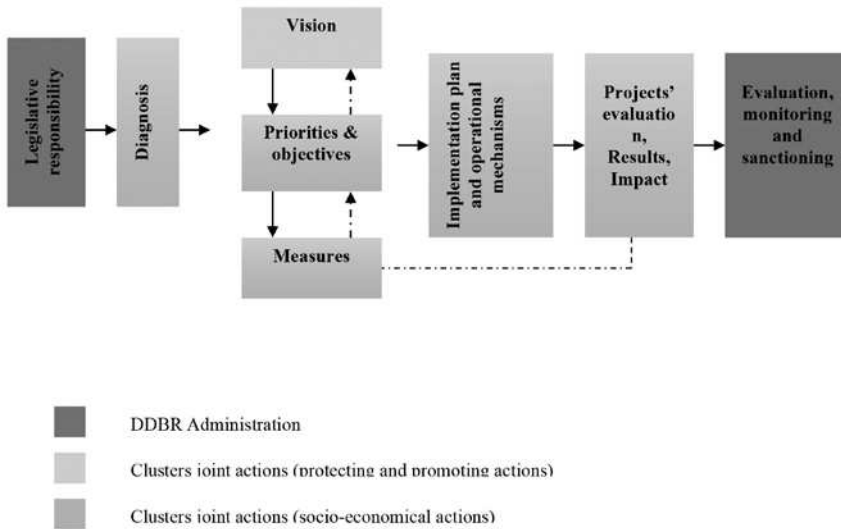
FLAG DD, GAL DD and FLAG DN come also with a socio-economic approach in the elaboration and implementation of their strategies.

The DDBR Administration is not only in charge of protecting and promoting the DDBR, but it also has an important legislative, monitoring and evaluation mission.

The strategies and development plans analysed for the four regional clusters describe important directions for the intensification of fisheries activity designed towards a positive impact in the region: environmental and cultural impact (protection actions), tourism and marketing impact (promotion actions), and social impact (socio-economical actions).

The lack of a marketing vision concerning the local area and local fisheries products has been identified as an important weakness in their strategies and development plans.

Figure 3 Mapping regional clusters' actions



Source: Authors elaboration based on Figure Strategy of the FLAG DD (2012: 201)

In this respect, the authors propose the elaboration of a marketing strategy not only on tourism matters, but also on marketing the fisheries products. This fact is argued on the possibility to increase the selling of the traditional fisheries products; thus, developing the local area in terms of economic, social, environmental, tourism and cultural strategic directions.

This is the reason why mapping the regional clusters can offer a full image of possible actions on specific matters: legal responsibility; problems diagnosis; vision, priorities and objectives; measures to be implemented/actions to be undertaken; elaboration of an implementation plan and operational mechanisms; projects, results and impact evaluation; evaluation, monitoring and sanctioning.

### 5. A marketing approach for the DDBR

The strategic documents of the analysed clusters (only FLAG DD and GAL DD mention marketing aspects) reveal some important weaknesses regarding a marketing approach for the DDBR.

**FLAG DD** SWOT Tourism analysis highlights the fact that there is a lack of marketing studies for tourism in the DDBR (FLAG DD, 2012: 182).

**GAL DD** presents its proposal for marketing for traditional fisheries crafts activities and for fishing tourism activities within the Local Development Plan (GAL DD, 2012: 200, 201, 206).

By referring to the traditional marketing instruments (product, price, place, and promotion), one can notice the fact that there is no specific mention of these marketing instruments in the analysed documents.

Thus, from a marketing approach, the authors can rely on information on the following aspects provided by the regional clusters, given in Table 3:<sup>29</sup>

Table 3 A marketing approach on fisheries in the DDBR

Marketing instruments	Who and how?
Product	The local products: <i>fish products</i> (material goods) and services (fishing tourism services) Focus on fish products: the DDBR Administration Focus on fishing tourism services: FLAG DD Focus on both fish products and fishing tourism services: GAL DD and FLAG DN
Price	<i>Fish products</i> : The Management Authority for Fisheries Operational Program, the National Agency for Fisheries and Aquaculture, Tulcea County Council, the DDBR Administration – November 2013 financing contract for Fish Stock Project mission – fighting against evasion in fisheries domain, raising the fishermen life quality and protecting the fish resources <i>Fishing tourism services</i> : no information available
Place	<i>Fish products</i> : 49 disembarkation points and 31 first-sell centres, traditional crafts fairs (direct and indirect distribution) (regulated by the DDBR Administration) <i>Fishing tourism services</i> : special areas regulated by the DDBR Administration
Promotion	All regional clusters – regarding both <i>fish products</i> and <i>fishing tourism services</i> : information centres, awareness campaigns, events, festivals, promotional materials, etc.

Source: Authors elaboration on data collection

## 6. Conclusions

According to above-mentioned descriptions, one can observe that the DDBR is a complex area that differs essentially from all others in the world. It has a special legislation adopted by the Romanian state, but it is also subject to European legislation regarding the protection of environment, fisheries, agriculture and in general all the rules and regulations to which Member States are subject.

The analysis on the institutional structure from the section 3.2 of the paper, underlines that there is a great need for more cooperation and coordination between different institutions and the important "actors", including the clear responsibilities and the capacity coordination among interested governmental authorities.

Due to the variety of stakeholders and different economic interests in the region, potential conflicts between different categories of stakeholders can be distinguished concerning: water supply public services; ecotourism development; traditional handicrafts development; shops for fish commercialization.

Through their joint actions, the regional clusters can have a great contribution in protecting and promoting the local area and local fisheries products.

This aspect could be a suggestion for a more focused analysis regarding good practices and the good actions of the regional clusters to the reduction of the DDBR disparities in comparison with other regions.

The research represents a descriptive analysis of the situation in the targeted region. Thus, the authors consider that the research limitations are represented by the lack of own data collection and the rapidly changing legislative acts.

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## **REZERVAT BIOSFERE U DELTI DUNAVA - REGIONALNI KLASTERI ZA ZAŠTITU I PROMOCIJU LOKALNOGA PODRUČJA I LOKALNIH RIBARSKIH PROIZVODA**

### **SAŽETAK**

Intenziviranje ribarske djelatnosti uz pomoć regionalnih klastera može imati pozitivan učinak na lokalnoj razini i to u obliku društvenoga utjecaja (smanjivanje nezaposlenosti), utjecaja na okoliš (smanjivanje zagađenosti i zaštita flore i faune u rezervatu biosfere), utjecaja u turizmu (povećanje broja turista i unaprjeđenje „imidža“ regije u javnosti), utjecaja na tržište (povećanje broja potencijalnih kupaca za lokalne ribarske proizvode i unaprjeđenje njihove kvalitete). U ovome radu obradit će se ribarska djelatnost na lokalnom području rezervata biosfere u delti Dunava u Rumunjskoj u svjetlu aktivnosti regionalnih klastera u zaštiti i promociji lokalnoga područja i lokalnih ribarskih proizvoda.

**Ključne riječi:** regionalni klasteri, ribarstvo, marketinški instrumenti, delta Dunava, Europska unija



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# QUALITY, OBSOLESCENCE AND UNSUSTAINABLE INNOVATION

## Abstract

One of the negative side effects of the consumer society and the increasing number of consumer goods available to the average household is the intransparency of product quality, especially product lifetime. There are many examples on failing products and premature obsolescence. Often this phenomenon is related to companies' profit maximization strategies (planned obsolescence) and consumer protection policy is mobilized to stop this type of exploitation. The paper applies micro-economic analysis to discuss the problem of optimal product quality (e.g. lifetime) in terms of cost-benefit-analysis and under imperfect information (based on Akerlof's lemon problem). Given consumers' actual willingness to pay there is an optimal quality which is lower than the technically possible. If the innovation perspective (Schumpeter's "creative destruction") is added to the analysis, increasing global competition and speed of product innovation are identified as core drivers for shorter product lifecycles and tend to be the actual limiting factor of product lifetime (economic vs. technical obsolescence). Even if the goals of sustainable development are included in the analysis, this does not provide an unambiguous argument for long-life products as new products tend to be more eco-efficient. A broader discussion on optimal quality (lifetime) of products is necessary, based on holistic life-cycle assessment of alternative product quality options. And finally: The tendency of increasing aftersales disappointment of consumers' expectations and conflicts with sustainable development goals need to be addressed in a more general debate on (limits of) consumerism. Minor changes in the laws for protecting consumers (e.g. longer warranty) will not do the job.

**Keywords:** Obsolescence, innovation, quality competition, imperfect information, sustainable development, life-cycle analysis

## 1. Introduction: Problem, State of the Art and Method

One of the negative side effects of the consumer society and the increasing number of consumer goods available to private households is the intransparency of product quality, especially product lifetime. There are many examples (anecdotal evidence) of failing products and premature obsolescence, including electric toothbrushes, washing machines and printers. Often this phenomenon is related to companies' profit maximization strategies (planned obsolescence) and consumer protection policy is mobilized to stop this type of exploitation. It seems to bother more and more consumers and tends to become an obstacle for consumerism. Nobody wants to be fooled permanently or wants to invest significant chunks of lifetime for investigating producers' quality promises. In some contrast to popular media contributions and publications (Schridde, 2014, Slade, 2006) there are only few empirical studies and hard facts which prove the significance of premature obsolescence (Prakash et al., 2015). We do not strive to provide any empirical evidence but take the phenomenon as given.

In a more formal way we can formulate the problem of premature obsolescence, i.e. (too) short technical product lifetime  $T$  as follows:

- (1)  $T <$  technically possible
- (2)  $T <$  customers' expectations
- (3)  $T <$  "sustainable" (long-life products which would avoid resource consumption)
- (4)  $\tau < T$  actual economic lifetime  $\tau$  is even shorter than the technical lifetime.

In the economic theory we are used to focusing on price and quantity, implicitly assuming a given quality. In the standard microeconomic textbook by Varian (2014: 738-741) we find only four pages on quality, referring to Akerlof's (1970) used car market model and adding another one (on umbrellas) which includes companies' optimal production decision and determines an "equilibrium quality". However, no efforts are made to further specify (good) quality, e.g. the lifetime of a car or an umbrella<sup>1</sup>. Different from this mainstream is Schumpeter (1911) who did not focus on (minor) differences in quality but on (major) discontinuous changes. These innovations "do not as a rule take place in such a way that first wants arise spontane-

ously in consumers and then the productive apparatus swings round through their pressure." "It is the producer who as a rule initiates economic change, and consumers are educated by him if necessary; they are ... taught to want new things, or things which differ ... from those which they have been in habit of using" (Schumpeter 1911: 65). While in Schumpeter's analysis producers define products (including quality) and consumers' needs and tastes are "given", there is another strand of literature which critically analyses this side of the market (Veblen, 1899; Scitovsky, 1976) – but did not enter mainstream economics. No attempts have been made so far to integrate these perspectives and to relate them to the more recent debate on sustainable development.

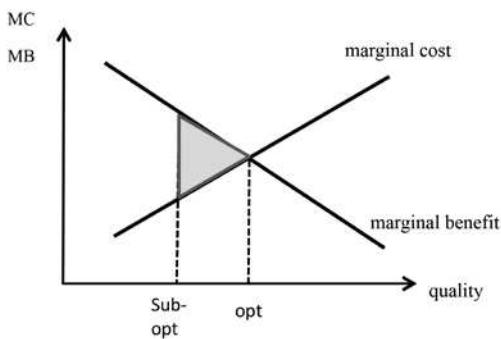
In this paper we transfer and apply the available theoretical components to investigate some economic aspects of product quality focusing on product lifetime and durability. What could economics contribute to explaining the (perceived) discrepancy between consumers' expectations on quality (durability, lifetime) and the actual, unsatisfactory quality which is delivered by industry? In our analysis we first apply basic microeconomics to discuss the problem of optimal product quality (e.g. lifetime) in terms of cost-benefit-analysis. We then analyse the implications of imperfect asymmetric information - based on Akerlof's lemon problem. In the next analytical step we add the innovation perspective (Schumpeter's "creative destruction") to the analysis and accelerated product innovation is identified as core driver of shorter product lifecycles (economic vs. technical obsolescence). We then ask how sustainable development goals influence quality decisions. Does this normative context support high-quality, long-life products and thus also contribute to overcome consumers' frustration?

Based on these aspects of theoretical analysis we ask what role government could play in addressing the premature obsolescence problem, especially whether forms of regulation would be justified. We end by considering some perspectives and probable limitations for (product) innovation and accelerated "fashions" – given the challenges of sustainable development. This raises primarily questions for the individual consumer and his sophisticated consumption patterns. But it might also have some implications for industry and new dimensions for the consumer protection policy.

## 2. Optimal Product Lifetime

Higher product quality is related with higher costs. With the degree of perfection (reliability, durability, long-life) costs normally even tend to increase disproportionately, i.e. we face increasing marginal cost. On the other hand, consumers' benefit of an additional increase in quality will decrease the more "perfect" a product already is (declining marginal benefit). If this well-known argumentation holds<sup>2</sup>, we face the following optimization situation:

Figure 1 Optimal Quality



Source: Author

It is then possible to determine an optimal level of quality – given production cost (technology) and consumer preferences or willingness to pay. It is clear that this economic optimum is not using the maximum of the technological potential. Companies should produce only the quality which is covered by consumers' willingness to pay. If quality is persistently lower than optimal (e.g. as a consequence of monopoly power), society suffers a welfare loss as illustrated in Figure 1. A higher level of quality (i.e. marginal cost > marginal benefit) would also reduce economic efficiency (welfare).

The interesting point now is whether markets will converge towards such equilibrium – or if rather a "benevolent dictator" is needed. For companies it could be attractive to offer lower quality (shorter lifetime) as this would c.p. (ceteris paribus) reduce their costs and increase revenues. However, this will work only if and as long as consumers' are imperfectly informed.

To sum up: In an efficient (welfare maximizing) economy there is an optimal quality (life-time) which is lower than the technically possible. This optimum can be perceived as (too) "low", however it reflects consumers' (insufficient) willingness to pay for high(er) quality. Everybody would like to have high quality – but only few are willing to pay for it. Quality to some extent has public good character – and might be considered for government regulation. The (popular) goal is consumer protection, e.g. from low-quality, failing, dangerous products. The government could define a minimum standard, ruling out the extreme low quality options. The next level of discussion is then this: Who is going to pay? Can industry be forced (lower profits) or is paying up to the consumer? Both could form a coalition – and succeed in shifting the burden on the tax payer (the government subsidizes the quality standard).

## 3. Imperfect Information and Market Failure

With perfect information (or low search cost) market prices would adapt so that they would reflect differences in quality offered by companies. Consumers decide according to their individual preferences on quality-price-combinations. Companies will decide on the market segment they want to serve. Combinations "low price – low quality" as well as "high price – high quality" could be profitable and survive in the market.

With imperfect information there will be a systematic difference between the knowledge of companies and of consumers (asymmetric information) – and companies can exploit their knowledge advantage. Akerlof (1970) was the first who analyzed the economic consequences of asymmetric information. In his simplified model of the used car market he assumed that there are only two different qualities: good cars and bad cars (= lemons). With perfect information two market segments would emerge. However, if potential buyers are unable to identify good quality, lemon owners will take advantage of this and pretend high quality. Akerlof shows that as a consequence of imperfect quality information of buyers the market for good quality will collapse. Imperfectly informed buyers are not willing to pay the adequate price for high quality. The market will be dominated by over-priced bad cars. However, there are solutions to this market failure:

- Sellers of good quality cars invest in quality information, e.g. a certificate from an independent expert (signaling).
- Buyers could increase their search efforts and compensate their ignorance e.g. by hiring an expert (screening).

So it is possible to overcome the market failure without government intervention. However, it is costly for market participants (transaction cost). Government regulation could be less costly, e.g. if a minimum of quality information is obligatory. Therefore, the decision about the optimal institutional design has to include the government option. With this option however comes the next problem: the regulator will always be a target of vested interests (capturing) and hence efficient solutions are hard to implement.

#### 4. Innovation and Obsolescence

As Schumpeter (1911) already pointed out, the core process of economic development is innovation<sup>3</sup>: new products displace old solutions in a process of “creative destruction”. This process is not a zero sum game but creates as a by-product economic growth and wealth. Without innovation the economy would stagnate (stationary state). In global competition, nations – especially nations with high (labor and environmental) costs - can prosper only if they are superior in innovation. Competition is the driver of innovation. In a competitive world, companies and nations either innovate or decline. They don’t have the option not to participate in the innovation race.<sup>4</sup> All government policy must focus on innovation, eliminate barriers to innovation and provide incentives for innovation. This includes tax policy as well as energy and education. It also includes environmental and resource policy which could be a barrier to innovation.

Obsolescence is just the other side of the innovation coin. New products “destroy” the old ones which are outperformed. And although they have no technical defect, they will be replaced by the new ones. The more innovative (and wealthy) an economy becomes, the more economic obsolescence accelerates.

Companies are drivers of the system and are driven by the system. They have to invest and to plan innovation activity carefully. Once a traditional “cash cow” gets old and revenues stagnate, a new (“innovative”) product has to be ready for replacing it. However, the new product should not come too early as it would cannibalize the old one. So companies are interested in planning product lifetime. However, they are not in control. In a competitive system it is not the individual company which is defining the speed of the innovation process. It is only one player and might be forced to accelerate by fast competitors.<sup>5</sup>

Consumer protection policy and institutions have an important role to play in this system. It is a regulative framework that supports the disciplining function of competition and government regulation and thus increases the acceptance of accelerated innovation. It helps to eliminate the worst company practices which promise innovation but in fact take advantage of consumers’ ignorance. Consumer protection policy so far does not address the basic question of the acceleration spiral: if consumers’ wishes and desires get inspired by product innovation, they need more income and they have to work more and harder. Life dominated by work stimulates compensating consumption (shopping adventure, resorts, holidays, alcohol etc.). In this spiral (rat race), life satisfaction (happiness) is no longer increasing – although income increases.<sup>6</sup>

In sum, with the systemic tendency of accelerating innovation and shorter product life-cycles  $T$  is more or less irrelevant. Given the immanent long-term fall of  $\tau$  it would only be rational that  $T$  also declines, in order to avoid economic inefficiency. Why construct devices (e.g. mobile phones) for a lifetime of ten years if they are actually used for only three years and then replaced by a more sophisticated new model? If the actual limitation is  $\tau$ , the question is how to influence this factor. Is it just the human desire for change, improvement, new experience? What is the consumer’s role in the innovation race – driver or driven? Could this role change and change the system’s dynamics? These questions are part of an increasing sufficiency discussion (Skidelsky, Skidelsky, 2012).



## 5. Macroeconomic Aspects: Obsolescence, Economic Crisis and Growth

Accelerated obsolescence has been discussed already during the world economic crisis in the 1930's as one option to stimulate demand: if consumers could be convinced to replace old products by new ones, demand, production and employment would increase – the Keynesian multiplier effect is started. This idea was rediscovered during the economic crisis 2008/09 when in many countries (e.g. Germany, France, US) government subsidies for scrapping old cars and replacing them by new cars were implemented (Abwrackprämie, cash-for-clunkers, car scrapping bonus). These programs intended to stimulate the automobile industry (OEMs) as well as the many (SME) suppliers. As an additional benefit the argument was that the new cars are more fuel-efficient than the old ones (i.e. less greenhouse gas emissions) and hence contribute to sustainable development.

The economic stimulus effect works – at least temporarily. To start the multiplier this is sufficient even if a period of weak demand in the automobile industry follows. But this specific form of stimulating the economy in a crisis seems to be very cost inefficient (for the US see Gayer, Parker, 2013). Moreover, stimulating consumption could support a reduction of the saving rate – and thus have a negative effect on long-term economic growth.

A positive net effect for the environmental effect is difficult to prove. Many of the cars that have been scrapped did not have technical problems and could have been used longer. The consequence of this government-induced obsolescence was the increasing production of new cars with an increase of material (natural resource) consumption and increased negative side-effects on all dimensions of sustainable development. Therefore, the lower fuel-consumption of a new car has to be compared to these negative effects. If the balance is negative, the short-term stimulus is on the cost of future generations. But this is in the Keynesian tradition: "In the long run we are all dead".

## 6. Sustainable Development (SD) and Product Lifetime

Premature obsolescence contributes to increasing resource consumption, waste and pollution. Therefore it is contradicting the fundamental and vital goals of sustainable development (SD) which have been formulated in global conventions (e.g. on climate and biodiversity), national sustainable development strategies (e.g. in German Federal Government 2012), regional and local sustainability agendas (see e.g. New York, <http://www.nyc.gov/html/planyc/html/sustainability/>). The first question which has to be analyzed in more detail is how this significant shift in the political goal system is linked with product lifetime. If more durable products could in fact contribute to sustainable development, the next question is whether the market process will work and solve this problem or whether government policy is needed. As "sustainable development" is a very wide and often vaguely used term, it is necessary to provide a general definition first.

Sustainable development is development "which meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland Commission, 1987). It includes environmental, social and economic dimensions. The most comprehensive set of relevant goals and targets has now been adopted by the General Assembly of the United Nations: the Sustainable Development Goals (SDG). The environmental dimension has two core elements: Climate protection (2° target) and biodiversity. Climate protection requires a significant reduction of greenhouse gas emissions (GHGE) over the next decades. Germany is committed to reduce GHGE 80-95 percent by 2050 (compared to 1990). The protection of global biodiversity requires the protection of eco-systems and hence the change of land-use patterns. In the German national sustainability strategy the goal is to reduce land consumption to 30 ha per day by 2020 (see German Federal Government 2012).

Such limitations of factor input could be a barrier to economic growth. Output can continue to grow only if "delinking" (decoupling) is successful, i.e. GHGE per unit of GDP have to decline continuously (eco-efficiency revolution). Old, inefficient products and processes have to be replaced by more eco-efficient – from refrigerators to cars and buildings. The government can support this with incen-

tives and subsidies, e.g. cash for clunkers or privileges for electric cars to “modernize” the car fleet and delink mobility from climate protection. If the eco-efficiency revolution is successful (not compensated by rebound effects), technology in fact takes care of the problem and consumers don’t have to revise their consumption patterns (e.g. mobility).

Related to product lifetime the first question now is how product lifetime is affecting core goals of Sustainable Development like GHGE or land consumption. There are various approaches for measuring the effects of a product throughout the life-cycle (life-cycle assessment LCA). However, this analysis is costly and not available for many products so far. Therefore, it is in fact not yet of practical relevance and influence in consumers’ decision making. An alternative would be “correct” prices, i.e. prices which also reflect environmental cost. However, this is not working because internalization of external effects is very hard to implement in the political process.

A general result of LCA is that new products tend to be more eco-efficient and therefore are superior to the old ones. However, every new product requires additional resource input for production. It is therefore always an optimization question: What is the optimal lifetime of a product?<sup>7</sup> Even in a SD context a shorter lifetime is not per se negative.

The tendency of declining product life-cycles could be compatible with SD under two conditions:

- Old products are reused or recycled with increasing efficiency. In a circular economy with zero waste, old products are just the resources for producing the new ones (cradle to cradle idea).
- To organize such a process and to drive the circular economy, it needs (more) energy and land. The energy has to be climate neutral, i.e. from renewable resources. In a SD strategy no additional land is available (as biodiversity needs eco-systems) for a circular economy.

The conditions of such a vision will not be fulfilled in the near future. Therefore the accelerating product innovation in fact creates “unsustainable innovation”<sup>8</sup> It is a good general diagnosis that the declining lifetime is contradicting SD – and mechanisms to reduce or revise this tendency should be implemented. Based on a broad social consensus on SD such mechanisms could be changes in consumers’ behavior (demand for “sustainable” products) and/or changes in the business sector (corporate

social responsibility). If the private sector is unlikely to bring about the necessary change processes, we have to analyze government options.

If we focus on the role of consumers, the crucial question is whether there is an additional willingness to pay for more sustainable products or if it could be stimulated. In fact there is some empirical evidence for higher willingness to pay for sustainable products (especially related to nutrition and health) but only small segments of the market and small consumer groups are affected (e.g. LOHAS). For mass markets purchasing price remains the dominant decision making criterium; more enlightened consumers rely on „total cost of ownership“, including cost in the operation period e.g. of a refrigerator. Social cost play no significant role. Freeriders learn to live with “cognitive dissonance“. Only if prices included social cost, i.e. if resource-intensive short-time products became more expensive, consumers would react. However, this could have negative distributional consequences (energy poverty, mobility poverty etc.).

Would companies change quality decisions if more reliable information on product sustainability were available? Many companies are committed to SD and emphasize Corporate Social Responsibility (CSR). Companies respond if they find consumer groups with a higher willingness to pay for high-quality (long-life) products. They also react if investors and capital markets want to see a broader understanding of risk management including e.g. environmental and resource scarcity aspects. A more pro-active role beyond this is unrealistic and so far the domain of some pioneers (often family-owned companies) with limited success in niche markets. In sum, we cannot expect that the business sector will be the driver for a more sustainable social product portfolio. Changes in the regulatory framework are necessary to make repair-friendly products, recycling, „cradle-to-cradle“ (design thinking) a more profitable option.<sup>9</sup>

In sum, it is not realistic to expect that market players – either consumers or companies – will voluntarily support a longer product lifetime.

## 7. Conclusions and Perspectives, Gaps and Further Research

Before we discuss in the final step of our analysis the role of government policy in the context of product quality, product lifetime and sustainable products, it has to be reemphasized that there is a lack of empirical evidence. So the dimension of the damage (costs) of premature obsolescence for consumers and society is not clear. Only if it is significant, government activity – which also causes costs and damages – can be justified.

Moreover, we have seen that optimal product lifetime should always be shorter than technically possible – to avoid over-engineering which also is a waste of economic resources. In many cases, consumers don't need the most sophisticated product (e.g. drill hammer) and the low-quality option corresponds with their actual needs. For SD reasons government could make this option less attractive or even forbid it – causing problems for low-income consumers.

The core problem, however, is asymmetric information. It is not possible to eliminate this problem completely as producers will always have an advantage and know the quality of their products better than any outsider. Asymmetric info could cause market failure (market power) and hence justify government intervention. This could address companies as well as consumers:

- To increase consumers' information level, independent institutions could be created and subsidized to test products, create quality labels etc. This reduces consumers' information cost but leaves the decision on (high) quality to them. Basically, this is not paternalistic, not intervening in the consumers' preference structure but supporting more "enlightened" decision making.
- Beyond this traditional type of consumer (protection) policy, there are extended options which could apply some of the insights of Behavioral Economics: if decision making would be re-framed and include total cost of ownership, a high-quality product might be more expensive today, however, if operating costs are included it might be less costly over time. People tend to underestimate future (dis)advantages systematically (procrastination) – and therefore tend to buy the low-priced product. In order to support the high quality product the government could e.g. offer subsidized loans.

Government policy could address companies e.g. by defining additional information requirements. Companies could be bound to inform consumers about the average lifetime of their products – based on the result of laboratory tests. Why are companies not making voluntarily use of this additional option for signaling high quality? The reasons include:

- a) Information on product lifetime has to be based on valid long-term tests. With ever shorter product life-cycles there is not enough time for such tests.
- b) Tests cause costs and make products more expensive – without directly improving product quality.
- c) Incalculable effects on the behavior of users (including moral hazard, i.e. less careful use).

If government regulation were to request such information, it would also have to install control mechanisms and this would cause additional bureaucracy and cost. The overall result would be inefficiency and lack of effectiveness. Information in general has little direct effect on behavioral changes. Consumers are used to life with cognitive dissonance. Companies will invest in counter information to neutralize the public transparency policy.

As information instruments will have only very limited effects, we have to consider also additional monetary incentives and regulations. Monetary incentives could address inputs (e.g. taxes on fossil fuels or natural resource extraction) and/or the end of the product lifecycle (recycling or disposal cost). If disposal taxes or fees are very general (identical for e.g. all washing machines) and not addressing specific product quality, they will in fact cross-subsidize short-time products. Regulation could define a minimum lifetime (or extended warranty) for each product or for product groups (washing machines, refrigerators etc.). This kind of regulation would eliminate low-quality-low-price products from the market. The government would no longer allow consumers to make the decision but act in their best interest (paternalistic). This would cause welfare losses. In addition, this would cause negative distributional effects because the burden of this policy is more on low-income households than on richer ones.

Nevertheless, extending product lifetime could be an important policy instrument if it would clearly support SD goals. However, it depends: "long-life" is not identical with "sustainable". In the context of

a sustainability strategy, longevity is not a reliable sub-goal. Complex LCA is necessary to evaluate potential alternatives. Picking the relevant alternatives is already value driven and based on limited knowledge. What creative response will emerge if dissatisfaction with premature obsolescence becomes overwhelming cannot be predicted. It would therefore not be a good idea to focus SD policy on characteristics of the end product – unless they are really dangerous or hazardous. Rather, SD policy should focus on input factors and correct the price of these factors (internalizing of social costs). If critical input factors become more expensive, market processes will enforce a more efficient use of product – including longer lifetime.

In the next step we analyze policy options for the case that premature obsolescence is based on innovation competition – and on consumers' preference for novelty. Consumers expect, and competition drives companies to provide a steady flow of new products with improved technological features or simply perceived as more "attractive". In this case, premature obsolescence is a pure economic phenomenon; technology plays only a minor role. Some of the consequences and implications of this diagnosis would be:

- A new type of consumer policy has to cover a much broader scope – not just support market transparency for higher product quality. It has to include more fundamental aspects of consumerism, e.g. decision making stress as a consequence of the exploding number of consumption options, the dilemma of the pursuit of happiness if based on status consumption, the tyranny of (failing, malfunctioning) "things" that tend to consume lifetime.<sup>10</sup>
- The role of companies has to change significantly. In the context of the debate on CSR and sustainable company strategies, a search process has already started. Pioneers use LCA, calculate the social cost of their activities, develop new business models beyond quantitative growth (service-oriented) and encourage their customers to critically reflect their buying decisions (e.g. Patagonia's "Don't buy this jacket").
- The government should focus on correcting market prices (internalization) by Pigou-taxes e.g. on CO<sub>2</sub>-emissions and on resource extraction. Non-sustainable products would become more expensive and this would change consumers' de-

isions. Prices can then fulfill their indicator and rationing function. Companies will change the direction of their innovation activity. "Creative destruction" will be harnessed for eco-innovation. However, such a causal therapy faces fierce resistance from well-organized interest groups and therefore it might be necessary to rely in addition on some relatively easy-to-implement regulation measures like extended warranty time. Given the limitation of government policy, the activity of civil society organizations (CSO) becomes more important (see e.g. WBGU 2011).

To sum up, from an economic perspective we should be careful with the diagnosis of premature obsolescence. To some extent it could be quite rational and even sustainable. It reflects consumers' need and limited willingness to pay. To some extent, it is the result of asymmetric information and some companies may try to exploit consumers. However, competition is a strong counterforce and some government regulations (information, warranty) could improve market results. Under a SD perspective the answer is significantly different, especially the role of government is potentially more important. It has to change the framework conditions for decision making – and this will change the (optimal) lifetime of products. So, the obsolescence debate reemphasizes what is already well-known from the debates on environmental protection and SD.

The debate on premature obsolescence is an important one, as it also opens the gate for much broader and more fundamental questions on consumption. These have been discussed in earlier times with different emphasis (Glickman, 1999). However, a new dimension is added in the context of SD (Schneidewind, Zahrnt, 2013: If the promise of an efficiency revolution and of green growth is not materializing, there is no other option than to rethink lifestyles and consumption patterns of the rich. The ever increasing flow of new products, designed to die early will not be supported by the eco-systems of a limited planet. Sustainable consumer policy therefore has to be more than a lawyer for the affluent and has to contribute to the enlightenment of consumers in the basic Kantian sense of "Ausgang aus ihrer selbstverschuldeten Unmündigkeit" (end of self-inflicted immaturity).

For the disappointed consumer this raises a couple of unpleasant practical questions and options:

1. Before any purchasing decision, always check the “zero-option” first: Do you really need this new gadget (electric toothbrush etc.)?<sup>11</sup> A household which owns 10,000 “things” faces a high probability that at any given time at least one is not functioning properly, even if each of them has a very low probability to fail. Therefore, things do not only add utility but each of them is also a potential “Zeitdieb” (thief of time), stressing your attention and your time-budget (Rosa, 2005).
2. Before buying, check sharing options (with your neighbors or professional service providers). Often you are interested just in using, not in permanent ownership (from drilling machines to cars).
3. When you want high quality (long lifetime), this normally has a higher price. However, over the lifespan it could be a good investment.
4. If you are victim of a product with premature obsolescence, inform and fight (in courts) with the producer/seller. Not to buy again (“exit”) is a weak signal but “voice” could support learning processes more effectively. “Voice” is made easier by internet platforms like <http://www.murks-nein-danke.de>.
5. If you are often a victim and think there is a systematic company policy, engage in the political process to change laws and regulations.

All of these options are time-consuming and hence costly. If high quality does not materialize as a result of spontaneous market reactions, there is no alternative to some form of private investments in overcoming the market failure.

Premature and accelerating obsolescence is also a challenge for the economic theory. First of all, investment in more empirical investigations is necessary to better understand the dimension of the problem and main causes (e.g. technical vs. economic obsolescence). Then an integrated theory of the components outlined here would be necessary with a critical view on (unsustainable) innovation and on the formation of consumers’ preferences. A third field of research is the systematic analysis of efficiency and effectiveness of alternative institutional settings and instruments for reducing premature obsolescence (information requirements, regulations on minimum lifetime, subsidization of repair cafés, resource taxation etc.). Finally, if innovation activity and consumers’ lifestyles change in a more sustainable direction, this will have significant impacts on economic (de-)growth which need to be analyzed. If we understand the obsolescence debate not just as addressing a minor technical problem of some irresponsible suppliers, but rather as a consequence of the core process of a market economy, further research challenges are unlimited.

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## (ENDNOTES)

- 1 In the management literature we find some more detailed approaches to the obsolescence problem – not only addressing potential (additional) revenues but also risks and costs if a critical part or component of a product fails (see e.g. Bartels et al., 2012).
- 2 See e.g. Gossen's Laws: Every additional unit has an additional benefit however this marginal benefit is declining.
- 3 The concept of innovation, "carrying out new combinations" includes product, process and organizational innovations Schumpeter (1934: 66) defines product innovation: "The introduction of a new product – that is one with which consumers are not yet familiar – or of a new quality of a good." In a competitive economy "new combinations mean the competitive elimination of the old." (Schumpeter, 1934: 67).
- 4 A broad literature addresses the question whether ethical responsibility of entrepreneurial individuals and companies could moderate and modify the systems dynamic (see e.g. Guiltinan, 2009).
- 5 Even if one company would plan a long product lifetime (e.g. for black and white TVs), competition from innovators (color TV) would destroy this individual plan.
- 6 Keynes (1930) formulated the idea that with a given consumption level it would be possible to reduce weekly work to just 15 hours within a century – if all productivity increases are used for reducing working hours instead of increasing income (and consumption).
- 7 Example: An aluminium coach for a car has more negative environmental effects than a conventional steel car body in the production process. However, during the consumption period it is more fuel efficient because the cars have less weight. Aluminium is more sustainable only if the car has a longer lifetime respectively is driven more kilometers.
- 8 Product innovation is the driver; process innovation (higher efficiency, lower costs) is supportive for diffusion. If product innovation (related with high resource consumption) becomes dominating, it will tend to overcompensate the (resource-)efficiency gains in the production process. „Innovation“ than contradicts „SD“ – type and direction of innovation has to be changed.
- 9 As long as material and disposal costs are low, but labor costs are high, labor-intensive repair activity is not an attractive option.
- 10 The popular debate on premature obsolescence to some extent is just a reflection of the general overburdening of (abundant) consumers. Conventional consumer policy cannot "cure" this disease. Instead of support for fulfilling given consumer preferences, analysis and debate on the creation of preferences is necessary.
- 11 In some cases companies provide support: „Don't buy this jacket“ (<http://www.patagonia.com/email/11/112811.html>).



Rudi Kurz

## KVALITETA, ZASTARIJEVANJE I NEODRŽIVO INOVIRANJE

### SAŽETAK

Netransparentnost kvalitete proizvoda, a osobito njihova životnoga vijeka, jedna je od negativnih popratnih pojava potrošačkoga društva i sve većega broja potrošačkih dobara koji su na raspolaganju prosječnomu kućanstvu. Brojni su primjeri neuspješnih proizvoda ili preuranjenoga zastarijevanja. Ta je pojava povezana s poslovnim strategijama povećavanja profita (planirano zastarijevanje) pa je mobilizirana politika zaštite potrošača kako bi se zaustavila ta vrsta iskorištavanja. U radu se, na temelju mikroekonomske analize, obrađuje pitanje optimalne kvalitete proizvoda (npr. životni vijek) u okviru cost-benefit analize (analize troškova i koristi) u uvjetima nesavršenih informacija (ovo se temelji na Akerlofovom problemu tržišta limuna). S obzirom na to koliko su potrošači spremni platiti, postoji optimalna kvaliteta koja je niža od one koja je tehnički moguća. Ako se analizi doda inovacijska perspektiva (Schumpeterovo „kreativno uništavanje”), rastuće globalno tržišno natjecanje i brzina inoviranja proizvoda, glavni su uzroci kraćih životnih ciklusa proizvoda te su često stvarni ograničavajući čimbenik životnoga vijeka proizvoda (ekonomsko zastarijevanje nasuprot tehničkome). Čak i kad se u analizu uključe ciljevi održivoga razvoja, ne dobivamo jednoznačan argument za dugotrajne proizvode s obzirom na činjenicu da su novi proizvodi uglavnom ekološki učinkovitiji. Potrebna je šira rasprava o optimalnoj kvaliteti, odnosno životnome vijeku proizvoda, na temelju holističke procjene životnog ciklusa alternativnih mogućnosti u pogledu kvalitete proizvoda. Konačno, sve raširenije razočaranje kupaca nakon kupovine s obzirom na njihova očekivanja te sukobljenost s ciljevima održivoga razvoja trebaju se obraditi u općoj raspravi o konzumerizmu i njegovim granicama. Ograničene izmjene zakona o zaštiti potrošača (npr. produženo jamstvo) neće biti dovoljne.

**Ključne riječi:** zastarijevanje, inovacije, natjecanje u kvaliteti, nesavršene informacije, održivi razvoj, analiza životnoga ciklusa

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# **INTRODUCING THE INTERACTION APPROACH FOR SUCCESSFUL BUSINESS RELATIONSHIPS**

## **ABSTRACT**

Many countries in the world, including Croatia, are facing crises in their economies. There are numerous reasons for this situation, and problems of the business market present one of them. Nevertheless, successful business relationships are what keeps the market alive. Those relationships, namely buyer-seller relationships, are creating and influencing the market and economy on the whole.

However, Croatia is living in the age of neoliberalism. As a dominant ideology of today's world, it influences how companies behave on the market. On the one hand, it suggests competition as the best solution for existence. On the other hand, the interaction approach, teaches us to change our perspective and to cooperate on the market.

In order to benefit the most, the aim of this paper was to review and compare these two approaches, to highlight their features and main differences, and to support them with empirical evidence. The cases of three Croatian companies show the reality of today's market and an urgent need for a new business theory and practice.

**Keywords:** Neoliberalism, crises, the interaction approach, competition, cooperation, business relationships

## 1. Introduction

Many countries in Europe, including Croatia, are facing crises at the moment. Over the years, the concepts and theories of neoliberalism have been researched and followed in Croatia, together with the belief that in order to survive on the market companies have no other option than to compete with each other. However, competition in practice is not working out as it should be when following these theories. Mostly it leads toward attempts to get the monopolistic position on the market and to destroy all other companies. Nevertheless, this paper presents another stream of the literature that introduces different approaches for business market behaviour. It promotes cooperation, interaction on the market between buyers and sellers and long-term business relationships.

Bearing in mind that the perfect market does not exist, researchers and academics of today should try more than ever to focus on combining different disciplines and approaches in order to find “the most suitable one”. Therefore the aim of the paper is to present these two opposing views and streams of the literature with relevant suggestions of plausible solutions. Therefore, the paper begins with a short literature review and presentation of the concept of neoliberalism and the interactive approach. After observing different approaches, a methodology section follows, in which the companies and the process of empirical data collection is described. Discussion about the current situation on the market includes interview data from three Croatian companies through narratives. Companies were chosen so as to represent small, middle-sized and big companies on the market. Subsequently, different perspectives are shown as a competition vs. cooperation section. At the end, the paper provides a conclusion together with future research suggestions and limitations.

## 2. Neoliberalism and crises in the Croatian market

Neoliberalism is an economic and political ideology that seems to be dominant in our world today (Saad-Filho, Johnston, 2005). Following Clarke’s (2005) opinion, foundations of neoliberalism can be found in classical liberal economic theories of

Adam Smith and his followers. As the next argument (Palley, 2005; Thorsen, Lie, 2007), neoliberalism seems to be a replacement for the economic theories of John Maynard Keynes (1936). This monetarist approach, founded by Friedrich Hayek and Milton Friedman among others, has been part of economics in most European countries lately, including Croatia.

The beginning of neoliberalism in Croatia started in 1991, with Croatia’s declaration of independence. Neoliberalism supports the belief that the market works as a freely adopted mechanism where goods and services are exchanged in an optimal way and where government intervention is kept to a minimum (Friedman, 1962). However, looking at the situation in Croatia, it is clear that neoliberalism is not functioning as planned. Maybe as a result of problems in the public sector, judiciary, in liquidity and insolvency of many companies, but necessary growth and development is restrained (Djakovic, Andjelic, 2014). Instead of a free trade will and encouragement of a creative entrepreneurial spirit that is leading to individual well-being and liberty (Thorsen, Lie, 2007), the Croatian market is facing fierce competition, start-up bankruptcy and total economics and social crises.

When trying to define a market, classical economists and neoliberalists describe it as a place where demand and supply meet and where the price is made as their outcome. Companies look at each other as rivals with the end goal to “win” consumers and the biggest market share. Therefore, the market exists only as a place for making a profit where most of the companies are following the rule: “My company against all others”. That often results in vain efforts and increased costs of production.

Nevertheless, returning to neoliberalism and neo-classical assumptions, individuals are described as always rational in business and maximizing their utilities, with a conclusion that they should have the greatest freedom on the market (Rapley, 2000). However, over the years that assumption has proven to be wrong. As a result, there is a ‘practice’ these days in which “poor countries are subsidizing rich countries and poor individuals are subsidizing ultra-rich individuals” (Ristic, 2014: 40). It is also stated that the global economic crisis, together with the implementation of neoliberalism, is moving the main centre of gravity of the global economy from the manufacturing to the financial sector, leaving the manufacturing sector as irrelevant. However,

if the manufacturing is collapsing, where does the economy go? "All of that results into individual freedom to capitalize on poverty in the form of private benefits such as competition, as a key incentive for the development and generation of monopoly" (ibid., p. 40).

Finally, as 2001 Nobel Prize winner Joseph Stiglitz said in his work (2002), there is little evidence that neoliberalism actually promotes economic growth, and without strict rules and timing it triggers more harm than benefits (Engel, 2010).

### 3. Introducing the interaction approach

Shortly returning to neoliberalism, as well as Keynesian economics and microeconomics and their school of thought, firms are defined as independent units that operate on the market isolated from each other. Demand and supply are the key drivers in the environment where companies solely compete with each other. There are business relations, which are characterized as mostly short term relationships, or simple one-time transactions. Companies fight for a competitive advantage on the market, trying to find risk reduction mechanisms which will provide the safest and most beneficial transaction.

All of the above mentioned can be illustrated with the jungle metaphor: "It is a metaphor that pictures a landscape characterized by deadly competition between the companies that populate it" (Håkansson et al., 2009: 1). However, since the mid-1970s, a significant number of business marketing researchers have widely argued against the classic economist view (e.g. Håkansson, 1982; Johnson, Mattsson, 1987; Gadde, Mattsson, 1987). Based on their opinion, companies do not exist on the market only to fight for the best place and best customers, but to interact and cooperate with each other. As a result, the Industrial Marketing and Purchasing Group (IMP) was formed and empirical studies on business environment have been carried out during the last 30 years. They argue that: "...mainstream economic thinking and models have simplified away some fundamental aspects of business life and have, therefore, provided an incomplete understanding of the basic processes and structures of the business landscape." (Håkansson et al., 2009: 1).

The IMP Group<sup>1</sup> and their approaches have taken networks and relationships between firms to the forefront of business marketing research. It all started with a number of case studies conducted in Germany, Italy, France, Sweden and the UK. While analysing the case studies and observing the phenomena of business relationships and interactions, academics could not explain them through any existing theories and frameworks. Those case-study companies acted differently than expected and the basic question arose: "Why do producers and users hold on to each other over years and even decades, instead of jumping around between different counterparts, playing with the price mechanism?" (Håkansson et al., 2009: 14). The average business relationship was more than 12 years old, but the most important finding was that those companies were not competing, but instead working together in order to create mutual benefits (ibid.).

Therefore, individual transactions were replaced with business relationships which may evolve over time and construct e.g. attractiveness, trust, loyalty and commitment between the partner companies, concepts that do not exist in traditional theoretical models. As a result, *the interaction approach* (Håkansson, 1982) has been created. It combines many disciplines, starting from resource-dependence and social-exchange theory, through transaction cost economics and a political-economy framework. However, the competitiveness of a company from this perspective is seen as its competence to find good business partners, to develop long-term relationships and to successfully manage its network of closest relationships. As a unit of analysis, the interaction approach focuses on the relationship, instead of an individual transaction, product, firm, market, or even a person (Turnbull et al., 1996; Håkansson et al., 2009). It follows the development of a relationship over time, its nature, the atmosphere during the interaction process, bonding between the partners, the use of resources, etc. (Turnbull et al., 1996).

Equally important, one of the main points for business relationship development is the interdependence of companies (ibid.). In other words, each company is a dependent part of a network, which presents a wider structure of other business relationships, and it exists as a supplement of the interaction process, not as an independent actor (Håkansson et al., 2009). In a business network, however, each relationship is unique and therefore

it can be concluded that “a company is both the determinant and the outcome of its relationships and what happens in them” (ibid., p. 190).

#### 4. Methodology

In order to examine the current situation in the Croatian market, detect certain challenges it has been faced with and suggest future actions, some empirical evidence of research projects from the IMP Group were taken into consideration. In simplistic terms, neoliberalism was contrasted and compared with the IMP interactive approach and frameworks.

Besides secondary data collection, primary data in terms of qualitative case study was collected. Three Croatian companies were interviewed and narratives were used to gain insights into individual stories, people's interests, motives and activities, and at the same time for studying complex interactions between these segments in their context (Halinen et al., 2012). This qualitative research strategy and case study approach seems plausible for reaching the aim, because it investigates and presents a phenomenon in a real life display (Platt, 1992). Furthermore, long face-to-face interviews based on McCracken (1989) instructions were used as the key data collection method for receiving good descriptions of the studied phenomenon (Tidström, 2006).

Three companies were chosen carefully, in order to be representative and paying attention that all company sizes are represented (small, middle and big companies). These companies present a case study, where the network of business relationships is taken as a focal construct. In this network, the main role is played by “Teri Ltd”, a middle-sized company with an activity in the retail sale of food, beverages and tobacco. The second company is “Podravka”, which is one of Croatian biggest corporations that produces food and beverages and exports them to many other countries. “Podravka” was interesting as a case company because it is one of the main product suppliers for “Teri Ltd”. The last company taken into consideration for this article is a small, family-owned company called “Filip promet”. It is a good case company based on its connection with the “Teri Ltd”, as the main service (transport) supplier. All the above mentioned companies provided interesting narratives about their own network as well as the current situation in the Croatian economy.

The interviews lasted from 1 to 2 hours and covered diverse topics, starting from each company's internal situation and ending with their external views of the network and today's economy in total. For this article, the companies' individual perspectives on today's market situation and business relationships were taken into account, together with the personal business views of their managers. Mutual comparisons of different business markets and economic situations resulted in numerous significant comments and contributions towards the explored phenomenon.

#### 5. Discussion about the current situation on the markets

Observing the current situation, with all the aggravating circumstances in the markets, we can conclude that the perfect market doesn't exist. However, some Scandinavian and Western countries with a harmony between the market and private property, with a strong and efficient public sector and emphasis on the regulatory role of the state, seem to be getting nearest to such a market situation (Dimitrijević, 2014). In those countries the state is responsible for the field of social security and the labour market; there is a sense of social justice and solidarity, resulting in economic efficiency and fairness (ibid.). Those institutions are very strong and the level of corruption is really low, despite relatively mild sanctions (ibid.).

While looking at these characteristics, we are asking ourselves what could be done in Croatia in order to change its bad economic situation. Having in mind that those companies which are on the market cannot make new governmental policies on their own, or e.g. change a tax rate, we need to think of other solutions. However, going back to the IMP interactive approach, the above mentioned well-developed countries seem to have followed its instructions. In order to achieve harmony on the market, companies are finding a way how to collaborate and cooperate with other companies, how to follow all the rules and regulations of the state, but at the same time how to make long-term benefits out of it. As illustrated in Figure 1, the current situation on the Croatian market presents competition and rivalry, therefore leading to crises, whereas the newly proposed IMP approach offers a solution in cooperation and interaction between companies.

**Figure 1** Current situation vs. the IMP approach

	Current situation	The IMP approach
Long term benefits		<b>COOPERATION</b>
Short term benefits	<b>COMPETITION</b>	

Source: Authors

The current situation in the Croatian market, as well as in other markets of European countries is characterised by a constant fierce competition between companies. This competition can therefore only lead towards some short-term benefits, such as higher profit based on marginal costs, and fighting competition based on e.g. lowering the price. However, these benefits will often not last long enough for a company to assure its stable position on the market and around its competitors. On the other hand, there is the IMP approach, where cooperation with other companies will bring them mutual, long-term benefits. Of course, there will be competition existing on the market as well, but it will not be the main way of doing business. Because, as Decenty et al. (2004) argue: "Cooperation is often more appealing and socially rewarding." Companies that focus on cooperation will develop trust and commitment between each other, which can even lead towards some short-term sacrifices of one company in order to preserve the cooperation with another one and maintain a relationship.

Building on Figure 1, interviews from the case study have led to the same conclusions. Directors and managers of the companies have all agreed that something needs to be changed. It needs to be changed fast, otherwise these crises will never end. Is it a matter of still being a country in transition, without perfect regulations and fighting with corruption? Or is it a result of following the wrong directions of economic theories and their suggested practices? Maybe a combination of both, but starting with the small, family-owned transportation company "Filip promet", the main problems detected in its business were mistrustful potential partners and growing competition on the market. As the director and owner of the company said, some great ideas of cooperation with his competitors, in order to compete on the market in joint efforts, were just vain desires:

*"I already had some ideas for cooperation with my competitors. Especially when talking about transportation service for big companies. As we know, the situation on the market is horrible and each of us alone is just too weak. When I go to a big company with my 6 trucks, they won't take me seriously, or even listen to my proposal. So, if we could just join our efforts, team up, get 100 trucks and go before a big company that needs transportation services, we could get some results. Unfortunately, other companies are not ready for this step. I wouldn't say it would be totally impossible to manage, but for now it's really, really hard. No one even wants to hear suggestions like this one. They immediately start thinking that I have some hidden intention of tricking them and gaining profit just for myself."*

This problem is common on markets that are disorganized and non-functional. However, the concept of co-opetition (Brandenburger, Nalebuff, 1996) may fit well as a solution for these problems. This concept describes cooperative competition, where companies on the market are working together to achieve their mutual goal, but at the same time (maybe on a different market) they are in direct or indirect competition. It can occur both at the inter-organisational and intra-organisational levels of companies, but it should be managed in a proper way. Especially after entering the EU, when competition spread across the borders of Croatia, this cooperation through co-opetition may be of utmost importance:

*"We are now in the EU and I would compare it as a glass of water entering the sea. How many trucks Croatia has, what do you think? If we gather all of our trucks, we can get the same number as one, just one service provider has in, let's say, Austria! Just one! Austria is such a small country, smaller than Croatia, but one of their truck operators has more than we all do. And Austria is just one of the countries we are competing with at the moment."*

As can be seen from the interview, small companies are not willing to cooperate, not willing to interact more than they are obligated for doing their businesses. Most of the time the reason lies in their inability to connect with other potential partners, solely because there is no perceived trust between them. They believe that they are too small, with limited amount of financial assets, and that it is too risky to try any kind of investment in mutual cooperation. They are afraid of losing everything, but they are not aware that the current situation is even



more dangerous for them. Therefore, taking into account all the facts, companies are forced to compete and forced to look at others as enemies first. As the director of middle-sized wholesaler and retailer "Teri Ltd" said:

*"In 2004 'Gastro Group' was founded in the area of distribution. It was providing a common growth on the market and improvement of the quality of business for everyone in the value chain. As a cluster we managed good cooperation for a while, but then problems started. Some companies couldn't survive the crises on the market, others were part of acquisitions and mergers so the power dependence was changed in the group, which led to more problems. Over time, trust and loyalty started to lack between the members and the Group unfortunately fell apart."*

It can be seen from this situation that even when companies try to organize some kind of cooperation, form a group of companies that will work closely with each other, they seem to fail. Even though "competition makes people less cooperative, promotes selfishness and free-riding, reduces contributions to public goods, and leaves society worse off" (Ottone, Ponzano, 2010), it appears that Croatian companies are not ready for the step further. The conclusion is therefore that, especially when companies are middle-size or big, crisis will affect partner commitment and mutual trust, especially in cases where partners could compete on the market at the same time.

The company interviewed the last was "Podravka". As Croatia's biggest food producer, this company plays a significant role in foreign trade as well. Taking this into account, it was possible to see possibilities of small firms in comparison with middle-sized and big firms, opportunities and weaknesses of different markets and the way of doing business. One of its directors said:

*"If looking at parameters such as popularity of product brands, export orientation, the presence on the global market and market share, then Podravka is the most successful and recognizable company in this part of Europe. However, when I was working in Poland, many years ago, on the revitalization of the market and our brand, we realized that even though in Croatia we were big, we were still small producers in Poland, with bigger companies buying from us. We didn't have the strength that we had in Croatia, but we had the same performance on the market."*

*"Therefore, we needed to change our tactics and turn to the right business partners."*

As already said, the 'right' business partners are 'gold' for any relationship. Therefore, an adequate amount of trust and commitment is of great importance, as well as the willingness of both partners to keep the relationship alive and lasting. Furthermore, when going international, besides having the right partners, it is also important to be informed about the market and to protect the company's rights and liabilities. Otherwise it can turn out badly:

*"Some time after I left Poland we realized that one of our competitors started to re-export Vegeta<sup>2</sup> that is produced in Poland at cheaper costs of production. With that act, they were competing with us on the Croatian market, by selling our product at a lower price."*

Even though Podravka solved that problem in a short time, we can highlight again the importance of a good connection and trust between past, existing and potential business partners.

### 5.1 Competition vs. cooperation

When companies are connected with each other through the purchase and sales of goods and services we can distinguish between two extremes. The first is arm's-length relationships, characterised by clear transactions followed by official contracts and paperwork, where any change in e.g. price results in the change of a partner. These transactions, with neglected importance of social interactions and mutual investments in a relationship will result in a superficial exchange of goods and services. In a market where arm's-length relationships prevail, competition is the only functional solution. On the other hand, the second extreme is presented by long-term relationships. They are sometimes even based on already established personal relationships, without signing a formal contract. Companies are ready to invest in a relationship and adapt their behaviour to their partner (Andersson, Forsgren, Holm, 2007). Business routines are becoming interconnected and mutual trust, commitment and loyalty are developed. Based on investments in the relationship, companies are not willing to change a supplier/buyer only based on some tangible aspects, such as e.g. price, delivery, etc. Instead, they are ready to make short sacrifices for the future benefits

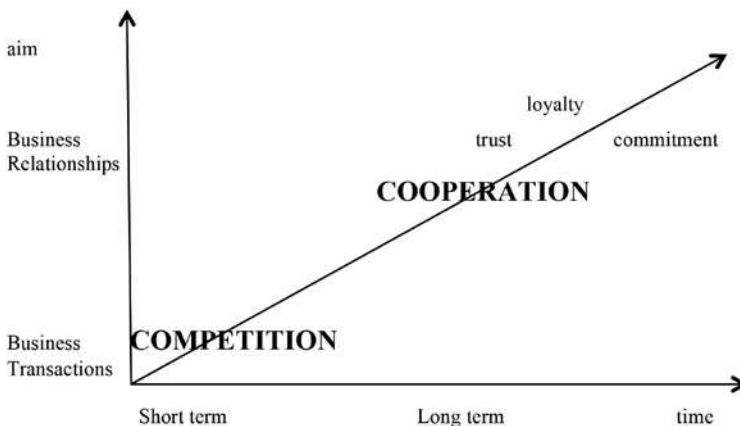


and sustainability of their relationship. These situations are resulting in cooperation on the market.

However, it is important to highlight that nothing is only black and white. It all depends on preferences, possibilities and goals companies have. Competition and cooperation are two opposite perspectives that negate each other when compared, but it cannot be said that either is the totally wrong or right approach. However, based on experience and market situations in Croatia, it can be seen that competition is not the best possible solution after all.

Some could agree with John Toye's (1993) proposition that self-interest is the only motivation for individuals. However, that self-interest can work out well, or end poorly. In the situation on the market where everyone competes with each other, where there is no trust, commitment or loyalty between companies, managers focus on their firm only in order to gain the biggest market share and high profit. However, that could lead towards some poor business decisions. Because, after all, we just cannot ignore companies that surround us. They are part of the same market; they have almost the same goals as we do, so why not help each other instead? Therefore, when managers finally become aware that "no business is an island" (Håkansson, Snehota, 1989), and companies cannot work in isolation from each other, their self-interest will become a good intention towards everyone, and positive outcomes will follow.

**Figure 2** Competition vs. cooperation—different perspectives of a business market



Source: Authors

As a central notion of competition, business transactions are presented. These transactions are usually defined as one-time buying or selling events where financial exchange is the most important aspect. This is therefore mostly short-term with respect to the time period, and definitely not a process. However, when these business transactions repeat, and when they become ongoing, most of the time they turn into a process which ends up being long-term. That process of constant information exchange and communication, not only on the organizational, but also on the inter-personal level, is characterised as a business relationship. It is defined as cooperation between at least two companies, who develop trust, commitment and loyalty between each other. However, it is important to keep in mind that markets are far from being perfect, so in most cases companies can be found somewhere in the middle of competition and cooperation. Nevertheless, their goal should always be directed towards the top right corner of the chart.

## 6. Conclusions

"Neoliberalism means different things to different people." (Birch, 2015: 571). Agreeing with Birch, it is evident that neoliberalism is a multifaceted phenomenon and therefore demands special attention from both academics and practitioners. It describes the shift in economies over the past decades, but unfortunately negatively associated.

However, the aim of this paper is neither a condemnation or judgment of any theoretical perspective, nor is its goal to decide on their strategic significance. Instead, what we have hoped to achieve is to present the level of differences in perceptions and possibilities for academics and practitioners to familiarise themselves with different perspectives.

As often repeated, neoliberalism is one of the main reasons for the poor economic situation in Croatia (Ferencak et al., 2014). As a consequence, a public awareness is produced that defines neoliberalism as insufficient in such complex market situations, as the one we are currently facing (Djakovic, Andjelic, 2014). Therefore, it is of extreme importance for countries to create and build a new socio-economic approach for business markets. Until today, Croatia and its neighbouring countries have not been successful in finding new solutions and business models, so the only thing left for them to do is try to reduce the bad effects of the crises (ibid.).

As Ferencak et al. (2014) highlighted: "Actual markets are, more or less, far from their role model – a market of perfect competition." By some mean, maybe they should be. Because competing on the market and killing your competition is not the best solution in an already bad market situation. One company cannot be the expert in everything and cannot expect to survive without the help of others. At the same time, companies need to respond to the challenges of changing market conditions, failure of which leads toward further deepening of market instability and disturbances. Countries in transition economies, such as Croatia, have reacted to these negative effects more sensitively than developed economies. Changes were deep, sudden and intense, and consequences significant (Djakovic, Andjelic, 2014).

However, things cannot be changed on the spur of the moment, and perhaps Croatia cannot immediately get to the level of highly developed countries. It takes time and tremendous effort. But the first step is to follow good business examples and teach them in schools. And if we could just change the way people think about the markets and business relationships, it would be a good start for changing bad economic situations in countries and getting closer to the level of successful economies.

## 6.1 Future research suggestions and limitations

This paper makes an important contribution to the Croatian academic and managerial world by introducing a different perspective on the way business relationships could look like and how markets can be organized in a different manner. While there is a big amount of research, both in theory and practice, done by the IMP group in this area of research, it still has not been used for helping Croatian companies and their operations. Limitations that could appear in this situation are based on different rules and the way of doing business in Scandinavian (base of the IMP research) vs. Croatian market. However, researchers should focus more on broadening their perspectives, combining different theories and thinking "outside of the box". After accepting the interactive approach, managers especially could benefit from going even further by researching and implementing the network approach of embedded business actors. However, the current situation in the Croatian market should be considered as a limitation in the sense that these concepts maybe would not be accepted so readily like in developed countries, because some of the core beliefs should be changed first.

Furthermore, in connection with the first interview about a small, family-owned company, a future research suggestion could be made based on international opportunity recognition perspective on small and medium companies (Kontinen, Ojala, 2011). This perspective is focused on gathering and joining together small enterprises and start-up companies in order to gain more power and create the ability to face competition with joined forces. In that way, small and family-owned companies can fight back their competitors and survive longer on the market.

Lastly, it is also important to take into account all the new regulations Croatia has adopted after entering the EU. How do these regulations and the new economic structure affect the market conditions and the economy in total? And is there a way we can change our future?

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#### **(ENDNOTES)**

- 1 <http://www.impgroup.org/about.php> (Accessed on: August 10, 2015)
- 2 Vegeta is one of the most popular products of Podravka

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## **PREDSTAVLJANJE INTERAKCIJSKOGA PRISTUPA ZA USPJEŠNIJE POSLOVANJE NA TRŽIŠTU**

### **SAŽETAK**

Mnoge se države svijeta, uključujući Hrvatsku, trenutno suočavaju s krizom u gospodarstvu. Postoje brojni uzroci spomenute situacije, a jedan od njih je i način poslovanja na tržištu. Kao što je poznato, uspješni poslovni odnosi su ono što drži tržište na životu. Ti odnosi, posebice odnosi između kupaca i prodavača, izgrađuju tržište te gospodarstvo u cjelini.

Hrvatska se trenutno nalazi u doba neoliberalizma. Kao dominantna ideologija današnjice, neoliberalizam diktira ponašanje tvrtki na tržištu te predlaže tržišno natjecanje kao najbolje rješenje za opstanak. Interakcijski pristup tržištu s druge strane uči nas da je potrebno mijenjanje perspektive te uvođenje suradnje između pojedinih tvrtki na tržištu.

Cilj je rada usporediti dva navedena pristupa, istaknuti njihove značajke i glavne različitosti te ih potkrijepiti empirijskim dokazima. Na primjeru tri hrvatska poduzeća prikazuje se stvarnost današnjega poslovanja na tržištu te nužna potreba za mijenjanjem teorije i prakse poslovanja.

**Ključne riječi:** neoliberalizam, kriza, interakcijski pristup, konkurencija, kooperacija, poslovne veze



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# THE NEW COMPETENCY PROFILE OF ACADEMIC LIBRARIES IN THE FUNCTION OF EVALUATION OF SCIENTIFIC PRODUCTIVITY

## ABSTRACT

The paper starts from the definition of competency and then discusses the competencies that librarians employed in academic libraries must have so that the library could provide their mission. The requirements of the scientific community as a dynamic category go towards the achievement of the knowledge society, and therefore they change and improve methods of evaluating its productivity. Measurement and evaluation of the overall scientific creativity is an extremely demanding job that must be made by competent professionals. The paper informs on qualitative and quantitative: bibliometrics, sociometrics, altmetrics and other methods that can be used for evaluation of scientific production. It presents and explains the new competency profile which the scientific community requires from the academic library as a service user and special attention is paid to the possible role and place of the library in the evaluation of scientific productivity. This paper is designed to provide information on the new competencies that the library must have if it is involved in the provision of various metric services. In this regard, possibilities of the academic library as a partner in measuring and increasing scientific productivity are discussed. It is explained how academic libraries can adapt to their new role. Furthermore, it is attempted to answer the question in which direction education of librarians should move in order to realize this partnership.

**Keywords:** Bibliometrics, librarian competencies, academic libraries, evaluation of scientific productivity

## 1. Introduction

The aim of this paper is to determine the types and levels of new competencies libraries and librarians are required to have to perform their tasks according to the requirements set by users, the most demanding segment of which is the scientific community. These requirements pertain to providing the highest quality library service and can be met

by increasing the level of librarians' knowledge. The 21st century library departs from the traditional understanding of its mission. The reasons for this are the galloping changes in technology, science, economy and other areas of social and cultural life. The scientific community requires libraries to monitor and accept these changes whereby they become and continue to be learning organizations. Academic libraries must take on a new role of an information,



communication and education centre. One of the latest roles libraries need to acquire is participating in the evaluation of scientific productivity.

## **2. Defining competencies**

In general, a competency profile (Shipmann et al., 2000) includes integrating all levels of formal, non-formal and informal education. Formal education is acquired in the school system and results in the graduation as a 'framework' for a particular vocation. Non-formal education is acquired by organized learning outside the regular school system through seminars, courses, etc., and it may or may not result in a degree or certificate. Informal education is acquired by self-education and represents an upgrade of educational level for a particular profession. Competency profile involves defining the educational procedures through which an adequate level of competency can be achieved as well as defining the methods and procedures for its evaluation. In theory, competencies are commonly defined as a combination of knowledge, skills and attitudes. They are affected by different skills, personalities, social background, qualities of understanding, motivation, beliefs and the system of ethical values and interests. They are the result and the outcome of learning, as well as practical skills, i.e. work activities related mainly to performing in the work environment. Competencies can be continuously improved by training which means they are dynamic (Barbarić, 2009).

The theoretical basis for defining the competencies of lifelong learning and key competencies has been excellently presented by an OECD's document from 2003 entitled "Defining and selecting key competencies."<sup>1</sup> According to the document each organizational structure has a defined set of requirements for each particular workplace, including the competencies required by a particular workplace and a requirement for lifelong learning and training.

Competencies must integrate the continuous mixture of acquired education, workplace requirements and a person's ability to change and develop. It is absolutely necessary to define instruments for evaluating specific workplace competencies. According to Ball, the definitions of competencies have become increasingly popular in library and information science, and have been used to describe the necessary

qualifications of libraries and librarians as well as a tool for assessing the value of libraries and librarians (Ball, 2004). Griffiths and King (1985: 45) have defined competencies as "a set of knowledge, skills and attitudes related to the effective conduct and work performance of library and information science professionals". This is the oldest and most commonly used definition in the librarian profession.

## **3. The international framework for competencies of libraries and librarians**

Library and librarian competencies are generally defined by professional library associations as a set of requirements for professional, generic and personal competencies of individual experts. Library associations in the United States, Canada, UK, and Australia are involved in the process of evaluating library science studies, whereas in most European countries library associations are not involved in this process. The International Federation of Library Associations and Institutions (IFLA)<sup>2</sup> brings together all library associations and promotes library and information science profession through its professional bodies and working groups. The IFLA is the leading international organization that represents the interests of librarians and library users. Through its regular work and activities, the IFLA stresses the importance of continuous identification of the necessary competencies of librarians, as well as life-long learning, and professional development through a variety of projects and programs. The Association has founded the Section for Continuing Professional Development and Workplace Learning drawing attention to the fact that a systematic education of librarians is a precondition for development. In 2012 the IFLA adopted the Guidelines for Professional Library/Information Educational Programs setting down elements to be included in formal library and information educational programs, as well as the requirement for systematic assessment of educational needs. The generally accepted frameworks for defining the competencies in the librarianship are:

- Core competencies of the American Library Association (ALA)
- Professional Knowledge and Skill Base - successor of the British Association CILIP (Chartered

Institute of Library and Information Professionals)

- Competencies for Special Librarians of the 21<sup>st</sup> Century of the American Special Libraries Associations (SLA).

ALA's<sup>3</sup> core competencies define a professional or competency profile of the American library profession. They are defined as the basic knowledge to be possessed by all persons graduating from an ALA-accredited master's program in library and information studies. In addition to possessing the core competencies a librarian of the 21<sup>st</sup> century is required to provide high quality services that meet the needs of users, carefully analyze information sources and services, effectively use the tools and techniques to research users and their needs for information, treat the users as collaborators and partners in information retrieval, effectively create reference services, develop cooperative relations within the profession, stay abreast of the latest developments in the profession, actively participate in projects and self-educate, conduct library services marketing, and consistently and systematically evaluate library services effectiveness.

CILIP's<sup>4</sup> Professional Knowledge and Skills Base represents a competency profile of library and information professionals. Their professional expertise includes a set of basic interconnected elements and activities as illustrated in the diagram. Generic skills are clearly separated from field-specific competencies. The knowledge base is complemented by general and transferable skills including computer and information literacy, interpersonal skills, management skills especially those related to human resources and finance management, marketing and research skills.

SLA's<sup>5</sup> competencies of librarianship comprise only competencies and skills required for special librarianship. They are divided into three categories: professional, personal and core competencies. Professional competencies include managing information organizations, managing information resources, managing information services and applying information tools and technologies. Personal competencies represent a set of attitudes, skills and values that enable practitioners to work effectively and contribute positively to their own organizations, clients and profession. Core competencies anchor the professional and personal competencies. Information professionals contribute to the knowledge

base of the profession by sharing best practices and experiences, and continue to learn about information products, services and management practices throughout the life of their career. Information professionals are committed to professional excellence and ethics, and to the values and principles of the profession. Two core competencies are essential for every information professional: sharing knowledge through association networks, and by conducting and sharing research, as well as adhering to the ethics of the profession. These two core competencies are paramount to the value and viability of the profession.

The Canadian Association of Research Libraries (CARL) was commissioned to develop a study entitled *Core Competencies for 21<sup>st</sup> Century CARL Librarian*<sup>6</sup> in which core competencies of Canadian librarians were defined.

The European Association for Library and Information Education and Research (EUCLID)<sup>7</sup> the European Bureau of Library Information and Documentation Associations (EBLIDA)<sup>8</sup> and the Danish Royal School of Library and Information Science, which adopted the European library and information science curriculum, have dealt with Library studies and attempted to harmonize librarians education in Europe. European experts are aware that the adoption of a single program of studies for all European countries is hardly to be expected.

Based on the above mentioned documents and sources it can be concluded that there is no international consensus on education and competencies required in the library and information profession.

#### **4. The framework for defining competencies of library and librarians in Croatia**

In Croatia the training of librarians is based on legislative and regulatory framework. Competency profiles are defined using ALA, CILIP and the SLA frameworks. For Croatia, the Bologna process meant focusing on profession and establishing the librarian studies on professional competencies as their basis (Horvat, 2005).

The Croatian Library Association (HKD)<sup>9</sup> is an alliance of library associations in Croatia. In addition to the main goals such as promoting library profession, organizing conferences, proposing regulations,

magazine publishing, etc., the alliance supports and promotes the professional integrity of librarians which implies continuous care about their education and development. The Croatian Library Association is a member of IFLA, and many Croatian librarians are involved in the work of IFLA's professional bodies. Libraries Act and Regulations on the conditions and methods for acquiring a title of library professional define the conditions that have to be met by a person working in a library. Within academic education librarians and information specialists are educated at several Croatian universities (Zagreb, Osijek and Zadar) and after a year of working in a library, they are required to pass a state exam. Librarians can choose to continue their formal education at universities, i.e. pursue a higher academic title. To further their formal education, they can attend postgraduate studies, and it is possible to obtain a higher professional title. By passing the state exams a librarian become a certified/licensed senior librarians and library advisor.

The librarians continue their education by participating in seminars and conferences organized by different organizations and professional associations and by publishing their papers and giving presentations in Croatia and abroad. Professional development is not an obligation, but it is implied, initiated and rewarded, since it enables advancement in the profession, as a result of continuous professional development.

Continuous support in the process of acquiring the highest competencies in librarianship in the form of training is offered in the framework of the national program by the Centre for continuous professional development of librarians (CSSU) in located in Zagreb<sup>10</sup>. The program is based on the needs identified through practice and new user requirements. Professional development programs organized by the CSSU in Croatia support the continuous professional development in the context of lifelong learning. Training programs are designed to increase the level of competencies of librarians in particular areas in keeping with contemporary needs of libraries and librarians.

Both international and Croatian librarian community has discussed librarian competency profile; however, they have not provided a single definition for all types of libraries. One of the major projects that had been dealing with competencies of libraries and librarians in the framework of lifelong learning was a project "Lifelong learning of librarians:

learning outcomes and flexibility" (CUK), which was financed by the National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia. According to Maštrović, this project has contributed immensely to the defining and development of the competencies. Within the framework of this project, the initial national competency profile of library professionals has been developed (Maštrović et al., 2009). Based on the legislation and reference documents on competencies and learning outcomes a draft strategy on librarian lifelong learning has been adopted. The strategy represents a recommendation with regard to the direction of lifelong education of librarians in Croatia. Lifelong learning in the field of librarianship in the Republic of Croatia should primarily integrate formal, non-formal and informal education of librarians into a single flexible system based on the competencies, evaluation and recognition of previously acquired knowledge (Maštrović et al., 2009). The goal of the project was to define the competencies of librarians in lifelong education. They are mostly defined as generic and/or professional competencies, and personal competencies. Generic or general competencies represent a set of knowledge, skills and responsibilities with a wide application in various areas – they allow flexible adaptation to the requirements of a variety of professions: general, personal and linguistic culture, communication skills, computer and information literacy, the ability to transfer knowledge and skills, willingness for continuous learning and adherence to ethics in handling the resources and interacting with customers. Field-specific (academic) competencies, i.e. competencies that are specific to a particular discipline or profession, are at the core of the study program and are included in each educational cycle. The main requirements are information literacy, adherence to professional ethics, organisation of library resources in accordance with the objectives and user needs, followed by quality management of materials and collections, organization of information about the resources, identification and selection of materials, processing of library materials, the capacity to evaluate library materials, quality storage and preservation of library materials, and provision of information services. Professional competencies also include monitoring, understanding, adherence to laws and standards. Personal competencies of librarians include the ability to effectively communicate with customers and colleagues, organization and planning skills, under-

standing and application of research methods, creativity, innovation, teamwork, the ability to create work conducive and accessible environment, openness, friendliness, etc. Some competencies are both generic and professional, while some required by modern circumstances and special user requests have not been covered or defined, such as an appropriate pedagogical and psychological knowledge, in particular leadership and management skills. Some of the competencies required of a manager or a librarian with higher professional titles include organization or cooperation in the organization of cultural and promotional activities, education of users, collaboration with publishers, publishing skills, computerization of library management and evaluation of scientific productivity. The most recent and quite important contribution to the study of library profession has been made by Diana Mahala, the author of "Librarian competencies: Reflections on the development of the profession". The book gives a historical overview of the development of the library profession and librarian competencies, making a significant contribution to the understanding and the defining of the competencies librarians are required to have (Mahala, 2015).

### 5. The evaluation of the scientific productivity

Research institutions provide a platform for research, recruit, educate, and promote research by scientists and researchers. Research results in discoveries and inventions, which are generally published in scientific books and journals, or in the conference proceedings. Textbooks published by institutions and those published by some other major Croatian and internationally recognized publisher are differently evaluated. According to Macan and Petrak, journals play a key role in the implementation of science policy "...because an evaluation of a journal can influence the decisions on the financial support of scientific projects, the ranking of academic and scientific institution and the advancement of individuals in the scientific and academic system" (Macan, Petrak, 2015: 37).

#### 5.1 Qualitative evaluation

Qualitative evaluation of scientific contributions of individual scientists or a group of researchers coming from a particular institution, university or country is extremely complex. In Croatia it is performed by appropriate evaluation committees for various purposes, mostly for professional advancement according to legislative and regulatory requirements, or statues whose requirements and criteria are created by the National Council for Science, Higher Education and Technological Development as a professional body within the Ministry of Science, Education and Sports (MZOS). Although the criteria for advancement are defined, committees are generally faced with a subjective assessment and the requirement for impartiality and objectivity. Committees are often required to include the paper in a particular category given that paper categories have not been defined by the regulations. The first step in the qualitative assessment of the contribution of the published paper is its evaluation through review. Reviewers are always prominent scientists, respected and trusted experts in the field. Be they domestic or international, it is impossible to completely avoid subjectivity. Objectivity is accomplished by having a larger number of reviewers, double-blind reviews, reducing the length of the review process, and adopting the Code of Ethics for authors and reviewers. The quality of papers is raised by introducing a completely open access and increasing the visibility of papers by indexing in the relevant databases. The qualitative evaluation of scientific papers must take into consideration the differences in the rules of scientific communication in various fields of science and time needed for research and publication of the results especially between the natural and social sciences.

The Croatian Agency for Science and Higher Education (AZVO)<sup>11</sup> has set the main criteria for evaluation of the quality of work conducted by scientific organizations:

- quality of scientific research,
- productivity (quantity) of scientific research,
- impact and importance of scientific research,
- efficiency of scientific organization.

Moreover, research quality is established through assessments of international and domestic projects, forms of financing and the outcomes of scientific re-

search. Socio-economic significance is determined using indicators of knowledge transfer and development of new technologies. Effectiveness is assessed in terms of the level of contribution to the development of the scientific community and society in general. In recent years, the most important and widely accepted indicator of the level of scientific contribution of an author or an institution in a particular field is the indexing and citation in relevant databases. Although citation is measure of the quality of scientific work, it is considered a numeric indicator.

## 5.2 Quantitative evaluation

Quantitative evaluation of the scientific contribution is conducted by means of appropriate disciplines of librarian and information science. According to Moore, the most frequently mentioned disciplines whose areas are not strictly separated and are intertwined are: bibliometrics, scientometrics, cybermetrics, infometrics (Moore, 2005) and more recently altmetrics or webometrics. Bibliometrics dates back to mid 20<sup>th</sup> century. It deals with the quantitative study of bibliographic records, authorship, scientific production and citation. Similarly to that, a new discipline called "naukometrija" developed in Eastern Europe which had scientometric research as its basis. Scientometrics is the study on analyzing science. It uses bibliometric methods for measuring the total number of an author's papers, gives information on the types of papers, the number of co-authors, affiliation with institutions and countries, and examines the data on the sources used by an author in order to define the role of science and technology in the national economy. Infometrics is a more recent term that comes from Germany. It is the study on measuring information and includes the theory of information retrieval. It is broader concept because it includes bibliometrics, scientometrics and webometrics. It is used in the library management, science policy and the evaluation of scientific productivity. Webometrics or cybermetrics is an emerging discipline (Moore, 2005), which studies quantitative aspects of the design and use of information sources on the Internet, by using bibliometric and infometric methods. It measures the number of hyperlinks on the Internet, a description of the network structure and the way users access the content. Altmetrics is the latest so-

cial network metrics that analyzes and measures the impact of scientific productivity through social networks and applications such as Facebook, Twitter, blogs, or online organization of bibliographic references software (Briski, 2014: 193).

Evaluation of scientific production worldwide and in Croatia is based on available quantitative data on scientific publications and their impact within the science system, because one can obtain the results very quickly and cost effectively using modern methods of digital technology. This paper will present the oldest and most common metric discipline used for the evaluation of scientific productivity by libraries and librarians.

### 5.2.1 Bibliometrics

According to Jokic, the term bibliometrics (Eng. bibliometrics, German Bibliometrie) comes from the Greek word "biblion" which means book and the word "metrein" which means measurement (Jokic, 2005). It was mentioned for the first time by Alan Pritchard (1969) in his article entitled "Statistical Bibliography or Bibliometrics?". He defined bibliometrics as the application of mathematical and statistical methods to books and other communication media in order to quantify and analyze the various forms of written communication. Bibliometrics is a multidisciplinary science. "It lends statistical methods and carries out its own analysis, using surveys and tests, and computer science to process the data using spreadsheets, statistical applications and databases. All of these tools are used to analyze the work of scientists and researchers in the various branches of knowledge" (Carrizo-Sainer, 2000). According to Pehar, bibliometrics can be descriptive and evaluative (Pehar, 2010). Descriptive researches are related to studying the number of publications in a certain area by allowing comparison between forms of research in different countries, periods or sub-disciplines, and evaluative researches are related to the study of literature that is used by researchers within a specific scientific field.

Over time, a variety of bibliometrics methods and techniques have developed. According to Okubo, the Organization for Economic Cooperation and Development (OECD) initiated a document entitled "Bibliometric Indicators and Analysis of Research Systems" (Okubo, 1997), which presents the essen-



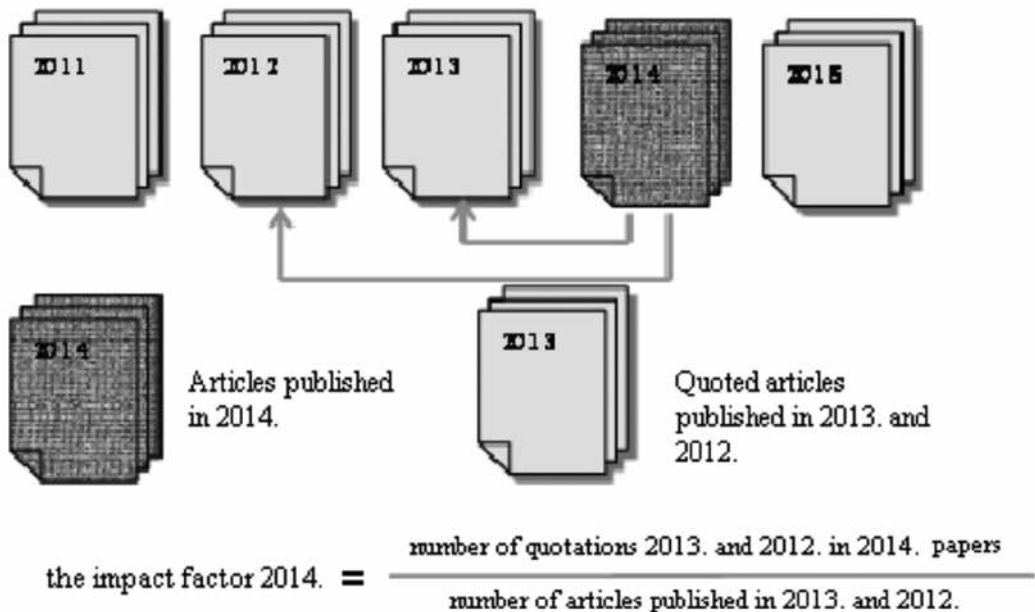
tial elements of bibliometrics, the most important indicators and methods of evaluation of scientific production. According to the document, bibliometric analyses include counting papers according to the state, institution and author; counting citations with an aim to measure the impact of published papers by a particular scientific community, and their authors aimed at of measuring the production and impact of individuals; counting quotation where two or more authors are quoted together in one article. All of these techniques have to be combined in order to have a more detailed and effective metric. Results of scientific paper are mostly evaluated using bibliometric indicators of publication activity, citation impact, scientific cooperation, etc. The most important bibliography tool is the analysis of citations recorded in databases. Bibliographic databases collect and process, i.e., index bibliographic records of a published document: an article published in a journal, a presentation at a conference or congress, an official publication, a thesis, etc. Quotation databases add data on the citation to the bibliographic records, based on the assumption that the number of citations shows the size of the impact of the results of the published scientific studies.

A necessary condition for measurement is the existence of database of an appropriate scope and quality from which one can get the exact number of citations of scientific papers. Today there are different citation indexes: the commercial and non-commercial, international and national, multidisciplinary as well as those developed for a single discipline.

For the Croatian scientific production the most important and generally accepted bibliographic and citation databases are Thomson Reuters's "Web of Science Core Collection" (WoSCC) and Elsevier's "Scopus". Internet database search engine "Google Scholar" is unjustly neglected although their conceptual and software solutions for the metrics slowly take precedence in terms of usefulness for the scientific community.

The most important bibliometrics indicator according to Jokic (Jokic, 2005: 87) is known as the impact factor. The impact factor shows the level of impact of individual articles published in a given journal. The impact factor, according to Macan (Macan, 2014), allows the determination of the importance of magazine journal by ranking it according to the number of articles published and their citation. It is calculated (Figure 1) as the ratio of the number of citations which papers published over the last two years have received and the number of papers pub-

Figure 1 Calculation of Impact Factor



Source: Author

lished in the last two years (Garfield, 1996). It represents expected average of citations of articles published in the relevant journal. According to Briski, the impact factor should help with "... determining the quality of a journal, rather than the quality of a scientific article" (Briski, 2014: 191). Impact factor is published in the Thomson Reuters database Journal Citation Reports (JCR), based on data on citations from journals which are continuously processed by citation database Web of Science Core Collection (WoSCC).

In recent years, two new executive bibliometrics indicators have emerged: SCImago Journal Rank (SJR) and Source Normalized Impact per Paper (SNIP). They are calculated from the data on paper citations in Scopus database. Data from Scopus, as well as calculations of bibliometric indicators such as SCImago Journal Rank (SJR), Source Normalized Impact per Paper (SNIP), H-index and others are published by the group SCImago free of charge and are public<sup>12</sup>.

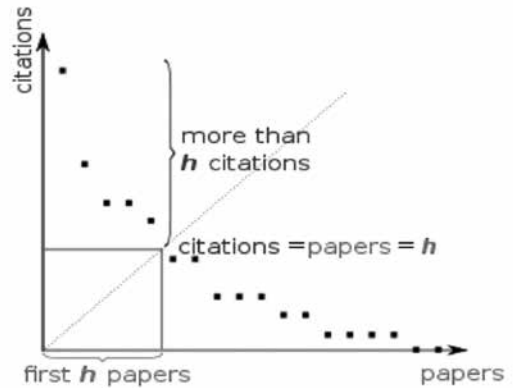
SCImago Journal Rank (SJR) is what the impact factor is in the Scopus database. According to Macan, SJR indicator is calculated on the basis of quotations that published research papers receive, just like the popular impact factor. The difference between the two is that in the case of impact factor all quotations are considered equally important, whereas for the calculation of SJR more importance is given to the citations coming from a journal that has a higher SJR factor (Macan, 2008: 262).

Source Normalized Impact per Paper (SNIP)<sup>13</sup> is also calculated on the basis of quotation data available in Scopus database, where one can find SNIP values of individual journals. SNIP is calculated as the ratio of the number of citations of an average paper published in a journal and citation potential of the field covered by that journal. This indicator is important because it takes into consideration the nature of the research fields of a journal.

Hirsh index or H-index (named after physicist J. E. Hirsch) is a relatively new indicator for the evaluation of scientific work and journals that connects the productivity and influence of scientists (Mitrović, 2013: 133). It is defined as a number that indicates the number of papers a scientist has published that were cited at least "n" times. The value of the indicator (Figure 2) depends on the number of publications and the number of citations of each of these publications, regardless of the impact factor of the

journal in which they were published. The calculation takes into account only those papers that were cited at least once. H-index is an indication of the constancy of acceptance of papers published in a journal, papers of a scientist, or an institution in a scientific community (Macan, 2013).

Figure 2 Hirsh index or H-index



Source: Macan (2013), Available at: <http://fulir.irb.hr/549/> (Accessed on: September 18, 2015)

It is included in the citation database Scopus, and is focused primarily on the evaluation of scientists. H-index of journals included in the Scopus database is available on the portal SciImago Journal & Country Rank for one or more years. It is calculated in the same manner as for individual scientists. Google Scholar has started to publish a "Google Scholar Metric"; i.e. tools (h5-index, h5-average) which support scientific productivity metrics, and more recently various comparative analyses of citations in these databases have been published. H5-index is used for articles published during the last 5 years, and h5-average for publications represents an average number of citations of articles that make up its the h5-index<sup>14</sup>. H-index of journals depends on the length of publishing a journal and the impact of articles published in it. It is not a good indicator for new magazines.

These indicators are widely used, but there are many others that reflect different aspects relevant to the evaluation of scientific productivity.

Lately, the evaluation of scientific productivity is primarily based on the quantitative bibliometric in-



dicators. These powerful tools can only be used by a competent analyst who knows the pros and cons of bibliometrics, taking into account certain limitations of quantitative analysis. The following text will highlight the factors that must be taken into account when using metric indicators. These factors are the result of the author's empirical analyses conducted in the period from 2013 to the present, i.e. the writing of this paper on evaluation procedures of scientific productivity in academic libraries as well as discussions of people involved in the process of scientific production and its evaluation.

- The indicator values depend on the scope of the data included in the appropriate databases from which they were calculated, and the data used for calculation of the impact of a journal are neither transparent nor publicly available. Impact factor and h-index have different values for the same journals or scientists if they are calculated using Web of Science and Scopus databases. There may also be errors in entering data in the citation indexes. Therefore, it is necessary to enter the source, i.e. the database from which the indicator was calculated.
- The evaluation of publications using impact factor of a journal in which they were published is not a true indication of their citation, or influence, because any a paper can receive be more or fewer quotations than a given magazine average.
- The connection between the cited paper and observed paper does not have to objectively exist because often there are, so called, negative quotes in which the authors mistakenly quote paper, which cannot be excluded from the count.
- There is evidence in scientific circles of the existence of editorial policies and informal groups that manipulate the citation practice. There are many self-citations and co-citations that can affect the overall increase in the number of citations, so the recommendation is to exclude self-citations from the calculation.

In the last few years, scientists have been drawing the attention to the shortcomings of evaluation of scientific productivity using bibliometrics. The success of bibliometric evaluation depends on the national strategic policies, legislative regulations defining the relevant databases and bibliometric indicators, and their expected value for the different fields of science. "Most scientists dealing with the evaluation of scientific work tend to use both

a reasonable interpretation of bibliometric indicators and peer review as an optimal solution" (Jokic, 2005: 14).

In 2013, the San Francisco Declaration on Research Assessment (DORA)<sup>15</sup> was published as a response to the shortcomings of bibliometric evaluation and a call to put less emphasis on the importance of bibliometric analysis. It invited university institutions and individual scientists to reduce their reliance on journal metrics in deciding on the scientific and teaching advancement of individuals, and the criteria for the funding of science. DORA invited members of the scientific community to reformulate their definition of quality research. The most important criterion for evaluating a scientific paper should be the quality and content of the paper, not the place, or the journal in which the article was published. In this way, the evaluation of the reviewed paper quality becomes a topic of primary concern. DORA has called on everyone involved to find new impact indicators based on the characteristics and capabilities of online publications which has led to the gradual introduction of altmetrics (Bladek, 2013: 194).

### ***6. The new academic libraries competency profile***

Competency profile of academic libraries can be defined as a set of necessary knowledge, business skills and abilities required to perform tasks and business processes in the library as part of the institution to which they belong. Thoroughly defined competencies are the basis for further elaboration and changing of librarian competency profile which remains open to change and subject to constant innovation in accordance with the requirements of the community, users and library profession. Neither in Croatia, nor anywhere else is there an exhaustive definition of competencies for university librarians, but there are numerous studies and experiential knowledge of what their role should be.

The traditional library role (Stojanovski, 2010) is to collect, organize, classify, store, provide access to the material and make it available to users. This requires the following traditional knowledge base: the knowledge of the laws, ordinances, standards and other regulations; the knowledge of material processing (cataloguing, classification, subject

analysis, indexing); computer literacy; the knowledge and skills related to the acquisition, gathering, organizing, management and use of the collections; the use, organization, research, and evaluation of information sources; the application and development of bibliographic records; the knowledge of technology for the protection and storage of materials; the knowledge of foreign languages.

More recent requirements pertain to the following knowledge and skills base such as drafting regulations and manuals; organization and team management; marketing and promotional activities; strategic and operational planning; periodic reporting; the knowledge of the theory of science and the application of research methods; the understanding of intellectual property and copyrights, and application of the quality system.

Most recent requirements include teaching and scientific research participation; knowledge, skills required for applying and managing a project, establishing and maintaining institutional repositories; active involvement in the work of an institution through governing bodies; digitalization of materials; building and management of digital collections; metadata creation; creating and maintaining Web sites.

The new competency profile for academic libraries must include the knowledge of bibliometrics, scientometrics and altmetrics as well as the knowledge of scientific communication. A prerequisite for the acquisition of these competencies is the possession of appropriate skills and abilities for continuous acquisition of new knowledge. The so-called soft/life skills such as emotional intelligence, stress management, self-awareness, intellectual curiosity, innovation, and creativity have come into focus relatively recently.

The establishment of a new academic library competency profile, according to Macan, will respond to the needs of scientific and educational communities and users by establishing new library services (Macan, 2013) which may include:

- collecting data on scientific publications according to the affiliation to parent institutions for the purpose of multi-year funding of science,
- continuously monitoring of publishing activities by the parent institution, tracking publications of researchers and teachers at the home institution as well as the authors affiliated with the institution,

- establishment of institutional repositories which will keep all publications of the institutions at one place,
- issuing the certificates on indexing and citation in databases,
- issuing the certificates on metric indicators on journals (IF, SJR, SNIP, h-index),
- on-demand bibliometric analyses,
- analysis of scientific productivity of an institution,
- relevant training and advisory services.

Today academic libraries predominantly take part in the evaluation of scientific productivity of the institutions, or the re-accreditation of the institutions; issue indexation and citation certificates, and perform bibliometric and citation analysis. Sometimes they also issue certificates on metric indicators of a journal. What is the real contribution of academic libraries in the evaluation of scientific production and which services related to the new requirements of scientists they provide depends on the willingness of individual libraries and librarians to further their education, as well as the requirements of the parent institution. Libraries have started to assume the role of publishers, and some have been participated in the publishing of the home institution journal. Recently, many librarians have been actively involved in setting up, organizing and running institutional repositories through DABAR project.

The academic library must recognize the necessity of mastering the skills required for tracking scientific publications, searching databases, and the interpretation of the received data. Any academic library dedicated to meeting the needs of its customers can respond to the new requirements of the scientific community by raising the level of required competencies through continuous education and lifelong learning of its employees.

## 7. Conclusion

The best way to assess the scientific production is qualitative assessment in the form of a review. Bibliometrics provides information about the national scientific production, the production of a particular scientific institution, the ranking of scientific institutions and thus allows their comparison (within the relevant field of science) with the highest pro-

duction, the types of publications in which scientists publish, the most valued scientific journals, and the most cited scientists. Furthermore, it indicates the level of cooperation between scientists and institutions. In many countries, including Croatia, science and research policy is aimed at increasing the visibility of national science on the international level by indexing in the relevant databases, with an emphasis on the evaluation of papers published in journals indexed in a specific secondary database (WOS, Scopus) as opposed to those published in the less-known or non-indexed publications. Therefore, authors are pressured to publish papers in journals that are included in those databases, and the editorial boards are trying to index their journals in databases that have been highlighted as the most important by the national institutions and agencies for science. It should be noted that the generally accepted and most important criterion for evaluating the scientific contribution of an individual author is a relevant number of independently cited papers. In Croatia, the criteria for evaluation have been increasingly focused on qualitative criteria taking into consideration the impact factor, the individual contribution factor, being published by internationally recognized scientific books publisher, taking into account patents and projects. An increasingly frequent topic of discussion are the new opportunities provided by altmetrics that are freely accessible on the Internet, i.e. counting downloads or visits, and number of shares on social networks (Facebook, Twitter), the number of citations, bookmarks, comments on social networks and public reviews.

In a higher education institution, bibliometrics was mainly used for making decisions during the acquisition and organization of library holdings. The impact factor was initially conceived so that libraries could rank magazines to which they would subscribe. Recently bibliometrics has become important to scientists, teachers, and parent institution management and therefore must be important to libraries too. It is most commonly used to assess the scientific contribution of a researcher or a university teacher for the purpose of their appointing to the relevant posts, making professional advancement decisions, and in competitions for project funding. Furthermore, it is used in the process of calculating the institution productivity for the purposes of multi-annual institutional funding, re-accreditation of the scientific institution and for other similar purposes.

The role of academic libraries has been changing so as to meet the new requirements of customers. Libraries have adopted new technologies; they cooperate with the scientists themselves; provide assistance with the decision where and how to publish a paper. Library and Information Science is a unique scientific discipline that provides the librarians with competencies for understanding scientific publications. Librarians have the knowledge and skills needed to search different databases; they have the experience of working with bibliographic metadata, and through information management they have become participants in the scientific communication.

Although there is no systematic inclusion of libraries in the process of evaluation of a scientific paper, some academic libraries have been proactive, offering their customers new services on their own initiative. They are included in all stages of the creation, distribution and use of knowledge; they cooperate with scientists and teachers in the parent institution. They knowingly take on great responsibility given the presented disadvantages of quantitative indicators which should not be the sole factor in the evaluation of scientific production. It can be concluded that Croatian academic libraries have the staff that should be ready to adopt new competencies required for the evaluation of scientific production, but also that acquiring new competencies of an academic librarian is a process that not only takes a whole working life, but a lifetime. Thus, lifelong learning to acquire new competencies implies continuous development necessary for a successful transition to a knowledge-based society.

Learning about the complexity of this issue leads to the conclusion that there is a need to rethink the strategies and legal frameworks for defining scientific policies and build a national system of scientific information. It is possible to establish a national centre for bibliometric research by involving experts in the field of library and information science, and by appropriate certification of librarians who would become experts with formal authority for the evaluation of scientific productivity.

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*Jasminka Mihaljević*

## **NOVI KOMPETENCIJSKI PROFIL VISOKOŠKOLSKIH KNJIŽNICA U FUNKCIJI EVALUACIJE ZNANSTVENE PRODUKTIVNOSTI**

### **SAŽETAK**

U radu se polazi od definicije kompetencije te kompetencija knjižničara zaposlenih u visokoškolskim knjižnicama. Zahtjevi znanstvene zajednice su dinamička kategorija, idu u smjeru postizanja društva znanja pa se prema tome mijenjaju i usavršavaju metode za vrednovanje njezine učinkovitosti. Mjerenje i ocjenjivanje ukupnoga znanstvenoga stvaralaštva izuzetno je zahtjevan posao, koji moraju odraditi kompetentni stručnjaci. Rad informira o kvalitativnim i kvantitativnim: bibliometrijskim, sciometrijskim, altmetrijskim i drugim metodama koje se mogu koristiti za evaluaciju znanstvene produkcije. U radu se predstavlja i obrazlaže novi kompetencijski profil koji znanstvena zajednica, kao korisnik usluga, traži od visokoškolske knjižnice, a posebna se pozornost posvećuje mogućoj ulozi i mjestu knjižnice u evaluaciji znanstvene produktivnosti. Rad je oblikovan s ciljem pružanja obavijesti o novim kompetencijama koje knjižnica mora imati ukoliko se uključi u pružanje različitih metričkih usluga. U tom smislu navode se mogućnosti visokoškolske knjižnice kao partnera u mjerenju i povećanju znanstvene produktivnosti. Obrazlaže se prilagodba visokoškolske knjižnice novoj ulozi i odgovara na pitanje u kojemu se smjeru treba kretati obrazovanje knjižničara kako bi se ostvarilo ovo partnerstvo.

**Ključne riječi:** bibliometrija, kompetencije knjižničara, visokoškolske knjižnice, vrednovanje znanstvene produktivnosti





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# **HEDGING AS A BUSINESS RISK PROTECTION INSTRUMENT**

## **ABSTRACT**

This paper deals with hedging which is one of the trading techniques in the futures markets and with the role of hedging as a protecting strategy. Indirectly, hedging affects the competitiveness of a company by reducing overall operating expenses and increasing the level of competitiveness at the same time.

The theoretical fundamentals of the hedging strategy are explained, followed by a survey on relevant theoretical findings and research on hedging and its importance in contemporary economic life. Basic types of risk in firms are clearly described, as well as principal hedging models which are in accordance with the International Financial Reporting Standards.

Finally, the paper deals with the financial aspects of hedging, stressing the role and the importance of the principle of the financial leverage.

**Keywords:** Hedging, protection, risk, cash flow, efficiency

## **1. Introduction**

Business experience of a large number of Croatian companies reveals the problem of instability and vulnerability with respect to disproportion of foreign exchange rates and volatility of the prices on commodities exchanges. The problem affects almost all of the industries, including tourism, ship building, oil industry as well as confectionary producers – i.e. all of the industries in which the period between contracting, realisation and payment for a specific job is relatively long.

In the context of the growing impact of the mentioned problem and bearing in mind the vital role which futures play in the global economy, there are no formal obstacles preventing Croatian companies from becoming more intensively involved in those markets. The instrument which is specifically being referred to here is hedging. This is a strategy for the prevention of rapid and unpredictable events and price fluctuations on the markets, including prices of oil, steel, freight space, foreign currencies, securities, etc.

The Croatian economy is primarily characterised as weak and open, which makes it extremely exposed to risks in the environment of a globalised economy.

With respect to these characteristics of the Croatian economy and the stated priorities of the economic policies, hedging has been recognised as one of the risk protection tools.

Finally, taking into account a relatively low level of awareness of the trading techniques and strategies on the futures market, which includes hedging, and the confusion with respect to the terminology which seems to exist in the Croatian professional literature, the term hedging itself should also be addressed, since the word *hedging* and the related terms shall be used throughout this paper.

The English word *hedging* is a noun derived from the transitional verb *to hedge*, which means to protect, to fend off. When used as a noun, *hedge* refers to a fence, a means of protection.

When used as a technical term, *hedging* refers to the action by which we protect ourselves against financial loss, i.e. selling or buying futures agreements on the exchange to protect oneself from an unpredictable decline or soaring of prices of certain commodities on global markets, i.e. to reduce the risk and protect oneself against financial loss.

In Croatian professional literature, the word is used in its original English form, as well as in the Croatian-adjusted form of '*hedžing*'. The Croatian version of the word, '*živičarenje*', has been coined but it has not been widely accepted.

However, the words *hedging* and *hedge*, in their original form, should be given preference over the two other possible terms for at least three reasons:

- a lack of an adequate Croatian term, in the grammatical and semantic sense
- if a foreign word is used, it is more acceptable to use the term in its original form, especially if the word is technical. There are numerous technical terms used in different professions which have been directly adopted from a foreign language, mostly English, some of which are used in their original spelling and some have been adapted to the norms of the Croatian language. However, the adaptation of the words has not always been very successful.

- translation of technical terms could lead to confusion and misinterpretations. This is the very reason why medical science still uses Latin terms.

The aim of this paper is to address the advantages and the indispensability of hedging as one of the risk protection methods, and the goal is to raise the awareness of hedging and propose its comprehensive use by Croatian companies.

The main assumption of the paper is that hedging, with all of its limitations, is one of the most reliable ways of protecting cash flow and the financial operations of the company as such, from the losses incurred as a result of the fluctuations in prices on global markets.

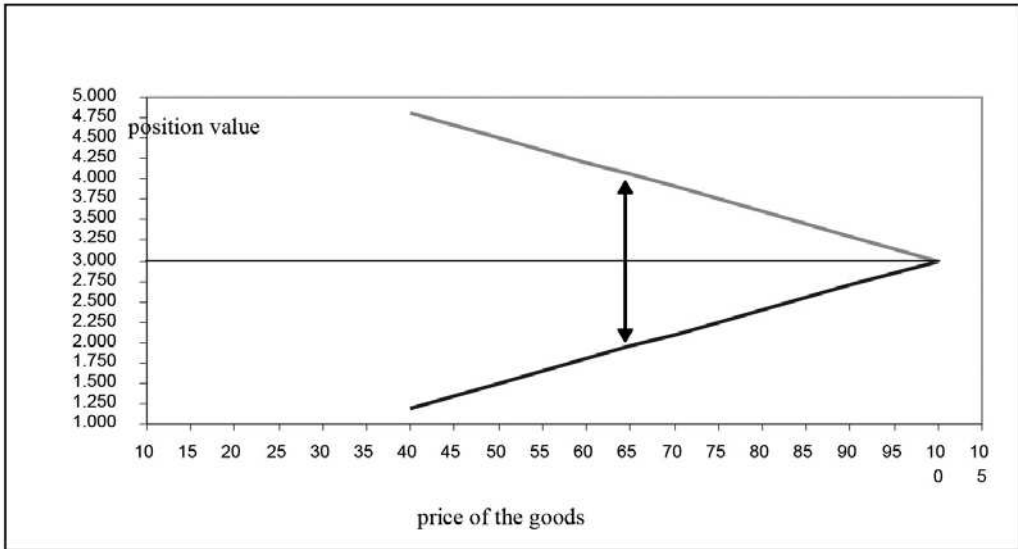
## 2. The theoretical background of hedging

Hedging, as one of the trading strategies on futures markets, is in its fundamental form a procedure aimed at covering, i.e. protecting against risks related to price fluctuations which can very negatively affect the entire financial operation of a company.

To protect against a sudden change in prices – a risk which is always present in any spot position – hedgers simultaneously assume an opposite position on the futures market. That position is of an equal value, but of an opposite position (offsetting). The purpose of hedging is to avoid negative consequence, and not to make a profit (except in the case of speculative hedging), so the final result of hedging amounts to approximately zero. However, the costs of hedging should be counted in, the so-called transaction costs, which include:

- margin costs
- potential margin maintenance costs
- brokerage fee
- opportunity cost of the funds invested in the margin

Figure 1 Simultaneous taking of opposite positions - offset



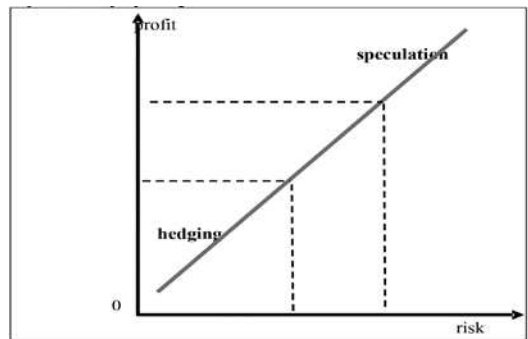
Source: Author

As it is clearly shown in Figure 1, profits and losses in any position on the futures and spot markets will be cancelled out, so that the final result will be neutral, i.e. approximately zero. A successful employment of these instruments can significantly reduce the exposure to typical business risks. However, insufficient understanding of the basic rules of trade or a desire for a quick profit can quickly lead to bankruptcy of any company. One of the best-known examples of a misuse of futures trade is the British Barings Bank, which collapsed in 1995 as a result of uncontrolled futures trading (Dixon, Bhandari, 1997).

This example illustrates that every organisation, depending on its specific activities, must have a detailed and elaborate policy and purpose for trading on the futures market as well as the mechanisms for monitoring the implementation of such a policy.

It is important to stress that hedging, in the original sense of the term, is exclusively aimed at reducing the risk, whereas the possibility of making a profit is only secondary, as opposed to speculation, a strategy based on completely different assumptions, as clearly illustrated in the image above (Figure 2).

Figure 2 Hedging vs. speculation



Source: Author

### 3. Types of risk in companies

Companies doing business abroad, which is the majority of modern businesses, are exposed to different types of risks. In addition to the political risk, the risks generally concern the foreign exchange rate fluctuation and the fluctuation of the prices of commodities and services.

This can generally be described as the difference between the spot and futures prices, i.e. the current market prices and the prices at a specific future date.

Taking into account all of the above, three specific types of risk exposure may be identified (Van Horne, 1993)

- a. Translation exposure
- b. Transaction exposure
- c. Economic exposure.

Translation exposure refers to the change in accounting income and balance sheet statements caused by changes in exchange rates.

Transaction exposure relates to settling particular transactions, while economic risk exposure involves (negative) changes in expected and planned future cash flows of a company, and hence its economic value, which is probably the most important risk of all of the above.

There are multiple ways and paths for managing risk exposure to a larger or a smaller degree: regular insurance, swaps, diversification of business activities and the investment portfolio, futures contracts and forward contracts.

### 3.1 Hedge accounting under IFRS (International Financial Reporting Standards)

International Financial Reporting Standards (IFRS) (Available at: [www.iasplus.com/en/standards/ifrs](http://www.iasplus.com/en/standards/ifrs)) generally treat the hedge accounting methods in connection with options operations and other different derivatives. Since the options trade is still at its early phase in Croatia, as well as hedging and other futures markets trading strategies, only the basic principles laid down in the IFRS shall be presented here: In hedge accounting, all types of derivatives must be recorded according to their fair value. There are three types of hedging relationships:

1. fair value hedges
2. cash flow hedges
3. hedges of net investments in foreign operations.

Hedge effectiveness method should also be added to the above list.

### 3.2 Fair value hedges

Generally, fair value, as defined and used in the theory and practice of finances, is a method for the assessment of the value of something that does not have a defined and widely-known market price, in accordance with the standard methods acceptable to both parties included in the sales and purchase transaction.

In mathematical terms, this definition can be expressed as follows:

$$\text{Fair Value (FV)} = f(\partial; \text{ROI}; t) \quad (1)$$

Where: -  $\partial$  = risk factor  
- ROI = return on investment  
- t = time

### 3.3 Company's cash flow hedges

Company's cash flow hedges are one of the most common business goals of hedging in practice. These hedges are used in two basic hedging methods.

#### 3.3.1 Cash flow hedges

Cash flow hedges protect against the exposure to fluctuations which:

- can be ascribed to a certain risk related to an instrument or obligation, or to a highly likely external factor which is difficult to predict;
- could affect the published Profit and Loss Statement.

The part of the profit or the loss related to the hedge which was designated as the hedging instrument (e.g. derivative) is recognised as a reserve component of the equity. Any ineffective part of the fluctuation of the hedge instrument's fair value is immediately registered in the P&L.

The ineffective part includes the specific components excluded (as specified in the risk management strategy) from the hedge effectiveness testing (e.g. time value of options). Other common sources of cash flow hedge ineffectiveness include: structured

features of a derivative built into the hedging instrument, changes in the designated time for the highly likely transaction, and differences in underlying of the hedged item and the hedging instrument. In the case of ineffectiveness, the profit and loss amount of the hedging instrument that can be accumulated in the hedge reserve is limited either to the lower of the cumulative change of the cumulative gain or loss on the hedging instrument or the cumulative change in fair value of the hedged item.

The part of the profit or loss on the hedging instrument (e.g. derivative) which has been designated as an effective hedge is directly recognised in the separate equity reserve. Any ineffective part of the fluctuation of the hedge instrument's fair value is immediately registered in the P&L.

### 3.3.2 Hedge of net investments in foreign operations

Net investment hedge or the hedges of net investments in foreign operations are a protection against the foreign currency risk exposure due to the entity's interest in net funds in a foreign operation. Hedging instrument can either be a derivative or non-derivative (a loan expressed in the same currency as the net investment). The figure below shows the accounting treatment of the hedges of net investments in foreign operations.

The effective part of the profit or loss on the hedging instrument is recognised in the equity. Since the future foreign exchange differences occurring in relation to the net investment are also recognised in the equity, it is important to ensure that the foreign exchange differences are matching. Profit or loss in connection with the ineffective part of the hedge is immediately recognized in the P&L.

## 4. Hedging and financial leverage

Leverage refers to the use of a loan, i.e. borrowed funds in financing business operations of an entity. The leverage rule basically states that the borrowing is justified if the resulting generated income exceeds the cost of borrowing.

The financial leverage principle is simply demonstrated in the equation below (Jurković, 1984):

$$F = rV + (r - k)T \quad (2)$$

Where:

F = financial result of a business transaction (profit);

V = own funds share;

T = borrowed funds share;

r = gross return rate;

k = cost of borrowing.

If both sides of the equation are divided by V, the result is:

$$\frac{F}{V} = r + \frac{T}{V(r - k)} \quad (3)$$

In the above equation, rv refers to the return on own funds (equity), i.e. the net return rate.

Providing that the other parameters are fixed, the return on equity increases proportionally with the increase of the leverage, i.e. an increased degree of borrowing.

This is also shown in the table below (Table 1; Figure 3).

The application of the financial leverage is used daily as a result of the margin system employed on the futures markets. The system is simply illustrated in the following example<sup>1</sup>.

Let us assume that, on 1 March, an investor purchased (entered a short position) 100 July oat futures contracts at the price of \$1.71 per bushel on a futures market. Further, let us assume that on the next day, 2 March, the price decreased to \$1.68 per bushel, leading to a loss of 3c per bushel. Since each contract was for 5,000 bushels, the total value of the purchased contracts was 500,000 bushels, i.e. the nominal investment was \$855,000. In accordance with the futures market rules, the investor was obliged to pay 5% on top of the initial margin (depending on the daily fluctuations in oat prices on the commodities exchange) for the amount, i.e. \$42,750.

**Table 1** Portions of borrowed (T), own funds (V) and return (rv)

T/V	T %	V %	rv %
/	100	0	/
19.00	95.00	5.00	46.00
9.00	90.00	10.00	26.00
5.67	85.00	15.00	19.33
4.00	80.00	20.00	16.00
3.00	75.00	25.00	14.00
2.33	70.00	30.00	12.67
1.86	65.00	35.00	11.71
1.50	60.00	40.00	11.00
1.22	55.00	45.00	10.44
1.00	50.00	50.00	10.00
0.82	45.00	55.00	9.64
0.67	40.00	60.00	9.34
0.54	35.00	65.00	9.08
0.43	30.00	70.00	8.86
0.33	25.00	75.00	8.66
0.25	20.00	80.00	8.50
0.18	15.00	85.00	8.36
0.11	10.00	90.00	8.22
0.05	5.00	95.00	8.20
0.00	0.00	100.00	8.00

Source: Author

After the exchange was closed, the loss of \$15,000 will be deducted from the deposited margin and the investor will receive a margin call – a call from a broker to pay another \$4,313 to reach the allowed maintenance margin, which generally amounts to 75% of the initial margin and which is \$32,036 in the given example.

The margin – the deposited funds used to cover the corrections of the daily fluctuations of the contract's value – remains in the possession of the investor, who is, with the 5% of the total investment value (contract value), in absolute control of the entire value of the contract, from the moment of the purchase to the realisation of the contract.

The price of oat grew continuously from that date onwards. Let us assume that, after three months of the market price growth, the investor liquidated the contracts (entered a short position) at the price of \$1.82 per bushel on the futures market and simultaneously purchased an adequate amount of oat on the spot market.

If we exclude the hedging effects in this example, the financial transaction can be shown as presented in the following table (Table 2).

We can now apply the abovementioned equation for the calculation of the return on own funds (no 3). In this case  $k=0$ , since no funds have been borrowed (opportunity cost is not counted in). The gross ROI for the transaction is  $r=4.428\%$ . This means that the return on own funds (rv) is calculated as follows:

$$r = 4.428\%$$

$$T/V = 48.88$$

$$k = 0$$

$$rv = 220.92\%$$

Since the ratio between own and borrowed funds is approximately 2%:98%, where the borrowed funds do not exist – they are only fictional, the return on own funds must be this high, as indicated in Figure 3.

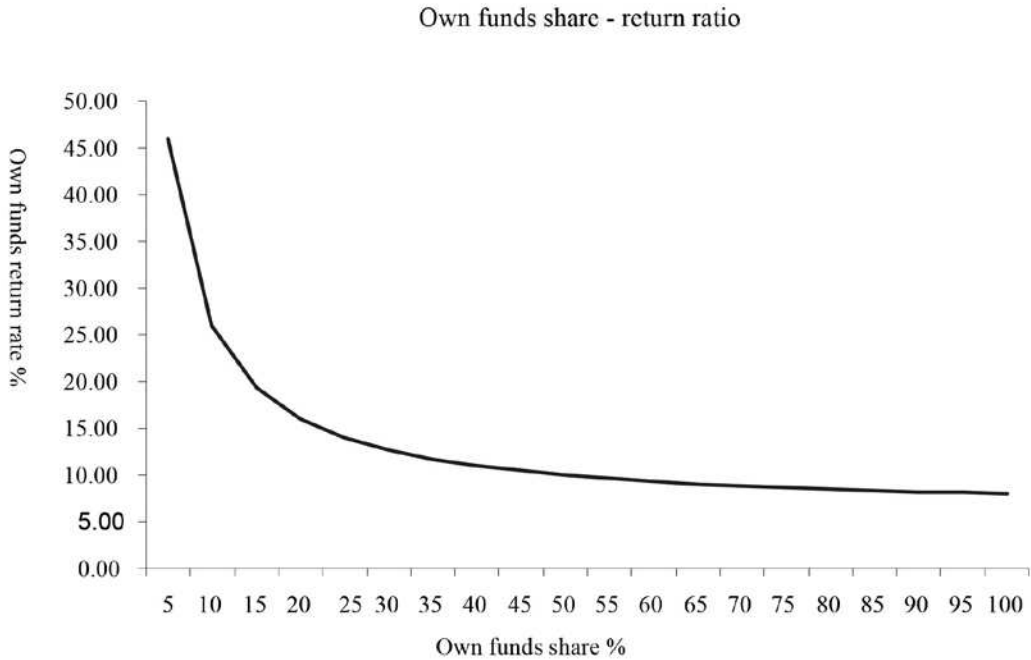
Hedging strategy does not only serve the primary purpose of risk exposure protection, but, as a result of the margin system, it can also be used to control and manage very large amounts with relatively small investment and transaction costs, as illustrated in the above example.<sup>2</sup>

## 5. Whether to hedge or not?

An overview of the relevant literature on the topic of hedging, futures trade and other related topics reveals that the number of papers published abroad, especially in the English-speaking countries, is immeasurably larger than of those published on Croatia. This does not come as a surprise, considering the fact that Croatian economics experts only recently became familiar with the futures markets, hedging, risk exposure protection, etc., and the business sector is only slowly and very cautiously entering these domains.



Figure 3 Own funds share - return ratio



Source: Author

Table 2 Overview of financial transactions on the futures market

No.	Activity	Amount (\$)
1.	Entering a long position	855,000
2.	Initial margin payment	42,750
3.	Maintenance margin cost	32,063
4.	Margin call	4,313
5.	Total commission	12,825
6.	Entering a short position	910,000
7.	Transaction result (on the futures market)	55,000
8.	Difference - investment (invested own funds)	17,138
9.	Maintenance margin repayment	32,063
10.	Final result of transactions (on the futures market)	37,862

Source: Author

The first major foreign literature books appeared in the early 1970s, and a proliferation of the publications in this field occurred in the early 1990s. It is interesting to note that the investor's "Bible", the famous book by B. Graham "The Intelligent Investor", first published in the late 1940s, almost completely neglects hedging as a risk exposure protection mechanism and a very important phenomenon in investing and business. Graham's advice on risk reduction is conservative. The author suggests that the risk can be managed by the decision on how much the entity will invest in shares, diversification and re-balancing. (Graham, 2006) The more recent books addressing the topics of portfolio strategies, hedging, securities, risk reduction, etc. express a relatively sceptical view of derivatives, since they were written when derivatives and financial markets were in their early phases, whereas the most recent publications advocate a much more positive approach to these instruments.

A major development and expansion of futures markets in the 1980s, and the 1990s in particular, led to a boom in publications relying exclusively on mathematical equations and relations to forecast the future of business and reduce the risk to an acceptable minimum level (R. Stultz, C. Smith, J. Cvitanic, J. Kearney, etc.).

Such an approach is understandable, since this was the period of the "golden age" of the application of mathematics on market and business analysis. At that time it was popular for the financial and brokerage firms (Merill Lynch, A. Andersson, Goldman & Sachs) to hire mathematicians and astrophysicist (sic!) to analyse financial markets. This naturally led to the generation of numerous mathematical forecasting and determination models, which were considered highly reliable and, yet, which proved to be more or less unsuccessful. The statement which J. K. Galbraith made while referring to Irving Fisher in the book "The Age of Uncertainty" seems to have been justified. He wrote that "the mathematical economics has so far not enabled us to fully grasp economics, but we have to credit it with one thing: it does provide numerous economists with an opportunity to do something." (Galbraith, 1982) This, somewhat sarcastic remark, can be supported by the fact that some of the most famous losers in the exchange business were I. Fisher and many years before that Sir Isaac Newton.

In the paper „Hedging in the Theory of Corporate Finance: A Reply to our Critics”, published in 1995,

Merton Miller and his colleague Christopher Culp from the University of Chicago (Journal of Applied Corporate Finance, 1995) suggested that the majority of companies which maximise their value do not use hedging. This statement was supported by the example of the company Metallgesellschaft, whose value decreased after an oil price hedging collapse<sup>3</sup>, as an immediate result of a poorly chosen hedging strategy.

A study conducted by Chase Manhattan Bank and Wharton School in 1995 (The Economist, 1996) reiterated the thesis that the majority of companies that use derivatives do so in order to hedge.

The study showed that 75% of the companies which used derivatives (about 1/3 of the sample) did so to hedge their cash flow, 40% of the subjects occasionally used derivatives to assess the trends on a particular market, and only 8% of the subjects used that strategy often.

To justify derivatives speculation, managers must have solid grounds on which they base the assumption that they can outsmart the companies whose main activity is derivative trade. The companies trading with commodities, such as oil, cereal, etc., and which hedge in order to protect their cash flow definitely have a strong reason to hedge and they might even make some profit in that way. However, non-financial companies that "bet" on interest rate or exchange rate, even though they might occasionally make some profit, usually do not make any significant income in that way.

The question crops up: Why is hedging sometimes the wrong choice?

In the famous M&M theorem from 1950, the future Nobel Prize laureates M. Miller and F. Modigliani demonstrated that a company can only make money if it makes profitable and high-quality investments which constantly increase the company's cash-flow. The methods and the sources of such financing are irrelevant, according to the authors. Whether the business is financed by shares, bonds, bank loan or in any other way is relevant only in the context of the subsequent profit distribution. If this is correct, it can have major ramifications on hedging. If the financing methods and the type of financing risk are of minor importance, why do we even address them? The employment of derivatives to hedge is then useless since it does not increase the company's value (!), just the opposite: since derivatives (and hedging) involve a cost, they increase

the liabilities and thus decrease the overall value of the company. Consequently, companies should not worry about the financial risks; they should leave that to investors, who should diversify the investment portfolio.

Naturally, these arguments faced a large number of opponents, who partially or fully rejected Modigliani-Miller attitudes and theses. The majority of them challenged the thesis on the questionable role of hedging and its potentially harming effect on the company's value arguing that hedging can even increase the value. The main reasons for that are growing volatility of global markets and the dispersion of risks, forcing the companies to take a part of the responsibility for the management of the risk, thus preventing potential financial problems or even bankruptcy.

Such attitudes have gained popularity among economists and financial experts from the area of micro economics (Corporate Finance). This is largely due to the paper by three Boston economists, Kenneth Froot, David Scharfstein and Jeremy Stein, entitled: "A Framework for Risk Management", published in 1994 in the *Harvard Business Review*.

This paper showed, without rejecting the M&M theorem, that companies need to hedge in order to protect their cash flows and ensure liquidity and solvency, thus making timely financing of potential investments possible at times when external borrowing (regardless of the kind) is significantly hindered. This paper gains more weight at times of financial crisis of global proportions, such as the current one.

On the example of the American pharmaceutical company Merck (Lewent, Kearny, 1993) it was demonstrated how a combination of derivatives and hedging can be used to reduce operational costs and safe and regular business financing and thus increase the value and competitiveness of the company on the global market. The authors conclude this landmark work with this statement: "...it is our conclusion that, in the pharmaceutical and other industries, the instability and uncertainty of cash flows and profit caused by the currency exchange rate volatility results in reduced investment in research." The ramifications of this effect (of a slowed-down development) on individual companies, and consequently on entire economies, are self-evident.

The three authors from Boston – Froot, Scharfstein and Stein – in the above-mentioned work, warn

that any disturbance in regular cash flows leads to development deceleration or downturn, placing any company in an unfavourable position on the market. For example, a decrease in oil prices causes disturbances in cash flows and profit and loss accounts of some oil companies, which results in significant cuts in the investments in research and development, which in turn are necessary to locate new oil reserves. In this way, the competitiveness of the company and its value are significantly reduced. The authors see cash-flow hedging as an adequate method for escaping, or rather preventing such a situation.

Rene Stulz, a professor of finances at the Ohio State University proposes two strong arguments in favour of hedging (Stulz, 1995):

- securing the cash flow of a company, enabling stable operations and development
- reducing the taxable income in case of the companies whose profit regularly varies between tax brackets.

Professor Stulz further elaborates these arguments in his paper (Stulz, Smith, 1985), claiming that highly geared companies have more reasons to hedge, since they are more exposed to financial risks and since hedging can be used to remove the excess risk and thus increase the firm value.

This statement is, according to the author, supported by the fact that, during the leveraged buyout boom in the 1980s, which involved a company buyout at the expense of borrowing, a simultaneous boom in the employment of hedging and in the firm value took place. However, this was the case on the Anglo-Saxon markets, whereas the "Croatian buyout" occurred about fifteen years later, involving completely different methods and having completely opposite consequences.

However, not all of the experts are unanimous in the assumption that the need for hedging increases with the level of a company's indebtedness, and vice versa. Myron Scholes, who became widely known for his option pricing model, which he developed in tandem with Fischer Black, on the basis of the research which he carried out at Stanford, considers that even the companies with a relatively low indebtedness level should use hedging to reduce risk and create more opportunities for trading on the capital markets, since the use of own financial sources often comes at a higher price than the use of

external sources. Of course, a higher external debt makes the company more vulnerable to risk and, as stated above, more prone to use hedging to protect its cash flows.

The main cause of the higher price of own financial sources refers to the fact that the investors (owners) seek out higher return rates than those granted on securities or on bank loans. Besides, Myron Black, as a true representative of the Chicago School, claims that many companies will, as a result of the risk-reducing hedging and the related borrowing, remain or become predominantly privately owned.

The mentioned famous pricing option model, known as the “Black & Scholes Formula” was first presented in the paper “The Pricing of Options and Corporate Liabilities” (Black, Scholes, 1973), back in 1973, while they were still lecturing at the University of Chicago, MIT.

The model of pricing European put and call options is the following:

$$C_t = \underbrace{S_t \cdot N(d)}_{\text{recommended hedging strategy}} - e^{-r(T-t)} K \cdot N(d - \partial\sqrt{T-t}) \quad (4)$$

Where:

$N(d)$  – number of securities ( $>0$ )

$S_t$  - value of securities

The interesting fact is that the first segment in the equation indicates the portion of securities to be purchased, i.e. suggests the adequate hedging strategy for each investor, in addition to determining the price of the options. The main rationale behind this model is the assumption that there is only one risky amount and one source (cause) of instability or uncertainty, and this allows for the compilation of a portfolio that matches the ROI of the options, and the price of such a portfolio should be equivalent to the price of the option.

In the book “Introduction to the Economics and Mathematics for Financial Markets” (Cvitanić, Zapatero, 2004) J. Cvitanić and F. Zapatero of the California Institute of Technology discuss the Optimal Hedging Ratio, (Cvitanić, 2009) the regression model for hedging effectiveness assessment and the Black and Scholes model in an elaborated, yet highly mathematical, way.

Optimal Hedging Ratio ( $\rho$ ) defines the relation between three parameters:

$$\text{Optimal Hedge Ratio} = \rho \cdot \left( \frac{\partial S}{\partial F} \right) \quad (5)$$

- standard deviation, i.e. volatility of market prices during the hedging period ( $\partial S$ )
- standard deviation, i.e. volatility of derivative prices for the same group of commodities ( $\partial F$ )
- correlation coefficient between market prices and prices of derivatives ( $\rho$ )

The above equation clearly shows that the proportion, i.e. the size of the optimum share to be hedged, grows proportionally with an increase in the correlation between the spot price and the price of derivatives, i.e. future spot prices and the ratio between their standard deviations.

The correlation between hedging in companies and the competitiveness of individual national economies has not been examined yet in a scientific way, since a logical interdependence between the increase/decrease in the competitiveness of a company and an increase/decrease in the competitiveness of the economy is assumed.

Hedging, as a protection strategy, generally speaking, protects a company from excessive business risk, thus reducing business costs and making the company more economical and more competitive.

As for the connection between hedging and firm competitiveness, we would like to refer to a paper by two American scientist – Christine Parlour (University of California) and Tingjun Liu (Arizona State University) – entitled: “Hedging and Competition” (Parlour, Liu, 2008). In the paper, the authors examine the possibilities for direct hedging of cash flow, assuming the purpose of business risk reduction, but simultaneously involving an increase in the risk exposure on financial markets due to the use of hedging (options of different types and categories).

This constitutes another argument in favour the thesis that companies should hedge using the instruments as closely underlying the core business as possible.

The other landmark paper in this field dates back to 2006 and it was written by three American scientists: Tim Adam of the Humboldt University, Sudibto Dasgubta of the University of Hong Kong and

Sheridan Titman of the University of Texas. In their paper "Financial Constraints, Competition and Hedging in Industry"; (Adam, Dasgubta, Titman, 2006) they come to an interesting conclusion that there is no and there can be any homogenous and generally applicable model and principle of hedging. The authors observed that each firm creates a hedging strategy depending on the business results, market share, size, type of activity, the situation on the market, etc.

As in the case of the Optimal Hedge Ratio, which is to be determined by each firm individually and which depends on a number of specific and changeable parameters, hedge effectiveness testing (measuring) is also specific to each firm and it depends on the conditions in which the given firm operates.

The most general and wide-spread hedging effectiveness testing method is regression analysis and its variations (linear, exponential, etc.).

The regression technique for hedge effectiveness testing was probably presented in the most elaborated way in the book "Finance for Strategic Decision-Making" (Narayanan, Nanda, 2007) by M. P. Narayanan and V. K. Nanda of the University of Michigan (Croatian translation). The authors emphasise and explain the role of determination coefficient ( $R^2$ ) in regression analysis of hedge effectiveness. They argue that the coefficient of determination is the best indicator or the protection measure. The coefficient of determination indicates the cash flow deviations which can be ascribed to the volatility of an independent variable. In other words, the higher the determination coefficient, the better is the hedge effectiveness.

An excellent paper on the topic, entitled "Hedge Effectiveness Testing", was published in "Risk Management". The authors of the paper are Ira Kawaller and R.B. Steinberg. (Kawaller, Steinberg 2002) The authors analyse the advantages and disadvantages of regression analysis as a hedge effectiveness testing method, and also claim that the coefficient of determination is the most reliable measure of hedge effectiveness. Likewise, they warn about the need for an individual approach in hedging. The authors also address the dollar offset method, as the simplest method for hedge effectiveness testing and measuring. The method involves a comparison between the changes in derivatives value and the changes in the variations of the dependant variable, i.e. the hedged item. In practice, the term "highly effected" refers to

the effectiveness of 80% to 120%. The major disadvantage of this method is that the set effectiveness criteria are difficult to meet, and the advantage refers to the simplicity of application.

In addition to the mentioned authors, we would also like to mention J. Cvitanić, John C. Hull, and F. J. Fabozzi, who prefer regression analysis, more precisely, the linear regression analysis, for hedge effectiveness testing. The approach by Ronald Ripple of Macquarie University and Imad Moosa of La Trobe University, presented in the paper "Futures Maturity and Hedging Effectiveness - The Case of Oil Futures" (Ripple, Moosa, 2005) is particularly interesting. The paper examines the relations between derivatives delivery date (in this case: futures) used in hedging to protect the company against the risk of an increase/decrease in raw oil prices on the spot market. By comparing the daily and monthly spot and futures market fluctuations, i.e. by measuring their volatility, the authors determined the Optimal Hedge Ratio and came to conclusion that the lower the volatility, the higher is hedging effectiveness; and the volatility is lower when futures with shorter delivery dates are used. In other words: the lower the risk, the more effective is the hedge.

By employing regression analysis in the assessment of the quality of the hedge effect on the protection of cash flows, an indicator of hedging necessity or  $|Z|$  indicator<sup>4</sup> has been defined, which is presented in mathematical terms as follows:

$$Z = R^2 \times \beta \quad (6)$$

Where:

-  $R^2$  = coefficient of determination

-  $\beta$  = coefficient of elasticity ( $E_{y,x} = \beta$ )

This paper would be incomplete if we failed to mention some of the Croatian authors who have been active in the area of futures trade and hedging, as one of the important futures market strategies. The most prominent authors in the field are M. Hanžeković, H. Šimović, S. Orsag, Z. Prohaska and T. Lazibat. The Croatian authors have generally published papers whose goal is to offer an overview of futures trade, the related strategies and their advantages and pitfalls, and present them to the wider public.

## 6. Conclusion

In today's world, both in the political and the economic arena, the level of uncertainty is extremely high. Numerous political, social and other factors affect the prices of various instruments and commodities on the global markets. Hedging is one of the effective and widely used instruments for the protection against such price fluctuations. Hedging has been developed by contemporary brokers and managers as a reaction to a major risk of potential losses. Global trade, liberalisation of almost all world economies and the ever wider trade opportunities at futures markets all gave rise to hedging.

Therefore, the basic role of hedging as a futures market trading technique is to protect against business risk, i.e. a rapid and significant increase/decrease in the prices of commodities or services on the international market.

Generally speaking, risk refers to a possibility and a certain degree of likelihood for the occurrence of an event with adverse effects. Risk is increasingly becoming an integral part of the operation of a company in its technological, commercial, financial and general, business aspect. The degree of risk is quantifiable. The purpose of the risk is therefore to measure and plan. Risk and business performance are therefore negatively correlated.

The fact that business in the highly globalised world is highly risky is indisputable. This trend is expected to continue in the future. It is for that reason that export industries are at an advantage due to their elasticity with respect to internal and external factors.

Therefore, the initial hypothesis stated in the introduction on the usefulness of hedging as a business risk protection method has been confirmed.



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#### **(ENDNOTES)**

- 1 The example adopted and adjusted from: Lazibat T., et al. (2007), *Burzovno poslovanje – terminska trgovina*, Zagreb: Znanstvena knjiga, pp. 11-12.
- 2 It should be noted that the financial leverage principle also applies in the case of a negative transaction result, which can potentially have adverse effects.
- 3 In the early 1990s, the German giant Metallgesellschaft (MG) sold a large amount of fixed long-term oil contracts. The oil prices on spot markets dramatically dropped in the meanwhile and MG had to cover huge amounts due to margin calls on futures markets, losing approximately \$1.4 bn and leading the company into serious financial problems.
- 4 For more details see: Šperanda I. (2013), „The Importance of Sustaining and Improving Company’s Business Success Using Indicator of Hedging Necessity“, Montenegrin Journal of Economics, Vol. 9, No. 4, pp. 21-39.

Ivo Šperanda  
Zoran Tršinski

## **HEDGING KAO INSTRUMENT ZAŠTITE OD RIZIKA U POSLOVANJU**

### **SAŽETAK**

Rad raspravlja o *hedgingu*, kao jednoj od metoda trgovanja na terminskim tržištima, i ulozi hedginga kao zaštitne strategije u poslovnom životu poduzeća koja posredno, snižavajući troškove poslovanja i smanjujući poslovne rizike, utječe i na sveukupno poslovanje i povećavaju stupanj konkurentnosti poduzeća.

U radu se objašnjava teorijska utemeljenost *hedginga*, te pregled relevantnih promišljanja i istraživanja o *hedgingu* i njegovom značenju te ulozi u suvremenoj svjetskoj poslovnoj praksi. Pregledno su izloženi osnovni tipovi rizika u poduzećima. Opisani su osnovni modeli hedgiranja sukladni Međunarodnim standardima financijskoga izvješćivanja.

U radu se raspravlja i o financijskim gledištima uporabe *hedginga* pri čemu se posebno naglašavaju prednosti sustava trgovanja putem margina i djelovanje financijske poluge.

**Ključne riječi:** *hedging*, zaštita, rizik, gotovinski tijek, učinkovitost



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# HIGHER EDUCATION SPILLOVER – THE HIGHWAY TO REGIONAL SUCCESS

## ABSTRACT

The aim of this paper is to answer how regional sector influences higher education. These regional differences generate interest in the study of economic growth and regional development. The crucial role in spillover process is played by higher education institutions as they are the promoters of research and knowledge that stems from it. Higher education institutions should be involved in the innovation system at regional level in order to create a stimulating and competitive environment for the future growth and development.

Additionally, the paper presents, compares and analyses contemporary phenomena related to the regional dimension of innovation and the role of higher education institutions in Croatia, Hungary and Slovenia. Besides teaching and research, higher education institutions must develop and emerge a “third mission” through research and technology commercialization, joint research projects, spin-off formation, mobility of researchers/teachers/students to industry and vice versa, and involvement in local and regional development projects as well. However, this is not only about knowledge spillover in some delimited sectors, but transforming and reinvigorating the whole society on regional level.

**Keywords:** Higher education, regional dimension of innovation, regional development

## 1. Introduction

In order to be competitive in “global knowledge economy”, countries should invest in their innovation systems on national and regional level. With parallel processes of globalization and localization, regional accessibility of knowledge and skills is becoming increasingly significant, and the agents of these processes are higher education institutions. Recent history was marked by greater focus of educational and scientific policy on national goals,

while the regional effect was completely neglected. Across the world there is growing dissatisfaction with ‘blueprint’ and ‘one size fits all’ development strategies which, particularly in the case of lagging regions, seem less able to deliver results than a few decades ago (Rodríguez-Pose, 2013: 6). The starting points of regional prosperity are regional industries, regional higher education institutions and their agents. North’s “Institutional Hypothesis” (see North, 1990; 1993) could be applied in this case: the economy, in this case regional, will grow

as far as the existing institutions are efficient. In the post-Keynesian era, regional and local institutions assume, 'an increasingly formative role in shaping economic activity' as part of a general shift from macro-economic regulation to a more decentralized regime of 'micro-socio-institutional regulation' (Martin, 2000: 91, in: Tomaney, 2014: 137). Local and regional institutions hence become much more than simple regulators of economic activity. They determine the level of activity and its efficiency (Rodríguez-Pose, 2013: 11). Jones (2001: 1186) emphasizes that the national scale is being challenged by the local and the regional scale as the breeding ground for regulatory experiments in the governance of economic development. Bringing together these claims, and often drawing empirical inspiration from growth regions such as Silicon Valley, Tuscany, Bavaria, Baden-Württemberg, and Emilia-Romagna, there is increasing evidence that a new regionalist orthodoxy is emerging (compare Keating, 1998; Lovering, 1999; Scott, 1998, in: Jones, 2001). During the last few decades, growth models have emphasized the importance of knowledge and research spillovers in increasing innovative activity and productivity (Riviera-Batiz & Romer, 1991; Grossman & Helpman, 1994). Stough & Nijkamp (2009) define knowledge spillover as diffusion or sharing of knowledge from where it is created or from one to another agent in society. The crucial role in this process is played by universities as they are promoters of research and knowledge that stems from them.

## 2. Higher education spillover and regional success

The economic effects of education, besides quantity and quality of educational output (internal efficiency), also depend on compatibility of educational production with the needs of economy and social services, regional and organizational arrangement of people with higher education, as well as the utilization of their work potentials in organizations where they are employed. Data on unemployment rate of university graduates, suboptimal regional arrangement of educated people, part of nonprofessional criteria in managing personnel policy when dealing with desirable work positions, and especially data on so called "brain drain" tell us of low level of utilization of high quality human resources

in economy and the society in general. This significantly decreases the economic efficiency of higher education and increases the economic instability (according to Pastuović, 2001: 67-73). It is believed that high-tech ventures derive significant benefits from localized knowledge spillovers emanating from the two common tasks performed by universities; i.e., basic research and human capital creation (Audretsch & Lehmann, 2005, in: Bathelt, Kogler & Munro, 2010). Fast-paced global competition and technological change also add significance to the linkage of firms to universities not only to discover knowledge but also to aid in industrialization (Bettis and Hitt, 1995; Etzkowitz & Leydesdorff, 1997; Hwang et al., 2003, in: Eom & Lee, 2010). Also, Casper (2013) emphasizes the importance of university researchers in knowledge spillover from university, but also the importance of university environment for developing knowledge flows.

However, according to Rothwell (1984: 161), certain regional "efforts" through innovation centres, higher education institutions and scientific parks, would have a positive innovations impact on the region if the basic preconditions were fulfilled – greater emphasis on industrial needs and a good local supply of technical knowledge, which is almost a primary issue in transitional countries such as Croatia.

Although many researches confirmed a positive connection between higher education institutions and entrepreneurial activities (see: Fritsch & Slavtchev, 2007; Audretsch & Lehmann, 2005; Andersson, Quigley & Wilhelmson, 2004), some researches have shown that this connection is not as crucial as it was thought, especially if it is „transitional economy“ and relevant „institutional unarrangement“ (see: Eom & Lee, 2010). The processes that transform an academic idea into a market-ready product or process innovation require resources and skills that most universities and academic entrepreneurs lack (Bathelt et al., 2010: 521). A research made by Bathelt, Kogler & Munro (2010: 531) surprisingly concludes that companies which had some kind of direct university support (University of Waterloo, Canada), describe that support as relatively limiting and not so significant, where most of "merits" are based on a strong localized connection by similar/supporting industries (see Table 1 and Appendix 1.). Although the research showed such results, they imply the necessity of transforming higher education institutions and study programs according to contemporary economic trends and

**Table 1** Typology of start-ups according to the character of university knowledge applied and co-localization of the founders

Character of university knowledge applied	Co-localization of start-up founders	
	Co-localized	Not co-localized
Generic, broad knowledge	Broad epistemic knowledge, largely based on the capabilities and focus of the local incubator university; limited potential for innovation.	Broad epistemic knowledge drawing from a wider set of experiences at different places; innovation benefits from broader access to generic knowledge pools.
Specific knowledge	Drawing on specific knowledge in the university's competencies, including tacit knowledge pools (particularly in dynamic technology fields).	Drawing from different specific knowledge pools (e.g., different research projects/specializations); large potential for innovation; access to different specialized regional knowledge pools.

market requirements.

Source: Bathelt, Kogler & Munro, 2010: 524

Examples of higher education helping to serve the needs of regional economies can be found in various countries in the past 150 years. However, these links have been sporadic rather than systematic. This has changed dramatically with recent expansion of higher education, particularly in the non-university sector, which in some cases has consciously aimed to address regional disparities and to widen access. Another important factor changing the context of regional development has been a switch towards more indigenous development, which emphasizes the building of skills, entrepreneurialism and innovation within regions. (OECD, 2007: 12). Nevertheless, a question arises – how to measure it and then, what is the purpose of the “measurement” results. Currently the productivity of scientific work at university is measured in the number of published articles in well-known journals, not taking into consideration the real value, impact and their contribution to socio-economic development. Putting the number of published articles as one of the key requirements for being promoted to a higher academic rank is encouraging “publishing just to publish” without encouraging publishing of research-based scholarly work that could contribute to social and economic development.

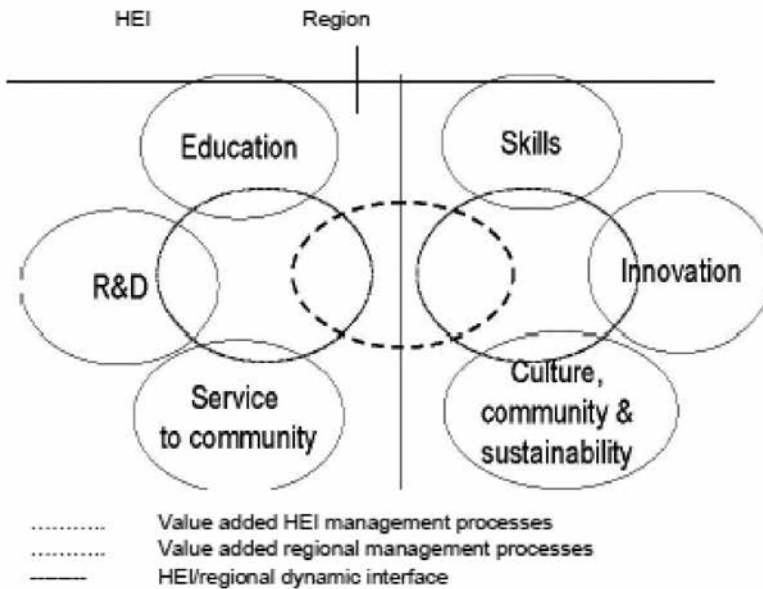
Higher education institutions need to contribute to regional economic development, be involved in the region and contribute to the development of new knowledge, opening of new work places and employment of the local population. Regions and

higher education institutions build partnerships on common interests which are firstly economic. Partnerships can be efficient in several domains (Gajić, 2010: 21):

- balancing supply and demand on the local labour market,
- advancement of regional management systems,
- increased generation of taxes and other income,
- increased investments in the private sector,
- increased human capital, keeping the educated workforce in the region, including e-learning (long distance learning),
- development of local cultural programs, social involvement, health care, tourism and so on.

Building on this analysis of drivers towards engagement, the conceptual framework underpinning the OECD study initially adopted a closed model of the interface between a region and a higher education institution (Figure 1). The left hand side of the diagram refers to the three conventionally identified roles of higher education institutions (teaching, research and service to the community). The right hand side summarizes the three key dimensions to regional development, namely innovation, skills and cultural and community cohesion including environmental sustainability. Just as successful regional development requires drawing together these strands so the higher education institutions' effective engagement with the region involves bringing together teaching, research and service in a coherent manner and establishing effective mechanisms for bridging the boundary between the higher education institution and the region (OECD, 2007a: 12).

Figure 1 Close model of higher education institutions/regions interface



Source: OECD, 2007: 40

### 3. Higher education – sources of new and transformed knowledge

*'More sophisticated company strategies require more highly skilled people, better information, improved infrastructure, better suppliers, more advanced research institutions, and stronger competitive pressures, among other things'*  
(Porter, 2003: 25).

Education has a pivotal role in economic and social progress of developed countries. The quality of education is becoming more important for those who, directly or indirectly, participate in it, or for those who use its services. The higher the level of society growth becomes, the more rigid are the demands for education quality (Fundu, 2008: 9-13). Economic and cultural globalization imposed new challenges for the higher education system. Higher education aspires to opening up to the international market so that higher education institutions could expand their knowledge and enable their "products" to be

come integrated in the European labour market smoothly.

At the most basic level, it is clear that having more education helped people to keep or change their jobs during the recession. For instance, between the start of the downturn in 2008 and 2010, overall unemployment rates jumped from an already high 8.8% to 12.5% for people without an upper secondary education, and from 4.9% to 7.6% for people with an upper secondary education, on average across OECD countries. By contrast, unemployment rates for people with higher education remained much lower, rising from 3.3% to 4.7% during this same period (OECD, 2012). OECD (2007) launched a review project of 14 regions across 12 countries and concluded that there are three different dimensions of overcoming barriers: 1) overcoming barriers to promoting innovation with regional focus (for example in France, Finland, Japan, Mexico and the United Kingdom national governments have taken steps to identify and support regional centres and innovation), 2) overcoming barriers to developing human capital within regions (helping local employers by responding to new skills requirements, improving the balance between labour market supply and demand, ensuring continuous professional development and lifelong learning) and 3) overcom-



ing barriers to promoting the social, cultural and environmental development of regions (growth of creative industry, quality of life and development environment).

Despite existing limitations, goals of higher education have grown. Autonomy of higher education institutions and improvement of framework conditions, as well as better cooperation with the private sector is encouraged. Emphasis is put on reinforcing the role of higher education in the regional innovation framework, as well as increasing the participation of higher education institutions in cluster-like initiatives. To be able to play their regional role, institutions of higher education must do more than simply educate and research – they must engage with others in their regions, provide opportunities for lifelong learning and contribute to the development of knowledge-intensive jobs which will enable graduates to find local employment and remain in their communities (OECD, 2007: 11). Countries of OECD are seeking to mobilise higher education in support of regional economic, social and cultural development. Initiative in supporting of innovation and competitiveness occurs in the concept of the triple-helix of university-industry-government relationships.

For a system to be of high quality, it is necessary to regularly monitor all the system components which could eventually affect the quality of the entire system and according to that make certain interventions in order to remove insufficient quality, or to improve it. Pastuović emphasizes (2001: 82) that development of higher education also implies the development of quality assurance system. The development of this system is an indicator of the development of higher education system itself. Therefore, it is necessary to evaluate the way of accepting and renewing the programs, their implementation, criteria for selection and advancement of faculty staff, sustainability of enrolment policy, criteria of student enrolment and the assessment of their achievements during studies, flexibility of the system with respect to the mobility of students and faculty staff, scientific productivity of the faculty staff, the criteria of financing the studies and scientific research projects, as well as all other internal and external efficiency factors. Evaluating all the aforementioned factors gives a clear insight into the quality of all individual components, and the quality of the entire system can be assessed. Such evaluation affects the regional sector. However, despite the

desire to improve, the problem occurs when individuals and the society oppose such changes, which is mostly the result of not informing the society of such changes on time.

The main demands for quality in higher education institutions are determined by changes and new tendencies, such as significant increase in higher education demand, international aspect of education, research projects, development of effective cooperation between higher education institutions and the economy, regionalization of knowledge, new demands in education, increasing number of students and institutions, more private institutions and so on. A greater focus on quality in higher education resulted from a range of competing factors. Among the most prominent were (Mertova, Webster, 2009: 141): 1) political control over higher education (exerted particularly by national governments), 2) growing number of students in higher education (including general changes in the student population and their expectations), and 3) financial control on the part of national governments (frequently interacting with the previous two factors).

#### **4. Comparative overview of the impact of regional sector on higher education**

Under a constant influence of political, cultural and economic changes on the global, national, as well as on the regional level, each economy and its business micro systems must develop their comparative advantages in order to keep and improve their competitive position on the market. Occasionally, it can be seen that some higher education institutions are withdrawing into their environment and are not using the possibilities given to them, such as cooperation with other higher education institutions for the purpose of student and faculty staff exchange in order to improve the educational program and increase their competitive ability on the higher education market.

Although many regions across the OECD are looking to institutions of higher education to contribute to their economic, social, cultural and environmental development, the capacity of the regions to “reach into” higher education is often constrained by a wide range of factors. At the most general level, the public governance of a territory operates within closed boundaries. Local and regional govern-

ments are responsible for administratively defined areas and these are usually linked to unambiguous political mandates. By contrast, research intensive universities cannot have a mandatory geographical sphere of influence; indeed such institutions operate at the local, regional, national and international scales. Some lower tier institutions do have a specific regional mandate but it is increasingly less likely to be enforced by national, regional and local governments as the institutions compete for students and contracts wherever these can be obtained. So the delimitation of its “region” is a challenge for many institutions of higher education (OECD, 2007a: 20).

The environment of a higher education system consists of all the components around it that have certain impact on its activity in the society and on the market. There are two types of environment factors (Pastuović, 2001: 85): general and specific ones. General factors are those affecting all the organizations (not just higher education institutions) and are not critical for their existence as such. For example, those are economic and cultural contexts. Specific factors are those directly affecting the ability of a higher education institution to attain its objective. Those are the state, the market and the international higher education area (the so-called triangle of power in the higher education system). Therefore, the efficiency of higher education depends on the characteristics of political and economic configuration of a certain country, as well as the connection of the higher education system to the international academic community. The function of these environmental factors is co-dependent. Decreasing the role of the state in regulating higher education not only facilitates but opens up a way to an active market. The flexibility of a certain country facilitates the connection between the national higher education system and the international higher education area.

The global environment is characterized by fast changes, intensive information flow and greater competition. High quality in education is the key factor in the “invisible” competition between higher education institutions. Hammond et al. (2004) state that the competition between the American, Australian and Asian higher education institutions has made European countries start planning their common education policy, by introducing the Bologna process in higher education.

A national education policy tends to cause turbulences and complexity for higher education institutions since they are asked to monitor a larger number of students despite the fact that the resources are not increasing. Also, there are structural changes in the higher education institutions, as well as the increase of efficiency in public sector (Kettunen, 2008: 4). A higher education institution should be oriented firstly on the quality of teaching and other activities (Umashankar, Dutta, 2007). Therefore, internal processes and structures are under pressure to adjust too many changes in the environment (“blueprint” and “one size fits all” development, Rodriguez-Pose, 2013: 6; “micro-socio-institutional regulation”, Martin, 2009: 91, in: Tomaney, 2014: 137). The relation between higher education and economy is extremely important. It directs educational and research activities and ensures additional funds. The nature and the intensity of these relations depend on the readiness and their competence for such mutual cooperation. If the economic growth is based on the strategy of a society that learns and understands economy, the economy will be a partner that is interested in higher education and ready to invest in applied and development research, and will create mutually beneficial cooperation. The quality map is a visual representation of how the environment is taken into account in strategic planning. It also provides an insight into the strategic planning, management process and internal processes and helps the managers, personnel, external evaluators and other stakeholders to see the “big picture” regarding the quality assurance system of the institution (see Appendix 2, Kettunen, 2008: 324).

This paper reflects on three different, but still geographically close countries – Croatia, Slovenia and Hungary. Croatia, Slovenia and Hungary face greater competition on the higher education market in Europe, which imposes a need for the local economy to constantly invest and strive to obtain and develop a knowledge society model, which has for some time now been seen as an imperative of modern survival and active participation on the global market. The ability to create, expand and utilize knowledge and information seems to be getting more important and is often considered as the most important factor in determining the economic growth and life quality improvement.

#### 4.1 Croatia

The Ministry of Science, Education and Sports manages administrative and other affairs referring to the preschool education system as well as primary and secondary education in Croatia. The Ministry also deals with other affairs referring to: higher education development; achieving national strategies and programs for higher education; ensuring and monitoring of financial and material conditions which enable the work of higher education institutions; preparation and introduction of reports about the work and evaluation of higher education institutions and study programs, etc. In the academic year 2012/13, about 150 000 students were enrolled in higher education institutions, and 35 000 graduated (MZOS, 2015). The development strategy of Croatian higher education should be based on the assessment of long term needs of national development, as well as on the comparison of national higher education system to the systems of advanced countries and development tendencies of the European higher education. The inclusion of Croatian higher education in the European higher education area assumes certain changes in managing higher education institutions and their education for the new way of functioning. Croatia has bilateral agreements on educational, scientific and technological level with 29 countries. In higher education there are scholarships for those who wish to study abroad, for foreigners who wish to study in Croatia, grants for studying in Croatian language and Croatian educational culture in other countries. On regional level, there are scholarships granted by companies that offer financial support to students under the condition that they do not repeat an academic year and that upon finishing their studies they work for a certain period in that company. Apart from that, banks offer student loans as an aid during studying and students are supposed to start paying them off upon graduation. A regional problem in Croatia is "brain drain", as well as unfavourable position of certain regions which can limit the demand due to financial limitations. There are indicators of change, although they are more of an exception than a rule (a newly started process of university spin-offs, student internships, guest lecturers etc.).

#### 4.2 Slovenia

The Ministry of Higher Education, Science and Technology establishes the educational policy. In 2004, Slovenian higher education institutions were introduced to public financing based on a formula and a lump-sum model. The Slovenian Ministry compiles yearly calculations based on enrolled and graduate student information, as well as on budget fund grants from the previous year (IRO, 2012: 37). In the academic year 2012/13, about 86 000 students were enrolled in higher education institutions, and 15 000 graduated (OECD.Stat).

In elementary and secondary education the Government is responsible for making decisions, creating legislations and development plans, while in higher education the Ministry makes decisions on the policy of higher education and prepares organizational and development plans. In Slovenia higher education institutions get their funds from third parties through "international research projects, researches connected to business sector and other market activities" (IRO, 2012: 33, according to CHEPS, 2010: 179). On the national level, the education sector has been within the scope of the Ministry of Higher Education, Science and Technology since 2006. Sectors within their scope are universities and individual higher education institutions, student buildings and educational libraries. Regional responsibility is mainly directed towards preschool and elementary education. Local communities and schools have limited influence on educational and financial structure in the education sector. All the existing tasks are being managed by the Ministry of Higher Education, Science and Technology, since there are no established regions in Slovenia and the new regional legislation is still in its development phase. Since the academic year 2008/2009, regional level (certain counties and larger cities) has taken up more responsibilities. Local levels (municipalities) have no legislative powers over higher education. On an institutional level and, according to the Constitution, higher education institutions are independent, which assures their full freedom to research, artistic expression and autonomous internal organization and work (Eurydice, 2009/10: 8, 9; Eurydice, 2008/2009: 33).

### 4.3 Hungary

The entire education policy is a priority in the Government which has a great influence in creating economic growth and social cohesion, as well as creating a competitive labour market and knowledge market. There are four pieces of legislation in Hungary in this specific area; public education (1993), vocational education (1993), adult education (2001) and higher education (2005). Each of these laws follows the main democratic principles and humanistic values comprised in the Hungarian Constitution. Horizontally, the responsibility is divided between the Ministry of Education and other Ministries (Ministry of Finance, Ministry of Interior, Ministry of Labour and Social Welfare). Vertically, administrative control is decentralized and the responsibility is divided between the central (national), local (regional) and institutional administration (Ministry of National Resources of Hungary, 2011). In the academic year 2012/13, about 340 000 students were enrolled in higher education institutions, and 60 000 graduated (OECD.Stat).

In Hungary, higher education institutions are allowed to keep and accumulate remaining funds, store their own income on a separate account, perform business activities with no obligation to pay taxes or fees (under certain conditions), sell their own real estate, form limited liability companies,

take over long-term commitments in public-private partnership programs, as well as government stock subscription. In other words, Hungarian higher education institutions are able to acquire income through a number of different financial strategies (IRO, 2012: 33). All the development programs in higher education are compliant to those in the EU, and they include support to lifelong learning, modernization of institutional network system, further development of knowledge which is in agreement with labour market demands, forming regional knowledge and innovation centres, developing research units, as well as developing programs focused on infrastructure. Managing and decision making, as well as responsibility, are divided into different levels which results in a rather complicated responsibility distribution system. There is no strong regional structure in management which could be geographically orientated. Therefore, a large part of the responsibility in higher education needs to be transferred onto the state level, which is difficult to do for several reasons. First, the managerial system on internal level is mostly inadequate regarding its responsibility. Second, there is a problem with harmonizing the goals of different faculties (i.e. individual institutions) which are parts of universities. Finally, local self-governments are numerous and heterogeneous, in terms of size and socio-economic criteria (Keczer, 2008).

**Table 2 Comparative overview of the impact of regional sector on HE**

	CROATIA	SLOVENIA	HUNGARY
+	<ul style="list-style-type: none"> <li>• scholarships granted by business entities (financial support)</li> <li>• student loans by banks</li> </ul>	<ul style="list-style-type: none"> <li>• Since 2008, the regional level (certain counties and larger cities) has taken up more responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• regional level is starting to have more responsibility</li> <li>• forming regional knowledge and innovation centres</li> </ul>
-	<ul style="list-style-type: none"> <li>• „brain drain”</li> <li>• unfavourable position of certain regions</li> </ul>	<ul style="list-style-type: none"> <li>• regional responsibility is mainly directed towards preschool and elementary education</li> <li>• new regional legislation is still in its development phase</li> </ul>	<ul style="list-style-type: none"> <li>• weak regional structure<sup>a</sup> responsibility in HE needs to be transferred onto the state level</li> </ul>
<ul style="list-style-type: none"> <li>• Indicators of change: university spin-offs, student internships, guest lecturers</li> <li>• Constant improvement of all processes is a necessity due to changes à better strategic planning of HE institutions</li> </ul>			

Source: Authors

Independent activities of higher education institutions in the regional environment are not possible in the long run. To create a high quality educational service, there is the need to connect higher education institutions to other organizations which are active in the same environment. All the regional protagonists can, with the help of higher education institutions, play a key role in creating a globally competitive country. There are many positive examples of synergy, but there is still room for improvement despite many barriers (see Table 2).

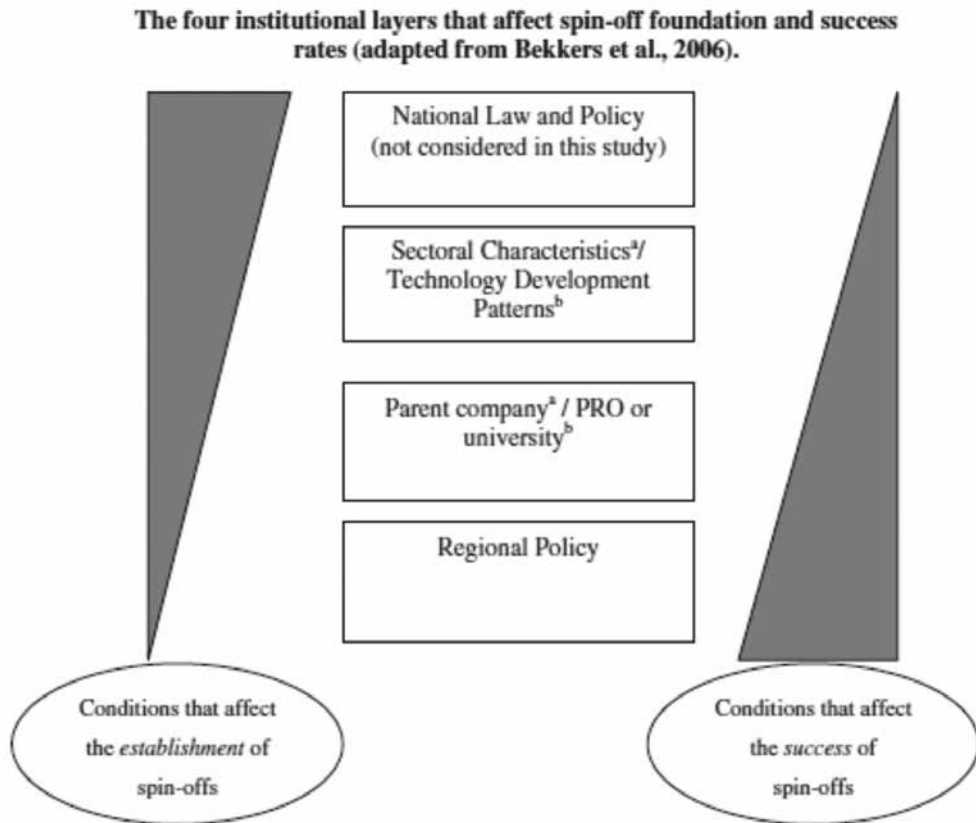
## 5. Conclusions

The Ministries of Higher Education in Croatia, Slovenia and Hungary, acting on the national level, are generally responsible for the education policy in their countries. Slovenia has no regional division, so all the responsibility is on the national level, while the new regional legislation is in the development phase. In Hungary, regional level is starting to have more responsibility, though a strong regional structure in the management is still missing. Constant improvement of all processes (operational and internal) is becoming a necessity due to changes in the environment, and the feedback between the aforementioned processes should be a result of better strategic planning of higher education institutions while assuring quality.

Finally, action lines include: 1) knowledge creation through research and its exploitation (spin outs, IPR, business advisory service), 2) knowledge transfer via teaching (work-based learning, graduate recruitment, professional development/continuing education), 3) cultural provision and campus development contributing to vibrant places that attract and retain creative people, 4) social inclusion embracing different communities (urban, rural, ethnic), 5) marketing the region nationally and internationally (via student recruitment, research links, alumni linkages, conference activity) and 6) monitoring “knock on” effect of HE in the region.

**APPENDIX 1.**

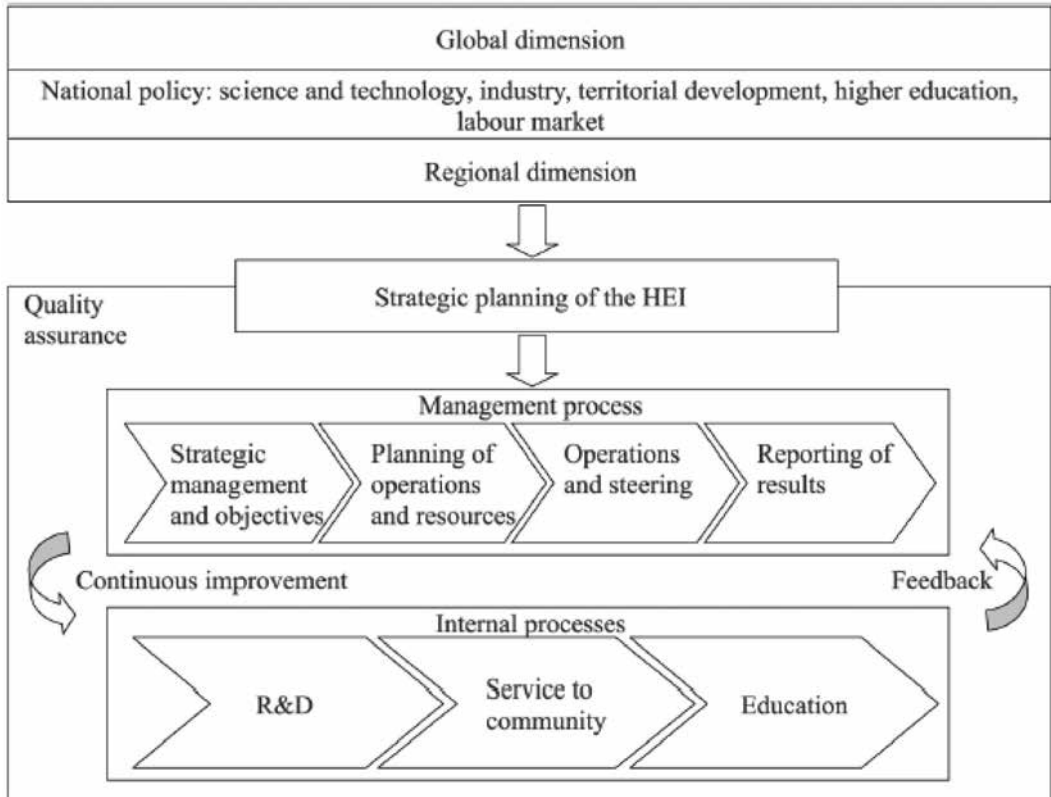
The four institutional layers that affect spin-off foundation and success rates (adapted from Bekkers et al., 2006). (a) In case of a corporate spin-off and (b) in case of a spin-off from a university or PRO (public research organization).



Source: Gilsing, Burg & Romme, 2010:14

**APPENDIX 2.**

Quality map of a higher education institution



Source: Kettunen, 2008: 324.



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## RAZVOJ VISOKOGA OBRAZOVANJA – PUT K REGIONALNOME USPJEHU

### SAŽETAK

Cilj je rada utvrditi na koji način regionalni sektor utječe na visokoškolsko obrazovanje. Upravo regionalne razlike bude interes u proučavanju gospodarskoga rasta i regionalnoga razvoja. Ključnu ulogu u spillover procesu imaju visokoškolske institucije kao što su promotori istraživanja i znanja koje proizlaze iz njih. Visokoškolske institucije trebaju biti uključene u inovacijski sustav na regionalnoj razini u cilju stvaranja poticajnoga okruženja i konkurentnosti za budući rast i razvoj.

U radu se prezentiraju, uspoređuju i analiziraju suvremene pojave vezane uz regionalnu dimenziju inovacije i ulogu institucija visokoškolskoga obrazovanja u Hrvatskoj, Mađarskoj i Sloveniji. Osim nastavne i istraživačke djelatnosti, visokoškolske institucije trebaju razvijati „treću misiju“ kroz istraživanje i tehnologiju, zajedničke istraživačke projekte, spin-off formacije, mobilnosti istraživača / nastavnika / studenata, te sudjelovanje u razvoju lokalnih i regionalnih projekata. Međutim, ne radi se samo o prelijevanju znanja u nekim ograničavajućim područjima, već preobrazbi cijeloga društva na regionalnoj razini.

**Ključne riječi:** visokoškolsko obrazovanje, regionalni razvoj, Hrvatska, Slovenija, Mađarska

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# UPRAVLJANJE ODNOSIMA S POTROŠAČIMA U FUNKCIJI ZADRŽAVANJA POTROŠAČA

## SAŽETAK

Poput mnogi drugih suvremenih pojmova i pojam upravljanja odnosima s potrošačima (CRM) u svakodnevnoj praksi izaziva dvojbe vezane za njegovo značenje i njegov obuhvat. Razlog tome treba tražiti u činjenici kako je CRM ujedno i strategija i proces i sustav, stoga je teško jednoznačno definirati pojam koji obuhvaća toliko široko područje. No, prilikom proučavanja CRM-a treba uzeti u obzir kako je to koncept razvijen u okvirima marketing odnosa i poslovne filozofije koja teži zadovoljavanjem individualnih potreba potrošača; potrošača učiniti zadovoljnim i kroz izgradnju sustavne interakcije s potrošačem, potrošača transformirati u klijenta. Kako bi se to uspjelo, potrebno je uspostaviti sustav komunikacije s potrošačem koji će osigurati neposrednu interakciju s potrošačem. Kroz takvu se interakciju potrošač od anonimne jedinice u masi potrošača transformira u individualiziranu i personaliziranu jedinku, o kojoj se sustavno prikupljaju informacije, ali i kojoj se sustavno pružaju informacije. Takav sustav komunikacije, posebice kada je riječ o većem broju potrošača, nije moguće izgraditi bez upotrebe suvremene informacijsko-komunikacijske tehnologije. Zbog toga se CRM sustav integrira u marketing i informacijske sustave, kao i menadžment. Prikupljeni su podaci u točki dodira temelj za kreiranje slike o potrošaču te učinkovito zadovoljavanje njegovih potreba. Takav sustav, također omogućava izbor kvalitetnih potrošača u smislu osiguranja lojalnosti kvalitetnih potrošača. Prema tome CRM omogućava izgradnju defanzivne marketinške strategije koja teži zadržavanju i boljem iskorištenju postojećih potrošača, što u naravi zahtjeva manje napora i sredstava za provedbu od ofanzivne marketinške strategije.

**Ključne riječi:** upravljanje odnosima s potrošačima, CRM, marketing odnosa

## 1. Uvod

Porast je razine konkurentnosti, što je posljedica izrazitog tehnološkog napretka, rezultirao početkom 21. stoljeća novom poslovnom filozofijom proizašlom na načelima marketinške koncepcije, a koja se naziva upravljanje odnosima s potrošačima (engleski: Customer Relationship Management – CRM). Iako se ishodište upravljanja odnosima s potrošačima nalazi u marketinškoj koncepciji, točnije u marketingu odnosa, u načelu se radi o integraciji triju koncepata - uz marketing odnosa, integrirani su menadžment i suvremena informacijsko-komunikacijska tehnologija. Krajnje pojednostavljeno gledano, CRM predstavlja atomistički marketinški pristup, odnosno novu razinu razvitka marketinga kod koje se od početnog masovnog marketinga preko segmentacijskog marketinga, marketinga niša, te mikro-marketinga došlo do pojedinačnog potrošača kao predmeta interesa marketinga, ali ne potrošača kao objekta, već kao aktivnog suradnika u razvijanju odnosa. U načelu, to je ipak značajno složeniji sustav jer osim što podrazumijeva spoznavanje potreba svakog pojedinog potrošača, upravljanje odnosima s potrošačima, podrazumijeva i bidirekcijski odnos čiji je zadatak ostvarenje partnerstva (eng. Relationship) između ponuđača i potrošača.

Nastanak CRM-a u teorijskom smislu te njegovu implementaciju omogućio je izraziti tehnološki napredak u području informacijsko-komunikacijske tehnologije. Manualno vođenje podataka i uspostavljanje odnosa s potrošačem bilo je moguće u davnoj prošlosti kada je količina proizvoda i veličina tržišta bila ograničena, no u današnje vrijeme bez upotrebe suvremenih baza podataka i na njima temeljenih programskih rješenja, implementacija CRM-a je nemoguća.

CRM pokriva kompletan prodajni proces, a njegova snaga očituje se u području mjesta dodira između ponude i individualnoga potrošača. CRM podrazumijeva, ne samo prisutnost u području prodajnih aktivnosti, već njegov značaj prisutan je u predprodajnim i postprodajnim aktivnostima. CRM se razvio iz takozvanih pozivnih centara (Call centri) koji su, osim u prodajne svrhe, korišteni u postprodajnim aktivnostima kroz pružanje podrške korisnicima proizvoda, odnosno usluga. Sljedeća je velika stvar za marketing odnosa, odnosno CRM, bila pojava programa vjernosti (*loyalty* programi)

koji su omogućavali prepoznavanje i uspostavu odnosa s potrošačem u neposrednom razmjenskom procesu, ali i puno više od toga. S obzirom na potencijale sustava vjernosti (*loyalty* sustava), nije ni čudno da su oni i danas aktualno sredstvo kojim se koristi marketing odnosa u točki dodira s potrošačima. Kao što samo ime kaže, sustavi vjernosti (*loyalty* sustavi) ključ su ostvarenja ključne komponente marketinga odnosa, a to je transformacija potrošača u klijenta kroz osiguranje njegove vjernosti (lojalnosti). Danas se CRM objašnjava i kao marketing utemeljen na znanju, stoga, sve tehnologije, posebice one iz domene koncepta Web 2.0, a koje su u funkciji uspostavljanja odnosa s potrošačima, prikupljanja i bilježenja informacija i znanja o potrošačima, pružanja informacija i potpore potrošačima, te konačno izgradnje i održavanja odnosa s potrošačima, tehnologije koje se zajedničkim imenom nazivaju CRM. CRM nije samo tehnologija, odnosno sustav koji je u funkciji uspostave i razvijanja odnosa s potrošačima. On je mnogo više, štoviše, u današnje vrijeme CRM predstavlja ključnu komponentu opstanka suvremenih poslovnih subjekata. Stoga je izuzetno važno za suvremene poslovne subjekte da spoznaju važnost CRM-a i da ga implementiraju u svoje poslovanje.

## 2. Metodologija istraživanja

Promjene koje je inducirala suvremena informacijsko-komunikacijska tehnologija značajno mijenjaju suvremene uvjete poslovanja. Kako bi se učinkovito i svrhovito poslovalo u današnjim uvjetima poslovanja, potrebno je sustavno prilagođavati poslovanje uvjetima koje definiraju tehnološki čimbenici te odnosi koje izgrađuje suvremeno tržište. Nekada aktualne, proizvodna i prodajna koncepcija, svoje mjesto sve više ustupaju marketinškoj koncepciji koja u svojoj biti teži zadovoljiti potrebe potrošača i s potrošačem uspostaviti partnerski odnos. No, ne samo da tijekom vremena proizvodna i prodajna koncepcija sve više ustupaju mjesto marketinškoj koncepciji, već je i marketing od svog nastanka 50-ih godina prošloga stoljeća do danas prošao više razvojnih faza. Danas aktualan marketinški odnos individualizira odnose između ponuđača i potrošača te se vraća primarnoj ideji marketinga koja se ogleda u pokušaju zadovoljavanja, umjesto prosječnih, individualnih, potrošačkih potreba.



To podrazumijeva umjesto spoznavanja potreba skupina potrošača, spoznavanje individualnoga potrošača, odnosno zamjenu koncepta periodičnog istraživanja tržišta konceptom sustavnog istraživanja tržišta. Ubrzan razvitak društveno-ekonomskih odnosa, metodološke i pojmovne nedosljednosti, kako u praksi, tako nerijetko i u teoriji, često dovode do problema razumijevanja koncepta. Ako nisu koncepti jasno i strogo definirani, u naravi se javlja niz poteškoća prilikom njihove implementacije. Primjerice, u praksi se često prodajna koncepcija poistovjećuje i naziva marketinškom koncepcijom, što dovodi do niza problema, a jedan od njih je svakako i negativna percepcija pojma marketinga u javnosti zbog njegovoga poistovjećivanja s prodajnom koncepcijom.

Zbog svega prethodno navedenoga, cilj je ovoga istraživanja sagledati pojam CRM-a i jasno ga definirati kao bi se otklonile sve nejasnoće oko ovog koncepta i time osigurale pretpostavke njegove ispravne aplikacije.

Istraživanje koje je predstavljeno ovim radom nastalo je kao dio sveobuhvatnijega istraživanja koje je imalo za cilj sagledati mogućnosti i definirati konceptualni model implementacije CRM-a u rad ustanova za obrazovanje odraslih osoba. Rezultati cjelokupnoga istraživanja predstavljeni su u završnom radu „CRM u funkciji upravljanja obrazovanjem odraslih“ koji je obranjen na Ekonomskom fakultetu u Osijeku na Poslijediplomskom specijalističkom studiju marketinga posebnih područja.

U dijelu istraživanja prikazanoga u ovome radu većinom su korišteni sekundarni izvori informacija i znanja. Prilikom istraživanja korištene su metode dedukcije i indukcije, metoda analize, metoda sinteze, metoda kauzalnog zaključivanja, metoda deskriptivnog modeliranja, povijesna metoda, metoda apstrakcije, metoda klasifikacije, metoda generalizacije i specijalizacije, metoda kompozicije, metoda analogije, kao i druge znanstvene metode.

### 3. Koncept upravljanja odnosima s potrošačima

Praktična iskustva ukazuju, a ekonomska teorija potvrđuje, kako je zadovoljstvo potrošača, najvažnija odrednica suvremenoga marketinga. Isto tako jasno je da ukoliko dođe do povećanja nezadovoljstva potrošača, doći će i do smanjenja dobiti poslovnoga subjekta. Važnost je zadovoljstva potrošača rezultirala sustavima praćenja zadovoljstva potrošača. Danas se zadovoljstvo kupaca/potrošača klasificira po sljedećim točkama: vrlo nezadovoljni, nezadovoljni, ravnodušni, zadovoljni i vrlo zadovoljni. U mjerenju zadovoljstva kupaca/potrošača, mjeri se svaki dio ponude, kao i postprodajne aktivnosti. Sve je veći broj onih autora koji ističu važnost razvijanja dugoročnih odnosa s potrošačima, ističući pri tome i Paretoovo pravilo sukladno kojem 20% potrošača/kupaca tvori 80% prihoda/dobiti. Pronalaženje novih potrošača rezultira daleko većim troškovima nego li zadržavanje postojećih potrošača. Upravo Buckingham ističe sedam razloga za preusmjeravanje jednokratnih potrošača u „doživotne“ poslovne partnere – klijente (Buckingham, 2011: 74):

1. ne treba tražiti nove kupce,
2. prodaja se povećava,
3. jača se tržišna pozicija,
4. povećava se vjernost potrošača,
5. smanjuju se poslovni troškovi,
6. povećava se dobit, te
7. povećava se uživanje i zadovoljstvo svakodnevnog posla.

Suvremeni uvjeti poslovanja od poslovnih subjekata zahtijevaju implementaciju sustava za upravljanje odnosima s potrošačima.

#### 3.1 Pojmovno definiranje koncepta upravljanja odnosima s potrošačima

Koncept upravljanja odnosima s potrošačima/klijentima izuzetno je značajan u suvremenim uvjetima poslovanja. Upravljanje je odnosima s klijentima u neposrednoj korelaciji i s marketingom, odnosno s prodajom. Zadovoljni su potrošači instrument ostvarivanja uspješnosti suvremenih poslovnih

Tablica 1. Strateška gledišta transakcijskog marketinga i marketing odnosa

Strateški aspekti	Transakcijski marketing	Relationship marketing
Vremenska perspektiva	Kratkoročnost (pojedinačnost transakcije)	Dugoročnost (izgradnja odnosa)
Dominirajuća funkcija marketinga	Marketing miks	Interaktivni marketing (podržan od marketing miksa)
Elastičnost cijene	Veća osjetljivost na cijenu	Manja osjetljivost na cijenu
Dominirajuća dimenzija kvalitete	Kvaliteta outputa (tehnička dimenzija)	Kvaliteta interakcija/odnosa (funkcionalna dimenzija)
Mjerenje	Mjerenje tržišnog udjela i ad-hoc anketiranja (indirektan pristup)	Upravljanje bazom kupaca i direktni sustav dobivanja povratnih informacija
Međuovisnost marketinga i ostalih funkcija zaposlenika	Ograničene ili nikakve strateške	Od značajne strateške važnosti
Uloga internog marketinga	Od male ili nikakve važnosti za uspješnost	Od značajne strateške važnosti za uspješnost

Izvor: izrađeno prema Draganić, D. (2013). *Upravljanje odnosima s kupcima*. Split: Ekonomski fakultet u Splitu, str. 25.

subjekata, poglavito danas u suvremenim uvjetima poslovanja kada je konkurencija, nesumnjivo jača nego ikada prije. Brojne su definicije pojma upravljanja odnosima s potrošačima. Treba imati na umu, iako se u biti upravlja s potrošačima u smislu zadovoljavanja njihovih potreba i temeljem toga ostvaruju dugoročni partnerski odnosi između potrošača i ponuđača, neki autori govore umjesto o upravljanju odnosima s potrošačima, o upravljanju odnosima s kupcima.

Tablica 2. Razlika između transakcijskog marketinga i marketinga odnosa

Transakcijski marketing	Relationship marketing
Usmjerenost na pojedinačnu prodaju, traženje novih kupaca	Usmjerenost na zadržavanje kupaca
Ne kontinuirani kontakt s kupcima	Kontinuirani kontakt s kupcima
Fokus na karakteristike proizvoda	Fokus na vrijednost za kupca
Manji fokus na dodatne usluge	Snažni fokus na dodatne usluge
Manja pažnja na zadovoljavanje očekivanja (post-kupovno ponašanje)	Visoka svjesnost značaja postkupovnog ponašanja
Kvaliteta je briga proizvođača	Kvaliteta je briga svih zaposlenika
Kratkoročna orijentacija	Dugoročna orijentacija

Izvor: izrađeno prema Draganić, D. (2013). *Upravljanje odnosima s kupcima*. Split: Ekonomski fakultet u Splitu, str. 26.

Potrošač i kupac mogu, ali i ne moraju biti ista osoba. Danas, mnogi autori govoreći o upravljanju odnosima s potrošačima, umjesto riječi potrošač koriste riječ kupac, zanemarujući slučajeve kada potrošač i kupac nisu ista osoba. Sukladno tome, primjerice, upravljanje odnosima s potrošačima Magdić (b.d.) definira na ovaj način: „strategiju prikupljanja podataka o kupcima i djelovanju na osnovi tih podataka u svrhu izgradnju dugoročnih, profitabilnih odnosa s njima.“ Nadalje, u definiranju pojma upravljanja odnosima s potrošačima, Magdić (b.d.) navodi i slijedeću definiciju: „Upravljanje odnosima s kupcima predstavlja poslovnu strategiju orijentiranu kupcima s osnovnim ciljem povećanja prihoda pomoću poboljšanja interakcije s kupcima.“ Upravljanje odnosima s potrošačima aplikacija je razmišljanja koja su u marketingu objedinjena u

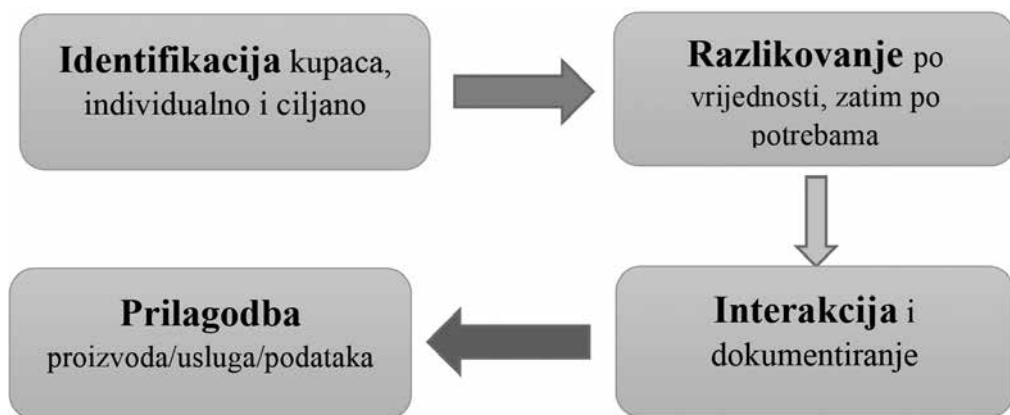
konceptu marketinga odnosa (eng. Relationship Marketing). Brojni autori smatraju kako je upravo marketing odnosa najviša razina u razvitku marketinga. On je ujedno negacija i nadgradnja starog tzv. transakcijskog marketinga. Razliku na strateškoj razini između transakcijskog i relacijskog marketinga prikazuje Tablica 1.

U prošlosti je dominantan bio upravo transakcijskih marketing dok je u posljednjih nekoliko godina na značenju dobio upravo marketing odnosa. Razlika između transakcijskoga marketinga i marketinga odnosa prikazana je Tablicom 2.

Ono što je najbitnije uočiti, kada se analiziraju razlike između transakcijskoga i relacijskoga marketinga (Tablica 2.), je razlika u usmjerenosti. Dok je transakcijski marketing usmjeren k jednoj-pojedinačnoj transakciji, marketing odnosa je usmjeren zadržavanju potrošača, kontinuiranom kontaktu s njima, fokusu na stvaranje vrijednosti za potrošače, snažnom fokusu na dodatne usluge, visokoj svjesnosti značajnog postkupovnog ponašanja, kvalitete, te dugoročnoj orijentiranosti.

Ono što je zajedničko svim definicijama upravljanja odnosima s potrošačima prema Mandiću (2007: 85) jest činjenica kako upravljanje odnosima s potrošačima, poslovni subjekti vide kao automatizaciju integriranih poslovnih procesa koji uključuje dijelove poslovnog subjekta u izravnom odnosu s potrošačima – klijentima, te pri tome koriste, različite međusobno povezane kanale.

**Slika 1. Pristup metodologiji upravljanja odnosima s potrošačima**



Izvor: Magdić, J.: Sustavi za upravljanje odnosima s kupcima zasnovani na društvenim medijima, dostupno na: [https://www.fer.unizg.hr/\\_download/repository/KDI\\_Jasmina\\_Magdic.pdf](https://www.fer.unizg.hr/_download/repository/KDI_Jasmina_Magdic.pdf) (10.4.2015.)

U razvijanju odnosa s potrošačima poglavito značajnu ulogu ima upravo tehnologija odnosno računalno-komunikacijska dostignuća koja su zasnovana na internetskoj podršci koja, ne samo da omogućuje komunikaciju s potencijalnim potrošačima, već omogućava razvijanje dugoročnog odnosa temeljenog na stalnom praćenju njihovih potreba.

Magdić (b.d.) ističe kako su zadatci upravljanja odnosima s potrošačima:

- povećanje profita organizacije,
- priznatost i postojanost na tržištu,
- konsolidacije procesa unutar tvrtke,
- podizanje kvalitete poslovanja,
- povećanje zadovoljstva kupaca,
- zadržavanje postojećih kupaca,
- privlačenje novih kupaca,
- povećanje odanosti profitabilnih korisnika i dr.

Nadalje, ciljevi su implementacije cjelokupnoga procesa upravljanja odnosima s potrošačima sljedeći (Swift, 2000: 78):

- zadržavanje postojećih kupaca – omogućava jamstvo za održavanje postojećih kupaca ili pak onoga dijela koji se odlikuje posebnom izdašnošću pri kupovini proizvoda i usluga kompanija,
- privlačenje novih kupaca kroz usmjeravanje marketinške aktivnosti na nove osobe te
- podizanje razine potrošnje kupaca/klijenata – nuđenje pravih, željenih i potrebnih proizvoda u vremenu kada su zahtijevani od strane kupaca.

Pristup metodologiji upravljanja odnosima s potrošačima prikazuje Slika 1.

Upravljanje odnosima s potrošačima je prema Slici 1., zasnovano na identificiranju potrošača (kupaca), njihovom razlikovanju sukladno potrebama i vrijednostima, interakcija s istima kao i dokumentiranje njihovih potreba, te prilagodba proizvoda/usluga/podataka. U suvremenim poslovnim uvjetima, poslovni subjekti mogu i moraju pratiti svoje potrošače te s njima raditi na razvijanju dugoročnoga odnosa. Tako prikupljene podatke, poslovni subjekti moraju implementirati u svoje poslovne aktivnosti te ih koristiti kao recept za ostvarivanje poslovne uspješnosti. Ključne funkcionalnosti CRM-a prikazuje Tablica 3.

Ključne su funkcionalnosti sukladno tablično prikazanim podatcima (Tablica 4.) kategorizirane prodajom i marketingom, te korisničkom podrškom. Tako se ključne funkcionalnosti prodaje i marketinga odnose na: postojanje lista svih kupaca, odnosno potrošača, dobavljača i partnera na nivou poslovnoga subjekta, cjeloviti pogled na potrošača na jednom mjestu, jednostavno vođenje cjelokupne korespondencije s potrošačima, upravljanje s prijedlozima i poslovnim prilikama, vođenje prodajnog procesa, upravljanje segmentima, marketinškim i prodajnim akcijama, kao i praćenje konkurencije.

Ključne funkcionalnosti orijentirane na korisničku podršku odnose se na: upravljanje servisnim zahtjevima, automatizacijom rješavanja zahtjeva, knjižica znanja, hodogramima za automatizaciju prodajnih, marketinških i servisnih aktivnosti, upravljanje govorima, upravljanje narudžbama kao i integracija elektronskom poštom.

Nadalje, faze upravljanja odnosima s potrošačima segmentirane su sukladno sljedećem (Kumar, Werner, 2005: 8):

- sredinom devedesetih godina prošloga stoljeća javljaju se sustavi koji predstavljaju svojevrstu podršku prodaji kao sustavi namijenjeni klijentima, odnosno podržavanju istih,
- nakon 1996. godine dolazi do spajanja različitih manjih sustava podrške i podsustava u jedan objedinjeni (zajednički) čime dolazi do pojavi druge generacije sustava za upravljanje odnosima s klijentima,
- nakon 2002. godine, pojavljuje se treća generacija poznatija pod nazivom strateški sustav upravljanja odnosima s klijentima.

Tablica 3. Ključne funkcionalnosti CRM-a

PRODAJA I MARKETING	KORISNIČKA PODRŠKA
Jednostavna lista svih kupaca, dobavljača i partnera na nivou poduzeća	Upravljanje servisnim zahtjevima
Cjeloviti pogled na kupce odnosno partnere na jednom mjestu	Automatizacija rješavanja zahtjeva
Jedinstveno vođenje cjelokupne korespondencije s kupcima	Knjižica znanja
Upravljanje prijedlozima i poslovnim prilikama	Hodogrami za automatizaciju prodajnih, marketinških i servisnih aktivnosti
Vođenje prodajnog procesa	Upravljanje ugovorima
Upravljanje segmentima, marketinškim i prodajnim akcijama	Upravljanje narudžbama (ponude, nalozi, računi)
Praćenje konkurencije	Integracija s elektronskom poštom i potpora za mail merge

Izvor: izrađeno prema Draganić, D. (2013). *Upravljanje odnosima s kupcima*. Split: Ekonomski fakultet u Splitu, str 26.

### 3.2 Proces upravljanja odnosima s potrošačima

Upravljanje odnosima s potrošačima ima izuzetno značajan utjecaj na samu kvalitetu sustava upravljanja kao i na kvalitetu poslovnih procesa. Upravo upravljanje odnosima s klijentima predstavlja ključan čimbenik u odvijanju poslovnih procesa i to u pogledu marketinga, prodaje, isporuke, održavanja, tehničke podrške kao i upravljanja korisničkim uslugama.

Čimbenici koji utječu na CRM (Slika 2.), su brojni, a čine ih: prepoznavanje potreba korisnika, dugoročan odnos s korisnicima, djelotvoran prijenos informacija, tehnologija, organizacijska struktura, interakcija s korisnikom, upravljanje korisničkim uslugama, kao i procesi. U ostvarivanju uspješnosti upravljanja odnosima s potrošačima, veliku ulogu ima upravo djelotvorno upravljanje odnosima s klijentima/kupcima/korisnicima, kao i upravljanje uslugama koje su u funkciji zadovoljenja njihovih potreba. Stoga su učinci upravljanja odnosima s potrošačima prema Brodariću (2000: 99):

- unaprjeđenje odnosa s korisnikom,
- ubrzavanje poslovnih procesa,
- bolja kontrola izvršenih zadataka,

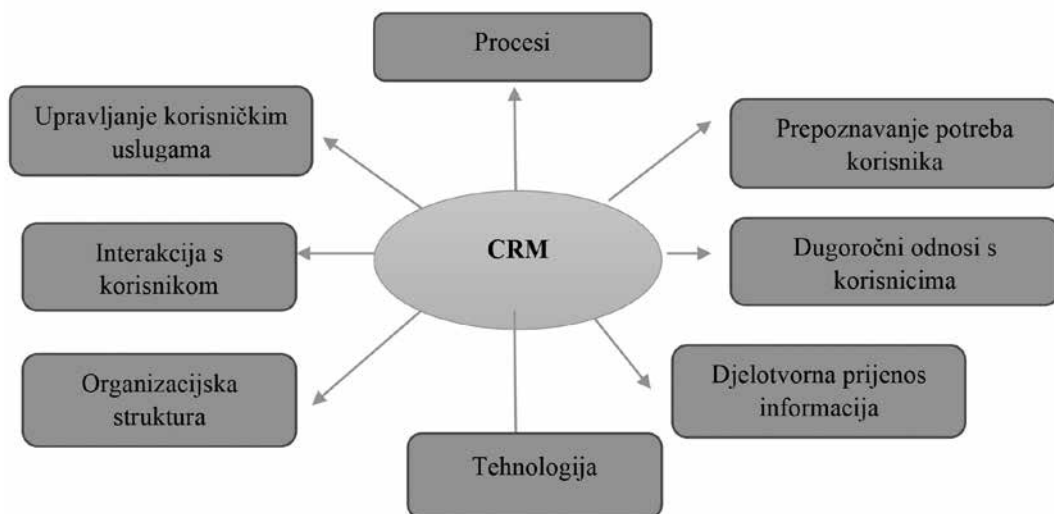
- mjerenje učinaka djelatnika,
- evidencija svih kontakata s korisnikom,
- obrada zahtjeva s korisnikom
- spremanje i arhiviranje podataka,
- smanjenje troškova poslovanja.

CRM po fazama i modelima prikazan je Slikom 2. Kako je iz Slike 2. vidljivo prva se faza razvoja upravljanja odnosima s potrošačima odnosi na analizu i na dizajn kao i rješenja za prodaju i marketing aktivnost određenog poslovnog subjekta. Brodarić (2000: 99) ističe kako su moduli prve faze upravljanja odnosima s potrošačima upravljanje korisnicima, upravljanje procesima, marketinške kampanje, upravljanje i praćenje prodajnih procesa, kontaktni centar, integracija s ostalim sustavima, baza znanja i katalog proizvoda.

Druga faza upravljanja odnosima s potrošačima jest faza marketinškog modula. Marketinški se modul odnosi na izradu marketinškog programa te kreiranja marketinških faza kao i marketinške kampanje. Treća faza u upravljanju odnosima s potrošačima jest prodajni model koji uključuje sljedeće faze (Brodarić, 2000: 99):

- prodaja usluga i procesa,
- isporuka usluge,
- izmjena usluge,

Slika 2. Čimbenici koji utječu na CRM



Izvor: Brodarić, A. (2010). Upravljanje odnosima s korisnicima kroz proces CRM-a. 18. Telekomunikacijski formu - TELFOR, dostupno na: [http://2010.telfor.rs/files/radovi/TELFOR2010\\_01\\_26.pdf](http://2010.telfor.rs/files/radovi/TELFOR2010_01_26.pdf). (15.4.2015.), str. 99.

- gašenje usluge kao i prijava problema s uslugom.

Ono što je potrebno istaknuti, činjenica je kako se svaki od prethodno navedenih modula sastoji od jedne ili više aktivnosti, a koje se odnose na sastanke, zadatke kao i kontakte.

### 3.3 Obilježja upravljanja odnosima s potrošačima

Jedna od temeljnih odrednica upravljanja odnosima s potrošačima jest upoznavanje njihovih potreba. Temeljem upoznavanja potreba potrošača, omogućeno je predviđanje budućih reakcija potrošača na uvođenje novog proizvoda, odnosno ulazak poslovnog subjekta na novo tržište. Upravljanje odnosima s potrošačima, odnosno CRM sustavi, prema većini istraživača dijele se na tri sastavnice. Riječ je o (Mance, Fabac, 2013):

- operativnom CRM-u,
- kolaborativnom CRM-u i
- analitičkom CRM-u.

Severović (2013: 125) navodi kako je CRM moguće promatrati u odnosu na osnovne karakteristike, ali uz prethodno razlikovanje osnovnih sastavnica CRM-a: operativnog, kolaborativnog i analitičkog. Analitički se CRM odnosi na prikupljanje, skladištenje, procesuiranje i interpretaciju podataka vezanih za klijente poslovnoga subjekta. Potrebno je istaknuti kako su podatci o klijentima izuzetno važni u svim fazama poslovanja i aktivnostima poslovnih subjekata. Kada je pak riječ o operativnom CRM-u, on sadrži sve podatke o klijentima te je povezan s drugim informacijskim sustavima poslovnoga subjekta. Severović (2013: 95) ističe kako se operativni CRM odnosi na automatizaciju:

- marketinga,
- prodaje i
- usluga.

Kolaborativni je CRM važan iz razloga što omogućava komunikaciju s klijentima te razvijanje poslovne suradnje s klijentima, odnosno poslovnim partnerima.

### 3.4 Korisnosti proizišle iz upravljanja odnosima s potrošačima za poslovne subjekte

Nakon svega obrađenoga, potrebno je utvrditi i korisnosti upravljanja odnosima s potrošačima za poslovne subjekte. Korisnosti od CRM-om prema Golubu (2006: 3) su:

- trenutno prikupljanje i raspolaganje „svježim“ podacima i rezultatima izravno s „terena“ tj. tržišta,
- pouzdanije predviđanje buduće prodaje,
- objedinjavanje i razmjena znanja o kupcima prodaje i postprodajnih usluga (dostava, montaža, recikliranje i dr.) i time značajno unapređivanje učinkovitosti i kvalitete odnosa s kupcima,
- predviđanje financijskih rezultata i posljedica različitih konfiguracija proizvoda,
- praćenje rezultata individualnih promotivnih programa i ostvarenih rezultata marketinških napora i prema rezultatima mijenjanje i preusmjerenje ulaganja u marketing, reklamu i promociju,
- korištenje podataka o željama i problemima kupaca kod razvoja proizvoda,
- povećanje prodaje kroz sustavno identificiranje i obradu svih prilika za prodaju bez gubitaka zbog ljudske pogreške, neodgovornosti ili loših poslovnih procesa,
- povećanje stupnja ponovne kupnje i ukupne prodaje pojedinom kupcu,
- stvaranje i poboljšanje postprodajnih usluga i servisa za korisnike.

Također, potrebno je spomenuti i ključne strateške prednosti proizašle iz upravljanje odnosima s potrošačima, a koje se očituju kroz učenje, upravljanje, predviđanje, te predznanje. Obrađujući problematiku upravljanja odnosima s potrošačima Golub (2006: 3) ističe kako se upravljanje odnosima s potrošačima provodi kroz:

- početno definirane strateških „crnih točaka“ u odnosima s kupcima – temeljni razlog uvođenja CRM rješenja su problemi koji imaju jak utjecaj na zadovoljstvo i lojalnost kupaca. Kvalitetno rješavanje „crnih točaka“ daje brže i značajnije financijske rezultate te stvara prednosti u odnosu na konkurenciju



- procjenu kojih i kakvih podataka – CRM stvara i upravlja informacijama. Upravo je vrijednost informacije stvorene pomoću CRM-a, temelj za procjenu isplativosti uvođenja CRM-a
- odabir tehnološke podloge i izračun troškova – uvođenje CRM rješenja i edukacija zaposlenih za njezino korištenje. Učinkovitost rješenja, mogućnost i rok uvođenja, brzina povrata investicije ključni su elementi za procjenu izvodivosti i procjenu nadmašuju li koristi sve povezane troškove
- stvaranje programa nagrađivanja zaposlenih – kako bi se osigurala zainteresiranost zaposlenih za sudjelovanje u CRM programima
- praćenje uvođenja i utjecaja CRM-a – pomno praćenje sudjelovanja zaposlenih u CRM programu. Stvaranje sustava praćenja poslovanja kako bi se dodatno pratio napredak u ostvarenoj profitabilnosti pojedinih segmenata kupaca.

### 3.5 Razine CRM-a prema menadžerskim sastavnicama

Upravljanje odnosima s potrošačima nije moguće promatrati isključivo u kontekstu marketinga, već i u kontekstu menadžmenta. Menadžere je, sukladno odgovornosti, moguće kategorizirati na tri razine. Riječ je o (Pfeifer, 2006: 6):

- operativnoj razini (operativni/tehnički menadžeri) – menadžeri prve linije, nadglednici, predradnici),
- srednjoj razini (taktički menadžeri) – jedna ili više razina menadžmenta koji odgovaraju i balansiraju zahtjeve njihovih superiornih menadžera i mogućnosti izvršenja njihovih subordiniranih razina, te
- top razina (top menadžment) – odgovorni za uspjeh cjelokupne organizacije i njezine kontakte s okolinom.

Sukladno navedenim menadžerskim razinama, sastavnice je menadžmenta moguće promatrati u kontekstu upravljanja odnosa s potrošačima. Razine menadžmenta u okviru upravljanja odnosima s potrošačima su:

- strateška razina,
- taktička razina te
- operativna razina.

**Tablica 4. Razine CRM-a prema menadžerskim sastavnicama**

Razine CRM-a	Sudionici po razinama	Temeljni zadatci po razinama	Stupanj kontakta s klijentom
Strateška razina	Najviša razina rukovoditelja organizacijskih jedinica	Povećanje profitabilnosti, tržišnog udjela, smanjenje troškova	Nizak kontakt s klijentima osim u rješavanju specifičnih zahtjeva
Taktička razina	Niža razina rukovoditelja organizacijskih jedinica	Skraćivanje vremena obrade zahtjeva klijenata, skraćivanje vremena prodaje i dr.	Srednji kontakt s klijentima. Rješavanje pitanja realizacije pojedinačnih pitanja klijenata kada prodajno osoblje nema informacije potrebne za krajnje rješenje
Operativna razina	Prodajne jedinice, pozivni centri	Ostvarenje prodaje, povezivanje organizacijskih jedinica, komunikacija s korisnikom	Visok – stalan kontakt s klijentima.

Izvor: Severović, K. (2013). *Upravljanje odnosima s klijentima kao izvor informacija za oblikovanje i poboljšanje usluge*. Varaždin: Fakultet organizacije i informatike., str. 94.



Menadžerske su sastavnice upravljanja odnosima s potrošačima prikazane Tablicom 4.

Strateška razina upravljanja odnosima s potrošačima usmjerena je najvišim razinama rukovoditelja organizacijskih sustava. Zadatci strateške razine upravljanja odnosima s potrošačima su:

- povećanje profitabilnosti,
- povećanje tržišnog udjela kao i
- smanjenje troškova.

Ova menadžerska razina, nema neposredan kontakt s potrošačima ili je pak izuzetno nizak, osim kod specifičnih slučajeva u kojima rješavaju konkretne probleme. Sljedeća razina menadžmenta, taktička je razina koja je pak usmjerena na niže razine rukovoditelja organizacijskih jedinica poslovnih sub-

jekata. Zadatci su ove razine CRM-a skraćivanje vremena obrade zahtjeva klijenata, skraćivanje vremena prodaje i dr. Ova menadžerska razina ima srednji kontakt s potrošačima, a u kontaktu je s potrošačima u onim fazama u kojima prodajno osoblje nema sve potrebne informacije za rješavanje određenoga problema.

Operativna razina upravljanja odnosima s potrošačima orijentirana je na prodajne jedinice, odnosno pozivne centre. Njezini su zadatci: ostvarivanje prodaje, povezivanje organizacijskih jedinica, kao i komunikacija s krajnjim korisnikom. Kontakt je kod ove razine upravljanja odnosima s potrošačima izuzetno visok budući da ova razina ima stalni kontakt s potrošačima.

**Slika 3. Višerazinski pristup implementaciji strategije upravljanja odnosima s klijentima prema Finneganu te Currieu**



Izvor: Severović, K. (2013). *Upravljanje odnosima s klijentima kao izvor informacija za oblikovanje i poboljšanje usluge*. Varaždin: Fakultet organizacije i informatike, str. 100. Prema Finnegan, D. J., Currie, W. L. (2010), „A multi-layered approach to CRM implementation: An integration Perspective“, *European Management Journal*, Vol. 28, str. 153.

### 3.6 Strateški pristup u upravljanju odnosima s potrošačima

Obrađujući problematiku upravljanja odnosima s potrošačima, svakako je potrebno obraditi i strateške pristupe u upravljanju. Donošenje je strateških smjernica, izuzetno značajno za cjelokupne poslovne sustave, ali isto tako i za potrošače, odnosno njihove klijente. Severović (2013: 96) ističe kako strategija koja klijenta stavlja u centar poslovanja, predstavlja „preduvjet konstrukcije procesa potpomognut tehnologijom uz prisutnu multifunkcijsku integraciju (objedinjuje zaposlene, procese i tehnologije). Prilikom formuliranja strateških odrednica, svakako je potrebno naglasak staviti na različitost klijenata poslovnih subjekata. Klijent je u biti potrošač kojega je poslovni subjekt uspio vezati za sebe.“

Severović (2013: 96) je u svojoj disertaciji obradila nekoliko strateških pristupa upravljanju odnosima s klijentima. Riječ je o:

- Buttlovom strateškom pristupu upravljanju odnosima s klijentima,
- Chenovom i Popovichevom strateškom pristupu upravljanju odnosima s klijentima,
- Finnenganovom i Currijevom strateškom pristupu upravljanju odnosu s klijentima.

Buttel je u okviru svoga strateškoga pristupa upravljanju odnosa s klijentima, uočio sedam strategija koje su ključne u upravljanju odnosima s klijentima. Strateški pristup upravljanju odnosima s klijentima prema Chenu i Popovichu (Severović, 2013: 98) podrazumijeva nekoliko faza: proces razvoja strategije, proces kreiranja vrijednosti, proces multi-kanalne integracije, te proces procjene. Višerazinski pristup u upravljanju odnosima s klijentima je istaknut kod Finnengana i Curriea, te je prikazan i grafički (Slika 3.). Specifičnost ovoga strateškoga pristupa u upravljanju klijentima je u povezanosti različitih nivoa spomenutih sastavnica strategije CRM-a, kao i povezanost tehnoloških dostignuća te ljudi.

Sukladno grafičkom prikazu (Slika 3.), vidljiva je povezanost između tehnologije na kojoj se temelji sustav upravljanja klijentima te ljudi. Koliko god tehnološka dostignuća olakšavala poslovanje, uloga će ljudi i njihovih aktivnosti i dalje biti izuzetno značajna.

### 3.7 Postupak upravljanje odnosima s potrošačima (CRM)

Sam postupak upravljanja odnosima s potrošačima odnosi se na nekoliko faza. Te je faze obradio Golub (2006: 24), a obuhvaćaju: početno definiranje strateških „crnih točaka“ u odnosima s kupcima, procjenu podataka, odabir tehnološke podloge te izračun troškova, stvaranje programa za nagrađivanje zaposlenika, praćenje uvođenja i utjecaj CRM-a.

Početno definiranje strateških „crnih točaka“ prva je faza u postupku upravljanja odnosima s potrošačima. Odnosi se na utvrđivanje temeljnoga razloga uvođenja sustava upravljanja odnosima s potrošačima, kao i na utvrđivanje problema koji bitno utječu na zadovoljstvo potrošača. Sljedeća faza jest faza procjene podataka. Potrebno je istaknuti kako je koncept upravljanja odnosima s potrošačima zasnovan na tehnološkoj podršci koja pak podrazumijeva integrirani sustav koji osigurava potrebne informacije. Moguće je konstatirati kako kvalitetna informacija predstavlja osnovnu podlogu za donošenje odluke o isplativosti uvođenja sustava upravljanja odnosa s potrošačima.

Prilikom odabira tehnološke podloge za uvođenje sustava upravljanja odnosima s potrošačima, važno je razmotriti sljedeće elemente (Golub, 2006: 24):

- učinkovitost rješenja,
- rok uvođenja sustava upravljanja odnosima s kupcima,
- brzinu povrata investicije.

Stvaranje programa nagrađivanja zaposlenika, također je važan korak u upravljanju odnosima s potrošačima. Naime, stvaranje programa nagrađivanja zaposlenika izuzetno je važno u osiguranju njihove podrške, odnosno njihovom sudjelovanju u sustavu upravljanja odnosima s potrošačima. Zaposlenici imaju ključnu ulogu u upravljanju odnosima s klijentima. Organizacije moraju stvoriti sustav nagrada koji će potaknuti zaposlenike na prihvaćanje promjena, kao i shvaćanje njihove uloge u upravljanju odnosima s potrošačima. Praćenje uvođenja i utjecaja upravljanja odnosima s potrošačima važno je kako bi se utvrdio napredak, odnosno prihvaćenost novoga poslovnog koncepta, i to poglavito od zaposlenika određenoga poslovnog subjekta.

### 3.8 Uspješnost implementacije koncepta upravljanja odnosima s potrošačima

Uspješnost implementacije koncepta upravljanja odnosima s potrošačima bila je predmetom proučavanja brojnih autora. Koncept upravljanja odnosima s potrošačima nije uvijek uspješan, o čemu svjedoče i primjeri brojnih poslovnih subjekata, a razlozi su neuspjeh u definiranju strategije upravljanja odnosima s potrošačima te s tim u svezi, neuspjeh u implementaciji takve strategije u praksi. Glavni su razlozi za neuspjeh strategije upravljanja odnosima s potrošačima, sljedeći (Severović, 2013: 141):

- razmišljanje da je CRM nova tehnologija, a ne novi način za odrađivanje poslovnih aktivnosti (tehnologija će dati rezultate, ali tek nakon što su dobro postavljene ciljevi tvrtke),
- nedostatak znanja o mogućnostima koje nudi CRM,
- nedostatak vizije i strategije,
- nema borbe za klijente unutar organizacijske kulture,
- izostanak redizajna poslovnih procesa sukladno željenim rezultatima,
- nekvalitetne informacije i podatci, dakle izostaje i pravilan zaključak,
- neprimjereno upravljanje promjenama,
- neuključivanje krajnjih korisnika u dizajn CRM sustava.

Potrebno je istaknuti kako su brojni autori prepoznali važnost brojnih čimbenika u uspješnosti implementacije koncepta upravljanja odnosima s potrošačima. Svakako je potrebno istaknuti važnost prepoznavanja integracije cjelokupne poslovne aktivnosti u implementaciju sustava upravljanja odnosa s potrošačima, naglašavajući kako pozornost svakako treba biti stavljena na potrošača, odnosno klijenta kao i njegove potrebe. Mišljenje klijenata treba uzimati u obzir prilikom donošenja brojnih odluka vezanih za poslovanje samih poslovnih subjekata. Suvremeni bi poslovni subjekti, mišljenje klijenata trebali uvažavati jednako kao i mišljenje svojih zaposlenika čime će osigurati zajamčeni uspjeh poslovnoga sustava. Zablah preporučava korake za uspješnu implementaciju CRM-a, koje čine (Zablah, Bellenger i dr., 2004: 485):

- definiranje CRM strategije (vrijednost klijenta, profitabilnost tvrtke),
- definiranje CRM procesa i pojedinih faza procesa,
- procjena CRM mogućnosti (mogućnosti upravljanja znanjem i upravljanja interaktivnostima),
- poboljšanje trenutnih sposobnosti (poslovnih procesa, tehnologija i pravila) i
- evaluacija, nadzor i poboljšanje.

Ovdje se ponovno ističe važnost menadžerskog pogleda na cjelokupnu problematiku. Potrebno je istaknuti kako nije moguće očekivati uspješnu primjenu CRM-a ukoliko svrha njegovoga postojanja, odnosno implementacije nisu upravo sami klijenti. Magdić ističe tri osnovne komponente koje utječu na uspješnost uvođenja CRM-a. Riječ je o (Magdić, b.d.):

#### *ljudima*

- trebaju prihvatiti i koristiti sustav kako bi postigli ciljeve organizacije,
- komponenta koja se najčešće zanemaruje, a najkompleksnija je i potencijalno stvara najveće probleme,

#### *procesima*

- moraju biti učinkovito definirani i prilagođeni sustavu kako bi davali rezultate,

#### *tehnologiji*

- mora biti pouzdana s odgovarajućim mogućnostima, prilagođena poslovanju i u stanju se povezati s drugim sustavima i izvorima podataka u organizaciji.

### 3.9 CRM kao podsustav poslovnog informacijskog sustava

Sustavni se elementi CRM-a, razlikuju od poslovnog sektora do poslovnog sektora. Tako se primjerice sastavni elementi CRM-a u bankarskom sektoru sastoje od sljedećih upravljačkih komponenti (Severović, 2013: 136):

- upravljanje prodajom,
- upravljanje potporom prodaji,
- upravljanje podacima,
- upravljanje kvalitetom usluge,
- upravljanje redovima čekanja,
- upravljanje pozivnim centrima kao i
- upravljanje kampanjama.

Sastavni su elementi zasnovani na menadžerskom pogledu, imajući pri tome na umu sljedeće četiri sastavnice (Severović, 2013: 136):

- planiranje,
- organiziranje,
- vođenje te
- kontroliranje svih sastavnih elemenata CRM sustava.

Ključne zadaće stavljene pred CRM su stjecanje što potpunijega znanja o potrebama klijenata, te povećavanju učinkovitosti u funkciji rasta stvarne prodaje.

Kada je u pitanju obrada podataka, CRM sustav je moguće podijeliti na operativne i na analitičke sastavnice. Analitičke se sastavnice odnose na analizu i segmentaciju te rudarenje podataka, dok se operativne sastavnice odnose na analizu te obradu podataka prikupljenih od vlastitoga sustava.

### 3.10 Upravljanje odnosima s potrošačima pomoću informacijske tehnologije

Primjena je informatičke tehnologije, nesumnjivo glavna odrednica poslovanja uspješnih poslovnih subjekata, posebice danas. Informatička tehnologija, uz pomoć telekomunikacija, (internet sve integrira u jednu cjelinu) približava i najudaljenija mjesta, te olakšava komunikaciju, ali i razmjenu roba između

sudionika razmjenskoga procesa. Razvoj informacijske tehnologije pridonosi ostvarivanju brojnih korisnosti, kako na razini poslovnog subjekta, tako i na razini globalnoga gospodarskoga sustava.

S razvojem je poslovne aktivnosti, mijenjana i uloga informacijske tehnologije u poslovnim sustavima. S vremenom je sve veći naglasak stavljen na izgradnju kvalitetnijih i pouzdanijih sustava koje je moguće primijeniti u različitim poslovnim sustavima. Razvijanjem se programske podrške u upravljanju odnosima s potrošačima danas bave najpoznatiji svjetski poslovni subjekti u tom dijelu informacijske tehnologije. Severović (2013: 141) ističe kako su „svojevremeno CRM softverska rješenja bila jednodjermeno usmjerena i cilj im je bio direktan kontakt s klijentima u prodaji. No, takvo rješenje nije bilo u mogućnosti pružiti potporu za ostvarenje vrlo visokih prodajnih rezultata. Tijekom vremena sazrela je spoznaja da se softverska rješenja trebaju podjednako usmjeriti na zahtjeve klijenata i poslovnih subjekata pružatelja usluga“.

CRM softverska rješenja trebaju zadovoljiti brojne zahtjeve. Neke su obradili i Buck – Edman i Zecke (2004: 34). Oni ističu sljedeće zahtjeve koje moraju zadovoljiti softverska rješenja CRM-a:

- usmjerenost na potrebe klijenata,
- podrška u suradnji s poslovnim subjektima,
- mogućnost usklađivanja sa specifičnim potrebama različitih grana djelatnosti te
- mogućnosti integracije s ostalim aplikacijama poslovnoga subjekta.

Jedno je od suvremenih široko poznatih programskih rješenja i SAP CRM. Ključne funkcionalnosti ovog programskoga rješenja odražavaju se na marketing, prodaju i usluge, a prikazane su i tablično u Tablici 5.

Model programskog rješenja predstavljen u Tablici 6. govori o komponenti operativnoga menadžmenta koja nudi softverska rješenja za marketing, prodaju i usluge.

Tablica 5. Struktura CRM softverskih rješenja

SASTAVNICE SAP CRM PROGRAMSKIH RJEŠENJA
MARKETING
Istraživanje tržišta
Planiranje
Budžetiranje
Kontrola
Planiranje troškova
Organiziranje marketinga
Radni tokovi i određenja
Segmentacija
Upravljanje kampanjama
Upravljanje lojalnošću
PRODAJA
Planiranje prodaje
Upravljanje performansama prodaje
Kontakti
Upravljanje teritorijem
Upravljanje mogućnostima
Upravljanje narudžbama
Cijene i ugovaranje
Vrijeme
Upravljanje poticajima i provizijama
USLUGE
Ugovori o uslugama
Prodaja usluga i marketing
Instalacija i održavanje
Podrška korisnicima
Povrati i popravci
Upravljanje prigovorima
Upravljanje financijama, nabava
Kontroling
Analize, optimizacije
Unaprjeđenje usluga

Izvor: Severović, K. (2013). *Upravljanje odnosima s klijentima kao izvor informacija za oblikovanje i poboljšanje usluge*. Varaždin: Fakultet organizacije i informatike, str. 148.

#### 4. Zaključak

U današnjim je uvjetima poslovanja, koje odlikuje visoka transparentnost i velika konkurencija, marketing postao temelj osiguranja učinkovitosti poslovanja, odnosno opstanka poslovnih subjekata. Posebnu važnost danas ima marketing odnosa, odnosno njegova aplikativna inačica koja se prepoznaje kao koncept upravljanja odnosima s potrošačima - CRM. Iako se CRM percipira kao tehnologija kojom se prikupljaju podatci o potrošačima, on je mnogo više - CRM je i strategija i proces i tehnologija. Implementacija CRM-a ne završava uvijek uspjehom. Dapače u začetima, kada se CRM tek pojavio, veći je bio broj neuspješnih implementacija od broja uspješnih implementacija CRM-a. Razloge tome treba tražiti prije svega u nepoznavanju svrhe i smisla CRM-a te jednodimenzionalnom sagledavanju problema aplikacije CRM-a.

Za razliku od mnogih drugih područja ekonomske teorije, gdje poslovna praksa ima relativno ujednačene metode djelovanja i u različitim gospodarstvima i u različitim područjima gospodarskih djelatnosti, kao što je npr. slučaj sa sustavima za planiranje resursa poduzeća (Enterprise Resource Planning – ERP), koji su nerijetko uz male dorade svuda aplikativni, CRM sustavi su specifični u svakom području ljudskoga djelovanja, pa čak i u svakom poslovnom subjektu. Primjerice, isti se CRM sustav, čak ni na razini strategije, ne može primijeniti u dva različita poslovna subjekta. Ako se uzme u obzir činjenica da je marketing CRM-a temeljen na znanju, tada u stvaranju znanja kod dva različita poslovna subjekta sudjeluju i dva različita sustava prikupljanja i bilježenja podataka koji su u funkciji generiranja znanja o potrošaču. Školski je primjer obuhvata informacija koje trebaju o potrošaču tekstilne, odnosno industrije obuće. Primjerice, poslovnom će subjektu iz tekstilne industrije zanimljiv biti broj odjeće koju nosi potrošač, dok će poslovnom subjektu iz domene industrije obuće biti zanimljiva veličina stopala potrošača. Prema tome, ove dvije industrije u načelu ne mogu dijeliti isto CRM programsko rješenje. Ako se problem digne na stratešku razinu, vidljivo je kako se zbog specifičnosti programskih rješenja, te diferenciranih mogućnosti dolazaka do informacija i slično, iste metode i strategije implementacije i eksploatacije CRM-a ne mogu koristiti u različitim područjima poslovnih aktivnosti.

Vezano za to pred znanost se i struku postavlja zahtjev analize svakoga pojedinog segmenta poslovanja i pronalaženje optimalnih načina implementacije i eksploatacije CRM-a. U tom smislu ovo istraživanje može poslužiti kao polazna osnova za

rješavanje konkretnih problema implementacije i eksploatacije CRM-a u funkciji optimalnog djelovanja marketinga odnosa.

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## **CUSTOMER RELATIONSHIP MANAGEMENT AIMED AT RETAINING CUSTOMERS**

### **ABSTRACT**

The concept of customer relationship management (CRM), like many other modern concepts, has been a subject of debate in terms of its meaning and scope. The reason for this is the fact that CRM is a strategy, a process and a system. As a result, it is difficult to provide a clear definition of a concept covering such a wide area. However, in considering CRM, one should bear in mind that this concept has been developed in the framework of relationship marketing, a business philosophy aimed at building customer satisfaction by meeting individual consumer needs and turning consumers into loyal customers through continuous interactions with them. In order to do that, it is necessary to establish a system of communication facilitating direct interaction with consumers and using it to turn an anonymous individual into an individualized and personalized entity on whom information is being continuously collected, but also one that is being constantly provided with information. It is not possible to build such a system of communication without the use of modern information and communication technologies, especially when the number of consumers is large. Therefore, CRM system combines marketing and information systems with management. The collected data are used as the basis for creating customer profiles in order to meet their needs effectively. The system also allows the identification of high quality consumers so that appropriate efforts can be made to ensure their loyalty. CRM facilitates the development of a defensive marketing strategy that seeks to retain existing customers, which requires less effort and resources than implementing an offensive marketing strategy.

**Keywords:** Customer relationship management, CRM, relationship marketing



# CONFERENCE REVIEWS

## PRIKAZI KONFERENCIJA

*Ana Pap*

*36<sup>th</sup> Osijek - Pforzheim Symposium Review*

*Jelena Franjković*

*15<sup>th</sup> International Scientific Conference "Business Logistics in Modern Management"*

*Nataša Drvenkar*

*Znanstveni forum: aktualna pozicija Republike Hrvatske u europskom i globalnom okruženju*





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# 36<sup>th</sup> Osijek - Pforzheim Symposium Review

The Osijek – Pforzheim Symposium is an annual event which originated from the successful collaboration between the Hochschule Pforzheim – Pforzheim University and the Faculty of Economics in Osijek, Josip Juraj Strossmayer University of Osijek.

As in the past three decades, the thematic focus of the joint symposium was based on topics which were of great relevance for the future development of both Osijek and Pforzheim. The major broad topic of the Symposium in previous years was competitiveness and its various aspects, as the key contemporary paradigm of economic growth and development. “*Challenges of competition and development in a changing surrounding*” was the specific theme of the 36<sup>th</sup> Osijek – Pforzheim Symposium which was hosted by the Hochschule Pforzheim on the 5<sup>th</sup> and 6<sup>th</sup> November 2015.

Altogether, there were twelve papers presented: five papers were presented by researchers from the Faculty of Economics in Osijek and seven papers by researchers from Pforzheim University. All the papers have analysed different aspects of competitiveness and have created new insights into the topic. Competition in a changing environment was analysed from the following aspects: indifference of the state in the changing environment of new cars’ sales elaborated on the example of tax activities; corporate social responsibility and its impact

on sustainable human development; food as a competitive advantage of Croatian tourism; regulation of foreign-owned property in international law; the economics of allowances in vertical marketing relationships between manufacturers and retailers; quality, obsolescence and (un)sustainable innovation; the higher education spillover; future business models and shapers of the automotive mobility; the question of motivation in competitiveness; globalisation as a risk factor for creativity and innovativeness; the vocational expectations of generation Y and the relationship between financial literacy, capital structure and competitiveness of SMEs. All of the presentations ended with thought-provoking and constructive discussions about the presented subject and implications for further research.

The social part of the Symposium offered the participants the pleasure of attending joint dinners at great restaurants and a visit to the exhibition Yedegar Asisi “ROME 312” in the Gasometer. Participants also had the opportunity to be a part of the graduation ceremony of more than 400 Hochschule Pforzheim graduates which was held in the CongressCentrum Pforzheim. The Symposium closed with a discussion on creating new plans for continuing the successful long-term collaboration between the two institutions and including more universities in the Symposium.



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# **15<sup>th</sup> International Scientific Conference "Business Logistics in Modern Management"**

Business logistics is one of the key areas for the creation of competitive advantages and improvement of overall company's profitability through efficient and effective logistics flows. Therefore, it is not surprising that business logistics draws a lot of attention both in practical and scientific communities. Josip Juraj Strossmayer University of Osijek recognizes the importance and benefits of business logistics development. Once again the Faculty of Economics was the host of the International Scientific Conference on Business Logistics in Modern Management. The 15th conference has continued the tradition from 2001 and was held on October 15, 2015. For the second year in a row, the Ministry of Science, Education and Sports of the Republic of Croatia has recognized the effort in the development of the conference and financially supported it.

The published Conference proceedings, with an ISSN number and the international editorial and review board, resulted in 21 scientific and professional papers written by 44 authors and co-authors from nine countries: Austria, Bosnia and Herzegovina, Croatia, Germany, Nigeria, Poland, Russia, Serbia and Slovenia.

The papers were divided in four thematic areas and presented in 15-minute slots. Almost every presented subject was followed by discussion and sharing of experiences from the perspective of citizens and scientists from different countries.

Retailing in Logistics was the first part with topics such as large retail chains, their density and impact on supply chains, development of retail internationalization in multichannel environment, benefits and risks of RFID technology in retail from the younger consumers' perspective, and concentration of the retail trade.

The second part was Challenges of procurement and distribution channels, dealing with topics such as procurement procedures in the function of improving company business conduct, algorithm for the procurement and inventory management in the distribution supply chain, eco-food production and market perspectives in Croatia, innovative solutions for a "last-mile" delivery in Europe, and distribution channels of major construction materials.

Transport and warehouse trends was the title of the third session, in which presenters spoke on topics such as the cost and non-cost conditionality of transport corridor logistics performances as determinant of port competitiveness, optimizing parts supply in manufacturing by reusable containers, evaluation problem and assessment method of warehouse process efficiency, variable pay in warehouse logistics, the significance of the intermodal transport route through the port of Rijeka for sustainable transport, and International Food Standard and food safety supply chain of a Croatian chocolate producer.

Finally, the last part was Development perspectives of supply chain and logistics, dealing with dimensions for developing supply chain integration scenarios, Croatian competitiveness within European logistics space, "smartbox" - a business concept towards the physical internet, policy framework for business concepts and models of urban/city logistics of a developing economy, development of IT infrastructure to optimize logistics operations in the segment of cold chain, and university/industry partnership projects on logistics.

Additionally, during the conference there was a presentation of the project carried out at the University of Szeged in Hungary and financed by the European Social Fund, dealing with business anticipations and uncertainty management after the crises.

In order to emphasize the cooperation of science and practice, the scientific part of the conference was followed by the visit to the largest hen farm in Croatia, part of the Žito d.o.o. group. The whole business process was presented by company's employees, with a focus on logistics activities. The conference day ended in Baranya with traditional food and comfortable atmosphere.

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# **ZNANSTVENI FORUM: AKTUALNA POZICIJA REPUBLIKE HRVATSKE U EUROPSKOM I GLOBALNOM OKRUŽENJU**

Ekonomski fakultet u Osijeku, 6. listopada 2015.

Ekonomski fakultet u Osijeku i Katedra za nacionalnu i međunarodnu ekonomiju pod pokroviteljstvom Predsjednice Republike Hrvatske Kolinde Grabar-Kitarović i pod pokroviteljstvom Ministarstva znanosti, obrazovanja i sporta organizirali su 6. listopada 2015. godine Znanstveni forum „Aktualna pozicija Republike Hrvatske u europskom i globalnom okruženju“ u obliku dva panela, s ciljem okupljanja stručnjaka iz poslovnog, javnog i znanstvenog života kako bi se ukazalo na ključne gospodarske probleme Republike Hrvatske u europskom i globalnom okruženju te prezentirale smjernice vezane uz poticanje konkurentnosti, ubrzanja ekonomskoga rasta i ostvarenja društva blagostanja. Znanstveni forum koji je okupio 140 sudionika otvorili su dekan Ekonomskog fakulteta u Osijeku, prof. dr. sc. Vladimir Cini, zamjenik gradonačelnika Grada Osijeka, Vladimir Ham, župan Osječko-baranjske županije, Vladimir Šišljagić, prorektor Sveučilišta J. J. Strossmayera u Osijeku, prof. dr. sc. Mario Vinković i ministar gospodarstva Ivan Vrdoljak.

Društveno-ekonomska situacija u kojoj se naša Hrvatska krajem prošloga desetljeća 21. stoljeća i početkom ovoga novog, refleksija je izostanka strateškoga promišljanja i razvoja te stihijskoga prepuštanja modelu koji je ekonomski rast temeljio na ekspanziji državne potrošnje i aktivnostima građevinskog sektora (posebice prometne infrastrukture), a koje su bile uglavnom financirane inozemnim kapitalom, tj. zaduživanjem države. Na prvom panelu „Hrvatska i EU: novi model ekonomske politike“ diskutirali su prof. dr. sc. Mladen Vedriš, prof. dr. sc. Ljubo Jurčić, viceguverner HNB-a, mr. sc. Vedran Šošić i potpredsjednik HGK-a za međunarodne i europske poslove, mr. sc. Željko Kramarić s prof. dr. sc. Đulom Borozan, moderatoricom prvog panela. Istaknute su tri ključne ocjene nedavne prošlosti:

1. Prevladavajući model rasta u prošleme desetljeću nije bio temeljen na „zdravoj“ ekonomskoj osnovi te kao takav nije mogao biti održiv.



2. U generiranju neodrživog rasta sudjelovali su, osim državnog/javnog sektora i politike i ostali nacionalni sudionici i sektori: gospodarstvo, kućanstvo, bankarski sektor, sudstvo i sveučilišta.
3. Svjetska financijska kriza i velika recesija samo su bili „okidači“ koji su iznijeli na vidjelo svu hrvatsku društveno-ekonomsku patologiju te tako bili uvod u ekonomsku i moralnu krizu u koju je RH utočila.

Istaknuto je kako je prisutan blagi napredak u razvijenosti hrvatskoga društva i kako se kvaliteta poslovnoga okruženja i konkurentnosti hrvatskoga gospodarstva polako poboljšava. Pozitivne promjene su prisutne, i to je dobro – one su znak da hrvatsko društvo „može“. Ipak, u usporedbi sa zemljama usporednih karakteristika (primjerice Slovenijom, Mađarskom, Poljskom i Češkom), dinamika promjena nije zadovoljavajuća. Može se i treba brže reformirati i razvijati, a kočničare razvoja učinkovitije suzbijati. Nadalje, „reforme zbog reformi“, nepostojanost i nekoordiniranost u reformama, djelomične reforme, nedosljednost u provođenju reformi, nedostatak političke hrabrosti za reforme i slično, samo su dio pogrešaka čije su posljedice i ekonomske naravi. Za razliku od modela rasta koji je bio prakticiran u prošlom desetljeću, naziru se elementi/stupovi zdravijega temelja novoga modela; modela koji uključuje i novu odgovornu državu (kroz mjerljive ciljeve i odgovornosti za „činjenje“, ali i „nečinjenje“) i ekonomsku politiku usmjerenu poticanju proizvodnje i izvoza (za što je nužna inovativna te gospodarstvu „prijateljska“ poslovna klima) istaknuli su prof. dr. sc. Vladimir Cini, prof. dr. sc. Đula Borozan i doc. dr. sc. Nataša Drvenkar u publikaciji koja je izdana povodom ovoga foruma koji popularizira znanost. Potrebno je kontinuirano razvijati kulturu rada i učenja, tolerancije i društvene odgovornosti.

Drugi panel „Globalizacija i regionalizacija: u potrazi za inventivnim gospodarstvom“ u kojem su sudjelovali prof. dr. sc. Vladimir Gruden, prof. dr. sc. Velimir Srića, direktor Harburg-Freunderbergera Belišće d.o.o., mr. sc. Zoran Uranjek i predsjednik uprave Spin Valis d.d., Zdravko Jelčić moderirao je prof. dr. sc. Mladen Vedriš. Istaknuto je kako BDP bilježi blagi rast i znakove oporavka što bi moglo potaknuti pozitivno raspoloženje gospodarstvenika, ali je nužno provesti konsolidaciju javnoga budžeta budući je i najviši u SIE regiji. Naime, stanje javnih financija rezultira lošim rejtingom zemlje, ali i negativnom percepcijom investitora te predstavlja prepreku daljnjoj stabilizaciji gospodarstva, istaknuo je prof. dr. sc. Mladen Vedriš.

Zanimljivi zaključci sudionika panela unijeli su posebnu dinamiku na Znanstvenom forumu. Tako je, primjerice, kroz „Priču o 5 majmuna“ prof. dr. sc. Velimir Srića slikovito dočarao sustav u kojem „svatko čini nešto, a uopće ne zna zašto to čini“ i time upozorio na nedostatak strateškoga promišljanja razvoja i nedostatak vizije koja je „jasna svima“. Prof. dr. sc. Ljubo Jurčić naglasio je kako nam je nužno znanje stečeno razvojem vlastitih sveučilišta i razvojem vlastite ekonomske snage za koju imamo sve potrebne resurse. Prof. dr. sc. Vladimir Gruden upozorio je kako samo kvalitetna osoba može biti menadžer (bilo koje razine i sektora), a za to je nužno „naučiti upravljati samim sobom“ i „pomiriti se sa sobom“.

Znanstveni forum snažno je medijski popraćen<sup>1</sup> i predstavlja jedan od niza aktivnosti popularizacije znanosti Ekonomskoga fakulteta u Osijeku koji proaktivno djeluje u svojoj široj zajednici (više o Znanstvenom forumu: <http://www.efos.hr/znanstveni-forum>). Glavni partner i pokrovitelj Znanstvenog foruma bio je HEP d.d., a ostali partneri bili su: Žito d.o.o., HGK, Nexe Grupa d.d., Cesting d.o.o., Karolina d.o.o., Otos d.o.o., Spin informatica d.o.o., Bijelić d.o.o., Badel d.o.o., Grafika d.o.o., brand Nescafe, Glas Slavonije d.o.o.

1 Izdvajamo: Ministarstvo Gospodarstva: <http://www.mingo.hr/page/ministar-vrdoljak-potpisao-s-tvrtkama-iz-slavonije-i-baranje-ugovore-po-operativnom-programu-za-industriju-za-2015-godinu>; Glas Slavonije: <http://www.glas-slavonije.hr/281776/1/Uspjeh-moguc-uz-jasnu-viziju-ciljeva-te-ulaganje-u-znanje>; HRT Radio (članak i izjave): <http://radio.hrt.hr/clanak/aktualna-pozicija-rh-u-europskom-i-globalnom-okruzenju/102878/>; OBŽ: <http://www.obz.hr/hr/?vijest=2827>; Portali osijek031: [http://www.osijek031.com/osijek.php?najava\\_id=58665](http://www.osijek031.com/osijek.php?najava_id=58665); Osječka TV: <http://osjecka.com/aktualna-pozicija-rh-u-europskom-i-globalnom-okruzenju/>; Nacional.hr: <http://www.nacional.hr/vrdoljak-bdp-a-nagodinu-veci-za-dva-posto-2017-iznad-tri-posto/>; Web prof.dr.sc. Velimir Srića: <http://www.velimirsrica.com/sudjelovanje-na-znanstvenom-forumu-ekonomskog-fakulteta-u-osijeku.aspx>;





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