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# Unemployment and Government's Subsidizing

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Unemployment has become more and more pressing matter nowadays. Governments all across the world are implementing policies to increase the employment rates back to the levels before the economic downturn. One of the most important policies implemented by countries governments were employment subsidies, which means that companies got government funding when employing and also that private citizens had the possibility for entrepreneurship stimulus packages. The scope of our study was to determine how the gross domestic product and the government's subsidizing on a country's level affect the number of unemployed on a country level. We have conducted the empirical part of our study on the case of Slovenia and found out that gross domestic product has a bigger effect on the number of unemployed than government's subsidies.

**Keywords:** unemployment, employment, crisis, government subsidizing, GDP

## 1 Introduction

Unemployment is always a pressing matter for governments all around the world. Since 2008 when the global economic crisis began it has become even more pressing. To fight high unemployment rates and citizen dissatisfaction governments implemented various policies to reduce unemployment or at least to keep it under control.

The most often used government tactic to reduce unemployment and increase employment are government subsidies which enable companies to employ under different circumstances than those that the labor market allows by itself. Subsidies also give private citizens the possibility for entrepreneurship stimulus packages which also reduces unemployment.

We will explore how government's subsidizing and country's GDP affect unemployment in a country. Subsidizing is a well known measure to reduce unemployment so we believe that it has an effect and on the other hand we believe that the unemployment is also affected by the country's GDP. Also, we want to find out how unemployment is affected by the two selected variables and which variable has a stronger affect. Our research will be conducted on the case of Slovenia.

## 2 Theoretical Backgrounds

### 2.1 Unemployment

Unemployment is defined in the resolution relating to statistics of the economically active population, employment, unem-

ployment and underemployment, which was adopted by the Thirteenth International Conference of Labour Statisticians that took place in Geneva in 1982. As the »unemployed« are defined all persons above a specified age who are during the reference period: »without work«, i.e. are not in paid employment or self-employment as defined in paragraph; »currently available for work«, i.e. are available for paid employment or self-employment during the reference period; and »seeking work«, i.e. have taken specific steps in a specified recent period to seek paid employment or self-employment (LABORSTA Internet: Main statistics (annual) - Unemployment (E), 27.03.2010). The prevalence of unemployment is measured using the unemployment rate. The unemployment rate is defined as the percentage of those in the labor force who are unemployed (Blanchard, 2005).

Economists distinguish different types of unemployment: cyclical unemployment, frictional unemployment, structural unemployment and classical unemployment. Occasionally are mentioned also seasonal unemployment, hardcore unemployment, and hidden unemployment. Real-world unemployment is usually the combination of different types (Sullivan & Sheffrin, 2003).

There is a constant debate on how to solve the persistent unemployment problem. One of the problems is that the extent and timing of the shift varies across countries and those countries lagging behind in this process of restructuring experience lower growth levels and this has consequences for the level of unemployment in different countries (Thurik, 2003). Aghion and Howitt (1994) argue that unemployment is affected by

economic growth, both, directly through the job-destruction rate, and indirectly, through its effects on the incentive for firms to create job openings and hence on the job-finding rate.

Many authors claim that entrepreneurship reduces unemployment. Faria, Cuestas and Gil-Alana (2009) argue that when unemployment is high, more people create new businesses and successful new startups create new jobs which lead to a reduction in unemployment. Moreover, the unemployment rate can on one hand stimulate the start-up activity of self employment, but a higher rate of self-employment may on the other hand indicate increased entrepreneurial activity, which in the subsequent period of time reduces the unemployment. These two effects have resulted in considerable ambiguities about the interrelationship between unemployment and entrepreneurial activity (Audretsch et al., 2005). The response to unemployment or lack of outside alternatives in the labor market can be the individual's decision to start a new business (Cowling & Bygrave, 2002).

## 2.2 GDP

Gross domestic product (GDP) has an important role in economics, public policy, politics and society. Combining all theories about GDP influence lead to overall conclusion that GDP is not only an inadequate proxy of social welfare but also has a considerable impact on public and private economic decisions (Van der Bergh, 2008). Guest and McDonald (2007) point out that the share in global GDP of a region is of interest because it indicates, to some extent, the economic, political and cultural importance of that region. GDP is an indicator of social welfare and progress; it witnesses the common substituting phrase »standard of living« (Van der Bergh, 2008).

The real GDP per capita (corrected for inflation) is generally used as the core indicator in judging the position of the economy of a country over time or relative to that of other countries (Van der Bergh, 2008). It is important to distinguish between real GDP on one hand and real domestic income on the other. Real GDP is often used as a proxy of a country's real income and focuses on production possibilities, whereas real income stresses consumption possibilities and welfare (Kohli, 2004).

Researchers often employ some form of a generalized autoregressive conditional heteroskedasticity (GARCH) modeling strategy to examine the volatility of real GDP growth. Most such studies assume a stable GARCH or exponential GARCH (EGARCH) process capturing the movement in instability (Fang & Miller, 2009). Sato (2001) stresses the importance in macroeconomic contents of potential output and the GDP gap. In his research he demonstrates that GDP gap estimate makes much better economic sense in comparison with other important macroeconomic indicators.

GDP in each country is determined by a country's specific production function that incorporates the usual three arguments: employment, capital and total factor productivity (Guest & McDonald, 2007). GDP per capita is often construed as information about productivity. But it is important to note that a correct productivity measurement needs to be related to the number of hours worked, which shows many variations between countries, as well as over time. GDP per

hour is therefore a more useful indicator of productivity than GDP per capita (Van der Bergh, 2009). One of the reasons why many economists are interested in GDP figures is also because an increase in real GDP is usually associated with a rise in employment (Kohli, 2004).

## 2.3 The relationship between unemployment and the GDP

In economics, there are a few well-known stable empirical relationships among macroeconomic variables. In this subchapter, we talk about two such relationships; one is the Okun's Law and the other is Taylor Rule. In summary, Okun's Law and the Taylor Rule represent relationships among key macroeconomic policy variables that appear in most textbooks (Mitchell & Pearce, 2009).

Mitchell and Pearce (2009) argue that Arthur Okun was the first to note a stable, negative relationship between unemployment and real output in a policy-oriented article aimed at clarifying the costs of unemployment. The stability of the relationship together with its simplicity may in their opinion explain the popularity of Okun's Law among policy-makers, as well as its inclusion in macroeconomics textbooks. Okun (1970) suggested that a one-percentage point change in the unemployment rate is associated with an approximately three-percentage change in output in the opposite direction. This rule of thumb is regarded as a benchmark for policymakers to measure the cost of higher unemployment. Recent economic developments, however, have raised challenges to the three-to-one ratio as an empirical regularity (Lee, 2000).

John Taylor (1993) more recently proposed a simple rule to guide the Federal Reserve in setting its nominal federal-funds-rate target, thereby joining the long-standing debate on whether rules-based or discretionary monetary policy better achieves price stability consistent with high employment. Like Okun's Law, the Taylor Rule quickly came to prominence among policy makers and academic economists alike.

When considering the relationship between unemployment and the GDP, it is also important to understand the importance of time lags between particular economic phenomena. First, GDP declines, followed by adjustment in employment (the reactions of the companies are always somewhat late, comparing to the GDP performance of the countries), and the state lag (also the Governments take their time to prepare the policy measures) being even more significant.

## 2.4 Government's subsidizing

In general, any policy that reduces profits raises the unemployment and vice versa - those that enhance profits reduce the unemployment. Therefore, employment subsidies should reduce unemployment and unemployment benefits raise it (Pissarides, 1985). But some researchers also criticize subsidies and argue that because of the subsidies some workers may lose their jobs. This is either due to changes in relative wages (substitution effects) or because subsidies reduce the market share of some firms relative to others (displacement effects) (Betcherman et al., 2008).

Unemployment subsidizing systems vary widely among countries and also among different periods, but they all tend to decrease the unemployment rate, particularly of vulnerable groups, and its negative influence on countries' welfare. In this chapter we will focus on government subsidizing of unemployment in Slovenia. We will also look at the effects of the current crisis on employment policies and happenings in the Slovenian economy as of mid-2009 and consider the actions of the Slovenian government to mitigate the effects of the crisis.

In general, the employment subsidies intend to reduce the cost of labor to employers. They can be either applied to all employment or only to marginal subsidies. They can also be general, in the sense of applying to all workers and establishments, or to only certain types of workers (for example, low-wage, youth, long-term unemployed, women, or disabled workers) or certain sectors or geographic areas within the state (Betcherman et al., 2008). Orszag and Snower (2003) distinguish two types of policy proposals in reducing unemployment and working poverty: hiring subsidies and wage subsidies. The hiring subsidies are targeted entirely at the unemployed and are provided only for a limited period of time, the wage subsidies, on the other hand, are granted to all low-wage earners regardless of their employment history and are of limitless duration. Their analysis indicates that the relative effectiveness of the two policies depends on workers' prospective wage growth.

In Slovenia, the employers-employees relations are in a large extent responsible for the adaptability of workers to the changing market conditions. The country's employment policy also plays a great role in reducing the unemployment problem in a country. Country measures to promote employment in Slovenia can be roughly divided into passive (unemployment benefits), active (active employment policy programs) and interventional (partial subsidizing of full-time employment).

Unemployment benefits for unemployment time are intended to anyone whose employment relationship did not end by their own fault. Compensation for the first three months is 70% and the following months 60% of average monthly income received within 12 months prior to unemployment. The compensation paid can be no lower than 45.56% of the minimum wage and no higher than three times the amount of the lowest benefit thus determined. During the time of receiving money compensation one is involved in the compulsory insurance - pension and disability insurance, health insurance for parent protection and unemployment benefits. Contributions are paid by the Institute of Slovenia for employment (Ministry of Labour, Family and Social affairs, 2009).

The state assists it mainly through the tools of active employment policy, while the size of the unemployment funds is small, due to the low contributions. Active employment policy (AEP) measures represent a range of measures which the government actively engages in the labor market and eliminate disparities between supply and demand. The amount of 102.7 mio EUR was dedicated to this purpose in the year 2009. The main actions under the AEP are advice and job search assistance, training and education, promoting employment and self employment and programs to increase social inclusion (AEP 2007-2013). In the context of promoting employment and self-employment of unemployed persons, the state is providing subsidies for self-employment, an employment subsidy for difficultly employable persons (e.g. young, long-term unemployed) and grants for reimbursement of labor costs, which includes reimbursement of the employer subsidy and part-time work (Ministry of Labour, Family and Social affairs, 2009).

Currently, in Slovenia is a special emphasis placed upon the last – the subsidies for shortening the working time and the implementation of a so called "wage guarantee fund". In February 2009 the government adopted a set of measures that

Table 1: Data on total subsidies, GDP and the number of unemployed in Slovenia for the years 1999 to 2008

Year	Total subsidies in Slovenia (in mio €)*	Slovenia's GDP (in mio €)*	Number of unemployed in Slovenia
1999	459,25	18786,00	114348
2000	407,24	19682,00	104583
2001	427,84	21024,00	104316
2002	332,80	23492,00	99607
2003	371,20	24592,00	95993
2004	408,70	25919,00	90728
2005	267,20	28243,00	92575
2006	276,27	30397,87	78303
2007	268,14	33105,51	68411
2008	323,32	35691,43	66239

\* The average Bank of Slovenia rate for EUR 1 was SIT 193,6253 in 1999, SIT 205,0316 in 2000, SIT 217,1851 in 2001, SIT 226,2237 in 2002, SIT 233,7045 in 2003, SIT 238,9 in 2004, SIT 239,6371 SIT in 2005 and SIT 239,64 in 2006.

Source: Četrto poročilo o državnih pomočeh v Sloveniji (za leta 1999, 2000, 2001) (2002); Sedmo poročilo o državnih pomočeh v Sloveniji (za leta 2002, 2003, 2004) (2005); Osmo poročilo o državnih pomočeh v Sloveniji (za leta 2003, 2004 in 2005) (julij 2006); Enajsto poročilo o državnih pomočeh v Sloveniji (za leta 2006, 2007 in 2008) (julij 2009) [Reports on State Aid in Slovenia, 1999 to 2008, Ministry of Finance].

subsidized full-time working week for particular companies that have been affected more than others by the fall in export demand and had to move to a temporary 36-hour or 32-hour working week. The total amount of funds available for this measure is 230.4 million euro (ESS, 2009). The Employment Service of Slovenia has until March 2009 entered into a contract for the partial subsidization of full-time with 207 employers, for 32,597 employees.

We argue that the introduction of "wage guarantee funds" is a better tool to increase flexibility in the labour market, especially if they would become a part of the welfare accounts and also resulting in positive correlation with the GDP stabilization in the beginning and growth further on. Taken together with the skill accounts and pension accounts, unemployment accounts could be a good way to reform the present welfare state in Slovenia. The welfare state would both emphasize a greater individual responsibility and expose some mechanisms that have thus far not played an important role (e.g. sustainable level of inequality and the preservation of the environment).

### 3 Methodology

The scope of our study is to determine how the gross domestic product and the government's subsidizing on a country's level affect the number of unemployed on a country level. The research questions of our research are as follows:

R1: *How is the number of unemployed affected by the GDP (gross domestic product)?*

R2: *How is the number of unemployed affected by the government's subsidizing on a country's level?*

The variables used in our research are the following: (1) the total subsidies in Slovenia, (2) the Slovenia's GDP, and (3) the number of unemployed in Slovenia.

As a basis for the empirical part of our research, we've gathered the data on total subsidies, GDP and the number of unemployed in Slovenia for the years 1999 to 2008. This data are presented in the table 1.

## 4 Results and discussion

### 4.1 Results

We began our analysis by constructing the frequency table (Table 2) and the correlation matrix (Table 3) for the variables used in our research.

From Table 3 we can see that »Total subsidies in Slovenia (in mio €)« and »Number of unemployed in Slovenia« have a positive and high Pearson r Correlation Coefficient which is statistically significant. On the other hand the Pearson r Correlation Coefficient between »Slovenia's GDP (in mio €)« and »Number of unemployed in Slovenia« is also high and statistically significant but the correlation is negative. The authors had an idea to estimate the two regressions together in order to find the partial effects of both variables on unemployment. However, because we wanted to avoid the effect of autocorrelation between »Total subsidies in Slovenia (in mio €)« and »Slovenia's GDP (in mio €)«, we conducted the two separate regression analyses of their affects on the »Number of unemployed in Slovenia«.

Table 3: Pearson r Correlation Coefficients (n=10)

	Total subsidies in Slovenia (in mio €)	Slovenia's GDP (in mio €)
Slovenia's GDP (in mio €)	-0,793**	
Number of unemployed in Slovenia	0,749*	-0,978**

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

In Table 4 we used the regression to analyze the relationship between the independent variable representing »Total subsidies in Slovenia (in mio €)« and the dependent variable »Number of unemployed in Slovenia«.

With the predictor »Total subsidies in Slovenia (in mio €)« that we have used in our regression analysis, 50.6% variance of »Number of unemployed in Slovenia« is explained. »Total subsidies in Slovenia (in mio €)« have a positive effect on »Number of unemployed in Slovenia« ( $\beta=0.749$  and is statistically significant at the 0.013 level).

In Table 5 we used the regression to analyze the relationship between the independent variable representing »Slovenia's GDP (in mio €)« and the dependent variable »Number of unemployed in Slovenia«.

With the predictor »Slovenia's GDP (in mio €)« that we have used in our regression analysis, 95.2% variance of »Number of unemployed in Slovenia« is explained. »Slovenia's GDP (in mio €)« has a negative effect on »Number of

Table 2: Frequency tables for the variables (n=10)

		Total subsidies in Slovenia (in mio €)	Slovenia's GDP (in mio €)	Number of unemployed in Slovenia
n	Valid	10	10	10
	Missing	0	0	0
Mean		354,1960	26093,2810	91510,30
Median		352,0000	25255,5000	94284,00
Std. Deviation		70,70344	5712,52006	15953,013
Minimum		267,20	18786,00	66239
Maximum		459,25	35691,43	114348

Table 4: Regression Analysis for the Dependent Variable »Number of unemployed in Slovenia« (n=10)  
*R*=0.749; *R*<sup>2</sup>=0.561; Adj. *R*<sup>2</sup>=0.506

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	31672,701	19062,489		1,662	,135
Total subsidies in Slovenia (in mio €)	168,939	52,879	,749	3,195	,013

Dependent Variable: Number of unemployed in Slovenia.

Table 5: Regression Analysis for the Dependent Variable »Number of unemployed in Slovenia« (n=10)  
*R*=0.978; *R*<sup>2</sup>=0.957; Adj. *R*<sup>2</sup>=0.952

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	162795,924	5455,721		29,839	,000
Slovenia's GDP (in mio €)	-2,732	,205	-,978	-13,345	,000

Dependent Variable: Number of unemployed in Slovenia.

unemployed in Slovenia« ( $\beta$ =-0.978 and is statistically significant at the 0.000 level).

## 4.2 Discussion

Our research shows us that based on the data of the variables that we chose to conduct our research on, we can answer our two research questions. Based on the Pearson r Correlation Coefficients (Table 3) we can conclude that when the »Number of unemployed in Slovenia« increases the »Total subsidies in Slovenia (in mio €)« also increase. On the other hand, we can see that when »Slovenia's GDP (in mio €)« increases the »Number of unemployed in Slovenia« drops. We can also conclude based on the Pearson r Correlation Coefficients that the correlation is higher when it comes to »Slovenia's GDP (in mio €)« than it is in »Total subsidies in Slovenia (in mio €)«.

Our first research question (R1) was about how the number of unemployed is affected by the GDP (gross domestic product), which we have answered using regression analysis (Table 4). »Total subsidies in Slovenia (in mio €)« have a positive effect on »Number of unemployed in Slovenia« ( $\beta$ =0.749 and is statistically significant at the 0.013 level). We were surprised with this result, because based simply on this we can conclude that subsidies actually increase the number of unemployed.

The second research question (R2) was how the number of unemployed is affected by the government's subsidizing on a country's level, which we have answered using regression analysis (Table 5). »Slovenia's GDP (in mio €)« has a negative effect on »Number of unemployed in Slovenia« ( $\beta$ =-0.978 and is statistically significant at the 0.000 level). Such an answer – that higher GDP reduces the number of unemployed – was expected.

The limitations of the research are definitely the small amount of the observations, which might cause that readers might think that the results are not reliable. However, the availability of data was certainly a restricting factor in our research, since the Ministry of Finance holds data on the subsidies only from year 1999 onwards. Should the authors be able to gather more observations, a cointegration analysis would be used within our research.

## 5 Conclusion

Unemployment is a problem that has to be solved. It is the problem that affects citizens of all countries in the world and represents a concern for all the governments. One of the most often used tactics to prevent unemployment, or to lower it, is government's subsidizing. Subsidies should enable people to retain or gain employment which would by itself not be possible without these subsidies.

Through our research we have found that subsidizing is not the right way to prevent unemployment. It is just a bandage to control it for short periods of time, perhaps to lower the dissatisfaction of the citizens and to pose an image that someone is doing something to lower unemployment and to help those who are or are to be unemployed.

The reduction of the unemployment can be achieved through the economic growth. Based on our research, we have concluded that the increase of country's GDP lowers the number of unemployed significantly. Countries with the problem of high unemployment should therefore focus on the development. As a concluding remark, we want to emphasize that the employment by itself is not enough, but the employees should rather aim at producing high value added which will further increase the country's GDP and lower the number of unemployed.

## References

- Active Employment Policy Programme for the period 2007 – 2013. URL: [www.ess.gov.si/slo/Dejavnost/Programi/apz\\_2007\\_2013.pdf](http://www.ess.gov.si/slo/Dejavnost/Programi/apz_2007_2013.pdf), 04.06.2010.
- Aghion P. & Howitt, P. (1994). Growth and Unemployment, *The Review of Economic Studies*, 61(3): 477 – 494. DOI: 0034-6527/94/00240477\$02.00
- Audretsch, D. B., Carree, M. A., van Stel, A. J. & Thurik, R. (2005). *Does self-employment reduce unemployment?* CEPR discussion paper No. 5057. ISSN 0265-8003
- Betcherman, G., Meltem Daysal, N. & Pagés, C. (2008). Do Employment Subsidies Work? Evidence from Regionally Targeted Subsidies in Turkey. IZZA Discussion Paper No. 3508.
- Blanchard, O. (2005). *European Unemployment: The Evolution of Facts and Ideas*, "NBER Working Paper No. 11750", Cambridge, London. URL: <http://www.nber.org/papers/w11750.pdf> (20.7.2010).
- Cowling, M. & Bygrave, W. D. (2002). *Entrepreneurship and Unemployment: Relationship between unemployment and entrepreneurship in 37 nations participating in the Global Entrepreneurship Monitor (GEM)*, URL: [www.gemconsortium.org](http://www.gemconsortium.org) (20.7.2010).
- Četrto poročilo o državnih pomočeh v Sloveniji (za leta 1999, 2000, 2001) (maj 2002). [The Fourth Report on State Aid in Slovenia (for the years 1999, 2000, 2001)] ,Ministrstvo za finance – Letna poročila o državnih pomočeh v Sloveniji. URL: [http://www.mf.gov.si/slov/nadz\\_pom/porocilo2001.pdf](http://www.mf.gov.si/slov/nadz_pom/porocilo2001.pdf) (20.7.2010).
- Dincer, I. (1997). Energy and GDP analysis of OECD countries, *Energy conversion and management*, 38(7): 685-696. DOI: 10.1016/S0196-8904(96)00075-1
- Enajsto poročilo o državnih pomočeh v Sloveniji (za leta 2006, 2007 in 2008) (julij 2009), [The Eleventh Report on State Aid in Slovenia (for the years 2006, 2007 and 2008)]. Ministrstvo za finance – Letna poročila o državnih pomočeh v Sloveniji. URL: [http://www.mf.gov.si/slov/nadz\\_pom/porocilo\\_enajsto.pdf](http://www.mf.gov.si/slov/nadz_pom/porocilo_enajsto.pdf) (20.7.2010).
- ESS – Employment Services of Slovenia (2010). *Letno poročilo 2009*. URL: [http://www.ess.gov.si/\\_files/886/letno\\_porocilo\\_zrsz\\_%202009.pdf](http://www.ess.gov.si/_files/886/letno_porocilo_zrsz_%202009.pdf), 15.6.2010.
- Fang, WenShwo & Miller, S. M. (2009). Modeling the volatility of real GDP growth: The case of Japan revisited, *Japan and the World Economy*, 21(3): 312–324. DOI: 10.1016/j.japwor.2008.10.002
- Faria, J. R., Cuestas, J. C. & Gil-Alana, L. A. (2009) Unemployment and entrepreneurship: A cyclical relation? *Economics Letters*, 105(3): 318 – 320. DOI: 10.1016/j.econlet.2009.09.004
- Guest, R. S. & McDonald, I. M. (2007). Global GDP shares in the 21st century — An equilibrium approach, *Economic Modelling*, 24: 859 – 877. DOI: 10.1016/j.econmod.2007.03.001
- Kohli, U. (2004). Real GDP, real domestic income, and terms-of-trade changes, *Journal of International Economics*, 62: 83–106. DOI: 10.1016/j.jinteco.2003.07.002
- LABORSTA Internet: Main statistics (annual) - Unemployment (E). <http://laborsta.ilo.org/applv8/data/c3e.html> (27.3.2010).
- Lee, J. (2000). The Robustness of Okun's Law: Evidence from OECD Countries, *Journal of Macroeconomics*, 22 (2): 331 – 356. DOI: 0164-0704/2000/81.50
- Ministry of Labour, Family and Social affairs (2009). URL: [http://www.vlada.si/fileadmin/dokumenti/si/projekti/Protikrizni\\_ukrepi/Ukrepi\\_za\\_blazitev\\_krize/Ukrepi\\_drzave\\_za\\_zaposlovanje\\_in\\_transferji\\_ter\\_subvencije\\_posameznikom\\_in\\_druzinam.pdf](http://www.vlada.si/fileadmin/dokumenti/si/projekti/Protikrizni_ukrepi/Ukrepi_za_blazitev_krize/Ukrepi_drzave_za_zaposlovanje_in_transferji_ter_subvencije_posameznikom_in_druzinam.pdf), 21.7.2010
- Mitchell, K. & Pearce, D. K. (2009). Do Wall Street economists believe in Okun's Law and the Taylor Rule?, *Journal of Economics and Finance*, 34: 196-217. DOI: 10.1007/s12197-009-9085-3
- Okun, A. M. (1970). Potential GNP: Its Measurement and Significance, *The Political Economy of Prosperity*, 132-45. New York, Norton.
- Orszag, J. M. & Snower, D. J. (2003). Designing employment subsidies, *Labour Economics*, 10: 557 – 572. DOI: 10.1016/S0927-5371(03)00035-6
- Osmo poročilo o državnih pomočeh v Sloveniji (za leta 2003, 2004 in 2005) (julij 2006), [The Eighth Report on State Aid in Slovenia (for the years 2003, 2004 and 2005)]. Ministrstvo za finance – Letna poročila o državnih pomočeh v Sloveniji. URL: [http://www.mf.gov.si/slov/nadz\\_pom/porocilo\\_osmo.pdf](http://www.mf.gov.si/slov/nadz_pom/porocilo_osmo.pdf) (20.7.2010).
- Pissarides, C. A. (1985). Taxes, Subsidies and Equilibrium Unemployment, *The Review of Economic Studies*, 52(1): 121 – 133. DOI: 0034-6527/85/00080121\$02.00
- Sato, K. (2001). Japan's potential output and the GDP gap: a new estimate. *Journal of Asian Economics*, 12(2): 183 – 196. DOI: 10.1016/S1049-0078(01)00081-1
- Sedmo poročilo o državnih pomočeh v Sloveniji (za leta 2002, 2003, 2004) (junij 2005), [The Seventh Report on State Aid in Slovenia (for the years 2002, 2003, 2004)]. Ministrstvo za finance – Letna poročila o državnih pomočeh v Sloveniji. URL: [http://www.mf.gov.si/slov/nadz\\_pom/porocilo\\_sedmo.pdf](http://www.mf.gov.si/slov/nadz_pom/porocilo_sedmo.pdf) (20.7.2010).
- Sullivan, A. & Sheffrin, S. M. (2003). *Economics: Principles in action*, Upper Saddle River, New Jersey, Pearson Prentice Hall.
- Taylor, J. (1993). Discretion versus policy rules in practice. *Carnegie Rochester Conference Series on Public Policy*, 39: 195-214. DOI: 10.1016/0167-2231(93)90009-L
- Thurik, R. (2003). Entrepreneurship and unemployment in the UK, *Scottish Journal of Political Economy*, 50(3): 264 – 290. DOI: 10.1111/1467-9485.5003001
- Van den Bergh, Jeroen C.J.M. (2009). The GDP paradox, *Journal of Economic Psychology*, 30(2): 117 – 135. DOI: 10.1016/j.joep.2008.12.001

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### **Brezposelnost in državno subvencioniranje**

Brezposelnost je postala vedno bolj in bolj pereča zadeva. Vlade po vsem svetu izvajajo politike za povečanje stopnje zaposlenosti nazaj na raven pred gospodarsko recesijo. Ena od najbolj pomembnih politik, ki jih izvajajo vlade držav so subvencije za zaposlovanje, kar pomeni, da so podjetja dobivala vladno podporo pri zaposlovanju, pa tudi, da so bile državljanom dane spodbude za podjetniško delovanje. V raziskavi smo ugotavljali, kako bruto domači proizvod in subvencije na ravni celotne države vplivajo na število brezposelnih na ravni države. Empirični del naše raziskave smo izvedli na primeru Slovenije in ugotovili, da je vpliv bruto domačega proizvoda na število brezposelnih večji od vpliva državnih subvencij.

**Ključne besede:** brezposelnost, zaposlovanje, kriza, državne subvencije, BDP

# Customer Satisfaction and Acceptance of Relationship Marketing Concept: An Exploratory Study in QM Certified Serbian Companies

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Satisfying customers and other groups of interest is the key output of relationship marketing. This paper presents the parts of the research that had been carried out by the first quarter of 2008 which included 84 quality management (QM) certified companies and 37 experts from Republic of Serbia. The goals of the research, related to this article, were: firstly, to explain customer satisfaction from the standpoint of relationship marketing concept; secondly, to show that relationship marketing concept is/can be accepted and implemented in QM certified Serbian companies – in order to integrate customer satisfaction and relationship marketing in QM concept.

**Key Words:** the process of customer satisfaction, QM, RM, Serbia

## 1 Introduction

### 1.1 Literature review in customer satisfaction and related concepts

Achieving business excellence and creating world class products and services, as a basic precondition of company's growth and development in modern economy, are not functions of one organizational unit within the company, but they are the result of synchronized activities of all company's functions, according to precisely defined objectives of the company (Cockalo and Djordjevic, 2006). The objective of an organisation should be achieving and understanding the optimum level of customer satisfaction (Sajfert et al., 2008). On the other hand, customer satisfaction influences the company's characteristics, such as spreading positive information about the company and its services and products (Tsuen-Ho and Ling-Zhong, 2006; Evans and Burns, 2007; Cockalo and Djordjevic, 2008). This field represents the base of, at least, three concepts: quality management (QM) (quality components, such as solving complains, cooperation of company's representatives with customers, availability of products and services, cost and price policy and activities related to making contracts) (Saraph et al., 1989; Conca et al., 2004), total quality management (TQM) (Dale, 1997; Terziovski and Samson, 1999; Irani et al. 2004), as well as relationship marketing, which is conceptually, the subject of a wider analysis of this paper.

The term "relationship marketing" (RM) was first introduced by Berry (1983) in a services marketing context. Managing relationships is, however, nothing new in business. Many entrepreneurs do business by building and managing relationships without using the term relationship marketing. RM, defined as marketing activities that attract, develop, maintain, and enhance customer relationships (Berry, 1983; Grönroos, 1994), has changed the focus of a marketing orientation from attracting short-term, discrete transactional customers to retaining long-lasting, intimate customer relationships. Many firms have established RM (or loyalty) programs to foster customer loyalty towards their products and services (Schiffman and Kanuk, 2004). The basis of RM has been described best as the formation of "bonds" (links) between the company and the customer (Roberts et al., 2003). As the existing literature suggests business can build customer relationships by initiating one or several types of "bonds", including financial, social, and structural (Berry, 1995; Williams et al., 1998; Lin et al., 2003). However, much should be learned about the relationship between "bonds" initiated by a company and customer perceptions and behavior (Gwinner et al., 1998). This connects RM with some terminologically and conceptually researched phenomena which can be considered as crucial for this research. They are: values, creating values for customers and customer satisfaction. The results are customers' loyalty and general improvement of company's performances. The question of measuring customer satisfaction represents one of the key issues of this paper, as well as the research itself.

Value is an important element in managing long-term customer relationships (Pride and Ferrell, 2003). Because definitions of value vary according to the context (Dodds et al., 1991; Babin et al., 1994; Holbrook, 2005), some researchers (Hung-Chang Chiua et al., 2005) conceptualize value as the result of consumption experiences. In Babin's (1994) study, value is defined as a subject's relativistic preference after his or her interactions with things or events. In developing marketing activities firms must recognize that customers receive benefits from their experiences and that a well-designed marketing mix can enhance perceptions of value (Pride and Ferrell, 2003). Therefore, customers' experiences with relational bonds may influence their value perceptions.

Several consumer behavior studies have focused on the perceived value of marketing activities. Various literature references have evaluated details such as shopping trips (Babin et al., 1994) and sales promotion activities (Chandon et al., 2000; Ailawadi et al., 2001) according to their utilitarian value, or the worth of the acquired economical factors and their emotional or hedonistic value generated from these activities. In this study (Hung-Chang Chiua et al., 2005), the researchers propose that customers' utilitarian or hedonistic value may be improved by economic or emotional marketing activities taking care about relational "bonds". When consumers highly value these bonds, they are motivated to be loyal.

Customer satisfaction (CS) can be defined in different ways. According to Kotler (1994, p.40), satisfaction is "the level of a person's felt state resulting from comparing a product's perceived performance (or outcome) in relation to the person's expectations." Satisfaction level is a function of the difference between perceived performance and expectations (Stahl, 1999). Loudon and Bitta (1993, p.579) stated that satisfaction is "a kind of stepping away from an experience and evaluating it (...) one could have a pleasure. It was not as pleasurable as it was supposed or expected to be. So satisfaction and dissatisfaction are not emotions, they are the evolution of emotions".

In the contemporary global economy and highly competitive business environment, it might be fatal for a business organization to be non-customer oriented (Dimitriades, 2006). In fact, only those customer-centered organizations that can deliver value to their customers will survive in the modern business arena. To "make" highly satisfied and loyal customers, organizations throughout the world are striving to produce world class products and services of high quality. For a long time, CS is considered to be the key success factor for every profit-oriented organization as it affects companies' market share and customer retention. In addition, satisfied customers tend to be less influenced by competitors, less price sensitive, and stay loyal longer (Dimitriades, 2006).

Many executives seem to trust their intuitive sense that high customer satisfaction will eventually be translated into higher loyalty and with it ultimately into improved company performance (Paulssen and Mirk, 2007). Thus achieving high customer satisfaction has become a central focus of corporate strategy for most firms (Homburg et al., 2005). However, "despite the claim that satisfaction ratings are linked to repurchase behavior, few attempts can be found that relate satisfaction ratings to actual repurchase behavior" (Mittal &

Kamakura, 2001, p.131). That the validity of this assumption is all but given, is nicely illustrated by Reichheld (1996), who reports that while around 90% of industry customers report to be satisfied or even very satisfied, only between 30% and 40% actually do repurchase. Some researchers have consequently even gone as far as to question the usefulness of satisfaction measures in general (Reichheld, 2003). Apparently, current knowledge doesn't fully explain the prevalence of satisfied customers who defect and dissatisfied customers who do not (Jones and Sasser, 1995; Keaveney, 1995; Bendapudi and Berry, 1997; Ganesh et al., 2000). One of the reasons is that the relationship between satisfaction and retention is not a linear one, but moderated by several different variables. Oliva, Oliver, and MacMillan (1992, p. 84) stated that "the response function linking (...) satisfaction to customer response may not operate as is frequently assumed because the complexity of the relationship may be underestimated".

There is a broad available technical (or marketing) literature that supports moves towards formalizing the measurement of customer satisfaction. This supporting base is concerned primarily with such issues as (Piercy, 1996):

- developing different concepts of CS which can be evaluated;
- designing effective CS data collection and reporting systems;
- adopting methods for measurement CS into organizational systems of control; and
- developing systems for responding effectively to customer dissatisfaction and complaints.

In fact, it has been noted that customer satisfaction measurement has proved to be one of the most successful products for market research agencies through the recession (Coleman, 1992). The market research industry offers a full range of products in this area: customer satisfaction survey methodologies; focus groups to study customer satisfaction issues; standardized packages for monitoring customer satisfaction; and the computer software needed to analyze and report customer satisfaction data to management. However, the key issue in this area is somewhat different from this focus on measurement techniques and reporting systems.

The question is what effect the measurement of customer satisfaction has – both on the implementation of marketing strategies of service, quality, and so on; *and* in the internal market of employees, managers, distributors, and all those on who we rely to implement our marketing strategies (Piercy, 1996).

Evans and Laskin (1994) present a model of effective marketing process which, in some way, shape everything said before in a coherent whole. They define RM as "the process whereby a firm builds long-term alliances with both prospective and current customers so that both seller and buyer work toward a common set of specified goals" (Evans & Laskin, 1994, p.440). It is also emphasized that achieving the "goals" of RM can be realized through: (1) understanding customers' needs, (2) treating customers as partners (3) providing satisfaction of all customers' needs by employees; this may demand initiative and efforts on the part of employees that exceeds norms of the company and (4) providing the best qual-

ity according to customer's individual needs. Efficiently positioned RM will lead towards the following positive outputs: (1) high percentage of satisfied customers, (2) higher loyalty of customers, (3) customers' perception on products/services higher quality and (4) increasing profit of a seller company. RM is a continual process which demands the following from companies: (1) continual communication with customers (provides correct definition of requirements) and (2) to integrate RM process into strategic planning (enables better resource management and anticipation of future customers' needs). The model is in a cyclic form with three sub-processes: (1) inputs (understanding customer expectations, building service partnerships, empowering employees and TQM); (2) positive outputs (customer satisfaction, customer loyalty, quality of products/services and increased profitability); (3) checking phase (customer feedback and integration). Brookes and Little (1997) enhance the explanation of the effective marketing process by saying that this concept is based on data base management, interactive market communication and web marketing.

## 1.2 Serbian background

Companies from transitional countries, like those of the Western Balkans (Serbia among them), have problems with the quality of their business practices and production productivity. Inherited inefficient production systems and transitional recession, which are common to all countries in transition, affect these companies and can be blamed for their insufficient competitive capacity. The problem is especially obvious in companies dominated by autochthonous private capital. The reason why only a relatively small number of Serbian companies have implemented a quality system can be found in the difficult financial situation of the domestic economy and the fact that the implementation of QM calls for considerable effort on the part of management. What is of greatest concern is that, while almost all big companies have already implemented QM, the majority of companies in Serbia are small to medium sized enterprises (SMEs). The concept of RM exists, but only on the basic level and in a small number of companies. Furthermore, there are no clear indicators concerning this.

In accordance with the above, an acceptable concept or a model that would satisfy customers' requirements by integrating QM and RM seems the possible solution in a transitional, Serbian context (Bešić et al., 2009). The main directions of this research, from the standpoint of business, are: RM with customers which deals with the influence of customer satisfaction on competitiveness and realized profit; methods for measuring customer satisfaction and techniques which enable implementation of such data in the strategy and, in that way, improve relations between companies and customers.

## 2 Research methodology

### 2.1 Objectives of the research

The objectives of the research were: CS should be explained from the standpoint of RM concept and its acceptance in

QM certified (ISO 9000 series of standards) Serbian firms. Answers to the following questions were expected:

- how many Serbian companies take care about CS and requirements,
- if they recognize the values they deliver to their customers,
- if they recognize the elements of RM concept in their own business activities and how they evaluate them concerning their business significance,
- how they manage and organize the recognizing processes of customers' requirements together with measuring CS,
- what methods they use,
- how they incorporate the effects of researching, monitoring, measuring and analyses in their own business (Ćočkalović, 2008).

The process and the model of effective RM described by Evans and Laskin (1994) were accepted as a base for this research. Whether the concept of effective RM and its extent were representative for such research in Serbian economy was not the subject of the research. The reasons for accepting the model of effective RM as a relevant one were: simplicity, universality, convenience, usability, its measurability and comparability of results. Also, there is a principal analogy with QM concept: cyclic characteristic and orientation towards constant improvements point at PDCA cycle (which is the very essence of QM), customer orientation, process approach etc. Besides, the effective RM model, as an input, contains a component of TQM, another essentially serious field of QM concept. On the grounds of this, it was natural to choose QM certified companies for representatives of this research; if it was possible to find indications of application of RM concept, then it was the case with these companies.

The model of effective RM was extended by managerial and organizational component as well as by a set of methods and techniques designed for collecting data from the customers according to (Hanić, 1997, pp. 52-67). Elements of integration for an organization were designed in relation to the concept of effective RM and according to the elements frequently mentioned in the QM literature (Saraph et al., 1989; Miller, 1992; Terziovski and Samson, 1999; Conca et al., 2004). They are: corrective/ preventive measures, (re)definition of a policy, objectives and tasks, planning in the future period, training of employees; potentially: a system of award and punishment, or "good practice" – collective experience, etc.

### 2.2 The sample, collecting and processing of research data

Target groups in the research are:

- companies (production and/or services) which are certified according to the standards of QM (ISO 9000 series) and which work and have residence in Republic of Serbia; quality managers and/or marketing managers from these companies, as a primary group,
- experts, in the sphere of quality and/or marketing (with reference to the subject sphere, published works and/or cited), as a control group. They were to confirm the

companies' attitudes; it was interesting to see whether considerable differences would appear in the companies' answers and the answers of those who were dealing with this matter from academic (university professors) or some other standpoint (ex. consultants). It was not important whether they belonged to primary research group, it was essential that they considered the problem from their individual, expert standpoint.

Surveying available companies and experts was primarily realized by e-mail survey. The reasons for choosing this kind of survey are fast responding and costs, which are lower than postal survey or some other kind of interview; considering the main characteristics and problems (the greatest respond, which goes from 20 to 30%, and sometimes does not go over 5%, so the sample is not representative) (Hanić, 1997, p. 57). Data base of Serbian Chamber of Commerce (<http://www.pks.rs>) was used during the selection of companies, so the survey included about 600 companies; at the moment of creating the list there were about 600 companies in the base (at that point, more than half of QM certified organizations in the Republic of Serbia). At selecting the sample of experts it was used data base and contacts in UASQ – United Association of Serbia for Quality (<http://www.jusk.org>), as independent and sufficiently representative body for Serbia. The survey included 100 experts.

For the sake of the survey it was created a special questionnaire (taking care of methodology of the research); communication principle was: one questionnaire – one company/expert.

Totally 84 companies accepted the call to participate in the research (which is according to (ISO ed., 2006) and (ISO ed., 2007), between 4.5 and 5.5% out of all certified companies in Serbia) and 37 experts from the subject sphere. It means that the response for companies was about 14% and for experts 37%. It seems that a part of the problem which influenced such a small response, especially in companies, was caused by inertness and the lack of interest while another reason has to be attributed to “technological factors”, taking care of IT (il)literacy of the employees (Preradović, 2008), as well as about the application of “antispam” programs on the servers in companies. However, these are only allegations.

The survey was mainly realized during the first quarter of 2008.

The structure of the surveyed companies was:

- According to ownership structure the companies were mainly private (61 (72.6%)), then public (10 (11.9%)), socially owned (8 (9.5%)) and other (5 (6%));
- According to the field of work: agriculture, hunting, forestry and water management 3 (3.4%), ore and stone mining 1 (1.1%), manufacturing industry 46 (52.3%), electrical, gas and water generation and supply 5 (5.7%), building construction 9 (10.2%) wholesale and retail trade ; motor vehicles, motorcycles and house-ware/personal repair 8 (9.1%), traffic, warehousing and connection 3 (3.4%), administration and defence ; compulsory social insurance 2 (2.3%), education 3 (3.4%), health and social care 3 (3.4%), other communal, social and individual services 5 (5.7%);

- According to the size: micro 6 (7.2%), small 8 (9.5%), middle 38 (45.2%), big 32 (38.1%);
- Position of the interviewed: executives 10 (11.9%), leading managers 49 (58.3%), consultants 3 (3.6%), the others - 22 (26.2%);

The structure of the interviewed experts:

- The greatest number of the interviewed were over 50 years of age 13 (41.9%), 11 (35.5%) were between 30 and 40, and the smallest number made those between 40 and 50 years of age 7 (22.6%). Six experts did not answer this question;
- Level of education: the majority were PhD (15 (40.6%)), experts with Master's degree and Bachelors made (10 (27%)) and 2 (5.4%) of the experts had college diplomas;
- Occupation (answered 22 (59.5%) of the interviewed): the majority were university professors/college professors - 11, five experts were employed as consultants, there were 2 assistants and 2 technologists, 1 director, 1 engineer and 1 programmer;
- Position of the interviewed in their organizations (answered 36 (97.3%)): directors 5 (13.2%), leading managers 10 (26.3%), consultants 1 (2.6%), owners 2 (5.3%), others 20 (52.6%).

During the checking phase of statistically relevant differences in the answers of different-size-companies (types of companies: 1 – micro and small, 2 – medium and 3 – large), the data types which appeared in the survey caused the application of two different methods of statistic analyses:

1. Kruskal Wallis – one-way analyses of the variant among the ranks for data types of lower level (nominal), as well as with data without beginner's presumption on the existence of a certain distribution (most frequently normal);
2. One way ANOVA – one-way analyses of the variant, but in this case for more superior data of interval level, such as significance grades.

ANOVA was also used in comparison of companies (total) and experts' data.

It was taken that evaluation limit of reliability results, i.e., probability which enabled claiming that the data were error consequences or random variations was  $p = 0,05$ . That means that for  $p \leq 0,05$  exists statistically significant difference in results.

It was determined that significant statistic exception in the answers of companies and experts (in general) didn't exist, therefore, there is no discussion on this matter.

Where appropriate, in processing and analysis of the research results, Pareto analysis was used in order to sort the answers according to degree of importance both for the companies and experts. The research results presented in this paper, include the answers that belong to categories “very important” and “important”. The category “other” was neglected.

### 3 Research results

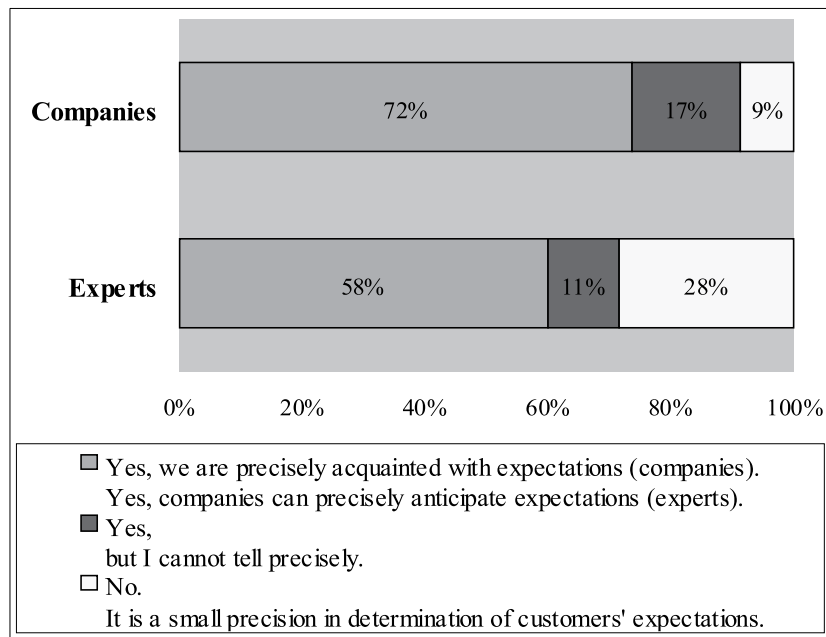
The research results point at the fact that the majority of companies 63 (80.8%) (out of 78 (92.9%) that responded) apply some

Table 1: Comparative review - average grades of significance of input elements in RM concept

Input elements of RM concept	Average grades of the interviewed in companies	Average grades of the experts
Understanding customer expectations	4.31	3.88
Building service partnerships	3.92	3.42
Empowering employees	3.66	3.71
TQM	3.76	3.26

ANOVA significance test  
Group: companies

	Sum of Squares	df	Mean Square	F	p
Between Groups	0.478	2	0.239	2.892	0.107
Within Groups	0.743	9	0.083		
Total	1.221	11			



Kruskal Wallis Test  
Grouping Variable: companies  
Ranks

	companies	N	Mean Rank
frequency	1	5	5.80
	2	5	10.00
	3	5	8.2
	Total	15	

Test Statistics

	frequency
Chi-Square	2.319
df	2
p	0.314

Figure 1: Parallel review of companies and experts' attitudes related to precise knowing of customers' expectations

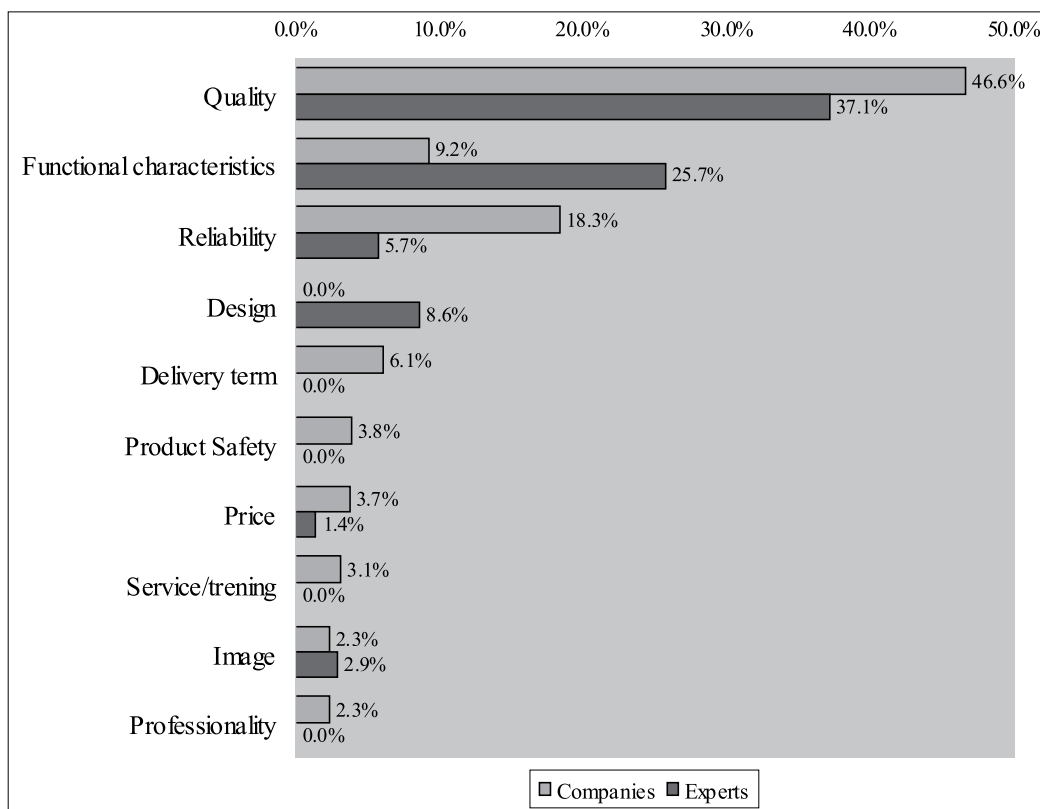
kind of RM concept. This fact was confirmed by the experts; 32 (91.4%) (out of 35 (94.6%) who answered) said that it was possible (in some way) to apply RM concept in Serbian companies.

Both companies and experts consider input elements of effective RM concept significant, or significant enough, which the table 1 presents. In the research (survey) it was used the Likert 5-point scale.

Figure 1 shows in what degree the analyzed companies are conscious of their customers' expectations and also the experts' estimation concerning the ability of the companies to work in our conditions. Structurally, the opinions do not differ,

although the average grades of agreement between customers' expectations and delivered value vary: 4.19 (companies) – 3.05 (experts). This question was answered by 82 (97.6%) companies and 36 (97.3%) experts.

Further on, it was expected that companies and experts express their opinions on the values delivered to customers, through products and/or services. 70 (88.6%) of the interviewed in companies out of 79 (94.1%) and 17 (56.7%) experts out of 30 (81.1%) point at: quality, functional characteristics and reliability. Comparative review of companies and experts' answers is presented in Figure 2.



Kruskal Wallis Test  
 Grouping Variable: companies  
 Ranks

	companies	N	Mean Rank
frequency	1	15	19.17
	2	15	25.37
	3	15	24.47
	Total	45	

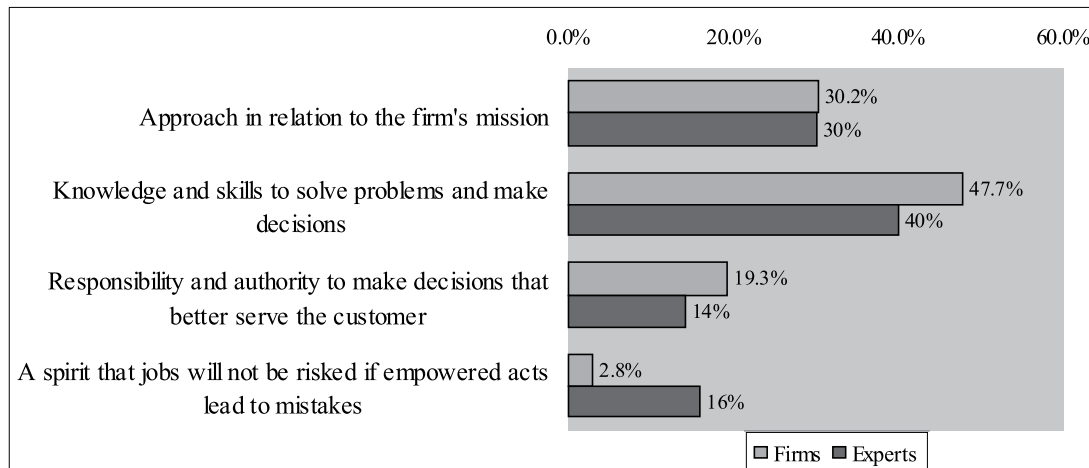
Test Statistics

	frequency
Chi-Square	2.032
df	2
p	0.362

Figure 2: Review of attitudes – companies and experts, related to the value delivered to customers

About the conditions for active participation of the employees in organization's activities (in relation to RM) 4.79

(94,1%) companies and 35 (94.6%) experts expressed their opinions, Figure 3.



Kruskal Wallis Test

Grouping Variable: companies/firms

Ranks

	companies	N	Mean Rank
frequency	1	4	5.00
	2	4	7.38
	3	4	7.13
	Total	12	

Test Statistics

	frequency
$\chi^2$	1.052
df	2
p	0.591

Figure 3: Conditions for active participation of employees in RM concept

Comparative review of the average grades which the interviewed gave about the significance of output elements in RM is presented in Table 2. It should be emphasized that all the elements were evaluated as significant both by companies (81 (96.4%) of the interviewed answered) and experts (35 (94.6%) of the interviewed).

The part of the questionnaire related to the processes of identifying expectations, monitoring and measuring CS had to provide insight in several elementary questions:

- how the companies, generally, carry out processes,
- to establish management and organizational division of responsibility over processes,

- to establish the best methods, techniques or activities for data obtaining and analysis,
- the ways at which the results of researching needs, especially customers' satisfaction influence business and RM realization.

When they were asked to say if they had a special defined process for identification of customers' expectations, the majority of the interviewed in companies, 66 (79.5%) out of 83 (98.8%), gave positive answers. A part of them- 14 (16.9%) connected this process to some process in their organization, only in 3 (3.6%) companies this process was not defined at all. Similar structure of the answers was given by experts: 31



Table 2: Comparative review of average significance grades of output elements in RM concept

Output elements of RM concept	Average grades of the interviewed in companies	Average grades of the experts			
Quality of products/services	4.64	4.06			
Customer satisfaction (effects: complaints, repeated purchase, recommendation)	4.44	4.26			
Customer loyalty	4.04	4.09			
Increased profitability	4.19	3.91			
ANOVA significance test Group: companies					
	Sum of Squares	df	Mean Square	F	p
Between Groups	0.206	2	0.103	1.431	0.289
Within Groups	0.649	9	0.072		
	Total	0.855	11		

(83.8%) of them said it was necessary to define this process and only 6 (16.2%) of them thought that this process could be joined to some other process.

The situation is similar when the process of monitoring, measuring and analysis is in question: 69 (82.1%) of the interviewed in companies said that this process existed as separately defined one, 14 (16.7%) said that it was a component of some other process and only 1 (1.2%) thought that it didn't exist. This time, the experts were almost unique in opinion that the process had to be separately defined and only 3 (8.1%) of the interviewed said that it could be a part of some other process.

Considering the question which demands definition of management and responsibility over processes, identification of expectations, monitoring, measuring and analysis, a certain generalization can be noticed in the answers given by experts when they are compared to those obtained in companies. No matter, we can find some similarities which are presented in the Table 3a for process identification of expectations and Table 3b for process monitoring, measuring and analysis. Statistically significant difference in the answers of different types of companies is noticed considering the question of management/responsibility over processes – identification of expectations ( $p = 0.005$ ) and the answers are given separately. Totally, 68 (80.9%) companies and 35 (94.6%) experts answered the question about the process of identification of expectations and the question related to the process of monitoring, measuring and analysis 71 (84.5%) companies gave the answer.

It is interesting to notice the moving of responsibility (both companies and experts agree in this) from marketing top manager, for the process identification of expectations, towards sale top manager, for the process of monitoring, measuring and analysis. Especially expressed significance of

organizational units (sectors) can be noticed: trade/sale, marketing, development sector and quality sector.

Comparative review of the answers that are related to the phases in which the research of needs and measuring satisfaction are carried out, is presented in Tables 4a and 4b respectively. Here is noticed a statistically significant difference in the answers of different-type-companies concerning the phases in which research of needs and expectations ( $p = 0.001$ ) and measuring satisfaction ( $p = 0.002$ ) are carried out, so the answers are presented separately. Totally 83 (98.8%) companies answered the question related to the process of identification of expectation and 80 (95.2%) companies gave the answer to the question concerning the process of monitoring, measuring and analysis.

Generally, it is good to realize both research of needs and expectations and measuring satisfaction in all mentioned phases, taking care that going from definition of policy and objectives towards post-sale and service activities the focus of these activities is moving from research of needs and expectations towards measuring satisfaction. This process is presented in tables 4a and 4b.

Methods and activities for researching attitudes, acceptable in opinions of experts and companies to be used in research of needs and expectations and in measuring satisfaction of customers, are presented in the following comparative review, Table 5.

The most important methods and activities are customers' interviews, especially personal interview and postal interview. The least attention, in opinion of the interviewed, is paid to monitoring of products in use.

Customers' satisfaction is integrated in business of the whole organization. This is, according to the research, the reality in Serbian companies. 81 (96.4%) companies and 36 (97.3%) experts confirmed this fact in their answers, Table 6.

Table 3a: Comparative review of management and responsibility over processes identification of expectations

Given answers - companies		Process identification of expectations			
		Companies			Experts
		1	2	3	
(a)	Top manager and/or owner	1 (5.6%)	15 (14%)	6 (9.2%)	13 (17.6%)
(b)	Executive management	-	10 (9.3%)	3 (4.6%)	
(c)	Development unit manager	1 (5.6%)	12 (11.2%)	4 (6.2%)	7 (9.5%)
(d)	Marketing unit manager	3 (16.7%)	4 (3.7%)	15 (23.2%)	25 (33.8%)
(e)	Trade/sale unit manager	5 (27.8%)	18 (16.8%)	14 (21.5%)	13 (17.6%)
(f)	Quality unit manager (or QM manager)	3 (16.7%)	9 (8.4%)	9 (13.8%)	10 (13.5%)
(g)	Unit managers (generally)	3 (16.7%)	9 (8.4%)	6 (9.2%)	-
(h)	Staff in direct contact with services customers or those directly involved in services realization.	-	10 (9.3%)	6 (9.2%)	4 (5.4%)

Kruskal Wallis Test

Grouping Variable: companies

Ranks

	companies	N	Mean Rank
frequency	1	15	15.33
	2	15	30.77
	3	15	22.90
	Total	45	

Test Statistics

	frequency
$\chi^2$	10.740
df	2
p	<b>0.005</b> <0.05

The encouraging fact is that the “system of award and punishment” is almost completely excluded in companies (5 (2.5%)), while the experts do not consider it at all.

With a certain difference in opinions, the companies and experts give advantage to corrective/preventive measures and planning, while the least attention is paid to collective experience.

## 4 Discussion

There are certain problems concerning the acceptance of RM in Serbian economy and they have been briefly explained in the text. However, it is also obvious that an orientation towards CS is present in QM certified Serbian companies. This is confirmed by the acceptance of the input and output elements of effective RM model in the sphere of planning quality for the future. According to the research, the output elements of the RM should also be incorporated in the reconsideration phase on the management side. Taking all this into account, it is not

surprising that considerable significance is paid to customer satisfaction. Namely, particular significance is paid to the elements which are directly oriented towards customers (the lowest average grade is 4.23); which shows the readiness of the organizations to devote themselves to their customers, as well as the importance which the experts gave to this question.

According to the answers of both, experts and companies, there is a clear picture related to customers' expectations and the value that is “delivered” to them. This picture is, however, partially “greyed” by Serbian economic reality which is similar to reality of most transitional countries. As it was written in the introduction, the companies from this region have problems with the quality of their business practices and productivity. Yes, it is possible to make and deliver quality. The question is – at what price and who will pay for it?

The part of the research related to the process of selecting, involving, training and motivating employees (i.e. Human Resource Management), especially those in direct contact with customers, was indirectly confirmed by the special importance given to “communicative abilities” and “experience” criteria when selecting staff who should be in direct contact with cus-

Table 3b: Comparative review of management and responsibility over processes monitoring, measuring and analyses

Process monitoring, measuring and analyses		Given answers - experts	
Companies	Experts		
12 (6.9%)	10 (12.7%)	Top management and/or executive management	(a)
10 (5.7%)			
4 (2.3%)	7 (8.9%)	Development unit manager	(b)
25 (14.3%)	24 (30.4%)	Marketing unit manager	(c)
41 (23.5%)	13 (16.5%)	Trade/sale unit manager	(d)
36 (20.6%)	21 (26.6%)	Quality unit manager (or QMS manager)	(e)
14 (8%)	-	-	-
17 (9.7%)	2 (2.4%)	Employees in sale network	(f)

Kruskal Wallis Test  
Grouping Variable: companies  
Ranks

	companies	N	Mean Rank
frequency	1	14	15.36
	2	14	24.57
	3	14	24.57
	Total	42	

Test Statistics

	frequency
$\chi^2$	5.436
df	2
p	0.066

tomers. Precisely, the advantage is given to “knowledge and skills required to solve problems and make decisions” and the “approach to the firm’s mission” considering the conditions for the active involvement of employees in the RM concept.

The greater part of Serbian companies had defined customer-related processes - 66 (79.5%) of those which participated in the survey for the process of identification of customers’ expectations and 69 (82.1%) of them for the process of monitoring, measuring and analyses.

Particular importance was given to the techniques used to survey customers, especially personal interviews and postal interviews, while the least attention was paid to monitoring a product’s life in usage. Feed-back information from customers, including their complaints, were considered as highly effective solutions in communication with customers in measuring satisfaction.

The analysis of customer satisfaction influences the improvement of QM and, in general, the business of an organization. The research has shown that this is a simultaneous process - demand imposed by the standard and the practice of Serbian companies. The ways in which this is performed, or should be performed was demonstrated by 81 (96.4%) companies and 36 (97.3%) experts in their answers respectively: corrective and/or preventive actions and planning future quality.

It is encouraging to note that the “system of award and punishment” has almost completely disappeared in companies.

Although it was expected, there are no statistical differences between the answers given by micro, small, medium-sized and large enterprises, except in three cases, concerning strategic orientation:

- Management and responsibility over processes identification of expectations. Trade/sale unit manager operates this process in micro and small companies; in big companies this job is given to Marketing unit manager. In medium-size companies, Top manager and/or owner is involved in these activities. .
- The phases in which research into needs is/should be performed. Here, one of the three most significant answers is the same for all types of companies; defining quality policy, objectives and tasks. The most significant deviations appear in: research of requirements and expectations, through validation of results (within a phase or the project) and during the performance of activities (products and services realization).
- The phases in which measuring customer satisfaction is/should be performed. Here, one of the three most significant answers is the same for all types of companies; after realization or product delivery. The most significant

Table 4a: Comparative review of the phases in which research of needs and expectations is/should be carried out

Offered answers		Research of needs and expectations			
		Companies			Experts
		1	2	3	
(a)	Definition of policy and objectives	5 (20.8%)	23 (18.7%)	18 (16.5%)	13 (11.7%)
(b)	Research of needs and expectations	6 (25%)	17 (13.8%)	17 (15.6%)	30 (27%)
(c)	Definition of resources for products/services realization	1 (4.2%)	9 (7.3%)	15 (13.8%)	7 (6.3%)
(d)	During reconsideration of contracts	5 (20.8%)	18 (14.6%)	15 (13.8%)	12 (10.8%)
(e)	Through validation of some phases (designing products and/or services)	6 (25%)	14 (11.4%)	13 (11.9%)	11 (9.9%)
(f)	During realization of activities (realization of products and/or services)	-	20 (16.3%)	10 (9.2%)	10 (9%)
(g)	After the realization of business or product delivery	-	17 (13.8%)	8 (7.3%)	6 (5.4%)
(h)	Through post-sale and services activities	1 (4.2%)	5 (4.1%)	13 (11.9%)	18 (16.2%)

Kruskal Wallis Test

Grouping Variable: companies

Ranks

	companies	N	Mean Rank
frequency	1	8	4.81
	2	8	17.38
	3	8	15.31
	Total	24	

Test Statistics

	frequency
$\chi^2$	14.645
df	2
p	<b>0.001</b> <0.05

deviations appear in: research of requirements and expectations and during the review of product related requirements.

It is obvious that the answers are in harmony with the size and organisational structure of the companies in question and any deviation is related to these factors.

Finally, it can be noticed from the analysis and discussion that Serbian companies take care about CS and customer requirements, they recognize the elements of effective RM model in their own business activities and accept this concept in relation to the context presented in this research.

## 5 Conclusions

Organization management directed towards building relations with customers should result in achieving loyalty of customers. Making supply that overcomes consumers' expectations creates a positive interaction between consumers and products.

The final result of this interaction is a satisfied and positively surprised consumer. RM is a concept that implies a long-lasting relation based on mutual interests of companies and customers, in such a way that both sides (seller and buyer) are focused on common objectives. RM is, in its basic form, present in Serbian companies and this research has confirmed it.

Customers' satisfaction represents a key output of RM, therefore a significant attention is paid to this phenomenon in Serbian companies. Identification of expectation and monitoring, measuring and analysis are the processes by which customers' satisfaction is integrated in RM.

This research has showed that there are certain differences concerning the following questions: how RM is set and led, what methods are used in integration of customers' satisfaction in RM and, further on, how RM is integrated in the process of strategic planning in organizations.

Serbian companies should pay a special attention to implementing new approaches to marketing, both in conceptual and in organizational sense. Here, we think about a

Table 4b: Comparative review of the phases in which measuring satisfaction of customers is/should be carried out

Offered answers		Measuring satisfaction			
		Companies			Experts
		1	2	3	
(a)	Definition of policy and objectives	2 (6.5%)	10 (10.8%)	11 (11.6%)	14 (11.9%)
(b)	Research of needs and expectations	6 (19.4%)	9 (9.7%)	18 (18.9%)	20 (16.9%)
(c)	Definition of resources for products/services realization	-	8 (8.6%)	5 (5.3%)	7 (5.9%)
(d)	During reconsideration of contracts	5 (16.1%)	11 (11.8%)	10 (10.5%)	10 (8.5%)
(e)	Through validation of some phases (designing products and/or services)	9 (29%)	10 (10.8%)	6 (6.3%)	14 (11.9%)
(f)	During realization of activities (realization of products and/or services)	-	8 (8.6%)	14 (14.8%)	9 (7.6%)
(g)	After the realization of business or product delivery	6 (19.4%)	27 (29%)	18 (18.9%)	21 (17.8%)
(h)	Through post-sale and services activities	3 (9.7%)	10 (10.8%)	13 (13.7%)	23 (19.5%)

Kruskal Wallis Test

Grouping Variable: companies

Ranks

	companies	N	Mean Rank
frequency	1	8	5.44
	2	8	15.50
	3	8	16.56
	Total	24	

Test Statistics

	frequency
$\chi^2$	12.205
df	2
p	<b>0.002</b> <0.05

broader acceptance of a new marketing model, characterised by technological development and also about the model of integrated marketing communication, which represents a communicational component of marketing.

## References

- Ailawadi, K.L., Neslin, S.A. & Gedenk, K. (2001). Pursuing the value-conscious consumer: store brands versus national brand promotions. *Journal of Marketing*, 65(1): 71–89.
- Babin, B.J., Darden, W.R. & Griffin M. (1994). Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of Consumer Research*, 20(March): 644–656.
- Bendapudi, N., & Berry, L.L. (1997). Customers' motivations for maintaining relationships with service providers. *Journal of Retailing*, 73(1): 15–37. DOI: 10.1016/S0022-4359(97)90013-0.
- Berry, L.L. (1983). Relationship Marketing. in: Berry, L.L., Shostack, G.L., & Upah, G.D., *Emerging Perspectives of Services Marketing* (25-8). Chicago, IL: American Marketing Association.
- Berry, L.L. (1995). Relationship Marketing of Services: Growing Interest, Emerging Perspectives. *Journal of the Academy of Marketing Science*, 23(4): 236–245. DOI: 10.1177/009207039502300402.
- Bešić, C., Đorđević, D., & Čočkalović, D. (2009). Modelling of the process for providing satisfaction of customer requirements. *TTEM – Technics Technologies Education Management*, 4(2): 144–158.
- Brookes, R., & Little, V. (1997). The new marketing paradigm: What does customer focus now mean? *Marketing and Research Today*, 25 (2), ESOMAR.
- Chandon, P., Wansink, B. & Laurent, G. (2000). A benefit congruency framework of sales promotion effectiveness. *Journal of Marketing*, 64(4): 65–81. DOI: 10.1509/jmkg.64.4.65.18071.
- Čočkalović, D. (2008). Model za obezbeđivanje zadovoljenja zahteva korisnika u skladu sa ISO 9000 serijom standarda i potrebama privrede Republike Srbije [A Model for Assuring Satisfaction of Customer's Requirements According to ISO 9000 Series of Standards and the Needs of Serbian Republic Economy].

Table 5: Comparative review of methods and activities for researching customers' attitudes

Offered methods and activities			(a) Research of Needs		(b) Measuring Satisfaction		
			Firms	Experts	Firms	Experts	Firms
(a)	Observing	<b>25 (9.7%)</b>	<b>12 (13.2%)</b>	<b>13</b>	<b>2</b>	<b>13</b>	<b>5</b>
(b)	Interviewing customers	75 (29.1%)	32 (35.2%)				
(b)1	personal interview	33 (24.8%)	18 (30%)	<b>15</b>	<b>11</b>	<b>17</b>	<b>11</b>
(b)2	postal interview	<b>33 (24.8%)</b>	<b>8 (13.3%)</b>	<b>13</b>	<b>6</b>	<b>16</b>	<b>3</b>
(b)3	e-mail interview	31 (23.3%)	12 (20%)	11	8	16	6
(b)4	anonymous interview on larger sample when interviewer is present	<b>10 (7.5%)</b>	<b>11 (18.3%)</b>	<b>4</b>	<b>9</b>	<b>7</b>	<b>6</b>
(b)5	telephone interview	<b>16 (12%)</b>	<b>4 (6.7%)</b>	<b>7</b>	<b>2</b>	<b>7</b>	<b>2</b>
(d)	Solving complaints					45 (17.4%)	<b>10 (11%)</b>
(e)	Monitoring of proposals for improvement (products/services) suggested by customers					<b>32 (12.4%)</b>	<b>11 (12.1%)</b>
(f)	Solving complaints on products					<b>47 (18.2%)</b>	<b>11 (12.1%)</b>
(g)	Monitoring of products "behavior" during usage (defects)					25 (9.7%)	8 (8.8%)

Table 6 Comparative review of the ways in which the results of analyses of customers' satisfaction in companies are integrated in RM

Offered answers	Companies	Experts
Through corrective/preventive measures	64 (31.8%)	20 (21.3%)
(Re)definition of policy, objectives and tasks	35 (17.4%)	19 (20.2%)
Planning in the future period	48 (23.9%)	24 (25.5%)
Through training of employees	33 (16.4%)	20 (21.3%)
"Good practice" – collective experience	16 (8%)	11 (11.7%)

Kruskal Wallis Test  
Grouping Variable: companies  
Ranks

	companies	N	Mean Rank
frequency	1	6	6.33
	2	6	10.67
	3	6	11.50
	Total	18	

Test Statistics

	frequency
$\chi^2$	3.253
df	2
p	0.197

- Unpublished doctoral dissertation. University of Novi Sad, Technical Faculty "Mihajlo Pupin" in Zrenjanin, Zrenjanin.
- Ćočkalo, D., & Djordjević, D. (2006). Managing key flows in company in function of achieving business excellence. *IJ Total Quality Management & Excellence*, 34(1-2): 97-101.
- Ćočkalo, D., & Djordjević, D. (2008). Business strategy for providing satisfaction of customer requirements. *IJ Communications in Dependability and Quality Management*, 11(3): 59-67.
- Coleman, L.G. (1992, March 2). Learning what customers like. *Marketing News*, 1-12.
- Conca, et al. (2004). Development of a measure to assess quality management in certified firms. *European Journal of Operational Research*, 156(3): 683-697. DOI:10.1016/S0377-2217(03)00145-0.
- Dale, B.G. (1997). Characteristics of organizations not committed to total quality management. Proceedings of the Institution of Mechanical Engineers, Part B: *Journal of Engineering Manufacture*, 211(5): 377-384. DOI: 10.1243/954405971516356.
- Dimitriadis, Z.S. (2006). Customer satisfaction, loyalty and commitment in service organizations: some evidence from Greece. *Management Research News*, 29(12): 782-800. DOI: 10.1108/01409170610717817
- Dodds, W.B., Monroe, K.B. & Grewal, D. (1991). Effect of price, brand, and store information of buyers' product evaluations. *J Mark Res*, 28(August): 307 – 19.
- Evans, J., & Laskin, R. (1994). The relationship marketing process: A conceptualization and application. *Industrial Marketing Management*, 23(5): 439-452. DOI: 10.1016/0019-8501(94)90007-8.
- Evans, S., & Burns, A.D. (2007). An investigation of customer delight during product evaluation: Implications for the development of desirable products. Proceedings of the Institution of Mechanical Engineers, Part B: *Journal of Engineering Manufacture*, 221(11): 1625-1640. DOI: 10.1243/09544054JEM786.
- Ganesh, J., Arnold, M.J., & Reynolds, K.E. (2000, July). Understanding the customer base of service providers: An examination of the differences between switchers and stayers. *Journal of Marketing*, 64(3): 65–87. DOI: 10.1509/jmkg.64.3.65.18028.
- Grönroos, C. (1994). From Marketing Mix to Relationship Marketing. *Management Decision*, 32(2): 4-20. DOI: 10.1108/00251749410054774.
- Gwinner, K.P., Gremler, D.D., & Bitner, M.J. (1998). Relational benefits in service industries: The customer's perspective. *Journal of the Academy of Marketing Science*, 26(2): 101-114. DOI: 10.1177/0092070398262002.
- Hanić, H. (1997). *Istraživanja u marketingu [Marketing Research]*. Belgrade: Faculty of Economics.
- Holbrook, M.B. & Corfman, K.P. (1985). Quality and value in the consumption experience: Phaedrus rides again (31–57). In: Jacoby J, Olson J, editors. *Perceived quality*. Lexington (MA)7 Lexington Books.
- Holbrook, M.B. (2005): Customer value and autoethnography: subjective personal introspection and the meanings of a photograph collection. *Journal of Business Research*, 58(1): 45 –61. DOI:10.1016/S0148-2963(03)00079-1.
- Homburg, C., Koschate, N., & Hoyer, W.D. (2005, April). Do satisfied customers really pay more? A study of the relationship between customer satisfaction and willingness to pay. *Journal of Marketing*, 69(2): 84–96. DOI:10.1509/jmkg.69.2.84.60760.
- Hung-Chang Chiua, T., Yi-Ching, H., Yu-Chuan & L.Leed. M. (2005). Relationship marketing and consumer switching behavior. *Journal of Business Research*, 58(12): 1681– 1689. DOI:10.1016/j.jbusres.2004.11.005.
- Irani, Z., Baskese, A., & Love, P.E.D. (2004). Total quality management and corporate culture: Constructs of organizational excellence. *Technovation*, 24(8): 643-650. DOI: 10.1016/S0166-4972(02)00128-1:
- ISO, ed. (2007). *The ISO Survey 2006*. Retrieved from <http://www.iso.org>
- ISO, ed. (2008). *The ISO Survey 2007*. Retrieved from <http://www.iso.org>
- Jones, T.O. & Sasser, W.E. (1995). Why satisfied customers defect. *Harvard Business Review*, 73(6): 88–99.
- Keaveney, S.M. (1995). Customer switching behavior in-service industries — An exploratory-study. *Journal of Marketing*, 59(2): 71–82.
- Kotler, P. (1994). *Marketing Management: Analysis, planning, implementation, and control* (8th edition). New Jersey: Prentice Hall International Editions.
- Lin, N.P., Weng, J.C.M., & Hsieh, Y.C. (2003). Relational bonds and customer's trust and commitment: A study on the moderating effects of web site usage. *The Service Industries Journal*, 23(3): 103–124. DOI: 10.1080/714005111.
- Loudon, D.L. & Bitta, A.J.D. (1993). *Consumer Behavior: Concept and Application* (4th edition). New York: McGraw-Hill.
- Miller, T.O. (1992): A Customer's Definition of Quality. *Journal of Business Strategy*, 13(1): 4-7. DOI: 10.1108/eb039461.
- Mittal, V., & Kamakura, W.A. (2001). Satisfaction, repurchase intent, and repurchase behavior: Investigating the moderating effect of customer characteristics. *Journal of Marketing Research*, 38(1):131–142. DOI: 10.1509/jmkr.38.1.131.18832.
- Oliva, T.A., Oliver, R.L., & MacMillan, I.C. (1992). A catastrophe model for developing service satisfaction strategies. *Journal of Marketing*, 56(3): 83–95. Article Stable URL: <http://www.jstor.org/stable/1252298>.
- Paulssen, M., & Mirk, M.M. (2007). Satisfaction and repurchase behavior in a business-to-business setting: Investigating the moderating effect of manufacturer, company and demographic characteristics. *Industrial Marketing Management*, 36(7): 983–997. doi: 10.1016/j.indmarman.2007.05.011
- Piercy, N.F. (1996). The effects of customer satisfaction measurement: the internal market versus the external market. *Marketing Intelligence & Planning*, 14(4): 9–15. doi: 10.1108/02634509610121514
- Preradović, K. (2008, December 6). *Umesto obrazovanja, uvozićemo IT stručnjake [Instead of education, we will import IT experts]*. Novac. Belgrade: Ringier, 4-5. Retrieved from <http://www.blic.rs>.
- Pride, W.M. & Ferrell, O.C. (2003). *Marketing: concepts and strategies* (12th edition). Boston, MA: 7 Houghton Mifflin Company.
- Reichheld, F.F. (1996). Learning from customer defections. *Harvard Business Review*, 74(2): 56–69. DOI: 10.1225/96210.
- Reichheld, F.F. (2003). The one number you need to grow. *Harvard Business Review*, 81(12), 46–57. Retrieved from <http://hbr.org>.
- Roberts, K., Varki, S., & Brodie, R. (2003). Measuring the quality of relationships in consumer services: An empirical study. *European Journal of Marketing*, 37(1/2): 169-196. DOI: 10.1108/03090560310454037.
- Sajfert, Z., Đorđević, D. & Bešić, C. (2008). Menadžment kvalitetom – preduslov uspostavljanja konkurentnosti domaćih preduzeća [Quality management-prerequisite for accomplishing competitiveness of national companies]. *Tehnika*, 1/2008: 19-26. Belgrade: AETI of Serbia.
- Saraph, J., Benson, G., & Schroeder, R. (1989). An instrument for measuring the critical factors of quality management. *Decision Sciences*, 20(4): 810-829. doi: 10.1111/j.1540-5915.1989.tb01421.x

- Schiffman, L.G., & Kanuk, L.L. (2004). *Consumer behavior* (8<sup>th</sup> edition). Upper Saddle River, NJ: Pearson Prentice Hall.
- Stahl, M.J. (1999). *Perspectives in Total Quality*. Milwaukee, WI: Blackwell.
- Terziovski, M., & Samson, D. (1999). The Link between TQM Practice and Organisational Performance. *International Journal of Quality and Reliability Management*. 16(3): 226-237. DOI: 10.1108/02656719910223728.
- Tsuen-Ho, H. & Ling-Zhong, L. (2006). QFD with Fuzzy and Entropy Weight for Evaluating Retail Customer Values. *Total Quality Management*. 17(7): 935-958. DOI: 10.1080/14783360600598223.
- Williams, J.D., Han, S.L., & Qualls, W.J. (1998). A conceptual model and study of crosscultural business relationships. *Journal of Business Research*, 42(2): 135 -143. DOI: 10.1016/S0148-2963(97)00109-4.

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### **Zadovoljstvo kupcev in sprejemanje upravljanja odnosov s strankami v marketingu: preliminarna študija v srbskih podjetjih s certifikatom kakovosti**

Zadovoljstvo kupcev in drugih interesnih skupin je ključni dosežek oz. rezultat marketinga odnosov upravljanja z odnosi v marketingu. V članku je predstavljen del ugotovitev raziskave, ki je bila izvedena v prvem četrtletju leta 2008 in je vključevala 84 podjetij, ki so že pridobila certifikat kakovosti, in 37 strokovnjakov iz Republike Srbije. Cilji raziskave so (1) pojasniti zadovoljstvo kupcev z vidika upravljanja odnosov v marketingu in (2) prikazati, da je koncept upravljanja s kupci v marketingu mogoče uvesti v srbskih podjetjih, ki imajo certifikat kakovosti, in integrirati zadovoljstvo kupcev in upravljanje z odnosi v marketingu v sistem celovitega upravljanja kakovosti.

**Ključne besede:** proces, zadovoljstvo kupcev, QM, RM, Srbija



# Testing the Sustainability of Growth of the LJSEX in the January 2000 to May 2010 period

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In this paper we analyse the behaviour of the LJSEX, the main index of the Ljubljana Stock Exchange, in the period from January 2000 till May 2010. More precisely, we test for the presence of bubbles and antibubbles and try to determine whether or not a bubble could have been predicted (both the formation and the date of the bubble burst). Second, we also employ techniques used to model antibubbles to forecast the future behaviour of the LJSE index. Besides modelling index dynamics for the aforementioned period, we also seek to determine the factors that led to the bubble forming and later bursting. We find that the bubble could have been forecasted at least several months in advance. On the other hand, a very precise date of the crash seems harder to identify. By more closely analysing the interplay between interest rates, credit activity and the LJSEX, we conclude that there is a clear connection between decreasing interest rates, increased credit activity and the formation of a stock bubble. If there is a clear correlation between the early phase of a bubble and increased credit activity of the banking sector, the link between the end of the bubble and the restriction of credit activity is less pronounced. By fitting the extended antibubble model from (Johansen 1999<sub>a</sub>) we obtain the values of parameters that give us some indication of the future behaviour of the LJSEX. Based on these results we conclude that in the next few years we are likely to experience a period of increased volatility with no clear increasing or decreasing growth pattern.

**Keywords:** bubbles, antibubbles, LPPL, forecast

## 1 Introduction

It has been known for some time that markets can behave in a speculative fashion that may result in price bubbles, with prices reaching levels that are unjustified by economic fundamentals. One of the most prominent models used to detect stock bubbles was developed by Sornette and Johansen (see for example Johansen et al. (1999<sub>a</sub>, 1999<sub>b</sub>)) where the authors used ideas developed in statistical physics (i.e. the ISING model) to describe price dynamics. According to (Johansen et al. 1998, 1999<sub>a,b</sub>), prices can be described by the so-called log periodic power law (LPPL), whereby using several indicators one can both determine the resulting bubble and the time at which the transition to another phase will occur. There is a clear analogy between phase transitions and stock bubbles since in both cases agents (either investors or particles) exhibit similar behaviour/agree on the characteristics of the “surrounding media”.

There is ample evidence that most of the stock market has experienced some sort of bubble-like behaviour. A short

but far from complete list identifies a list of past bubbles that appeared in the USA (Dow Jones 1929, S&P 1987), Japan (Nikkei 1989) the Hong-Kong Oct. 1997 crash and more recently the South Africa stock bubble in the 2003-2006 period, the recent UK and US real estate bubble, the 2009 Chinese equity bubble, and the CDS bubble in 2009.

As proven by Sornette and Johansen (1999, 2000), similar herding behaviour can be observed in the case of decelerating market devaluations following all-time highs. Such behaviour has been confirmed in 21 stock market indices: the Netherlands, France, the USA Dow Jones, USA NASDAQ, Japan, Belgium, Denmark, Germany, Norway, Spain, Switzerland, the United Kingdom, Israel, Brazil, Hong Kong, India, Peru, Taiwan, Czech Republic, Argentina and Turkey.

It also appears there is evidence that bubbles formed and were present in the economies of the former Soviet Union and in countries in transition. Yet no one has sought to test for the presence of bubbles in the case of Slovenia. Slovenia was one of the countries that followed a pre-determined exchange rate depreciation path<sup>1</sup> (Capriolo et al., 2003). Accordingly, inter-

<sup>1</sup> The monetary policy framework in Slovenia has been modified three times since country's independence in 1991. First, price stabilization was pursued with a framework that relied on monetary anchor (1991-1995). After a single digit inflation level was achieved, the stability of the

est rates were relatively high in both nominal and real terms and started dropping only after Slovenia joined the euro zone. Thus, an analysis of the dynamics of the Slovenian stock market is interesting from several viewpoints. Two main questions need to be answered, namely, was a bubble present in Slovenia in the years of easy credit (especially in the period from 2002 to 2008) and, second, to what extent did the situation in the Slovenian banking sector influence the formation of a bubble?

In this paper we remedy this situation. We analyse the behaviour of the LJSEX, the main index of the Ljubljana Stock Exchange (LJSE), in the period from January 2000 till May 2010. More precisely, we test for the presence of bubbles and antibubbles and try to determine whether or not a bubble could have been predicted (both the formation and the date of the bubble burst). Second, we employ techniques used to model antibubbles to forecast the future behaviour of the LJSE index. Besides modelling the index's dynamics for the aforementioned period, we also try to determine the factors that led to a bubble being formed and later bursting.

We find conclusive evidence using both the simple test for non-linear exponential growth presented in Zhou and Sornette (2007) and the methods of statistical physics (LPPL model) developed in (Johansen et al. 1998,1999<sub>a,b</sub>) for the presence of a stock bubble. Regarding the possibility of predicting the bursting of a bubble *ex ante*, we find evidence that the end of the bubble could have been predicted, although the exact timing of it bursting would be harder to predict. The evidence of an antibubble phase is less clear especially because the power exponent is a little high. If, however, one assumes that we are currently in an antibubble phase of the market we can expect a period of increased volatility with no apparent downward or upward trend in the next year. With respect to the interplay between interest rates and LJSEX levels, we find a strong correlation between a reduction of interest rates and growth of the LJSEX. Moreover, the growth of credit coincides well with the beginning of the bubble. The credit activity of banks picked up significantly in 2005, 2006 and 2007. Although there is a clear correlation between the early phase of the bubble and the increased credit activity of the banking sector, the link between the end of the bubble and the restriction of credit activity is less pronounced. With respect to the future behaviour of the LJSEX using the methodology of antibubbles introduced in (Johansen et al. 1999<sub>a</sub>), the most likely outcome seems to be a pattern of oscillatory behaviour of the stock index with no apparent upward or downward trend.

In Section 2 we briefly overview the methodology used to analyse bubbles and antibubbles. In Section 3 we introduce our data set along with its main characteristics. Section 4 outlines the results of the analysis of the dynamics of the LJSE index. In this section we provide a simple analysis that confirms the presence of the bubble and then complement it with the more advanced approach of Sornette and Johansen (see Johansen et al. 1998,1999<sub>a,b</sub>). At the end of this section we also give a best estimate of the future dynamics of the

LJSEX using the Sornette and Johansen method for predicting antibubbles (Johansen et al. 1999<sub>a</sub>). In Section 6 we try to determine the factors that influenced the forming and bursting of the bubble. Section 7 concludes.

## 2 Research methods

In this section we briefly overview the methodology used to detect bubbles and antibubbles. A more complete description of the methodology can be found in Johansen et al. 1998,1999<sub>a,b</sub>,2000<sub>a,b</sub>). For some criticism of the Johansen and Sornette approach, see Feigenbaum (2001<sub>a,b</sub>). One should note that the methodology in this paper differs from the mainstream literature developed in 1980's and 1990's. Some of the main contributions of the early work on bubbles can be found in Diba et al (1988). Blanchard (1979), West (1987), Froot et al (1991).

### 2.1 Modelling Bubbles

As confirmed by numerous authors (see for example Johansen et al. 1998,1999<sub>a,b</sub>), a bubble can be identified by the existence of a regime of prices (either stock market or real estate) well described by the expression

(1)

Here  $A$  represents a constant or value of a price index obtained at the peak of a bubble, the term  $(t - t_c)^m$  captures faster than exponential growth of the price index (with  $m$  limited to  $[0,1]$ ) and  $(\cos(\omega(\log(t - t_c)) - \phi) - \phi)$  describes the oscillation of the price index around an exponential path, with  $t_c$  denoting the time of the crash or more generally of a phase transition,  $\phi$  is a phase shift,  $C$  gives the size of oscillation amplitude and  $B$  (relative to  $A$ ) is the share of the value of the index that can be attributed to faster than exponential growth. As noted by Johansen and Sornette (1999<sub>a</sub>), 3 of the 7 parameters ( $A,B,C$ ) depend on the values of the other four parameters and thus the optimisation problem depends on the values of the remaining 4 parameters. Of the 7 parameters only  $m$  and  $\omega$  carry structural information about the market dynamics. This is further emphasised by numerous studies of past bubbles confirming that the values of parameters  $m$  and  $\omega$  take on specific values (see Johansen and Sornette, Log-periodic power law bubbles in Latin-American and Asian markets and correlated anti-bubbles in Western stock markets: An empirical study). Testing the aforementioned methodology in the case of Latin American and Asian markets they find evidence that for the majority of bubbles the power exponent should take values in the range  $0.1 < m < 0.8$  (Sornette et al. 2001), whereas the values for the angular frequency are in the range  $2.9 < \omega < 11.4$ .

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currency measured both in terms of prices and the real exchange rate was pursued by means of dual targeting of both base money and the exchange rate (1996-2001). The last change in the monetary framework, aiming at addressing the persistence of inflation and the EU accession requirements, rests on a framework that uses the exchange rate as a nominal anchor for reducing inflation (2001- 2004)

In a series of papers (Johansen et al. 1998,1999<sup>a,b</sup>, Sornette et al. 2001), Johansen and Sornette demonstrate that most stock market bubbles can be identified using the methodology described above. In addition, they demonstrate that most of the bubbles that appeared could have been identified up to 2 years in advance and in some cases even 5 years in advance.

## 2.2 Modelling Antibubbles.

As pointed out by Sornette and Johansen (Johansen et al. 1999<sup>a</sup>), a similar type of herding behaviour leading to log periodic oscillations observed during a bubble phase may also be observed during a post-bubble or crash phase.

Such behaviour has been identified in 21 stock market indices: the Netherlands, France, the USA Dow Jones, USA NASDAQ, Japan, Belgium, Denmark, Germany, Norway, Spain, Switzerland, the United Kingdom, Israel, Brazil, Hong Kong, India, Peru, Taiwan, Czech Republic, Argentina and Turkey. Thus in analogy with (1) where Sornette and Johansen propose that the price dynamics in the post-bubble phase are modelled as

$$\ln(p(t)) = A + B(t_c - t)^m + (t_c - t)^m (\cos(\omega(\log(t_c - t)) - \phi)) \tag{2}$$

With  $t > t_c$ ,  $t_c$  as before denoting the most likely time of phase transition from the bubble to antibubble phase,  $C$  denoting the size of the oscillation. Observe that equation 2 is basically a transformed equation 1 with  $t - t_c$  being replaced by  $t_c - t$ .

Besides the simple first order harmonics, in their article (Johansen 1999<sup>a</sup>) Sornette and Johansen also propose an extension to equation 2 by including second order harmonics

$$\ln(p(t)) = A + \frac{r^m}{\sqrt{1 + (\frac{r}{\Delta t})^{2m}}} (B + C \cos \left\{ \omega \log \tau + \frac{\Delta \omega}{2m} \left( 1 + \left( \frac{r}{\Delta t} \right)^{2m} \right) + \phi \right\} \tag{3}$$

The main difference between equations 2 and 3 is the inclusion of additional terms which allow for a change of oscillatory pattern from  $\omega$  close to  $t_c$  to  $\omega + \Delta\omega$  far from  $t_c$  (i.e. for  $t - t_c > \Delta t$ ).

## 3 Results

### 3.1 The dynamics of the LJSE index in the 2000-2010 period

Although the LJSE was established in 1989 it was not until 1996 that the first paper was traded on the LJSE. It was only in mid-2000 that the first stock index was established. Today there are two main stock indexes: SBI TOP and LJSEX.

In this paper we focus on the LJSEX which comprises the biggest stocks traded on the LJSE: The dynamics of the LJSEX are depicted in Figure 1.

As one can see from the figure, for the period between 2000 and 2006 the stock market experienced a period of more or less positive returns, with intermediate periods of minor corrections. For the first five years the compounded return was equal to around 20%, with a standard deviation of around 20%. Although high in nominal terms, the return was somewhat smaller in real terms due to relatively high inflation. One should note that inflation in Slovenia was high at the begin-

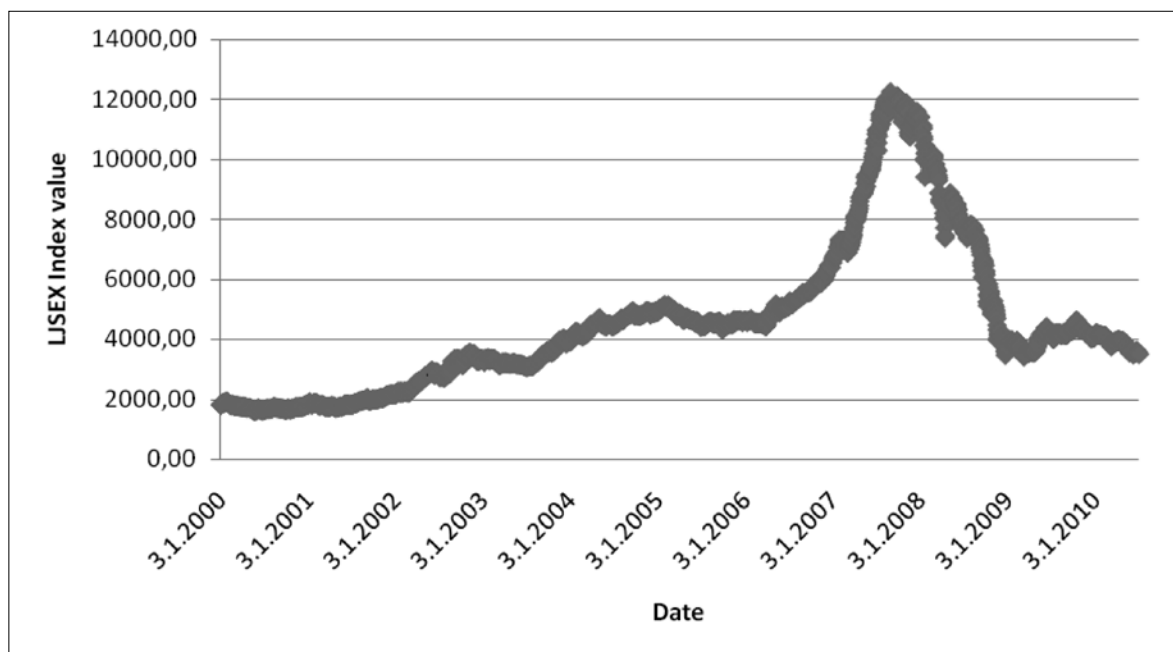


Figure 1: The dynamics of the LJSEX in the period January 2000 to May 2010. The x axis denotes date, while the y axis gives the value of the LJSEX.

ning of the new millennium. Namely, in 2000 inflation was close to 9%, it was similar in 2001, and then dropped gradually to around 4% in 2004. Correspondingly, during the same time we also witnessed the continuous depreciation of the Slovenian tolar (SIT), the local currency of the time, and experienced a period of relatively high interest rates, with interest for short-term credit exceeding 10% at the beginning of 2000.

A real change of regime (as it would appear) happened in the middle of 2006 when the index started growing rapidly. In the last half of 2006 the index returned to close to 30%, whereas during the next 9 months the index returned a record 92%. During this time the returns were almost uniformly positive and periods of constant growth were only occasionally interrupted by one or two days of minimal corrections. The index culminated on 31.8.2007 and started what seemed at first to be a slow descent from record heights. At the beginning of 2008 the index was still only 5% below its record levels. A real correction came in 2008 when the index lost more than 70% of its value. After that date, the index stabilised somewhat with small oscillations around the 4,000 points mark.

At first glance it would seem that in the period between 2006 to end of 2007 we experienced a classical stock bubble that ended in a swift crash. Although this hypothesis seems robust from the data we have presented, we still subject this hypothesis to further tests by more carefully analysing the stock market's behaviour in this period using the methodology of Sornette and Johansen (see for example Johansen et al. 1998, 1999<sub>a,b</sub>).

### 3.2 Was there a bubble?

In the first part of our analysis using a simple test we will try to determine whether the presence of the bubble could have

been detected. For these purposes, we use the simple method proposed by (Zhou et al. 2007). Namely, the presence of a bubble can be identified if one compares the quality of the fit of the model describing super-exponential growth with the fit of the standard exponential growth model. Here the standard exponential growth model is characterised by the following equation

$$\ln(p(t)) = A + Bt + \varepsilon_1 \quad (4)$$

Where  $\varepsilon_1$  stands for the random walk component and  $b$  is the expected return (compounded) per unit of time (here 1 trading day is chosen as a suitable time unit). On the other hand, in the most simple form the super-exponential growth model is characterised by the following equation

$$\ln(p(t)) = A + Bt Ct^2 + \varepsilon_1 \quad (5)$$

where the non-linear effect of the super-exponential growth is captured via the additional quadratic term. As mentioned, over a given time interval we determine whether or not a bubble existed by comparing the standard deviation of errors of a linear model (fitted over a given time interval) with the standard deviation of errors of the simple non-linear model with a quadratic term. If the standard deviation of the errors of the non-linear model is much smaller than the standard deviation of the errors of the linear model this might indicate that the dynamics of the return over a given time horizon were distinctively non-linear and could indicate the presence of a bubble. More precisely, Sornette and Zhou (Zhou et al. 2007) use the following metric  $D$  to determine the presence of a bubble

$$D = \frac{\text{RMS}(\text{lin}) - \text{RMS}(\text{non})}{\text{RMS}(\text{lin})} \quad (6)$$

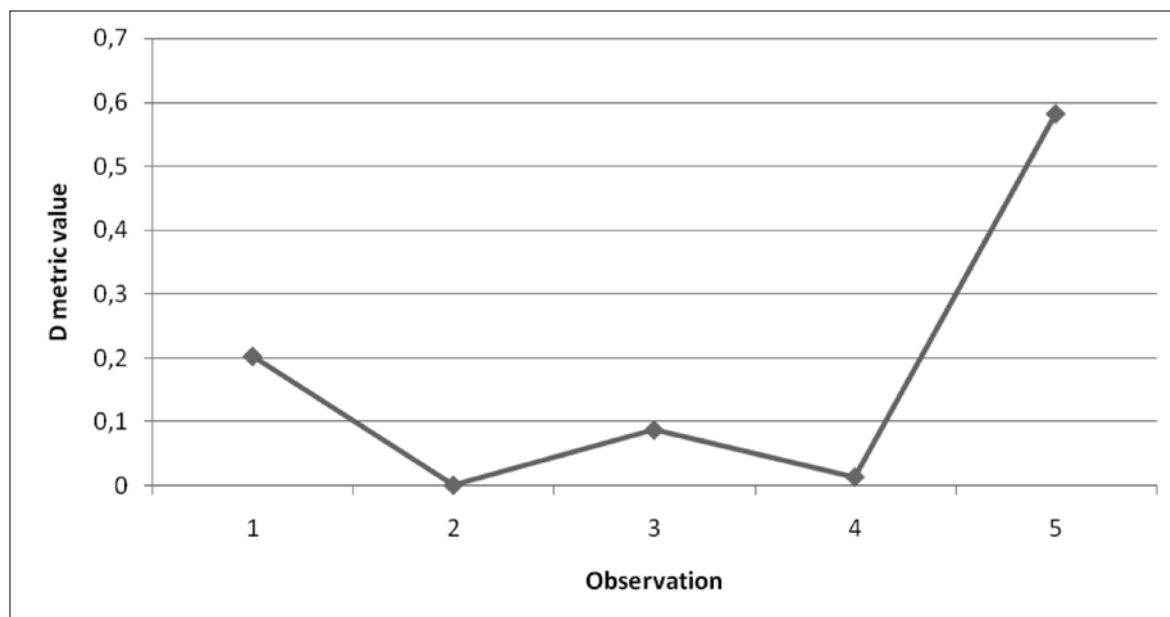


Figure 2:  $D$  metric indicating bubble-like behaviour for the period between 3 January 2000 and 31 August 2007. On  $y$  axis the values of  $D$  metric are given and on  $x$  axis the time intervals (380 days long) starting on 3 January 2000 are given. Source: LJSE

Where  $RMS(\text{lin})$  is the root-mean-square of the residuals of the fits to the price time series with the linear model and  $RMS(\text{nonlin})$  is the root-mean-square of the residuals of the fits to the price time series with the non-linear model. As determined by Zhou and Sornette (Zhou et al. 2007), values of index  $D$  higher than 0.25 indicate the presence of a bubble.

In order to test for the presence of a bubble in the Slovenian market we use data from 3 January 2000 until 31 August 2007 and use the aforementioned methodology to calculate the value of index  $D$  using both linear and non-linear models. First, we test to what extent the values of the index differ over a series of non-overlapping (time) intervals obtained by splitting the time period from 3 January until 31 August 2007 into five equally spaced time intervals. There are approximately 1,900 trading days between 3 January 2000 and 31 August 2007, so each time interval is 380 trading days long.

As we can see from Figure 2 the values of index  $D$  are smaller than 0.25 for all time intervals except the last one. Thus it seems that distinct bubble behaviour was present only in the last time interval between 31 January 2006 and 16 August 2007. For all other time intervals the values of the index are so small that we may exclude the presence of a bubble. From the above analysis we may conclude that the results of the comparison between the simple linear and nonlinear models indicate it is very likely that a bubble existed in the period between 2006 and the summer of 2007. The test results also suggest that the bubble began sometime in the period between the beginning of the fourth time interval (29 July 2004) and the beginning of the last interval (31 January 2006).

One would of course like to more accurately determine the beginning of the bubble and also test whether or not the end of the bubble could have been forecast in advance. In order to do this, we focus our attention on an analysis of the LJSE dynamics between January 2000 and September 2007 using the more advanced methodology presented in Zhou et al. (2007).

### 3.3 When did it all begin? Identifying the start of the bubble

An important question here is whether one can determine the beginning of the bubble phase, how accurately and how far in advance did the signals identify the presence of the bubble. Following Sornette and Zhou (2007), we use a method of decreasing time windows where we fix the end of the time horizon (denoted  $t_{\text{last}}$ ) and vary the length of the time horizon by changing  $t_{\text{start}}$ . On such a time horizon ( $t_{\text{start}}-t_{\text{last}}$ ) we search for a minimum by using least squares with a distance equal to the difference between the value of the index and the value of the approximating sequence given by equation (1). In order to identify a global minimum between many local minima we use a variant of a taboo search (Cvijovic et al. 1995). Having obtained estimates for the parameters in equation (1) that identify global minima, we change the size of the time interval and repeat the procedure of identifying global minima. Once the value of critical time  $t_c$  does not change significantly (e.g. by more than a few months) when increasing  $t_{\text{start}}$  this can be identified as the beginning of the bubble.

In order to identify the start of the bubble we performed the aforementioned analysis on the whole data set, with  $t_{\text{last}}$  set at 10 August 2007, and change  $t_{\text{start}}$ , beginning on 3 January 2000 (the beginning of our data set). (Since we are concerned with identifying ex post when the bubble started we use as many data points as possible to make the estimates robust, we thus take the last point in the time set that is close to the actual peak of the bubble).

Table 1:  $T_c$  as a function of  $t_{\text{start}}$  using the method of decreasing time windows using a variant of a Taboo search

$T_{\text{start}}$	$T_{\text{critical}}$
06-Jan-2000	20-Aug-2008
23-Oct-2000	21-Nov-2008
11-Aug-2001	29-Apr-2008
30-May-2002	05-Jun-2008
18-Mar-2003	16-Dec-2010
04-Jan-2004	02-May-2018
22-Oct-2004	09-Nov-2011
10-Aug-2005	31-Aug-2007
08-Sep-2005	15-Sep-2007
07-Oct-2005	28-Aug-2007
05-Nov-2005	18-Sep-2007
04-Dec-2005	01-Sep-2007
03-Jan-2006	15-Sep-2007
01-Feb-2006	29-Aug-2007
02-Mar-2006	13-Sep-2007

Source: LJSE and own work

As one can see from the table, the values of  $t_c$  (critical time) vary quite significantly over the whole data set. Up to approximately August 2005 the estimates of critical time vary substantially<sup>2</sup>. As the table shows, after that time the estimates of critical time become very robust, the estimates of the time of the phase shift, i.e. critical time, are almost uniform (the dates vary only slightly with most of them focussing on the period from the end of August to mid-September). One should note that use of the methodology in this section yields similar results for the beginning of the bubble as with the analysis employing the simpler methods from the previous section.

### 3.4 Could the end of the bubble have been predicted?

Looking ex post we know that the bubble culminated on 31 August resulting in a large correction over the next three years. From the viewpoint of the methodology proposed by Johansen and Sornette (Johansen et al. 1998), we would like to know whether the end of the bubble could have been predicted and, if so, how far in advance? To test this hypothesis we adopt the method of increasing time windows proposed by Zhou et al. (2007) where we fix a start date  $t_{\text{start}}$  which is identified as the most likely start of the bubble and change  $t_{\text{last}}$  (indicating the end time point of the time window). Searching for the

best fit and increasing  $t_{last}$  gives us the dependence of  $t_c$  as a function of  $t_{last}$ . When  $t_c$  becomes fairly robust or does not change with respect to  $t_{last}$ , this can be interpreted as evidence of a possible regime shift (bursting of a bubble). For the purpose of our analysis we fix  $t_{start}$  as August 2005 which was previously identified as the most likely start date of the stock bubble. For  $t_{last}$  we consider months between October 2006 and September 2007.

Table 2: Values of the parameters obtained by changing  $t_{last}$  using the method of increasing time windows

$t_{start}$	$m$	$\Omega$	$t_c$
30.5.2006	0.989122	1.608058	21.8.2007
27.6.2006	0.016345	4.09723	17.7.2006
25.7.2006	0.040763	4.669221	25.8.2006
18.10.2006	0.212778	19.45637	18.10.2007
17.11.2006	0.454071	19.988	10.1.2008
15.12.2006	0.526271	5.153285	18.12.2006
22.1.2007	0.161625	4.841301	16.2.2007
20.2.2007	0.009689	5.993176	2.4.2007
20.3.2007	0.357402	1.169174	11.4.2007
19.4.2007	0.040652	2.446444	14.5.2007
22.5.2007	0.005136	8.950006	12.7.2007
19.6.2007	0.641984	0.404496	29.5.2008
18.7.2007	0.389706	0.47664	21.8.2008
16.8.2007	0.241565	0.837862	23.8.2007
13.9.2007	0.493021	0.40956	23.8.2007

Source: data LJSE and own work

The table shows that in the case of the LJSE index after March 2007 the estimates of critical time become more robust. Namely, between February 2007 and September 2007 critical time varies between August 2008 and January 2007, with a relatively stable estimate of critical time between August 2007 and September 2007 for the last eight estimates. Thus, the answer to the question of whether the burst of the bubble could have been forecast is a clear yes, although the exact date of the phase regime change would seem harder to determine. Further, the results of the power exponent  $m$  confirm the presence of the bubble; in only a few rare cases does the value of the exponent fall outside the optimal range  $0.1 < m < 0.8$ . On the other hand, the values of the angular frequency do not fall within the predetermined range that is common to most bubbles. Namely, the values of angular frequency are in most cases much smaller than is the case for other known bubbles. We believe that part of the explanation may be linked to the fact that the LJSE bubble evolved over a shorter time period than comparable bubbles studied by other authors (Johansen et al. 1998, 1999<sub>a,b</sub>). Hence the log periodicity became less

apparent than it would have had the bubble formed over a longer time span.

Although the evidence regarding angular frequency is less convincing than, for example, the values of the power exponent or the values of the comparison between the linear and quadratic models, we believe there was ample evidence of a bubble forming well before the crash on 31 August 2007. Moreover, both analyses conducted in the previous two subsections support the reliable detection of a LPPL regime confirming the existence of a stock bubble. Using the methodology presented above, we believe that the formation and bursting of the bubble could have been predicted several months before the crash. However, a very precise date of the crash seems harder to identify. Although we obtain ex ante estimates of the crash date close to the actual date, the estimates are not as robust as one would have hoped.

### 3.5 Extrapolating the future behaviour of the LJSE index

In this last subsection we use the methodology developed by Sornette and Johansen (Johansen et al. 1999a) and briefly presented in Section 2 to analyse the potential future behaviour of the LJSE index. More precisely, we employ the methodology developed for fitting antibubbles to try to predict the future behaviour of the LJSE index. In order to do this, we fit equations (2) and (3) on the same data set as before. In the case of antibubbles we set  $t_c$  which denotes the change of the stock regime from a bubble to an antibubble phase equal to 27 September 2007<sup>3</sup>. The last date of our data set is 21 May 2010. We thus have approximately three years of data for determining the dynamics of the antibubble phase.

The resulting figures (see Appendix Figures 7 and 8) show the overall fit is very good, whereas the values of the parameters denoting antibubble behaviour differ quite substantially when comparing equations 2 and 3. In the case of the simple model (equation 2) the values of the power exponent and angular frequency are close to the range of optimal values obtained for other countries (Johansen et al. 2000<sub>a</sub>). The power exponent in this case is equal to 1.03, whereas the angular frequency is equal to 5.9, which is the value one is most likely to expect with antibubble-like behaviour. Compared to values for other countries the Slovenian antibubble phase corresponds most closely to the antibubble phase in the Netherlands, USA-Dow Jones, Germany, Norway, Switzerland and the United Kingdom with values of the power exponent close to or slightly greater than 1 (Zhou et al. 2003).

Looking at the value of the power exponent one can conclude that the overall behaviour from September 2007 to May 2010 indicates the steep downward overall acceleration of the index (Zhou et al. 2003). As indicated by Sornette and Zhou (Zhou et al. 2003), a steep downward acceleration is compensated by a large amplitude of log periodic oscillations. As the values for the second fit indicate, if one includes second order

<sup>3</sup> This is the last time the index breaks the 12,100 point mark; between the peak date and 27 September the value of the index oscillates around the 12,000 mark, with no apparent trend, whereas after 27 September there is a clear downward trend.

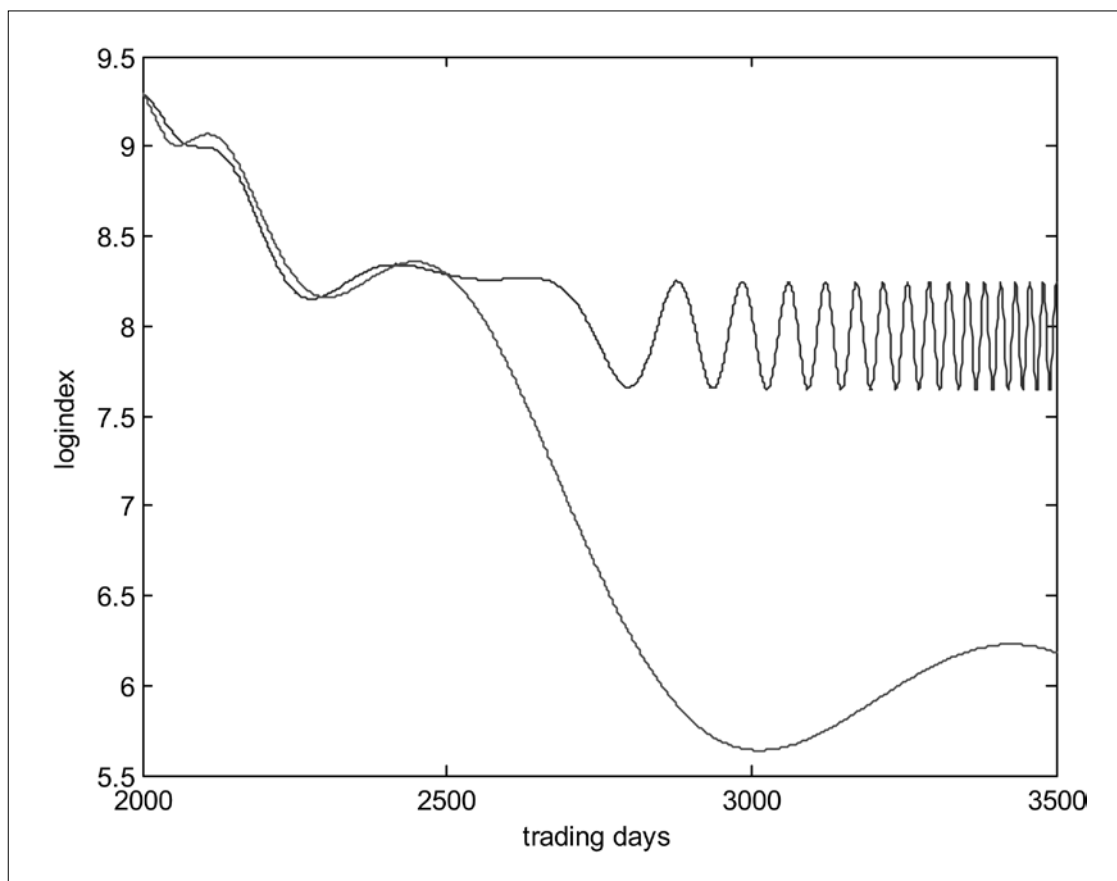


Figure 3: Predicting future behaviour of the LJSE index from equations 2 (upper oscillating line) and 3 (lower line) for the antibubble phase. The y axis gives the log (index), whereas the x axis gives trading days measured from January 3<sup>rd</sup> 2000. Source: LJSE and own work

harmonics the power exponent is indeed larger than 2.3, which shows that we are indeed facing a regime of steep downward acceleration, especially during the September 2007-September 2008 period. In contrast to equation 2 the values of parameters indicate that for values of  $t \gg t_c$  there is a change of regime from downward sloping to oscillating with an amplitude of around 1,000 points. This can be largely confirmed by looking at the predictions of the future behaviour of the stock index using the results of fits of equations 2 and 3 up to May 2010 extrapolated until around mid-2015.

As one can see from the graph there are important differences between the two models. The simple model with no second order harmonics indicates a further steep decline of the index. However, this is not only the consequence of the data but a consequence of the model. With this model no stationary oscillatory behaviour is possible, the index can only be decreasing albeit at a slower or faster pace, but there cannot be a change in regime as is possible with equation 3; the extended model. The hypothesis that the first model might not be completely appropriate for describing the behaviour of the LJSEX in the period from September 2007 to May 2010 is confirmed by the values of the quality of fit. Namely, in the second case the  $R^2$  is some 40% smaller, although only two parameters are added to the model.

Due to the significant increase in the quality of fit when predicting the future behaviour of the LJSEX we put more emphasis on the extended model (equation 3). From the values of the parameters obtained by fitting equation 3 to the September 2007 to May 2010 period we can conclude that over the next few years we are most likely to experience a period of increased volatility with no clear increasing or decreasing growth pattern.

One should be careful when interpreting the results of future forecasts for the LJSEX using either of the models presented in Section 2. Namely, as already pointed out in Johansen et al. (1999<sub>c</sub>) stock indexes do not only behave according to either bubble or antibubble regime models since their movements can also be random with no apparent underlying regime. In-fact, this regime is most likely and thus we have to take into account that each antibubble phase may shift to some other regime such as a bubble regime or complete random behaviour. As indicated by Johansen et al. (1999<sub>c</sub>), the probability of such a regime shift is increasing in time and one cannot exclude the fact that one or several years in advance the antibubble phase model will prove inadequate for describing the dynamics of the LJSEX. If however such a shift in regime is not present, we may expect the increased volatility of the LJSEX with no apparent downward or upward trend for several years to come.

## 4 Discussion

As noted in the previous section, the LJSEX clearly had a bubble-like pattern between 2005 and 2007. Notably, the values of the parameters were robust in terms of increasing time windows and dependence of the critical time with respect to shrinking time windows indicated that the herding behaviour was known for some time in advance and thus that the possible peak and consequent crash could have been predicted within a reasonable margin of error. This in itself is an important conclusion further indicating that the methodology proposed by Johansen and Sornette (1998,1999<sup>a,b</sup>) and extended by others is also successful in predicting bubbles in the case of the Slovenian stock market.

Although one can be content with the realisation that the methodology of bubbles gives precursory indications of a bubble forming, one is left to ask if there were other indicators or perhaps factors influencing/accompanying the formation of the bubble.

One possible answer here could perhaps be provided by studying the interdependence of interest rates, the amount of newly issued debt and the LJSE index. Namely, like in some other countries (most notably the USA and the UK) we are led to believe that low interest rates and lax lending standards establish grounds for the positive feedback herding behaviour that led to the bubble and the consequent crash. We believe that, similarly as in some other cases, initial positive economic indicators of Slovenian companies induced by strong global demand attracted investors which pushed up the prices, this created additional expectations in the general public and attracted less sophisticated investors. The additional leverag-

ing available through the banking system together with low interest rates created surplus demand which caused prices to skyrocket and form a regime of self-fulfilling expectations. Finally, the bubble burst as some investors started cashing in their gains or new money/debt became more difficult to obtain.

In this section we try to test to what extent the bubble was coupled/influenced by the low interest rates and more flexible debt arrangements offered by banks. Second, we want to find out whether the crash preceded the drop in credit activity (especially asset-backed credit) or the other way around.

We look at interest rates for short-term consumer credit available to households (consumer credit) with variable adjusting interest rates or a fixed interest rate up to a period of one year. Further, we also look at the interest rate charged for short-term loans to non-financial institutions (it would have been preferable to obtain data on interest rates charged for asset- or stock-based loans, however such data are not available). This is because in Slovenia large investors were investing in the stock market via large financial holdings that had massive leverage, relatively little capital and a lot of debt, primarily short-term debt. Since short-term debt to financial holdings has the shortest duration of all types of debt, any worsening of credit conditions will be felt the most by holders of short-term debt. The fact that financial holdings were large players on the stock market can be seen by looking at the amount of short-term debt owed by the 10 largest financial holdings which, at the beginning of 2009, was well over EUR 1 billion ([http://www.dnevnik.si/novice/aktualne\\_zgodbe/1042352431](http://www.dnevnik.si/novice/aktualne_zgodbe/1042352431)). To give the reader a sense of relativity, daily turnover on the Ljubljana stock exchange amounts to

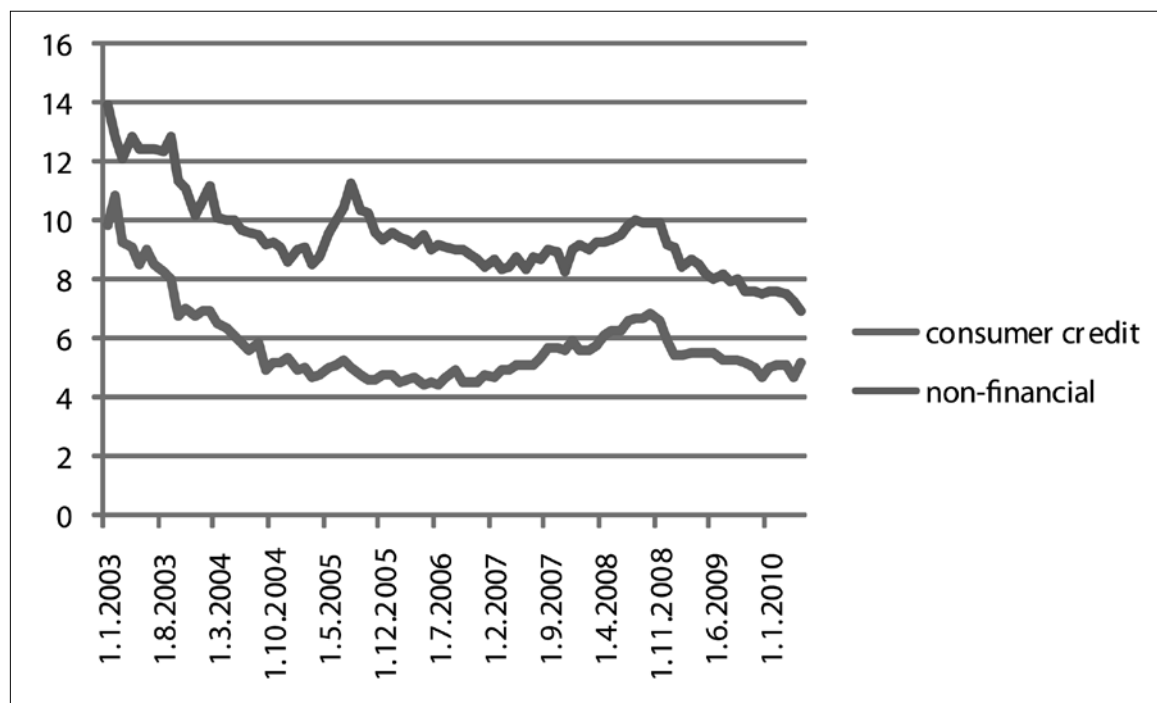


Figure 4: Interest rate for short-term consumer credit (lower line) and short-term credit to the non-financial sector (upper line); Source: Bank of Slovenia



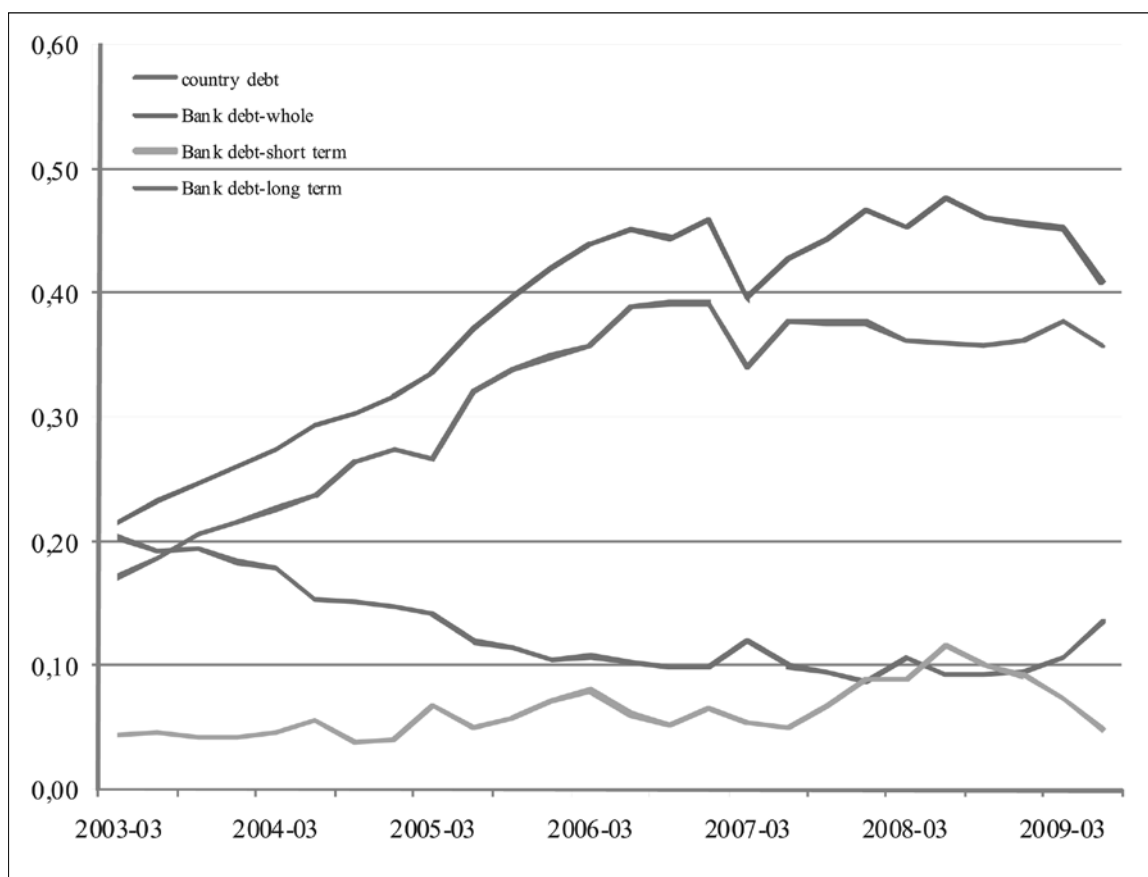


Figure 5: Share of state debt and bank debt as a percentage of whole debt (source: Simoneti et al (2010))

several million € on average (<http://www.ljse.si/cgi-bin/jve.cgi?doc=718&sid=>, Stock exchange).

As one can see the fall in interest rates coincides well with the growth in the LJSEX. In addition, observe that at the beginning of 2007 interest rates on both consumer credit and credit to the non-financial sector started rising which could indicate that the worsening of credit conditions acted as a trigger for the end of the stock market bubble. Another factor that probably contributed to the worsening of credit conditions was the increase of lending standards which manifested itself in stronger demand for collateral and an increased pick up (add on) of interest rate charges for asset-backed loans over the risk-free interest rate. Both factors are quite difficult to measure and thus this issue is left for further research.

Regarding the second question, we present the figures for credit activity measured by new outstanding debt to the non-financial sector and compare their dynamics to the dynamics of the stock market.

Observe that the growth of credit coincides well with the beginning of the bubble. The banks' credit activity (measured as both newly issued debt and short-term debt) picked up significantly in 2005, 2006 and 2007. If there is a clear correlation between the early phase of the bubble and the increased credit activity of the banking sector, the link between the end of the bubble and the restriction of credit activity is less pronounced.

As mentioned, the stock market peaked on 31 August 2007, while credit activity continued for some time after that date. Thus one is left to believe that deflation of the bubble was not linked/influenced by the contraction of bank lending. This conclusion may however be somewhat premature since we can observe that in the second quarter of 2008 there was already a contraction of long- and short-term lending which coincides with the period of the fastest decrease in the value of the stock index. In the last three quarters the LJSE index fell more than 60%. In the previous three quarters the drop was just slightly above 25%. One possible explanation of the stock market dynamics is that the initial contraction was spurred by a tightening of lending standards which manifested itself in stronger demand for collateral, whereas in the second phase a contraction of the availability of lending acted as a further catalyst for the drop in the stock index.

We should stress that the analysis presented in this section is based on publicly available data, which is not as detailed as one would have hoped to draw a more powerful conclusion regarding the factors that caused the bubble to inflate and the subsequent drop in the stock index. In order to obtain more conclusive evidence one would need more detailed data on foreign investments in the stock market, data on the tightening of lending standards and data on the debt outstanding to financial holdings. The interplay between these factors and

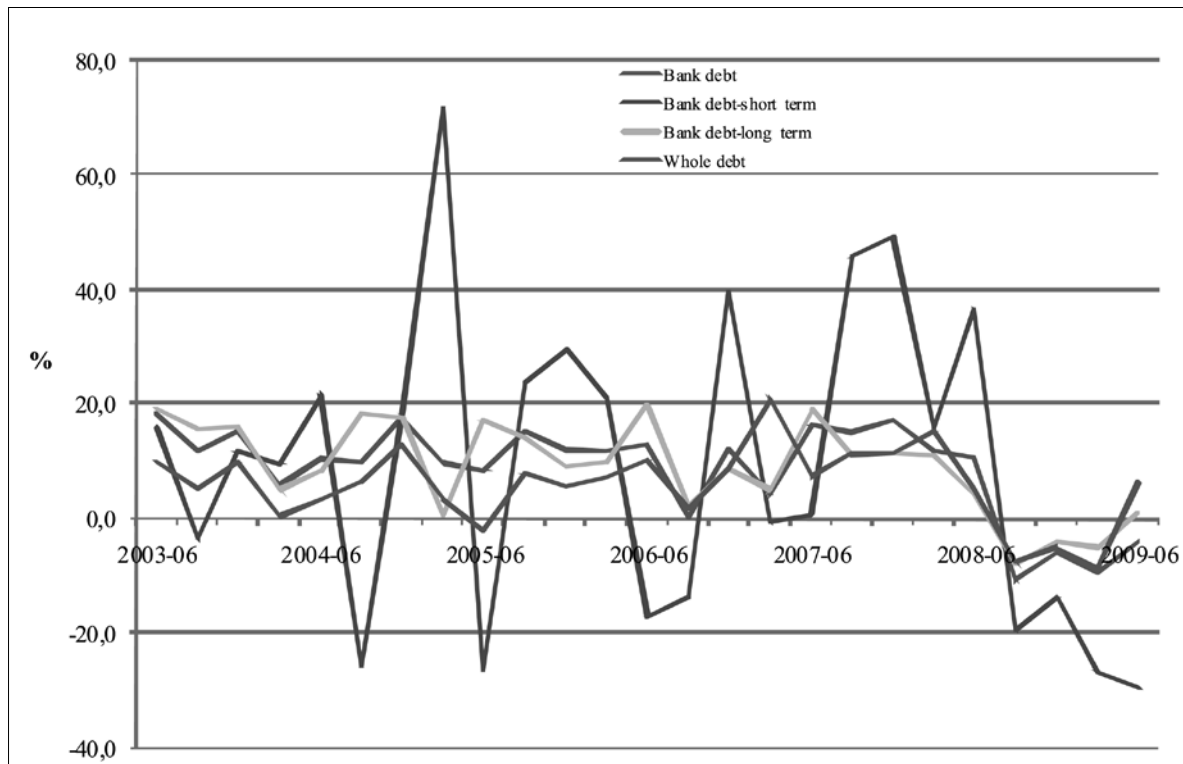


Figure 6: Growth rates for bank short-term debt, long-term debt, whole debt (source: Simoneti et al (2010))

the testing of the aforementioned hypothesis of the bursting of the Slovenian stock market bubble is left for further research.

## 5 Conclusion

In this paper we tested the sustainability of growth of the LJSE index in the 2000 to 2007 period and thereafter used the methodology developed by Sornette and Johansen (1998,1999<sub>a,b</sub>). The methodology is employed using data from the LJSE index from 3 January 2000 to 5 July 2010.

In the first part of the paper we tested whether a bubble was present in the period from 2000 to 2007. By using the method of increasing time windows we found that the bubble most likely started around August 2005. As we now know (ex post) the bubble culminated on 31 August 2007. By using the method of increasing time windows we concluded that the bubble could have been predicted up to a few months in advance. On the other hand, a very precise date of the crash seems harder to identify. Although we obtained ex ante estimates of the crash date close to the actual date, the estimates were not as robust as one would have hoped. In Section 5 we sought to test the extent to which the bubble was coupled/influenced by the low interest rates and more flexible debt arrangements offered by banks. We found that the growth of credit coincides well with the beginning of the bubble. Banks' credit activity (measured as both newly issued debt and short-term debt) picked up significantly in 2005, 2006 and 2007. If there is a clear correlation between the early phase of the bubble and the increased credit activity of the banking sector,

the link between the end of the bubble and the restriction of credit activity is less pronounced. In the last section we tried to predict the future behaviour of the LJSEX using the methodology for antibubbles (Johansen et al. 1999<sub>a</sub>,2000<sub>a</sub>). We found that the extended antibubble model (equation 3) gives a good description of the market dynamics from September 2007 until May 2010. From the values of the parameters obtained in this way we conclude that in the next few years we are likely to experience a period of increased volatility with no clear increasing or decreasing growth pattern.

## 6 Literature

- Blanchard, O.J. (1979). Speculative bubbles, crashes and rational expectations, *Economic Letters*, 3(4): 387-389, DOI:10.1016/0165-1765(79)90017-X.
- Capriolo, G., Lavrač, V. (2003). *Monetary and exchange rate policy in Slovenia*, Ezoneplus Working Paper No. 17G.
- Cvijovic, D., Klinowski, J. (1995). Taboo search: An approach to the multiple minima problem, *Science*, 267 (5198): 664-666, DOI: 10.1126/science.267.5198.664
- Diba, B.T., Grossman, H.L. (1988). Explosive rational bubbles in Stock Prices?, *American Economic Review*, 78(3): 520-530, DOI:10.2307/1809149
- Feigenbaum, J. A. (2001). A statistical analysis of log-periodic precursors to financial crashes, *Quantitative Finance*, 1(3): 346 – 360, DOI: 10.1088/1469-7688/1/3/306.
- Feigenbaum, J. A. (2001). More on a statistical analysis of log-periodic precursors to financial crashes, *Quantitative Finance*, 1(5): 527 – 532, DOI: 10.1080/713665875.

- Froot, K.A., Obstfeld, M. (1991). Intrinsic bubbles: The case of Stock Prices, *American Economic Review*, 81(5): 1189-1214, DOI:10.1257/aer.89.5.1372.
- Johansen, A. and Sornette, D. (1998). Stock market crashes are outliers, *European Physical Journal B*, 1(2): 141-143. DOI : 10.1007/s100510050163.
- Johansen, A. and Sornette D. (1999<sub>a</sub>). Financial anti-bubbles: Log-periodicity in Gold and Nikkei collapses, *Int. J. Mod. Phys. C*, 10(4): 563-575, DOI:10.1142/S0129183199000437.
- Johansen, A. and Sornette D. (1999<sub>b</sub>). Critical Crashes, *RISK*, 12(1): 91-94.
- Johansen, A., Sornette D. and Ledoit, O. (1999<sub>c</sub>). Predicting Financial Crashes using discrete scale invariance, *Journal of Risk*, 1(4): 5-32, DOI=10.1.1.50.3129.
- Johansen, A. and Sornette D., (2000<sub>a</sub>). Bubbles and anti-bubbles in Latin-American, Asian and Western Stock markets: An empirical study, *Int. J. Theor. Appl. Fin.*, 4(6): 853-920, DOI: 10.1142/S0219024901001218.
- Johansen, A. and Sornette D. (2000<sub>b</sub>). Evaluation of the quantitative prediction of a trend reversal on the Japanese stock market in 1999, *Int. J. Mod. Phys. C*, 11(2): 359-364, DOI: 10.1.1.35.3396.
- Johansen, A. and Sornette D. (2000<sub>c</sub>). The Nasdaq crash of April 2000: Yet another example of log-periodicity in a speculative bubble ending in a crash, *Eur. Phys. J. B*, 17(2): 319-328, DOI: 10.1.1.30.7938.
- Johansen, A. and Sornette D. (2002). Large Stock Market Price Drawdowns Are Outliers, *Journal of Risk*, 4(2): 69-110, DOI: 10.1.1.31.7872.
- Simoneti, M., Abramovič, K., Damijan, J., Masten, I., Mastnak, S., Mrak, M., Rojec, M., Berk Skok, A., Šušteršič, J., Vesnaver, L., (2010), *Razvojne priložnosti trga kapitala v Sloveniji po finančni krizi, IER. [Developing capital markets after the financial crisis in Slovenia]*
- Sornette, D., Johansen, A. (2001). Significance of log-periodic precursors to financial crashes, *Quantitative Finance*, 1(4): 452 – 471, DOI: 10.1.1.67.8436.
- Sornette, D. (2003). *Why Stock Markets Crash (Critical Events in Complex Financial Systems)*, Princeton University Press.
- West, K.D. (1987). A specification test for speculative bubbles, *Quarterly Journal of Economics*, 102(3): 553-580, DOI: 10.2307/1884217.
- Zhou, W. X., Sornette, D. (2007). A case study of speculative financial bubbles in the South African stock market 2003 – 2006, *Physica A*, 388 (6): 869-880, DOI: 10.1016/j.physa.2008.11.041.
- Zhou, W. X., Sornette, D. (2006). Is there a real estate bubble in USA?, *Physica A: Statistical Mechanics and its Applications*, 361(1): 297-308, DOI: 10.1016/j.physa.2005.06.098.
- Zhou, W. X., Sornette, D. (2003). Evidence of a worldwide stock market log-periodic anti-bubble since mid-2000, *Physica A: Statistical Mechanics and its Applications*, 330(3-4): 543-583, DOI: 10.1016/j.physa.2002.12.001.

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### Analiza rasti indeks LJSEX z metodo borznih balonov v obdobju Januar 2000 do Maj 2010

Članek se ukvarja z analizo prisotnosti borznih balonov osrednjega indeksa ljubljanske borze LJSEX v obdobju od januarja 2000 do maja 2010. Bolj podrobno v članku analiziram, ali so v danem obdobju nastali borzni baloni in anti-baloni ter ali je bilo možno le-te predvideti. Drugič, na podlagi metodologije anti-balonov poskušam napovedati tudi nadaljnje gibanje indeksa LJSEX. Kot ugotovim s pomočjo metodologije vzete iz statistične fizike, bi bilo moč nastanek borznega balona napovedati nekaj mesecev vnaprej. Po drugi strani pa je pok borznega balona težje napovedati. V okviru analize vpliva makroekonomskih faktorjev na delniške tečaje ugotovim, da so padajoče obrestne mere in povečana kreditna aktivnost močno botrovali nastanku borznega balona. Če je v primeru nastanka borznega balona močna soodvisnost med povečano kreditno aktivnostjo in rastjo delniškega tečaja, pa je pok balona težje pripisati zmanjšanju kreditne aktivnosti. S pomočjo metodologije napovedovanja tečajev v fazi anti-balonov (Johansen 1999<sub>a</sub>) ugotovim, da lahko v prihodnjih letih na slovenskem delniškem trgu pričakujemo povečano volatilitno brez izrazitega trenda padanja ali rasti tečajev.

**Ključne besede:** borzni baloni, borzni anti-baloni, LPPL, napoved tečajev

## Appendix

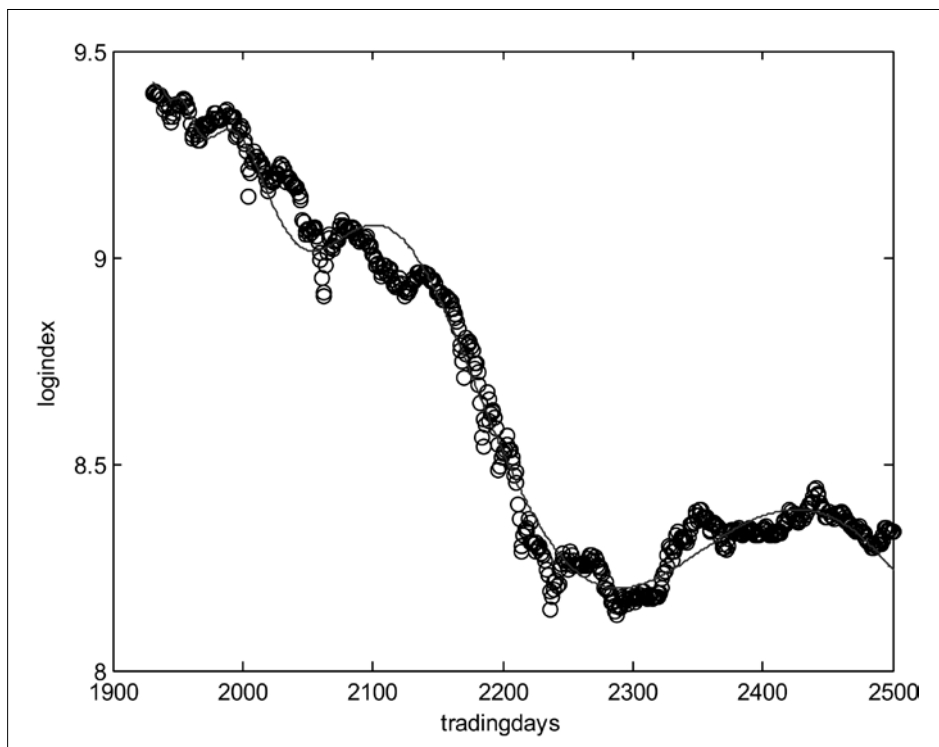


Figure 7: Fit of the antibubble phase using equation 2.. The y axis gives the log of the index value, whereas the x axis gives the date evaluated as trading days from 1 January 2000 onwards. The values of the parameters for the fit are  $B=-0.0023$   $1.0324$   
 $C=-0.69 \cdot 10^{-3}$   $\omega=5.9148$   $\phi=6.8271$   $A=9.4248$   $t_c=19.3000$

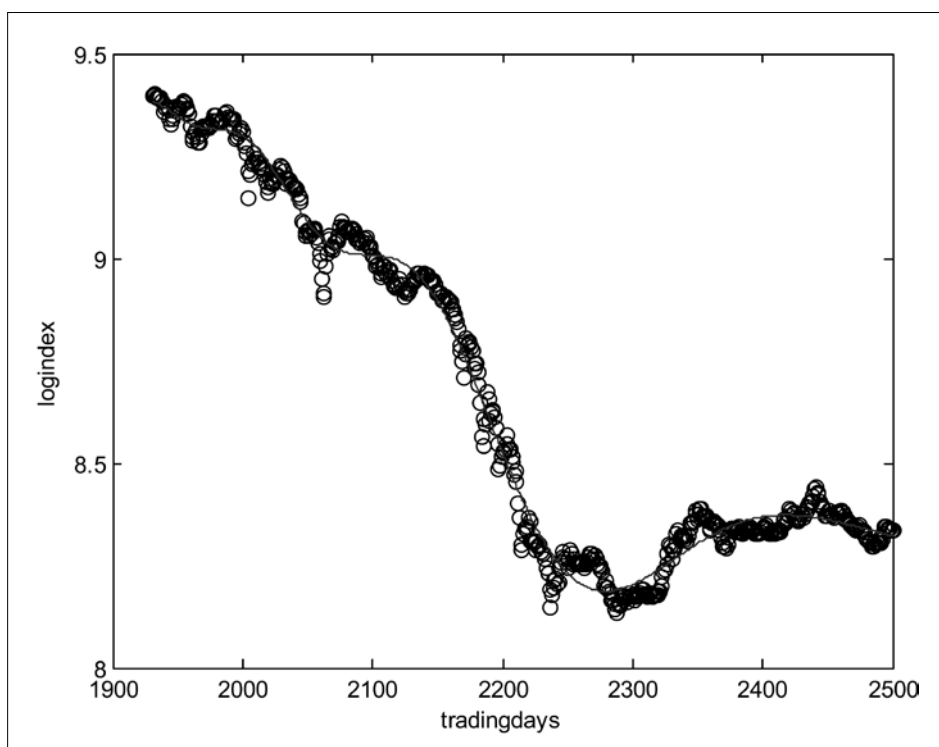


Figure 8: Antibubble fit using equation 3. The values of the fit  $A=9.41$ ,  $B=-14 \cdot 10^{-6}$ ,  $m=2.3$ ,  $C=28 \cdot 10^{-7}$ ,  $\omega=9.75$ ,  $\phi=-14.3$ ,  $t_c=1850$ ,  
 $\Delta\omega=-0.83$ ,  $\Delta t=1.1$ . The y axis gives the log of index value whereas the x axis gives the date evaluated as trading days from 1 January 2000 onwards. Only the values of the index from September 2007 are plotted.

# Dodatek

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## Kazalo 2/2011

<b>RAZPRAVE</b>	<b>A72</b>	SUZANA LAPORŠEK, PRIMOŽ DOLENC	Prožna varnost v Evropski uniji in Sloveniji
	<b>A85</b>	DRAGO PAPLER, ŠTEFAN BOJNEC	Organizacija delovnih procesov in zadovoljstvo zaposlenih v podjetju za distribucijo električne energije
<b>POVZETKI / ABSTRACTS</b>	<b>A96</b>		
<b>DONATORJI</b>	<b>A100</b>		

# Prožna varnost v Evropski uniji in Sloveniji

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Namen tega prispevka je prikazati stanje na trgu dela v državah članicah EU, s posebnim poudarkom na Sloveniji, predvsem z vidika oblikovanja in uresničevanja politik prožne varnosti. Analiza pokaže na obstoj precejšnjih razlik v EU pri uresničevanju prožnosti in varnosti na trgu dela. Najmanj uspešne pri hkratnem uresničevanju prožnosti in varnosti so države članice iz vzhodne Evrope in Baltika, saj izkazujejo rigiden trg dela ob zelo nizki varnosti zaposlenih. Še bolj rigiden trg dela imajo mediteranske države (v to skupino se je uvrstila tudi Slovenija), čeprav je raven varnosti zaposlenih višja. Najbolj uravnotežene politike prožne varnosti, torej zagotavljanje visoke ravni prožnosti in varnosti na trgu dela, izkazujejo skandinavske države. Slednje se, skupaj z Veliko Britanijo in Irsko, ki beležita najvišjo prožnost na trgu dela, uvrščajo med gospodarsko najbolj uspešne države z visokimi stopnjami zaposlenosti in nizkimi stopnjami dolgotrajne brezposelnosti. Slovenski trg dela zaznamuje visoka rigidnost ob radodarnem sistemu socialne varnosti. Problem predstavljajo predvsem prožnost pogodbenih določil, nizki izdatki za aktivne politike zaposlovanja ter ustreznost sistema denarnih nadomestil za brezposelnost.

**Ključne besede:** prožna varnost, trg dela, Evropska unija, Slovenija.

## 1 Uvod

Koncept prožne varnosti (angl. *flexicurity*),<sup>1</sup> ki sloni na iskanju pravega ravnotežja med prožnostjo in varnostjo na trgu dela, je danes ena od pomembnih prioritet politik zaposlovanja Evropske unije (EU), vse bolj pa je prisoten tudi v politikah zaposlovanja njenih držav članic. Načelo prožne varnosti namreč predstavlja odziv na spremembe, ki jih v nacionalna gospodarstva vnašajo globalizacijski proces in razvoj tehnologij (ob vse višjih zahtevah po mednarodni konkurenčnosti in gospodarski rasti), staranje prebivalstva in segmentacija trga dela ter odziv na potrebe po izboljšanju prilagodljivosti delavcev in podjetij ob upoštevanju evropskega socialnega modela.

Namen prispevka je orisati koncept prožne varnosti ter z empirično analizo odgovoriti na naslednja raziskovalna vprašanja: (i) kakšno je stanje na trgu dela z vidika uresničevanja elementov politike prožne varnosti v državah članicah EU, s posebnim poudarkom na Sloveniji; (ii) ali lahko države članice EU umestimo v režime prožne varnosti in kako se le-ti razlikujejo glede na uresničevanje prožnosti in varnosti na trgu dela ter glede na doseganje makroekonomskih rezultatov; in (iii) v kateri režim prožne varnosti lahko umestimo Slovenijo.

## 2 Prožna varnost

### 2.1 Opredelitev prožne varnosti

Koncept prožne varnosti temelji na ideji, da si dimenziji prožnosti in varnosti na trgu dela nista nasprotujoči, temveč komplementarni in vzajemno podporni. Cilj prožne varnosti je namreč doseganje visoke varnosti zaposlitve na način, da se delavcem (z zagotavljanjem možnosti za pridobitev spretnosti in znanj preko aktivnih politik zaposlovanja in vseživljenjskega učenja ter ustreznih sistemov nadomestil za brezposelnost) omogoči prilagoditev spremembam na trgu dela. Delavci bodo zaradi tega lažje vstopali v nove zaposlitve, ohranjali svoje delovno mesto in napredovali na svoji poklicni poti. Hkrati pa je cilj zagotoviti visoko prožnost tako s prožnimi delovnimi razmerji kot prožno organizacijo dela z namenom spodbujanja prilagajanja delodajalcev in delavcev na spremenjenje razmere na trgu (European Commission, 2007a).

Ideja prožne varnosti je bila prvič uporabljena na Nizozemskem sredi 1990-ih v okviru reforme trga dela in s tem povezane priprave zakona o prožnosti in varnosti (angl. *Flexibility and Security Act*) ter zakona o razporeditvi delavcev

<sup>1</sup> V slovenski literaturi lahko zasledimo dve vrsti prevoda pojma *flexicurity*, in sicer kot prožna varnost ali kot varna prožnost, odvisno tudi od tega katera dimenzija se poudarja. V tem prispevku sledimo izrazoslovju, ki ga v uradnih dokumentih in prevodih uporablja Evropska komisija, torej izraz prožna varnost.

preko posrednikov (angl. Act concerning the Allocation of Workers via Intermediaries). Cilj obeh zakonov je bil povečati prožnost na trgu dela s poenostavitvijo pravil za odpuščanje in pravil za ustanovitev začasnih agencij za delo ter obenem povečati stopnjo varnosti za zaposlene na prožnih delovnih mestih (Wilthagen in Tros, 2004). Kmalu so koncept prožne varnosti prevzeli tudi v drugih državah (na primer v Nemčiji, Belgiji, na Danskem itd.).

Glede na to, da je pojem prožne varnosti razmeroma nov v akademskih in političnih razpravah in se literatura na tem področju še razvija, ne moremo govoriti niti o enotni definiciji prožne varnosti niti o celovitih metodah merjenja le-te. V literaturi tako srečamo več, delno prekrivajočih se definicij, med katerimi pa so najbolj široko uporabljana tri razumevanja prožne varnosti (glej Wilthagen in Tros, 2004; Bredgaard et al., 2005):

- kot politična strategija, ki hkrati izboljša prožnost trgov dela in poveča varnost zaposlitve ter socialno varnost, predvsem za šibkejške skupine na trgu dela;
- kot stanje na trgu dela, ki obsega stopnjo zaposlitvene ter dohodkovne varnosti delavcev, stopnji numerične in funkcionalne prožnosti in stopnjo prožnosti plač, ki trgu dela in posameznim podjetjem omogoča prilagajanje spreminjenim pogojem z namenom ohranjanja konkurenčnosti in produktivnosti;
- kot analitični okvir za analizo razvoja prožnosti in varnosti ter za primerjavo nacionalnih sistemov trga dela.

Organizacija za ekonomsko sodelovanje in razvoj (OECD) prožno varnost opredeljuje skozi danski model prožne varnosti, ki je v literaturi večkrat opredeljen kot vzorčni primer trga dela z dobro delujočim sistemom prožne varnosti. Danski »zlati trikotnik« zduružuje učinkovito kombinacijo prožnosti (visoka stopnja mobilnosti zaposlitve zaradi nizke stopnje varovanja zaposlitve), socialne varnosti (radodaren sistem socialne pomoči in nadomestil za brezposelnost) in aktivnih programov zaposlovanja, usmerjenih v izboljšanje znanja, spretnosti in aktiviranje brezposelnih (OECD, 2004).

## 2.2 Prožna varnost v Evropski uniji

Na ravni EU je prožna varnost opredeljena kot »celostna strategija za hkratno okrepitev prožnosti in varnosti na trgu dela« (European Commission, 2007a: 10). Vloga prožne varnosti je še posebej pomembna v luči doseganja ciljev lizbonske strategije za rast in delovna mesta, spopadanja s problemom staranja prebivalstva, z visoko in neenako porazdeljeno brez-

poselnostjo, segmentacijo trga dela ter drugimi izzivi na trgu dela. Evropska komisija in države članice so se v tem okviru dogovorile, da se politike prožne varnosti lahko oblikujejo in izvajajo v okviru štirih elementov:<sup>2</sup>

1. prožne in zanesljive pogodbene ureditve,
2. celostne strategije vseživljenjskega učenja,
3. učinkovite aktivne politike zaposlovanja in
4. sodobnega sistema socialne varnosti.

Analize potrjujejo, da je uresničevanje teh elementov bistvenega pomena za vključujočo rast<sup>3</sup> na ravni EU, še posebej v kontekstu trenutne gospodarske in finančne krize, pri čemer je ključen pogoj za njihovo uresničitev učinkovit in trden socialni dialog, vzajemno zaupanje in visoko razviti industrijski odnosi (glej European Commission, 2007a).<sup>4</sup>

Čeprav koncept prožne varnosti uživa vedno večjo naklonjenost znotraj EU, njegovo implementacijo lahko razumemo kot problematično. Ne le, da bo povzročila povišanje ali premik v vladni potrošnji, ampak bo prav tako predstavljala izziv za obstoječe nacionalne trge dela in industrijske sisteme, pravne tradicije in nacionalne mentalitete (Viebrock in Clasen, 2009).

## 3 Metodologija in podatki

Empirična analiza je razdeljena na dva dela. V prvem delu z uporabo opisnih statistik predstavimo stanje na trgu dela ter delna merila prožnosti in varnosti na trgu dela v EU, s posebnim poudarkom na Sloveniji. Analitičen pregled je strukturiran v skladu z elementi politik prožne varnosti na ravni EU in temelji na zadnjih dosegljivih podatkih (podatki za leto 2009 oziroma 2008).

V drugem delu empirične analize smo (po vzoru analize Evropske komisije, 2007b) preverili, ali med opazovanimi državami obstajajo homogene skupine ter ocenili njihove značilnosti. Za razvrščanje držav v skupine smo uporabili Wardovo hierarhično metodo razvrščanja<sup>5</sup> ter naslednje ključne kazalce prožnosti in varnosti na trgu dela:

- kot merilo prožnosti na trgu dela: (i) skupni indeks varovanja zaposlitve (EPL), (ii) indeks zaščitenosti redno zaposlenega zoper individualno odpoved, (iii) indeks urejenosti začasnih oblik zaposlenosti, (iv) delež zaposlenih za določen čas med vsemi zaposlenimi in (v) delež zaposlenih s skrajšanim delovnim časom med vsemi zaposlenimi;

2 Z namenom spodbujanja držav članic k oblikovanju in izvajanju politik prožne varnosti je Evropska komisija kot referenčni okvir prav tako oblikovala načela in pristope k prožni varnosti (glej European Commission, 2007a).

3 Vključujoča rast pomeni krepitev vloge in položaja ljudi z omogočanjem visoke stopnje zaposlenosti, vlaganjem v kvalifikacije, zmanjševanjem revščine in posodabljanjem trga dela, z usposabljanjem in uveljavljanjem sistemov socialnega varstva, da bi se ljudje lažje prilagajali spremembam in jih obvladovali ter da bi bila družba bolj povezana (European Commission, 2010).

4 Primeri dobrih praks v okviru politik prožne varnosti v državah članicah EU so predstavljene v European Expert Group on Flexicurity (2007).

5 Hierarhična metoda razvrščanja je način razvrščanja, kjer na podlagi izbranih kazalcev združujemo dve ali več enot v novo, homogeno skupino. Novo oblikovane skupine prikazemo z drevesom združevanja ali dendogramom, ki ne predstavlja zgolj ene skupine, temveč večslojno hierarhijo skupin. Za mero različnosti za združene skupine je bila izbrana Wardova metoda (z evklidsko razdaljo), ki deluje na načelu maksimiranja homogenosti znotraj skupin (glej Ferligoj, 1989).

- kot merilo varnosti na trgu dela: (i) delež odraslih v vseživljenjskem učenju, (ii) izdatki za aktivne politike zaposlovanja kot % BDP, (iii) celotni izdatki za socialno zaščito kot % BDP in (iv) neto nadomestitvena stopnja za brezposelne (samska oseba s 67 % povprečne plače, brez otrok, ki je brezposelna več kot 60 mesecev in prejema socialno pomoč).

Za ugotavljanje statistične značilnosti razlik med skupinami smo zaradi majhnega števila obravnavanih držav uporabili Mann-Whitney-ev neparametrični test.

Dodana vrednost analize izhaja iz uporabe zadnjih dosegljivih podatkov za leto 2008 (oziroma leto 2007 za spremenljivko celotni izdatki za socialno zaščito) ter povečanega števila držav vključenih v razvrščanje (25 držav članic EU, podatki za Ciper in Malto niso dosegljivi v celoti).

Podatki za analizo so bili zbrani iz uradnih podatkovnih baz OECD (OECD.Stat, 2010), Skupine Svetovne banke (Doing Business, 2010) in Eurostat (2010) ter iz uradnih poročil Evropske komisije (European Commission 2007a in b, 2008).

## 4 Empirična analiza

V tem delu najprej na kratko prikažemo stanje na trgu dela v državah EU in Sloveniji, v nadaljevanju pa predstavimo podrobnejši pregled parcialnih kazalcev prožne varnosti ter podamo analizo sistemov prožne varnosti v EU, s posebnim poudarkom na Sloveniji.

### 4.1 Stanje na trgu dela<sup>6</sup>

Povprečna stopnja zaposlenosti (15–64 let) v EU-27 v letu 2009 znaša 64,5 %. Višjo zaposlenost beležijo države EU-15 (66,9 %), ki v povprečju za 5 odstotnih točk presegajo stopnjo zaposlenosti v novih državah članicah (NMS); razlike so statistično značilne pri 5-odstotni stopnji značilnosti. Čeprav smo v obdobju 2000–2009 pričali trendu postopnega naraščanja povprečnega stopenj zaposlenosti v EU, je v letu 2009 le 5 držav članic doseglo cilj lizbonske strategije, torej 70-odstotno stopnjo zaposlenosti. Še posebej nizke stopnje zaposlenosti (pod 60 %) v letu 2009 beležijo Malta, Madžarska, Italija, Romunija, Poljska in Španija. Slovenija je v letu 2009 zabeležila 67,5 % stopnjo zaposlenosti, kar je za 1,1 odstotne točke manj kot v letu prej.

Najresnejše probleme na trgu dela predstavljajo zaposlovanje žensk, mladih (15–24 let) in starejših (55–64 let). Povprečna stopnja zaposlenosti žensk v letu 2009 je namreč znašala 58,9 %, še posebej nizka pa je zaposlenost mladih žensk (32,1 %). Mladi se na trgu dela EU tako soočajo z visoko in še naraščajočo brezposelnostjo, ki je v letu 2009 dosegla stopnjo 20,7 %, v Španiji in Latviji pa je krepko presegla

30 %. V Sloveniji je stopnja brezposelnosti mladih v obdobju 2000–2009 upadla za 2,8 odstotne točke in v letu 2009 dosegla 13,6 %.

Povprečna stopnja dolgotrajne brezposelnosti v letu 2009 v EU-27 znaša 2,8 %, kar je sicer za 1,3 odstotne točke manj kot v letu 2000. Od vseh brezposelnih oseb je kar 30,8 % brezposelnih že več kot eno leto. Najnižje stopnje dolgotrajne brezposelnosti beležijo Danska (0,5 %), Ciper (0,6 %) in Nizozemska (0,8 %), torej države, ki poznajo bolj prožne ureditve trga dela. Slovenija se po stopnji dolgotrajne brezposelnosti (1,8 % v letu 2009) uvršča pod povprečje EU in v zadnjih letih beleži njeno postopno upadanje.

## 4.2 Analiza kazalcev politik prožne varnosti

### 4.2.1 Prožna in zanesljiva pogodbeno določila

Za mednarodne primerjave urejenosti delovnih razmerij in trga dela se v ekonomski literaturi pogosto uporablja indeks varovanja zaposlitve (angl. Employment Protection Legislation Index, EPL), ki ga je razvil OECD. Indeks EPL vsebuje 21 postavk, ki se nanašajo na tri področja varovanja zaposlitve: (i) zaščitenost redno zaposlenega zoper individualno odpoved; (ii) urejenost začasnih oblik zaposlenosti; in (iii) dodatni stroški v primeru kolektivnega odpuščanja. Vrednosti indeksa se raztezajo od 0 do 6, pri čemer višja vrednost pomeni bolj togo zakonodajo na področju delovnih razmerij (OECD, 2010).<sup>7</sup>

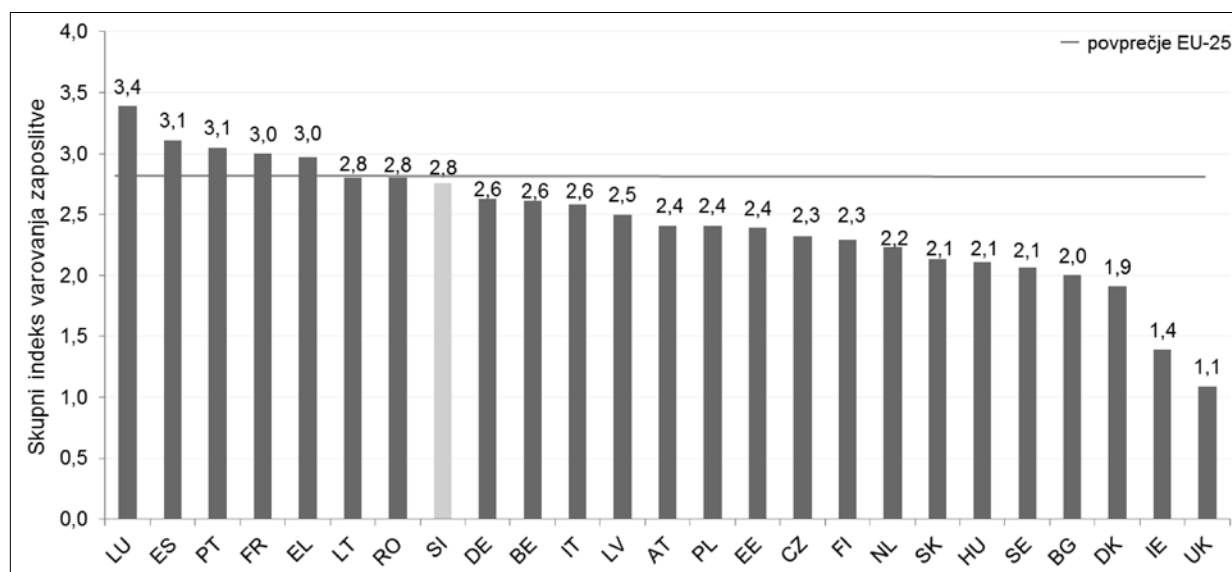
Kot kaže slika 1, najvišje vrednosti skupnega indeksa EPL (nad 3,0) v letu 2008 dosegajo Luksemburg, Portugalska in Španija, medtem ko imajo najbolj prožne ureditve delovnih razmerij Velika Britanija, Irska in Danska. Med novimi državami članicami EU (NMS) najbolj prožno ureditev delovnih razmerij v letu 2008 beležita Madžarska in Slovaška (2,1). Glede na področje varovanja zaposlitve, se v večini držav članic kaže precejšnja togost na področju skupinskih odpustov, ki je še posebej izrazita v Italiji (4,9) in Belgiji (4,1).

V Sloveniji je skoraj celotno obdobje 90-ih let področje varovanja zaposlitve urejala zakonodaja sprejeta v obdobju 1989–90, ki je zagotavljala visoko varnost zaposlenih. Manjše spremembe na tem področju so nastopile s sprejetjem dopolnitve leta 1991, ki so med drugim uvedle določilo o prenehanju delovnega razmerja iz ekonomskih razlogov, znižale odpovedne roke in odpravine ter povišale stroške postopkov za delodajalce (glej Vodopivec, 1996). Temu so sledile še manjše dopolnitve v naslednjih letih, vendar ne glede na te je skupni indeks skoraj celotno obdobje 90-ih let presegal vrednost 4,0. Korak v smeri večje prožnosti so ob koncu 90-ih let prinesle spremembe Zakona o zaposlovanju in zavarovanju za primer brezposelnosti (ZZZPB), saj se je vrednost skupnega indeksa EPL znižala na 3,1. Kot kaže tabela 1, je bilo znižanje v precejšnji meri odraz legalizacije dejavnosti agencij za posredovanje dela (indeks se je znižal iz 5,5 na 0,5).

<sup>6</sup> Podrobnejši pregled stanja na trgu dela v Sloveniji in EU se nahaja v Dolenc *et al.* (2010).

<sup>7</sup> Ena večjih pomanjkljivosti indeksa EPL je problematika natančnega merjenja posameznih komponent (na primer odločanje sodišč v primeru sporov zaradi interpretacije utemeljenega razloga za odpoved, ocene težavnosti odpuščanja ipd.) (Kajzer, 2005).





Slika 1: Skupni indeks varovanja zaposlitve v EU, 2008

Opombe: Podatki za Romunijo so za leto 2006, za Bolgarijo, Litvo in Latvijo pa za leto 2004. Podatki za Malto in Ciper niso dosegljivi.

Viri: OECD.Stat, 2010; Tonin, 2009; Ciucă in Mladen, 2009; lastni prikaz.

Sprejem Zakona o delovnih razmerjih (ZDR) leta 2002 je olajšal postopke za prenehanje delovnega razmerja za delavce za nedoločen čas, skrajšal odpovedne roke in znižal odpravnine, kar se je odrazilo v znižanju indeksa varovanja zaposlitve za redne delavce iz 4,0 na 2,7. Prav tako se je znižal indeks kolektivnega odpuščanja, predvsem zaradi skrajšanja postopkov. Na drugi strani se je indeks varovanja zaposlitve za določen čas povišal zaradi uvedbe omejitve celotnega trajanja pogodb za določen čas na tri leta in omejitev pri dejavnostih agencij za posredovanje dela.

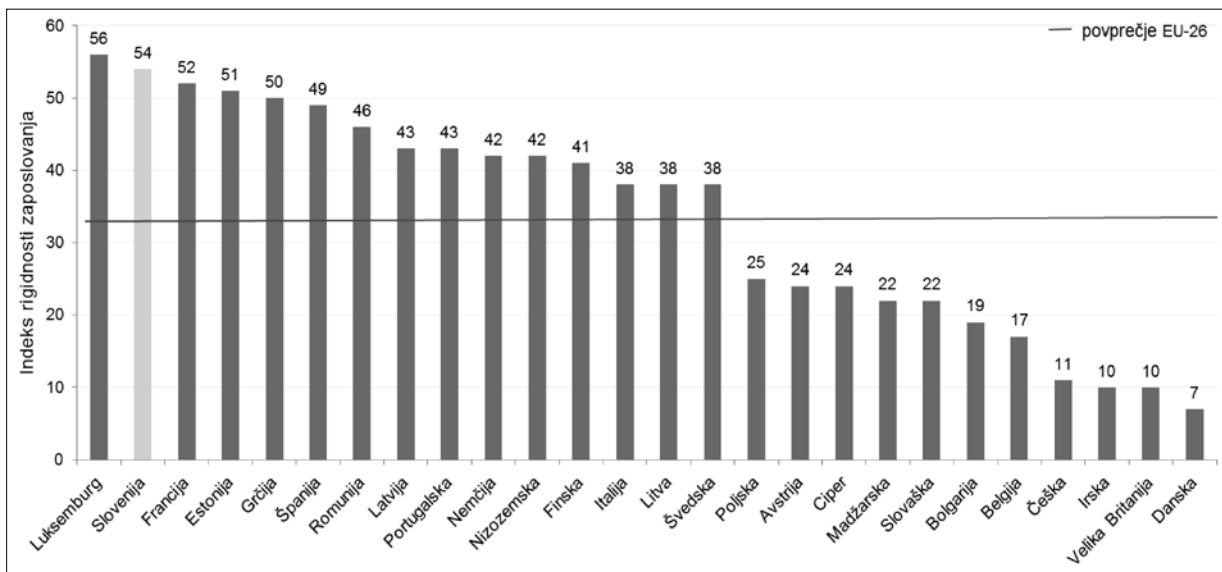
Kot je razvidno iz tabele 1, je imela naslednja zakonodajna sprememba ZDR leta 2007 le majhen učinek na skupni indeks EPL. Čeprav se je indeks kolektivnega odpuščanja občutno znižal (iz 4,8 na 2,9), sta se indeksa varovanja zaposlitve za nedoločen čas in določen čas zvišala (iz 2,7 na 3,0 in iz 2,0 na 2,5). Zvišanje indeksov je odraz zaostritve določil glede postopkov obveščanja o prenehanju zaposlitve, znižanja odpovednih rokov za nekatere skupine delavcev in omejitev pri dejavnostih agencij za posredovanje dela. Na drugi strani so spremembe ZDR povečale prožnost pogodb za določen čas (uvedba izjem k omejitvi trajanja pogodb v primeru projekt-

Tabela 1: Indeks varovanja zaposlitve v Sloveniji, po letih

Spremenljivka/leto	1991	1993	1994	1998	2003	2008
Indeks EPL (skupni)	4,2	4,0	4,1	3,1	2,7	2,8
Zaščitenost redno zaposlenega zoper individualno odpoved	3,8	3,8	4,0	4,0	2,7	3,0
Težavnost postopkov	5,0	5,0	5,0	5,0	3,0	4,0
Odpovedni roki in odpravnine	3,1	3,1	3,1	3,1	1,8	2,0
Težavnost odpuščanja	3,3	3,3	4,0	4,0	3,3	3,0
Urejenost začasnih oblik zaposlenosti	4,4	3,9	3,8	1,3	2,0	2,5
Pogodbe za določen čas	3,3	2,3	2,0	2,0	2,3	1,5
Agencije za posredovanje dela	5,5	5,5	5,5	0,5	1,8	3,5
Kolektivno odpuščanje	4,7	4,9	5,3	5,3	4,8	2,9

Opombe: V tabelo so vključena leta, v katerih je prišlo do spremembe v vrednostih indeksov. EPL indeks za leto 2008 je po OECD verziji 3, preostali podatki pa po verziji 1 (glej OECD, 2010).

Viri: Vodopivec, 2004; Dolenc et al., 2010; OECD.Stat, 2010.



Slika 2: Indeks rigidnosti zaposlovanja (0–100), 2009

Opombe: Vrednost indeksa rigidnosti zaposlovanja ni dosegljiva za Malto.

Vir: World Bank in IFC, 2010; lastni prikaz.

nega dela, razširitev možnosti za zaposlitev za določen čas (na primer zaposlitev poslovnih oseb, delo na daljavo)) in pozitivno vplivale na notranjo prožnost podjetij ter prožnost delovnega časa.

Svetovna banka je za potrebe razvrščanja držav glede na prožnost njihove delovne zakonodaje oblikovala indeks rigidnosti zaposlovanja.<sup>8</sup> Kot je razvidno iz slike 2, se z najvišjo rigidnostjo zaposlovanja spopadajo v Luksemburgu, Sloveniji, Franciji, Estoniji in Grčiji, predvsem zaradi težavnosti odpuščanja in togosti delovnega časa. Po metodologiji Svetovne banke je zakonodaja najmanj toga na Danskem, Irskem, v Veliki Britaniji ter na Češkem (predvsem zaradi nizkih ovir pri odpuščanju delavcev, nizke so tudi vrednosti preostalih podindeksov).

Kot delna merila prožnosti trga dela se najpogosteje uporabljajo razširjenost zaposlitev za določen čas in razširjenost zaposlitev s skrajšanim delovnim časom.<sup>9</sup> Zaposlitev za določen čas je bolj razširjena v državah z bolj togo zakonodajo na področju varovanja zaposlitve. Čeprav se je v večini držav članic EU (v 15) delež zaposlenih za določen čas (med 15 in

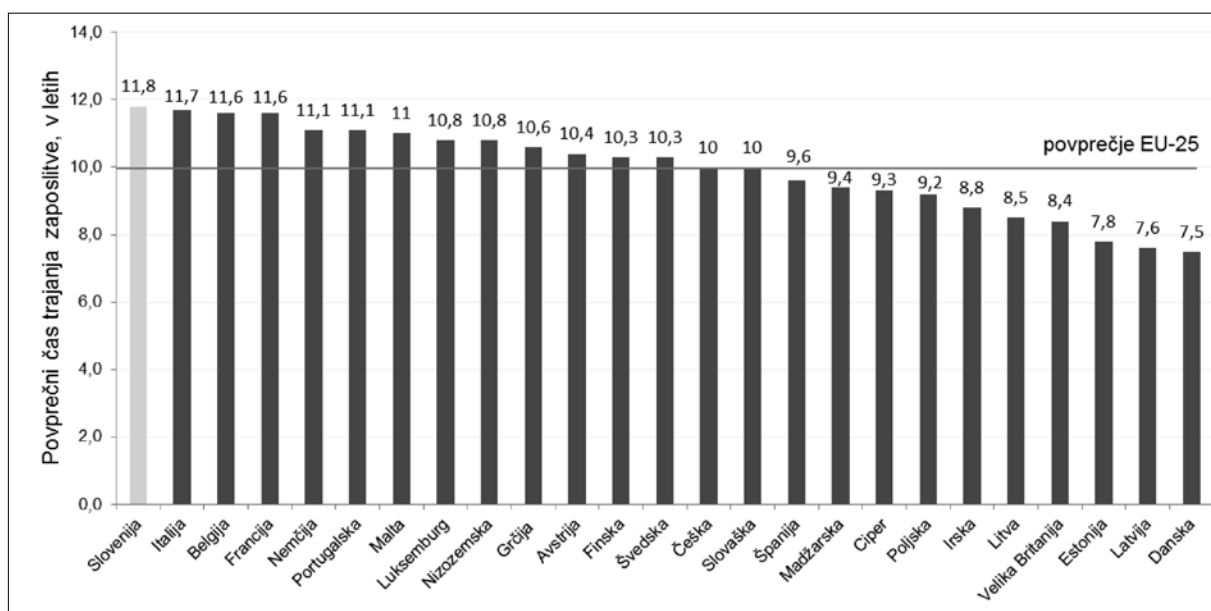
64 letom starosti) v skupni zaposlenosti v obdobju 1999–2009 povečal, pri čemer je bil porast najbolj izrazit na Poljskem (za 22 odstotnih točk), je na ravni EU povprečni delež teh zaposlitev v celotni zaposlenosti v letu 2009 znašal le 13,5 % (delež je bil višji med starimi državami članicami). V letu 2009 je tako delež zaposlenih za določen čas v celotni zaposlenosti segal od 1 % v Romuniji do 26,4 % na Poljskem. Še posebej so zaposlovanju za določen čas izpostavljeni mladi (15–24 let), saj povprečni delež na ravni EU znaša 32,2 %, delež pa je še višji med mladimi ženskami (36,0 %).<sup>10</sup>

Positiven, a manj izrazit trend se prav tako kaže na področju zaposlitev s skrajšanim delovnim časom. V letu 2009 je delež delnih zaposlitev v skupni zaposlenosti v EU-27 znašal 14,5 %, kar je 1,9 odstotne točke nad povprečjem iz leta 2000. Višji delež delnih zaposlitev beležijo države EU-15 (20,7 %; NMS 7,9 %; razlike so statistično značilne pri 99-odstotni stopnji značilnosti), kar ponovno kaže na večjo prožnost trga dela v »starih« državih članicah, še posebej v skandinavskih in kontinentalnih državah. Delna zaposlitev je namreč v državah EU-15 pogost način vstopa in izstopa na

8 Indeks rigidnosti zaposlovanja predstavlja povprečje treh pod-indeksov: indeks težavnosti zaposlovanja, indeks togosti delovnega časa in indeks težavnosti odpuščanja. Vrednosti indeksov se gibljejo med 0 in 100, pri čemer višje vrednosti pomenijo večjo rigidnost ureditve (World Bank in IFC, 2010).

9 Najbolj pogoste oblike zaposlenosti so zaposlenost za nedoločen čas ali redna zaposlenost s polnim delovnim časom, zaposlenost za določen čas in zaposlenost za skrajšani delovni čas ali delna zaposlenost. Razlika med naštetimi je v času trajanja pogodbe o zaposlenosti in dolžini delovnega časa. Najbolj tipična oblika zaposlenosti je zaposlitev za nedoločen čas s polnim delovnim časom, ki v primerjavi s preostalimi nestandardnimi oblikami zaposlenosti delavcem zagotavlja več varnosti, a hkrati velja za najbolj togo obliko zaposlitve. Večjo prožnost vnašata nestandardni obliki zaposlitve za določen čas in s skrajšanim delovnim časom, vendar je stopnja varnosti tudi sorazmerno manjša. ZDR (2007) med nestandardne oblike zaposlitve prav tako uvrščačasno delo preko agencij za posredovanje dela, delo na domu (kamor sodi tudi delo na daljavo), med posebnostmi pogodb o zaposlitvi pa ureja tudi pogodbo o zaposlitvi zaradi opravljanja javnih dela in pogodbo o zaposlitvi s poslovnimi osebami.

10 Delež začasnih zaposlitev ima kot kazalec prožnosti precej pomanjkljivosti, saj je visok delež začasnih zaposlitev pogost odziv delodajalcev na rigidna pravila o odpuščanju povezana z visokimi stroški ali pa posledica gospodarske strukture in ne odraža prožnosti trga dela (Kajzer, 2006).



Slika 3: Povprečni čas trajanja zaposlitve v državah članicah EU, 2009 (v letih)

Opombe: Podatki za Grčijo, Ciper, Estonijo, Latvijo, Litvo, Malto, Slovaško in Slovenijo se nanašajo na leto 2006. Podatki za Bolgarijo in Romunijo niso dosegljivi.

Vir: Eurostat, 2010; OECD.Stat, 2010.

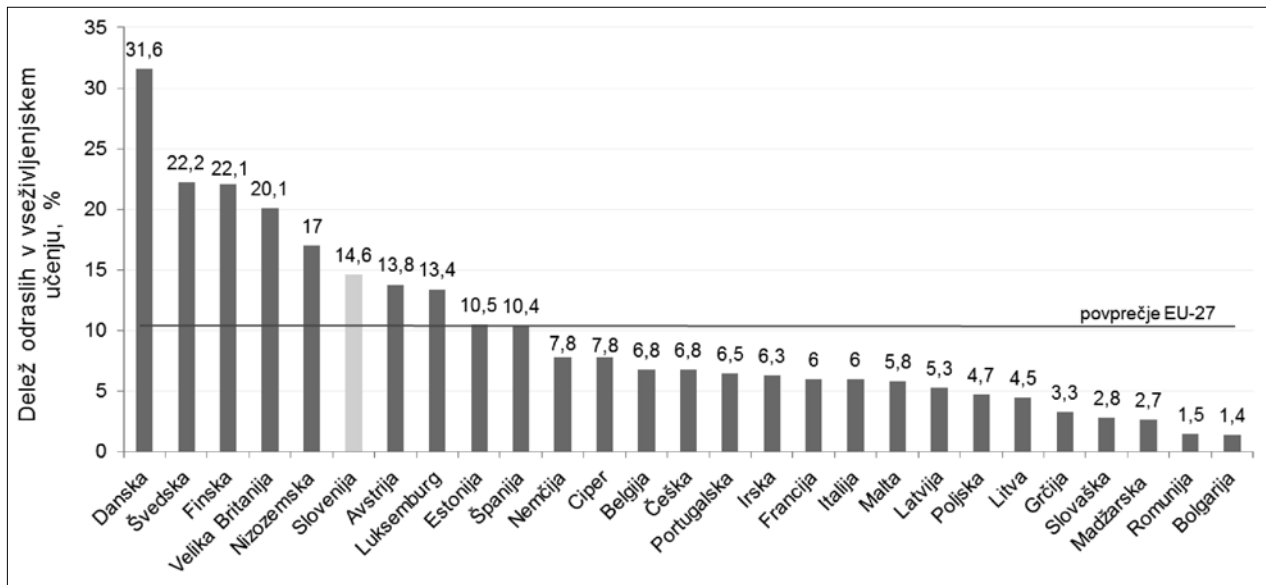
trg dela, saj omogoča prožnost tako na strani povpraševanja po delu (s povečanjem možnosti prilagajanja proizvodnje in stroškov dela) kot na strani ponudbe dela (s povečevanjem izbire za posameznika ter omogočanjem lažjega usklajevanja zasebnega in poklicnega življenja) (Kajzer, 2006). Zaposlitev za skrajšani delovni čas je pri večini zaposlenih prostovoljna, saj je na ravni EU-27 le 31,4 % zaposlenih neprostovoljno sklenilo tovrstno pogodbo o zaposlitvi.

Nadpovprečno je delna zaposlenost razširjena med mladimi, še posebej mladimi ženskami (v letu 2009 je v EU-27 povprečni delež delno zaposlenih mladih žensk znašal 30,5 %, delež mladih moških pa 18,8 %). Čeprav ta oblika zaposlitve mladim ženskam omogoča vzpostavitev ravnotežja med kariero in družinskim življenjem, jih hkrati postavlja v neugoden položaj na trgu dela, saj ovira njihov napredek in popolno izražanje spretnosti in znanj (glej Andersen et al., 2008).

Slovenija se po deležu zaposlenih za določen čas v skupni zaposlenosti (16,4 % v letu 2009) uvršča nad povprečje EU-27 in celo za dvakrat presega povprečje NMS. Še posebej močno se je delež zaposlitev za določen čas v zadnjih desetih letih povečal med mladimi (iz 38,4 % v letu 1999 na 66,6 % v letu 2009), medtem ko pa je med starejšo populacijo (55–64 let) upadel (iz 14 % v letu 2000 na 8,2 % vseh zaposlenih v letu 2009). Manj razširjene v Sloveniji so zaposlitve s skrajšanim delovnim časom, saj je delež le-teh v letu 2009 znašal 9,5 % v celotni zaposlenosti, kar je 5 odstotnih točk pod povprečjem EU-27. Vzrok za tako nizek delež delno zaposlenih lahko, po Kajzer (2006), iščemo v visoki socialni varnosti prožnih oblik zaposlitve in relativno visoki ceni za delodajalce, saj so delno zaposleni po svojih pravicah skoraj izenačeni redno zaposlenim.

Na ravni EU je en od petih zaposlenih med 25 in 64 letom starosti zamenjal delodajalca med leti 2005–2008, pri čemer se države močno razlikujejo v stopnjah mobilnosti delovnih mest (angl. job mobility). Stopnja mobilnosti delovnih mest je še posebej visoka na Švedskem in v Veliki Britaniji, kjer je v obdobju 2005–2008 delovno mesto zamenjalo 34 % oziroma 29 % zaposlenih, sledijo jima NMS, in sicer Estonija, Litva, Slovaška in Ciper (stopnja mobilnosti delovnih mest presega 20 %). Najnižjo mobilnost (pod 10 %) so na drugi strani zabeležile Portugalska, Avstrija, Poljska in Irska. Pri tem so zaposleni, ki niso zamenjali delodajalca, pri menjavi delovnega mesta ostali na enaki poklicni ravni (89 %), med tistimi, ki pa so zamenjali delodajalca, pa jih je na enaki poklicni ravni ostalo 59 %, 21 % pa jih je prešlo na višjo poklicno raven. V Sloveniji je delovno mesto v obravnavanem obdobju zamenjalo okrog 13 % zaposlenih (glej Fuller, 2010).

Slika 3 prikazuje povprečno število let trajanja zaposlitve pri enem delodajalcu (angl. job tenure) v državah članicah EU. Opazimo lahko, da med stopnjo mobilnosti delovnih mest ter stabilnostjo v delovnih razmerjih obstaja obraten odnos. Namreč države, ki izkazujejo visoko stopnjo mobilnosti delovnih mest (Velika Britanija, Danska in baltske države), beležijo nizko stabilnost v delovnih razmerjih (zaposlitev pri istem delodajalcu v letu 2009 traja manj kot 8 let) in obratno. Slovenija se med državami EU po stabilnosti delovnih razmerjih uvršča v sam vrh, saj čas zaposlitve pri istem delodajalcu znaša 12 let, kar je tudi odraz togosti delovne zakonodaje. Pri tem je potrebno izpostaviti, da ne glede na porast zaposlitev za določen čas in skrajšani delovni čas ter drugih nestandardnih oblik ureditev delovnih razmerij, kazalec stabilnosti delovnih razmerij v zadnjih nekaj letih v večini držav članicah EU ostaja skorajda nespremenjen (glej tudi Andersen et al., 2008).



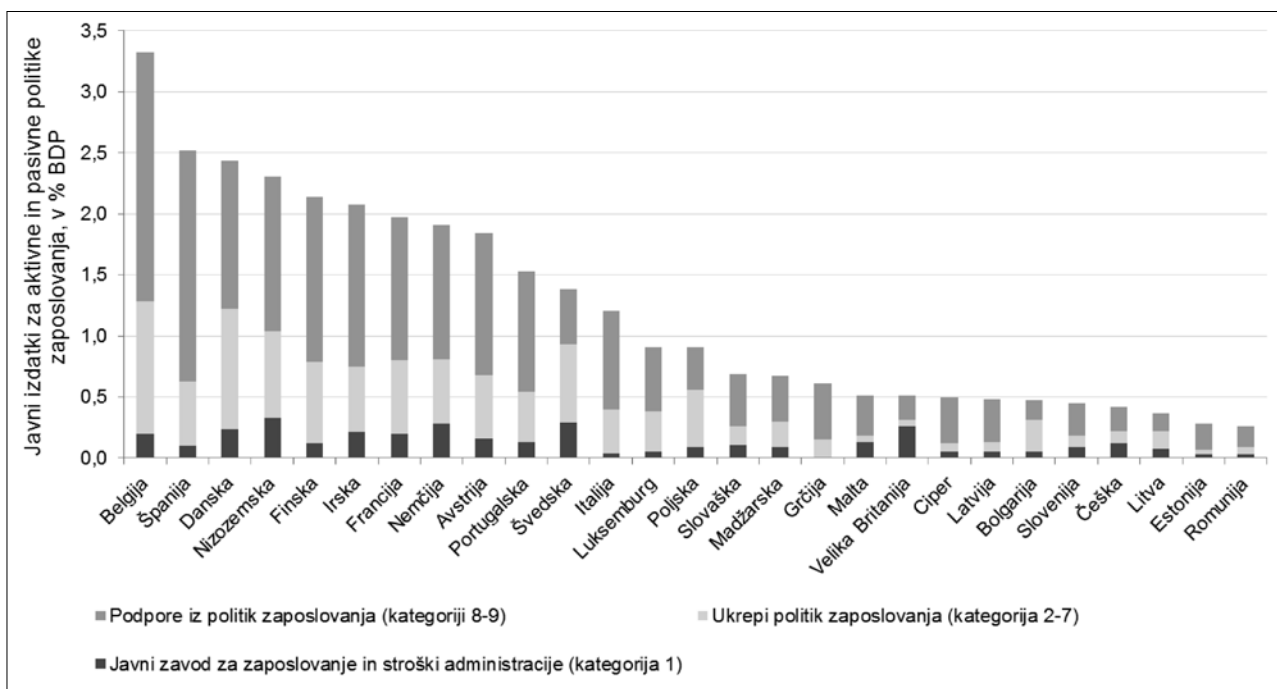
Slika 4: Delež udeležencev, starih med 25 in 64 let, v programih izobraževanja in usposabljanja, 2009 (v %)

Vir: Eurostat, 2010; lastni prikaz.

#### 4.2.2 Vseživljenjsko učenje

Kot je razvidno iz slike 4, najvišji delež odraslih (25–64 let) v vseživljenjskem učenju (t. j. v programih izobraževanja in usposabljanja, ki je, ali pa ni v povezavi s trenutnim ali bodočim delovnim mestom zaposlenega) beležijo skandinavske države (Danska, Švedska, Finska). Višjo pomembnost

vseživljenjskemu učenju pripisujejo stare države članice: povprečni delež odraslih vključenih v izobraževanje in usposabljanje v letu 2009 v EU-15 znaša 12,9 % in le 5,5 % v NMS (razlike med skupinama držav so statistično značilne pri 5-odstotni stopnji značilnosti). Slovenija se uvršča nad povprečje izbranih EU držav, in sicer je v letu 2009 delež odraslih v vseživljenjskem učenju znašal 14,6 %. Sodelovanje v pro-



Slika 5: Struktura in delež javnih izdatkov za politike zaposlovanja v % BDP, 2008

Opombe: Ukrepi politik zaposlovanja (kategorija 2–7) vključujejo usposabljanje za trg dela; rotacijo in delitev dela; spodbude za zaposlovanje; podporno zaposlitev in rehabilitacijo; neposredno ustvarjanje delovnih mest; začetne spodbude. Podpore iz politik zaposlovanja (kategoriji 8–9) pa se nanašajo na denarne podpore in predčasno upokožitev.

Viri: Eurostat, 2010; lastni izračun.

gramih vseživljenjskega učenja upada po starostnih skupinah, pri čemer največji delež udeležencev prihaja iz starostne skupine med 25 in 34 let, medtem ko je delež starejših (55–64 let) najnižji (glej tudi European Commission, 2008).

#### 4.2.3 Aktivna politika zaposlovanja

Med državami z najvišjimi javnimi izdatki za politike zaposlovanja izstopajo Belgija (3,32 % BDP), Španija (2,52 % BDP), Danska (2,44 % BDP) in Nizozemska (2,31 % BDP), ki prav tako (razen Španije) beležijo najvišjo stopnjo izdatkov za aktivne politike zaposlovanja. Najmanj za politike zaposlovanja na drugi strani namenjajo v Romuniji (0,26 % BDP) in Estoniji (0,28 % BDP). Na ravni EU-27 so povprečni izdatki za politike zaposlovanja v letu 2008 znašali 1,21 % BDP, pri čemer so bili statistično značilno (pri 99-odstotni stopnji značilnosti) višji v EU-15 (1,78 % BDP) v primerjavi z NMS (0,50 % BDP). Slovenija se po izdatkih za politike zaposlovanja (0,45 % BDP) uvršča na sam rep EU.

Kot je razvidno iz slike 5, večina držav članic EU pretežni del izdatkov namenja pasivnim politikam zaposlovanja (v povprečju 0,72 % BDP oziroma 60 % celotnih izdatkov, glej kategorijo 8–9 v sliki 5). Med ukrepi aktivne politike zaposlovanja (t. j. kategorija 1 in kategorije 2–7) pa v povprečju najvišje deleže namenjajo javnim zavodom za zaposlovanje in stroškom administracije (27 %), ukrepom usposabljanja (24 %), spodbudam za zaposlovanje (20 %) ter ukrepom neposrednega ustvarjanja delovnih mest (12 %).

Slovenija je v letu 2008 za politike zaposlovanja namenila 0,45 % BDP, pri čemer je 60 % celotnih izdatkov namenila pasivnim ukrepom. Kot kaže tabela 2, je največji delež izdatkov za aktivno politiko zaposlovanja namenjen javnim zavodom za zaposlovanje in administrativnim stroškom, ukrepom neposrednega ustvarjanja delovnih mest ter ukrepom usposabljanja.

#### 4.2.4 Sistem socialne varnosti

V povprečju so države EU za socialno zaščito v letu 2007 namenile 21,7 % BDP, pri čemer z najvišjimi izdatki izstopajo

Francija (30,5 %), Švedska (29,7 %), Belgija (29,5 %), Danska (29,5 %) in Nizozemska (28,4 %), najnižje izdatke pa beležijo v Latviji (11 %), Bolgariji (15,1 %) in na Slovaškem (16 %). Razlike v višini izdatkov med starimi in novimi državami članicami so precejšnje (in statistično značilne pri 1-odstotni stopnji značilnosti), saj povprečni izdatki za socialno zaščito v EU-15 znašajo 25,9 % BDP, medtem ko v NMS le 16,6 % BDP.

Razlike so še bolj izrazite, če primerjamo izdatke za socialno zaščito izražene v EUR po standardih kupne moči (PKM) na prebivalca. Kot kaže slika 6, največ sredstev za socialno zaščito namenjajo Luksemburg, Nizozemska in Švedska. Le-te močno presegajo povprečje EU-27, ki v letu 2007 znaša 5.615 EUR na prebivalca. Pričakovano je povprečna višina izdatkov višja v EU-15 (7.883 EUR na prebivalca), in sicer za približno 5.000 EUR na prebivalca od izdatkov v NMS (razlika je statistično značilna pri 1-odstotni stopnji značilnosti). V povprečju države EU največ denarja namenjajo področjem starosti (39,7 % vseh izdatkov), bolezni in zdravstvenemu varstvu (28,3 % vseh izdatkov), družini in otrokom (9,2 % vseh izdatkov) ter invalidnosti (8,3 % vseh izdatkov) (Eurostat, 2010). Slovenija je v letu 2007 za socialno zaščito namenila 4.761 EUR na prebivalca oziroma 21,4 % BDP.

Ena od mer učinkov prehoda iz trga dela v brezposelnost na dohodke gospodinjev je neto nadomestitvena stopnja za brezposelnost, ki je definirana kot razmerje med neto prihodkom v času brez zaposlitve in neto prihodkom v času zaposlitve (Dolenc in Vodopivec, 2005). V povprečju (in ne glede na tip družine) je neto nadomestitvena stopnja v prvih 12 mesecih brezposelnosti nižja za tiste z višjimi dohodki v času pred brezposelnostjo, kar pomeni, da osebe z nižjimi prihodki s prehodom v brezposelnost (finančno) izgubijo manj in so posledično tudi manj motivirane za ponoven vstop v zaposlenost. Tako na ravni EU osebe s 67 % povprečne plače s prehodom v brezposelnost v povprečju izgubijo približno 30 % prihodkov, osebe s 150 % povprečne bruto plače pa v povprečju izgubijo 40 % oziroma 50 % prihodka.

Podatki prav tako kažejo, da po 5-ih letih brezposelnosti neto nadomestitvena stopnja upade, čeprav v nekaterih državah še vedno dosega visoke stopnje. Tako v povprečju samske osebe, ki so prejemnice socialne pomoči in so v času

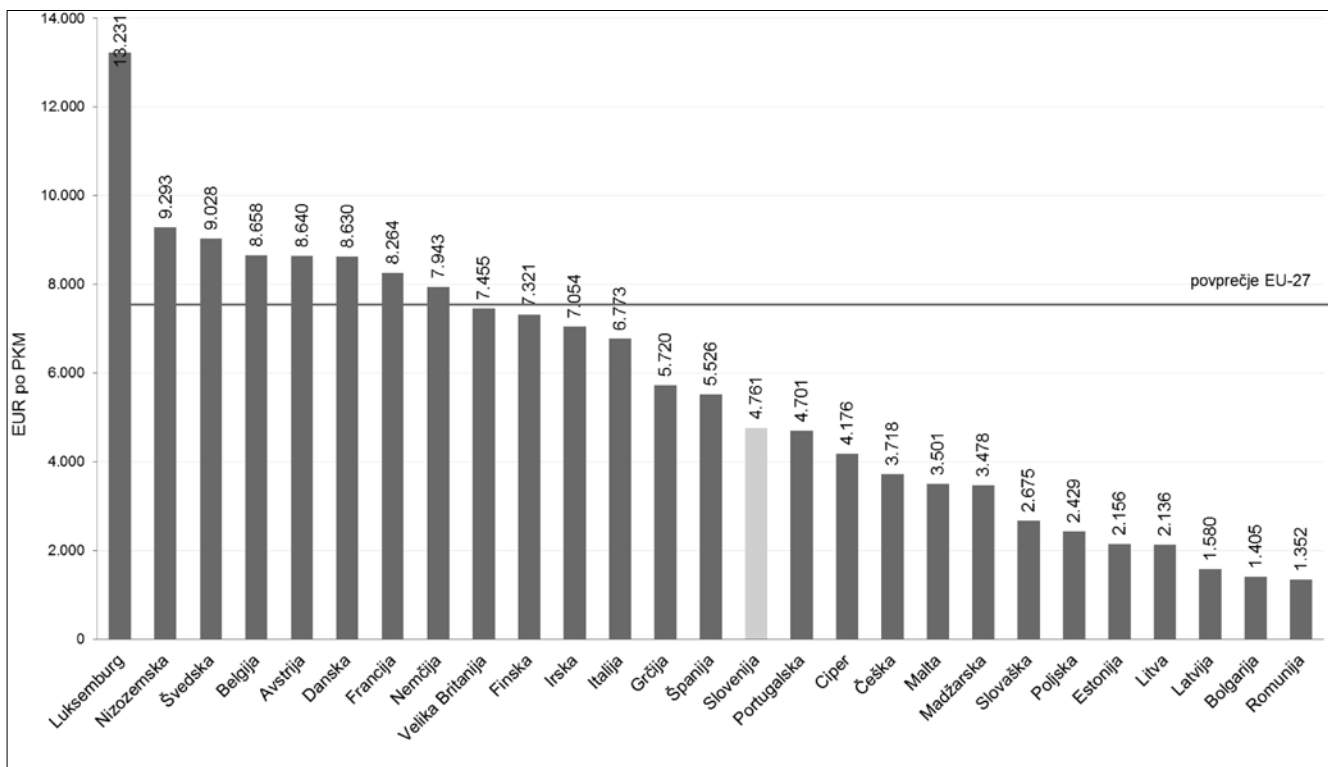
Tabela 2: Struktura izdatkov za aktivno politiko zaposlovanja v Sloveniji, v %, po letih

Ukrep	1995	1999	2003	2005	2007	2008
Javni zavod za zaposlovanje in administrativni stroški	23,6	22,4	25,4	33,3	45,0	47,4
Usposabljanje	10,9	19,8	9,9	16,7	15,0	15,8
Spodbude za zaposlovanje	45,7	10,4	24,4	13,3	10,0	5,3
Neposredno ustvarjanje delovnih mest	6,9	35,8	26,2	26,7	30,0	21,1
Začetne spodbude	6,6	2,7	3,3	6,7	0,0	10,5
Ukrepi za invalide	6,5	8,9	11,0	3,3	:	:
SKUPAJ	100,0	100,0	100,0	100,0	100,0	100,0

Opombe: Podatki za leta 1995, 1999, 2003 so povzeti po Kajzer (2006). Podatki za leta 2005, 2007 in 2008 pa so preračunani na podlagi informacij iz podatkovne baze Eurostat (2010).

: ni podatka

Viri: Kajzer, 2006; Eurostat, 2010; lastni prikaz.



Slika 6: Izdatki za socialno zaščito na prebivalca v EUR po PKM v letu 2007

Vir: Eurostat, 2010; lastni prikaz.

zaposlitve dosegale 67 oziroma 100 % povprečne bruto plače, po petih letih izgubijo 60 % prihodka, družine z dvema otrokoma pa le 40 % prihodka. Med države, ki dosegajo najvišje neto nadomestitvene stopnje pri družinah z dvema otrokoma, se uvrščajo predvsem skandinavske države in države Beneluxa, Nemčija, Irska in tudi Slovenija.

Po neto nadomestitvenih stopnjah (v prvih 12 mesecih brezposelnosti) se Slovenija ne razlikuje od večine držav članic EU. Za posameznike brez vzdrževanih družinskih članov, ki so pred izgubo zaposlitve imeli povprečno plačo, je neto nadomestitvena stopnja v letu 2008 znašala 64 %, višja nadomestila pa so bila namenjena brezposelnim z vzdrževanimi družinskimi člani, ki so z brezposelnostjo izgubili približno 15 % prihodka. Do manjše relativne izgube prihodka pri brezposelnih z vzdrževanimi družinskimi člani pride zaradi znatnih davčnih olajšav in zmanjšanja davčne osnove za vzdrževane družinske člane ter zaradi proporcionalne davčne lestvice (Vodopivec, 2004).

Učinke prehoda iz brezposelnosti v zaposlenost prikazujemo s kazalcem past brezposelnosti. Povprečna davčna obremenitev za samsko osebo s 67 % povprečne plače brez otrok je na ravni EU v letu 2008 znašala 75 % dodatne bruto plače v zaposlitvi, kar pomeni, da je pri prehodu iz brezposelnosti v zaposlitev, za vsak dodatni evro bruto plače prejela neto dohodek v višini 0,25 EUR, preostalih 0,75 EUR pa je bilo namenjenih davkom, socialnim prispevkom in zmanjšanim socialnim transferjem na račun prejemanja bruto plače, v primerjavi z dohodki v času brezposelnosti. Na Danskem, v Luksemburgu in Latviji davčna obremenitev dosega skoraj 90 %, kar pomeni, da neto finančna spodbuda za zaposlitev

znaša le 10 % prihodkov. V Sloveniji je obremenitev plače pri prehodu iz brezposelnosti v zaposlenosti za samske osebe s 67 % povprečne plače v letu 2008 znašala 83,0 %. Kombinacija nadomestil in relativno visokega davčnega primeža samskim osebam z nizkimi prihodki tako zmanjšuje finančno motivacijo za zaposlitev na delovnem mestu, ki prinaša nizke prihodke. Finančna motivacija je prav tako nizka pri osebah z vzdrževanimi družinskimi člani (past brezposelnosti je pri njih največja) ter, po Vodopivcu (2004), tudi pri osebah, ki so pred nastankom brezposelnosti zaslužile relativno visoko plačo, pri ponovni zaposlitvi pa ne morejo več pričakovati tako visokega prihodka. Past brezposelnosti predstavlja problem predvsem v državah članicah EU, ki imajo dobro razvite sisteme nadomestil in podpor v času brezposelnosti.

Davčna obremenitev prav tako omejuje spodbude za delo med prejemniki socialne pomoči. Namreč v večini držav brezposelne osebe, ki iščejo delo in niso upravičene do nadomestil za brezposelnost, ali so jim ta prenehala, lahko (v odvisnosti od višine prihodkov) prejmejo socialno pomoč. Pojav, ko prejemniki socialne pomoči preidejo v zaposlenost, merimo s pastjo neaktivnosti. V povprečju past neaktivnosti za samsko osebo s 67 % povprečne plače na ravni EU znaša 56 %, najbolj pa izstopata Danska (88 %) in Nizozemska (84 %). Pasti neaktivnosti so še posebej izrazite v družinah z enim zaposlenim (z ali brez otrok) z najnižjimi prihodki. V nekaterih državah je za tovrstne družine z dvema otrokoma neto prihodek v obdobju brezposelnosti skoraj enak tistemu v obdobju zaposlenosti (mera pasti neaktivnosti presega 90 % v sedmih državah EU). Visoke vrednosti dosegamo tudi v Sloveniji, in sicer mera pasti neaktivnosti v letu 2007 za samske osebe s 33 % pov-

prečne bruto plače brez otrok znaša 78 %, za tiste s 67 % povprečne bruto plače pa 63 %. Za samske osebe z dvema otrokoma in družine z enim zaposlenim ter dvema otrokoma mera pasti neaktivnosti pri nižjih ravneh povprečne plače (od 33 % do 67 %) presega 80 %. V obdobju 2001–2007 se je past neaktivnosti zmanjšala, predvsem zaradi sprememb v shemah socialnih pomoči ter sprememb v stanovanjskih podporah (glej Carone et al., 2009).

### 4.3 Analiza sistemov prožne varnosti v EU

#### 4.3.1 Značilnosti sistemov prožne varnosti

Države članice EU smo glede na podobnosti v doseganju prožnosti in varnosti na trgu dela (z uporabo hierarhične metode razvrščanja) razdelili v pet skupin.<sup>11</sup> Ključne značilnosti skupin po spremenljivkah prožnosti in varnosti so predstavljene v tabeli 3.<sup>12</sup>

Za prvo skupino držav, ki jo tvorijo Belgija, Francija, Nemčija in Avstrija (torej kontinentalne države), je značilna

srednja raven prožnosti ter varnosti na trgu dela. Deleža zaposlenih za določen čas in s skrajšanim delovnim časom presejata povprečni vrednosti na ravni EU, vendar ju lahko v primerjavi z ostalimi skupinami opredelimo kot sredinski vrednosti. V povprečju skupina beleži druge najvišje izdatke za aktivne politike zaposlovanja ter najvišje celotne izdatke za socialno zaščito.

Skandinavske države (Danska, Švedska, Finska) in Nizozemska tvorijo drugo skupino. V primerjavi s prvo skupino imajo skandinavske države bolj prožen sistem varovanja zaposlitve, dosegajo pa tudi najvišji delež delno zaposlenih med obravnavanimi skupinami. Na področju varnosti zaposlenih, države iz skupine v povprečju namenjajo druge najvišje celotne izdatke za socialno zaščito ter najvišje izdatke za aktivne politike zaposlovanja, hkrati pa beležijo tudi najvišji delež odraslih v programih vseživljenjskega učenja. Visoko varnost potrjujejo tudi visoke vrednosti neto nadomestitvene stopnje, pasti brezposelnosti in pasti nizkih plač. Drugo skupino držav lahko torej označimo kot sistem s srednjo do visoko ravno prožnosti in visoko (najvišjo med obravnavanimi skupinami) ravno varnosti.

Tabela 3: Povprečne vrednosti spremenljivk prožnosti in varnosti po skupinah držav (podatki v oklepajih so za Slovenijo)

Kazalec/skupina držav	BE, DE, FR, AT	DK, FI, NL, SE	IE, UK	BG, CZ, EE, LV, LT, HU, RO, SK	GR, ES, IT, LU, PL, PT, SI	EU-25
Indeks EPL, 2008	2,7	2,1	1,3	2,5	2,9 (2,8)	<b>2,5</b>
Zaščitenost redno zaposlenega zoper individualno odpoved, 2008	2,4	2,3	1,5	2,4	2,6 (3,0)	<b>2,3</b>
Urejenost začasnih oblik zaposlenosti, 2008	2,7	1,5	0,5	1,9	3,0 (2,5)	<b>2,2</b>
Delež zaposlenih (15–64 let) za določen čas, %, 2008	12,5	14,2	6,9	4,2	18,2 (17,3)	<b>8,4</b>
Delež zaposlenih (15–64 let) za skrajšani delovni čas, %, 2008	21,8	27,3	21,2	5,0	10,5 (8,1)	<b>11,8</b>
Izdatki za aktivne politike zaposlovanja v % BDP, 2008	0,9	1,0	0,5	0,2	0,4 (0,2)	<b>0,5</b>
Delež odraslih (25–64 let) v izobraževanju in usposabljanju, %, 2008	8,5	23,1	13,5	4,8	7,4 (13,9)	<b>9,8</b>
Celotni izdatki za socialno zaščito, v % BDP, 2007	28,9	28,1	22,1	15,3	22,2 (21,4)	<b>22,0</b>
Neto nadomestitvena stopnja za brezposelne več kot 60 mesecev s socialno pomočjo (samska oseba s 67 % PP, 0 otrok), 2008	53,3	61,5	55,0	28,0	36,7 (44,4)	<b>42,0</b>
<b>Raven prožnosti</b>	<i>srednja do nizka</i>	<i>srednja do visoka</i>	<i>visoka</i>	<i>srednja</i>	<i>nizka</i>	
<b>Raven varnosti</b>	<i>srednja do visoka</i>	<i>visoka</i>	<i>srednja</i>	<i>nizka</i>	<i>nizka do srednja</i>	

Opombe: AT-Avstrija, BE-Belgija, BG-Bolgarija, CZ-Češka, DE-Nemčija, DK-Danska, EE-Estonija, ES-Španija, GR-Grčija, HU-Madžarska, FI-Finska, FR-Francija, IE-Irska, IT-Italija, LT-Litva, LU-Luksemburg, LV-Latvija, NL-Nizozemska, PL-Poljska, PT-Portugalska, RO-Romunija, SE-Švedska, SI-Slovenija, SK-Slovaška, UK-Velika Britanija.

Viri: OECD.Stat., 2010, Eurostat, 2010; lastni izračuni.

<sup>11</sup> Wardova hierarhična metoda in način razvrščanja sta pojasnjena v poglavju 3.

<sup>12</sup> Raven prožnosti in raven varnosti (glej tabelo 3) smo določili po vzoru analize Evropske komisije (2007b).

V tretjo skupino smo razvrstili Irsko in Veliko Britanijo, državi z anglo-saksonskim oziroma liberalnim sistemom. Zanju je značilna najbolj prožna ureditev trga dela (vrednosti indeksa EPL so najnižji), čeprav je povprečni delež zaposlenih za določen čas zelo nizek (6,9 %). Državi beležita povprečno stopnjo celotnih izdatkov za socialno zaščito na ravni EU (drugo najnižjo med obravnavanimi skupinami), hkrati pa imata drugi najvišji delež odraslih v vseživljenjskem učenju. Da je za državi značilna nizka varnost zaposlitve, priča tudi vrednost neto nadomestitvene stopnje.

Četrto, najobsežnejšo, skupino držav tvorijo države vzhodne Evrope in baltske države (torej NMS), za katere je značilen srednje rigidni sistem prožnosti. Ne glede na to, skupina beleži najnižja deleža zaposlenih za določen čas in za skrajšani delovni čas. NMS, združene v četrto skupino, se prav tako soočajo z najnižjo varnostjo na trgu dela, prav tako nizki so izdatki za aktivne politike zaposlovanja.

Zadnja, peta skupina združuje mediteranske države (Grčijo, Španijo, Italijo in Portugalsko) skupaj s Slovenijo, Luksemburgom in Poljsko. Za to skupino držav je značilen najbolj tog sistem prožnosti v delovnih razmerjih, saj so vrednosti skupnega indeksa EPL, indeksa varovanja zaposlitev redno zaposlenih pred odpuščanjem ter indeksa urejenosti začasnih oblik zaposlenosti v povprečju najvišji. Kljub togosti v ureditvi začasnih oblik zaposlitev, je delež zaposlenih za določen čas v tej skupini najvišji. Izdatki za socialno zaščito in aktivne politike zaposlovanja dosegajo povprečje EU-25, medtem ko je delež odraslih, ki se vseživljenjsko izobražujejo nizek, kar kaže na nizko odgovornost posameznika za zagotavljanje lastne varnosti na trgu dela. To skupino držav lahko torej opredelimo kot skupino z nizko prožnostjo in srednje do nizko varnostjo na trgu dela.

#### 4.3.2 Makroekonomske značilnosti skupin držav z različnimi sistemi prožne varnosti

Na podlagi razvrstitve držav glede na podobnost v prožnosti in varnosti na trgu dela, smo preverili, ali med skupinami držav obstajajo tudi razlike v ekonomskih značilnostih.

Kot je razvidno iz tabele 4, najvišji povprečni BDP na prebivalca v letu 2008 izkazuje skupini skandinavskih in anglo-saksonskih, torej skupini, ki imata najbolj prožno ureditev trga dela, hkrati pa si nasprotujeta v ravni varnosti na trgu dela. Najnižjo raven BDP na prebivalca v povprečju beležijo NMS (skupina 4), saj je le-ta v letu 2008 znašal 15.914 EUR (po PKM). Za to skupino držav je značilen srednje do nizko rigidni sistem prožnosti in najnižja raven varnosti med obravnavanimi skupinami. Slovenija je v letih 2007 in 2008 dosegala nižji BDP na prebivalca kot je povprečje skupine, v katero je razvrščena.

Do statistično značilnih razlik (pri 5-odstotni stopnji značilnosti) med skupinami držav prav tako prihaja v produktivnosti dela. Kot je razvidno iz tabele 4, se v letu 2008 kaže zakonitost, da imajo države z bolj prožnimi ureditvami trga dela višjo produktivnost, medtem ko je produktivnost dela tudi do dvakrat nižja v državah vzhodne Evrope in Baltika.

Skupine držav, ki smo v prejšnjem podpoglavju označili kot države z bolj prožnim trgom dela, prav tako beležijo višje stopnje zaposlenosti. Povprečna stopnja zaposlenosti v skandinavskih državah v letu 2008 tako znaša 75,2 %, kar je tudi do 12 odstotnih točk nad povprečjem skupin držav s togimi ureditvami na trgu dela (skupini 4 in 5), razlike so statistično značilne pri 5-odstotni stopnji značilnosti. Skupini skandinavskih in anglo-saksonskih držav prav tako izkazuje nižje stopnje brezposelnosti v primerjavi z ostalimi skupinami (razlike

Tabela 4: Povprečne vrednosti makroekonomskih spremenljivk po skupinah držav (podatki v oklepajih so za Slovenijo)

Kazalec/skupina držav	BE, DE, FR, AT	DK, FI, NL, SE	IE, UK	BG, CZ, EE, LV, LT, HU, RO, SK	GR, ES, IT, LU, PL, PT, SI	EU-25
Stopnja zaposlenosti, 15–64 let, %, 2008	67,5	75,2	69,6	63,9	63,5(68,6)	66,6
Stopnja brezposelnosti, 15–64 let, %, 2008	6,5	4,7	5,9	6,6	7,3 (4,5)	6,4
Stopnja dolgotrajne brezposelnosti, %, 2008	2,7	0,9	1,6	2,8	2,6 (1,9)	2,3
BDP na prebivalca, v EUR po PKM, 2008	29.000	30.950	31.500	15.914	28.671 (22.800)	25.621
Produktivnost dela na delovno uro, BDP po PKM, EU-15=100	110,9	104,2	101,1	49,4 *	84,7 (73,6)	83,4 <sup>1</sup>
Produktivnost dela, BDP na delovno uro, USD, 2008 - ocena Conference Board-a	55,4	51,6	51,0	23,3	41,0 (32,6)	40,1
Davžni primež, samska oseba s 67 % povprečne plače brez otrok, %, 2008	46,9	40,4	22,9	39,6	36,6 (40,3)	38,7

Opombe: \* Povprečna vrednost ne vsebuje podatka za Bolgarijo.  
Viri: Eurostat, 2010; The Conference Board, 2010; lastni izračuni.



niso statistično značilne). Še bolj izrazite so razlike v stopnjah dolgotrajne brezposelnosti.

## 5 Zaključek

Skozi empirično analizo smo pokazali, da so razlike v urniščevanju prožnosti in varnosti na trgu dela med državami članicami EU precejšnje, tudi kot posledica njihove gospodarske uspešnosti ter razvoja na področju delovne zakonodaje. Najmanj uspešne pri zagotavljanju prožnosti in varnosti na trgu dela so države vzhodne Evrope in Baltika (torej NMS), saj izkazujejo rigidni trg dela ob zelo nizki varnosti zaposlenih. S še bolj togim trgom dela se soočajo mediteranske države skupaj s Slovenijo, Luksmeburgom in Poljsko, ki pa na drugi strani beležijo višjo raven varnosti. Pričakovano najbolj uravnotežene politike prožne varnosti izkazujejo skandinavske države. Slednje se skupaj z anglo-saksonskima državama prav tako uvrščajo med gospodarsko najbolj uspešne države z visokimi stopnjami zaposlenosti in nizkimi stopnjami dolgotrajne brezposelnosti.

Kot omenjeno, se Slovenija, v primerjavi z drugimi državami članicami, spopada z visoko rigidnostjo trga dela, saj se tako po vrednostih indeksa EPL kot indeksa rigidnosti zaposlovanja Svetovne banke, uvršča v sam vrh EU. Problem prav tako predstavljajo zelo nizki izdatki za aktivne politike zaposlovanja, spodbuditi pa je potrebno tudi vseživljenjsko učenje odraslih, saj bo to pozitivno vplivalo na mobilnost in prilagodljivost delavcev. Hkrati pa na strani varnosti na trgu dela Slovenija beleži radodarna nadomestila za brezposelne.

Oblikovanje celostnih in uravnoteženih politik prožne varnosti je v Sloveniji ključnega pomena za doseganje lizbonskih ciljev in s tem povezane večje zaposlenosti ter makroekonomske uspešnosti. Ta proces zahteva tesno sodelovanje socialnih partnerjev, saj mora biti sistem prožne varnosti oblikovan tako, da bo ob zagotavljanju makroekonomske vzdržnosti sposoben uravnotežiti prožnost in varnost na trgu dela. Vlada Republike Slovenije je na potrebo po reformah v smeri izboljšanja stanja na trgu dela ter večje prožne varnosti nakazala s predlogi v okviru gospodarskih in socialnih reform za povečanje blaginje leta 2005 (glej Vlada Republike Slovenije, 2005; Mežnar, 2008). Spremembe so namreč potrebne na področjih postopkov odpovedi delovnega razmerja s strani delodajalca v primeru zaposlitev za nedoločen čas, odpovednih rokov in odpravnin ter s tem povezanimi vprašanji prehoda v brezposelnost (npr. denarna nadomestila). Prav tako je potrebno spodbuditi začasne in delne zaposlitve, pri čemer je potrebno dodelati vidik varnosti zaposlenih v tovrstnih delovnih razmerjih. Pripraviti je potrebno tudi ukrepe na področju zaposlovanja starejših<sup>13</sup>, predvsem v luči zagotavljanja motivacije za njihov vstop na trg dela ob hkratni prožnosti in varnosti v delovnih razmerjih. Posebno pozornost zahtevajo politike vseživljenjskega učenja in zaposlovanja. V okviru tega je namreč potrebno zmanjšati delež pasivnih ukrepov ter na drugi strani povečati izdatke za aktivne politike, kar med drugim kličo po spremembah v organiziranosti Zavoda za zaposlovanje. Doseganje naštetega torej

zahteva celovito spremembo delovne zakonodaje ob hkratnem zagotavljanju vzdržnosti sistema in socialnega dialoga. Korak v tej smeri nedvomno predstavlja sprejetje Zakona o urejanju trga dela, ki je stopil v veljavo z letom 2011 in za cilj postavlja uvajanje koncepta prožne varnosti na trgu dela. Seveda pa je potrebno upoštevati, da tovrstne spremembe in oblikovanje dobre prakse predstavljajo dolgotrajen proces, katerih rezultati bodo vidni na dolgi rok.

## Literatura

- Andersen, T., Haah, J. H., Hansen, M. E. & Holm-Pedersen, M. (2008). *Job Mobility in the European Union: Optimising its Social and Economic Benefits*. Final report. Taastrup: Danish Technological Institute, Centre for Policy and Business Analysis.
- Bredgaard, T., Larsen, F. & Madsen, P. K. (2005). The flexible Danish labour market – a review, *CARMA Research Paper*, 2005: 01.
- Carone, G., Stovicek, K., Pierini, F. & Sail, E. (2009). Recent reforms of the tax and benefit systems in the framework of flexicurity, *European Economy Occasional Papers*, 43.
- Ciucu, V. & Luise, M. (2009). Assessing Flexicurity Policy - Case Study for Romania. *Social Science Research Network*, dosegljivo na <http://ssrn.com/abstract=1483061> (20. 5. 2010).
- World Bank & IFC (2010). *Employing Workers Database*, dosegljivo na <http://www.doingbusiness.org/ExploreTopics/EmployingWorkers/> (15. 7. 2010).
- Dolenc, P. & Vodopivec, M. (2005). Does work pay in Slovenia? *Financial Theory and Practice*, 29(4): 341-362.
- Dolenc, P., Vodopivec, M., Laporšek, S., Redek, T., Domadenik, P. & Ograjšek, I. (2010). *Analiza institucionalne strukture trga dela v Sloveniji: zaključno poročilo o raziskovalnem projektu*. Koper: Fakulteta za management.
- European Commission (2007a). *Towards Common Principles of Flexicurity: More and better jobs through flexibility and security*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2007b). *Employment in Europe 2007*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2008). *Progress Towards the Lisbon Objectives in Education and Training: Indicators and Benchmarks 2008*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2010). *Europe 2020. A European strategy for smart, sustainable and inclusive growth*. Luxembourg: Office for Official Publications of the European Communities.
- European Expert Group on Flexicurity (2007). *Flexicurity Practices*. Brussels: European Expert Group on Flexicurity.
- Eurostat (2010). Statistical Database, dosegljivo na [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database) (20. 6. 2010).
- Ferligoj, A. (1989). *Razvrščanje v skupine: teorija in uporaba v družboslovju*. Ljubljana: Fakulteta za sociologijo, politične vede in novinarstvo.
- Fuller, A. (2010). *Overview of mobility in the current labour market and recent trends*. Brussels: European Commission.
- Kajzer, A. (2005). *Fleksibilnost trga dela - Problem definicije in merjenja*. *Statistični dnevi, 2005*. Ljubljana: Statistični urad RS.

13 Predloge v zvezi s tem navajata Vodopivec in Dolenc (2009).

- Kajzer, A. (2006). *Spremembe na trgu dela v Sloveniji v obdobju 1995-2005. Delovni zvezek UMAR*, 5. Ljubljana: UMAR.
- Mežnar, D. (2008). Prožna varnost zaposlitve na trgu dela (flexicurity), *Podjetje in delo*, 8: 17-44.
- OECD (2004). *OECD Employment Outlook 2004*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2010). *OECD Indicators of Employment Protection*, dosegljivo na <http://www.oecd.org/> (20. 6. 2010).
- OECD.Stat (2010). *OECD Statistics*, dosegljivo na <http://stats.oecd.org/Index.aspx> (20. 6. 2010).
- The Conference Board (2010). The Conference Board Total Economy Database, dosegljivo na <http://www.conference-board.org/data/economydatabase/> (15. 7. 2010).
- Tonin, M. (2009). Employment protection legislation in central and east European countries, *South-East Europe Review*, 4/2009: 477-491.
- Viebrock, E. & Clasen, J. (2009). Flexicurity – a state-of-the art review. *Working Paper on the Reconciliation of Work and Welfare in Europe*, REC-WP 01/2009.
- Vodopivec, M. (1996). The Slovenian labour market in transition: evidence from microdata, *Development & International Cooperation*, 12(22): 89-151.
- Vodopivec, M. (2004). *Analiza mobilnosti dela in fleksibilnosti sistema plač. Vmesno poročilo o raziskovalnem projektu*. Koper: Fakulteta za management.
- Vodopivec, M. & Dolenc, P. (2009). Live longer, work longer : making it happen in the labour market. *Pension reform in Southeastern Europe: linking to labor and financial market reform, (Directions in development, Finance)*. Uredili: Holzmann, R., Mackellar, L., & Repanšek, J. Washington, D. C.: The World Bank; Ljubljana: Center of Excellence in Finance.
- Vlada Republike Slovenije (2005). *Okvir gospodarskih in socialnih reform za povečanje blaginje v Sloveniji*. Ljubljana: Vlada Republike Slovenije, dosegljivo na [http://www.vlada.si/fileadmin/dokumenti/si/projekti/projekti\\_do\\_2009/Okvir\\_gosp-soc-reform-2005-Vlada.pdf](http://www.vlada.si/fileadmin/dokumenti/si/projekti/projekti_do_2009/Okvir_gosp-soc-reform-2005-Vlada.pdf) (15. 2. 2011).
- Wilthagen, T. & Tros, F. (2004). The concept of “flexicurity”: A new approach to regulating employment and labour markets. *Transfer: European Review of Labour and Research*, 10(2): 166–187.
- Zakon o zaposlovanju in zavarovanju za primer brezposelnosti (ZZZPB)*, Ur. l. RS, št. 107/2006.
- Zakon o delovnih razmerjih (ZDR)*, Ur. l. RS, št. 42/2002, 103/2007.
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# Organizacija delovnih procesov in zadovoljstvo zaposlenih v podjetju za distribucijo električne energije

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Organizacija delovnih procesov in zadovoljstvo zaposlenih sta pomembna dejavnika uspešnosti poslovanja podjetja. V prispevku so prikazani rezultati ankete med zaposlenimi v podjetju o mnenjih glede organizacije delovnih procesov na odnose in zadovoljstvo zaposlenih. Pri organizaciji delovnih procesov in zadovoljstvu zaposlenih se je potrdil pomen odnosov med zaposlenimi in delovni pogoji zaposlenih. Kot slabše so ocenjene organizacija obveščanja zaposlenih, višina plače in možnosti napredovanja. Zaposleni pogrešajo nagrajevanje glede na učinke dosežene v tržnem okolju. Iz faktorske analize izhaja, da zaposleni pripisujejo poseben pomen dejavnikom motivacije in zaupanja, ugledu in sodelovanju med zaposlenimi ter vodstvenimi in managerskim sposobnostim za uspešnost poslovanja in za socialno varnost zaposlenih. Pomanjkljivo je vlaganje v človeški kapital za dvig sposobnosti zaposlenih pri načrtovanju in organiziranju metod in delovnih operacij ter za izboljšanje delovne klime in vzpodbud za uvedbo novih pristopov motiviranja in soupravljanja pri izvedbi poslov.

**Ključne besede:** zaposleni, organizacija, zadovoljstvo, faktorska analiza

## 1 Uvod

V zadnjih petnajstih letih je na trgu električne energije prišlo do več sprememb v želji vzpostavljanja bolj konkurenčnih tržnih struktur (Papler in Bojnec, 2006, 2007). Pred deregulacijo in liberalizacijo trga ter reformami elektrogospodarstva je z električno energijo običajno upravljalo monopolno podjetje v državni lasti, ki je imelo vlogo proizvajalca, organizatorja in upravljavca prenosnega omrežja, distributerja in ponudnika električne energije. Z deregulacijo in liberalizacijo trga ter reformami organiziranja trga so se te dejavnosti ločile z namenom, da bi se omogočil nastanek konkurenčnega trga. Odrptje trga z električno energijo v Sloveniji je po Energetskem zakonu (1997-2007) in Zakona o spremembah in dopolnitvah Energetskega zakona (2004-2010) zaznamovalo organizacijske spremembe v distribuciji z ločitvijo dejavnosti na dva dela: javni, s strani države regulirani del upravljanja distribucijskega omrežja in tržni del prodaje električne energije upravičenim odjemalcem ter od 1. julija 2007 tudi za gospodinjstva.

Liberalizacija trga električne energije z namenom, da se zagotovi konkurenčna in kakovostna ponudba električne energije, je vseevropski proces, ki vodi do sprememb v elektroenergetskem sektorju in znotraj podjetij, ki za električno energijo uvajajo različne blagovne znamke. Evropski elektroenergetski trg se odpira tudi s čezmejno izmenjavo, glede na

zmožnosti in meje tehničnih omejitev omrežij. Razdružitev energetskega sistema in tržno preoblikovanje je zahtevalo tudi preoblikovanje evropskih združenj tega področja. Zahodno evropska interkonekcija UCPT (Union pour la Coordination de la Production et du Transport de l'Electricite – Unija za proizvodnjo in transport električne energije) ustanovljena leta 1951, se je po letu 1999 z odpiranjem trga z električno energijo preimenovala v Union pour la Coordination du Transport de l'Electricite (UCTE ali Unija za transport električne energije; v njej ni bilo več proizvodnih podjetij – Production »P«). UCTE (2010) je postala pomembna samo še za prenos v okviru interkonekcije. Za Slovenijo je posebej pomembno Združenje za prenosni sistem operaterjev v jugovzhodnem evropskem povezovalnem sistemu (Association of Transmission System Operators in the South-East European Interconnected System – SUDEL), ki je regionalna organizacija UCTE za koordinacijo proizvodnje in transporta električne energije med Italijo, Jugoslavijo in Avstrijo tehnično od leta 1974, po razpadu na vzhodni in zahodni del leta 1991 in leta 2004 ponovne resinhronizacije jugovzhodne Evrope (SUDEL, 2010).

V procesu liberalizacije trga z električno energijo prihaja do konkurenčnih prevzemov odjemalcev pri dobavi električne energije. Za povečanje konkurenčnosti podjetja na trgu je pomembno učinkovito delo zaposlenih v električno distribucijskem podjetju, saj se preko njih udejanjanja poslovne strategije podjetja. Pri tem so pomembni organizacija delovnih

procesov, priprava konkurenčne ponudbe, notranje in zunanje poslovno komuniciranje, odnosi med zaposlenimi in delovni pogoji ter motiviranost za njihovo zadovoljstvo. Prepletata se dve različni kulturi: prva, obstoječa javno upravljavska, ki je sistemska, neprilagodljiva. Iz nje izvira nenaklonjenost javnega mnenja. Druga, nova tržna prodaja v pogojih konkurence postaja prilagodljiva, vzpodbuja motiviranost in je odprta v odnosu do javnosti. Motivacija se kaže v kulturi odnosov, prepoznavnosti, obveščanju in marketingu novih informacijskih storitev ter v ekološki zavesti. Konkurenčnost je izražena s kakovostjo, energetske učinkovitostjo in z razvojem novih produktov. V razmerju do odjemalcev električne energije imajo distribucijska podjetja dva ključna pristopa: odnose in ceno. Odnos se odraža skozi motiviranost, cena pa skozi konkurenčnost.

Pomembno vlogo ima kultura organizacije iz zapaženih pojavnih znakov, vzporejanja značilnih vzorcev obnašanja ljudi v takšni kulturi s strategijo organizacije, ki jo snuje in skuša urediti manager. Vsaka organizacija je instrument za doseganje smotrov in ciljev ter izid interesov notranjih in zunanjih udeležencev. Ti se odražajo v kulturi organizacije in kulturah okolij, kjer organizacija deluje. Zato je prepoznavanje kultur odločilno za učinkovito in uspešno delovanje managementa in organizacij (Tavčar, 2002). Spoznavanje in razumevanje kulture organizacije sodi zato med predpogoje za uspešno obvladovanje organizacije, ki je temeljna naloga managerjev. V distribucijskem podjetju med tipi kultur kot prevladujoča izstopa sistemska kultura s sistematičnostjo. Značilnosti delovanja organizacije so opredeljene v jasni, avtoritativni hierarhiji organizacijskih struktur, ki pa v tržnem delu nakazuje spremembe po prožnejši poslovni usmerjenosti k upravičenim odjemalcem in kupcem tržnih storitev. V organizaciji se zgledejejo in opirajo na strokovnost, natančnost in zanesljivost delovanja elektroenergetskega sistema. Procesne funkcije so v medsebojni tehnološki in osebnostni povezavi. V organizaciji veljajo navade avtoritete in tradicije. Prednosti notranje naravnosti k potrebam kupcev se izražajo v zagotavljanju stalne dobave električne energije, za kar so potrebna jasna in natančna pravila ter ukrepi z vidika varnosti dela pod električno napetostjo. Slabosti notranje naravnosti so v nekoliko trdi, linijsko štabni hierarhiji in premalo prožni, procesni, projektni organiziranosti. Sistemski pristop bi lahko dal boljše rezultate, kjer zaposleni spoštujejo tradicijo in ustaljene navade.

Vizija električno distribucijskih podjetij je postati prepoznavno in prijazno odjemalcu s krepitvijo proizvodnje in dobave električne energije iz obnovljivih virov energije. V konkurenčnih pogojih je pomembno ohraniti in povečati tržni delež, širiti proizvodne kapacitete ter nuditi nove tržne storitve. Pri tem so pomembne vrednote, da je poslovanje v okviru zakonskih določil in etičnih norm, povečanje zadovoljstva zaposlenih, spodbujanje politike kakovosti, skrb za varstvo okolja in uvajanje okolju prijaznih tehnologij. Glede na poslovanje dobave električne energije končnim odjemalcem je za podjetje pomembno, da ohranja poslovni stik s svojimi kupci z obveščanjem, reševanjem reklamacij in izvajanjem pomoči ter da optimizira stroške in rabo z najnovejšimi tehnologijami na področju komuniciranja kot so klicni center, center vodenja, internet, elektronska pošta in izdaja publikacij.

Ob organizacijsko-sistemskih spremembah, ki se dogajajo na trgu električne energije, je za učinkovito in kakovostno distribucijo električne energije pomemben tudi človeški dejavnik v organizacijah. Na človeški dejavnik in zadovoljstvo zaposlenih se pogosto pozablja v organizacijah ob hitrih dinamičnih spremembah. Namen prispevka je prikaz organizacije in zadovoljstvo zaposlenih v podjetju za distribucijo električne energije v Sloveniji na primeru podjetja Elektro Gorenjska. Razmere so podobne tudi v drugih štirih slovenskih podjetjih za distribucijo električne energije (Elektro Ljubljana, Elektro Maribor, Elektro Celje in Elektro Primorska).

Cilj prispevka je obravnava povezav med organizacijo delovnih procesov in zadovoljstvom zaposlenih v podjetju za distribucijo električne energije. Posebej nas zanima povezanost med organizacijo delovnih procesov in zadovoljstvom zaposlenih kot možnim dejavnikom za izboljšanje kakovosti storitev in uspešnostjo poslovanja podjetja. Izhajamo iz hipoteze, da so delovni pogoji, delovni procesi, medsebojni odnosi in zadovoljstvo z delom medsebojno povezani. V raziskavi rezultatov ankete med zaposlenimi v podjetju o mnenjih glede organizacije delovnih procesov na odnose in zadovoljstvo zaposlenih je bila postavljena hipoteza potrjena.

Človeški viri so eden od virov konkurenčne prednosti, ki ga običajno ni možno enostavno dobiti ali posneti. Zato je pomembno nagrajevanje in promoviranje človeških virov in delovanje projektnih timov na kriterijih kakovosti in odličnosti kot višjimi izzivi za zaposlene in višjimi standardi uspešnosti za poslovanje podjetja. Naša raziskava med zaposlenimi v podjetju za distribucijo električne energije Elektro Gorenjska je osredotočena na organizacijo delovnih procesov in zadovoljstvo zaposlenih, ki je potrdila pomen odnosov med zaposlenimi in delovnimi pogoji zaposlenih v podjetju. Ugotovili smo pomembnost odnosov v procesu nematerialnega nagrajevanja iz delovnega razmerja kot so odnosi s sodelavci, samoiniciativnost, ustvarjalnost, fleksibilnost, motivacija, zaupanje, sodelovanje in ugled. Potrebna je preureditev materialnega nagrajevanja v procesu dela z novo sistemizacijo delovnih mest in sistemom napredovanja. Ker prihaja v spremenjenih pogojih delovanja v nekaterih primerih tudi do stresnih situacij je potrebna posebna priprava na prenašanje pritiskov, ki jih zaposleni doživljajo pri svojem delu. V zvezi z spremembami organiziranosti delovnih procesov, ki jo prinaša liberalizacija trga in povečana konkurenca na trgu z električno energijo bi bilo potrebno izboljšati notranje informiranje o dogodkih in organizaciji dela, participacijsko soodločanje zaposlenih pri delu in poslovanju ter izboljšati zunanje komuniciranje z uporabniki.

## 2 Organizacija delovnih procesov in zadovoljstvo zaposlenih

V zaostreni konkurenci na trgu so se podjetja prisiljena prilagajati vedno bolj zahtevnemu tržišču in stremeti k vedno bolj kakovostnim storitvam za njihove uporabnike in tako k čim boljšemu zadovoljevanju njihovih potreb. Motivirani in lojalni zaposleni so tisti dejavnik, ki uspešne organizacije loči od manj uspešnih. Ključno bogastvo organizacij so torej ljudje in njihovi medsebojni odnosi. Zato je zadovoljstvo zapos-

lenih, ki meri v okviru organizacijske klime, za uspešnost in učinkovitost organizacij izjemno pomembno. Dobra vizija v podjetju lahko prebudi njegove ustvarjalne potencialne s postavitvijo temeljev za strateške načrte in scenarije, s katerimi podjetje predvidi poti za njihovo uresničevanje. Vizija podjetja mora izvirati iz dogajanja v podjetju in je lahko učinkovita, če izraža dovolj vabljivo podobo prihodnosti, ki jo lahko podjetje doseže, da se podjetje in zaposleni poistovetijo. Lastnik elektro gospodarskih družb je Vlada RS, ki daje preko skupščin družbe skupno nalogo podjetjem v izvedbo poslovodstvu, ti pa nadalje svoje naloge, dolžnosti ali zadolžitve naložijo podrejenim. Tako se tvorijo razmerja oziroma hierarhija v združbi. Vodstvo prenese na podrejene zadolžitve in odgovornosti, hkrati pa tudi moč oziroma pristojnosti za njihovo izvedbo.

Organiziranost je formalna urejenost organizacije, izražena v obliki organizacijske strukture, le-ta pa predstavlja formalno razčlenitev in razporeditev delovnih nalog po izvrševalcih in organizacijsko ureditev njihovih medsebojnih odnosov v podjetju (Vrčko in Erjavšek, 1998). Musek Lešnik (2003) poudarja pomen jasne opredelitve poslanstva organizacije. Jasen občutek poslanstva motivira zaposlene h kakovostnejšem delu, vodilne h kakovostnejšemu in učinkovitejšemu vodenju, uporabnikom in širši skupnosti pa vzbuja zaupanje v organizacijo. Jasno poslanstvo je lahko pomembno orodje vodenja in načrtovanja. Ko vodstvo poveže globlja občutenja ljudi z razlogi obstoja podjetja, utrjuje občutek smiselnosti dela in notranjega zadovoljstva ob njem. Jasen občutek poslanstva je najbolj učinkovit, kadar ga spremlja jasno razumevanje temeljnih vrednot podjetja in privlačna vizija prihodnosti. Poslanstvo, ki ga ne dopolnjuje močna, privlačna in uresničljiva vizija, lahko vodi v togost. Krčevito oklepanje trenutnega zastarelega razumevanja podjetja pa hromi njegove ustvarjalne in razvojne potencialne.

Organizacijska klima je eden od najbolj pomembnih in največkrat omenjenih, a pogosto tudi najmanj razumljenih pojmov v organizacijskem vodenju in managementu (Tavčar, 2002). Organizacijska klima in kultura vplivata na stopnjo zadovoljstva zaposlenih pri delu in na delovnem mestu. Izmed vseh segmentov, na katere vplivata organizacijska kultura in klima pri posameznikih, je vpliv na zadovoljstvo vedno najizrazitejši in najbolj neposreden ter zelo hitro prepoznaven. V današnjem času so v ospredju zahteve po učinkovitosti, racionalnosti in usmerjenosti k strankam oziroma porabnikom, kar pomeni, da je potreben vedno večji poudarek zaposlenih pri uresničevanju teh zahtev. Organizacija je namreč lahko uspešna in se razvija le, če zaposleni ustrezno spodbujajo njene aktivnosti in zmožnosti.

Organizacijska kultura in klima odličnosti lahko spodbujata in omogočata stalen napredek, razvoj, rast, izboljševanje in spremembe v organizaciji. Organizacijska klima in kultura odličnosti temeljita na odličnih posameznikih, odličnih delovnih mestih, odličnih oddelkih in odlični organizaciji kot celoti. Proces ustvarjanja odlične korporativne klime in kulture je dolgotrajen in zelo kompleksen. Zahteva večletna prizadevanja s stalnim uvajanjem novosti in nenehnim izboljševanjem že sicer učinkovitih procesov uspešnih posameznikov, optimalnih postopkov, zelo dobrih mehanizmov ter

izjemno visoko raven intelektualnega in finančnega kapitala (Mihalič, 2007).

Organizacija delovnih procesov, vrednote zaposlenih in motivacije z ustreznim nagrajevanjem lahko pomembno vplivajo na zadovoljstvo in pripravljenost zaposlenih, da nenehno izboljšujejo delovne procese, proizvode in storitve. Vključevanja znanj in izkušenj zaposlenih so pomembna za izboljšave in za zmanjšanje odpora do morebitnih sprememb in potrebo po usmerjanju pri njihovem uvajanju. Podjetja uporabljajo različne pristope vključevanja zaposlenih v proces nenehnih izboljšav, ki so lahko bolj ali manj formalizirani ter povezani s timskim delom ali vključevanjem posameznikov (Zupan, 2001). Klima v organizaciji pomembno vpliva na uspešnost poslovanja in zadovoljstvo zaposlenih pri uspešnem in učinkovitem opravljanju svojih nalog (Adizes, 1996). Zato mora vodstvo skrb nameniti ukrepom za stalno povečevanje in vzdrževanje zadovoljstva zaposlenih, ki pozitivno vpliva na uspešnost in učinkovitost zaposlenih in na uspešnost organizacije. V nasprotnem primeru kadar struktura organizacije v podjetju ni uspešna, se podjetje ne more pravočasno prilagoditi vse večjim zahtevam konkurenčnega okolja (Ivanuša Bezjak, 2006).

Fuller (1997) in Vrčon-Tratar in Snoj (2002) ugotavljajo, da je organizacijska kultura pomemben dejavnik razvijanja konkurenčne prednosti organizacij. Ustrezne temeljne vrednote prispevajo k učinkovitemu uresničevanju ciljev v organizaciji. Posebej osvetljujejo sestavino marketinškega koncepta z naravnostjo k odjemalcem, kot možno razsežnost organizacijske kulture.

Pagon in Pagon (1993) prikazujeta predpogoje in značilnosti uspešnih sistemov plačila po znanju na vzorcu ameriških podjetij. Model vsebuje tri skupine prediktorjev, in sicer značilnosti organizacije, naravo dejavnosti oziroma poslovanja in razloge za uvedbo sistema plačila po znanju, ki vplivajo na značilnosti sistemov plačila po znanju, prisotnost programov usposabljanja in drugih podpornih programov ter na stopnjo vključenosti managerjev in zaposlenih v razvoj in vpeljavo sistemov plačila po znanju. Prikazano je, kako našete značilnosti vplivajo na pričakovane rezultate uspešnega sistema plačila po znanju, in sicer dvig kakovosti, izboljšanje kadrov, večjo motiviranost in zadovoljstvo z delom, tesnejše prilaganje organizacije in kadrov in zmanjšanje stroškov dela.

V procesu uvajanja sprememb je pomembna pravočasna in kakovostna komunikacija z zaposlenimi (Gorišek, 2003). Za graditev zaupanja in partnerskih odnosov ter graditvi skupne kulture ima pomen tudi voditeljstvo. Le-to v mrežni organizaciji močno upošteva poleg jasnih poslovnih ciljev tudi številne različne mehke pristope, s katerimi želi polno izkoristiti intelektualni potencial zaposlenih ter doseči njihovo pridružitvev podjetju. Pomeni sposobnost vplivanja in usmerjanja sodelavcev k želenim ciljem, da spodbudi sodelavce k delu pravih stvari na pravi način. Vrednote organizacije poudarjajo s svojim zgledom ter gradijo prihodnost na ustvarjanju zaupanja in sodelovanja. Posebno pozornost namenjajo talentom in neposrednemu komuniciranju z zaposlenimi v razvijanju kulture, ki je odprta do sprememb, sprejema različnosti in omogoča kreativnosti in inovativnosti. Škarabot (2003) je analiziral rezultate po mednarodni metodologiji za projektno odličnost med desetimi slovenskimi podjetji in jih primerjal z

idealnim stanjem. Največje negativne razlike je ugotovil pri mehkih kriterijih kot so vodenje, ljudje in zadovoljstvo zunanjih udeležencev.

### 3 Metode in uporabljeni podatki

Kot metoda analize sta uporabljeni korelacijska analiza in faktorska analiza na anketnih podatkih. Faktorska analiza nam bo prikazala najpomembnejše skupne dejavnike in njihove uteži, ki so pomembni za pojasnjevanje analiziranega pojava (Kachigan, 1991; Norušis, 2002).

Med zaposlenimi v podjetju za distribucijo električne energije Elektro Gorenjska, d.d., smo izvedli anketo s pisnim vprašalnikom med januarjem in marcem 2009. Struktura anketnega vprašalnika je razvidna v nadaljevanju iz prikazanih rezultatov v tabelah.

Naključno izbranim zaposlenim je bilo razdeljeno 100 anket, vrnjeno je bilo 72 anket. Izpolnjevalci ankete so bili po kvalifikacijski strukturi: 2,8 % z 8. stopnjo izobrazbe, 16,7 % s 7. stopnjo, 9,7 % s 6. stopnjo, 41,7 % s 5. stopnjo in 29,2 % s 4. stopnjo izobrazbe (tabela 1). Povprečno število izobraževalnih let anketirancev je 12,7 let. Po spolu je bilo 79,2 % moških in 20,8 % žensk. Struktura anketirancev glede na starost je bila: do 30 let 12,5 %, 31 do 40 let 30,6 %, od 41-50 let 34,7 %, od 51-60 let 22,2 % in nad 60 let 0 %. Njihova povprečna starost je bila 41,7 let. Obdelava podatkov je bila izvedena s programsko opremo SPSS (Norušis, 2002). Struktura anketirancev po spolu, starosti in izobrazbi je prikazana tudi v slikah 1, 2 in 3.

## 4 Lastnosti delovnih procesov in zaposlenih

### 4.1 Povprečne ocene posameznih spremenljivk

Lastnosti delovnih procesov, odnosi in zadovoljstvo zaposlenih so ocenjeni z Likertovo lestvico z ocenami od 1 (ni pomembno) do 5 (zelo pomembno). Povprečne vrednosti odgovorov na 12 vprašanj, ki so bila zastavljena kot trditve o delovnih procesih, odnosih in zadovoljstvu so navedene v tabeli 2. Zanesljivost tega dela anketnega vprašalnika je bila testirana z Cronbachovim indeksom  $\alpha$ , ki znaša 0,828, kar potrjuje zanesljivost anketnega vprašalnika.

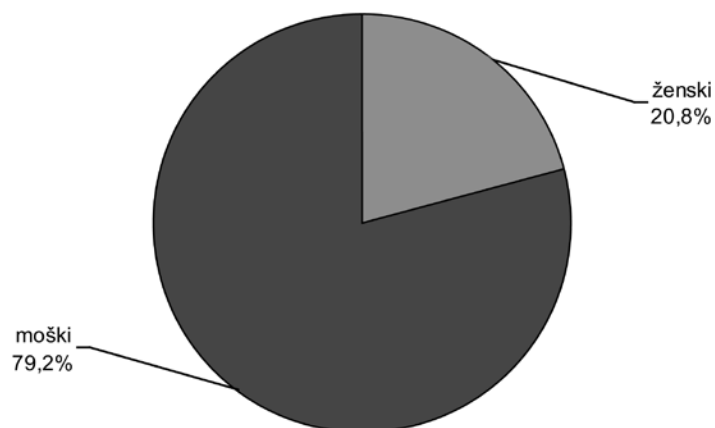
Najvišje srednje vrednosti v delovnem procesu imajo dejavniki: odnosi s sodelavci v procesu, zanimivost dela, zahtevnost dela in delovne razmere procesa. Zaposleni so zadovoljni s sodelovanjem in razmerami v procesu. Najnižje srednje vrednosti imajo dejavniki obveščenost o dogodkih v podjetju, plače in druge materialne ugodnosti procesa, možnost napredovanja v procesu in sistemizacija delovnih mest procesa. Problemi se kažejo pri nagrajevanju in možnostih napredovanja ter pri seznanjanju s poslovanjem.

Najbolj razpršeni so odgovori (standardni odklon nad 0,9) pri vprašanjih samoiniciativnost, možnosti napredovanja, obveščenost v podjetju in sistemizacija delovnih mest; sledijo odnosi s sodelavci in organizacija dela, ustvarjalnost, plača, fleksibilnost, delovne razmere in zanimivost dela; najmanj

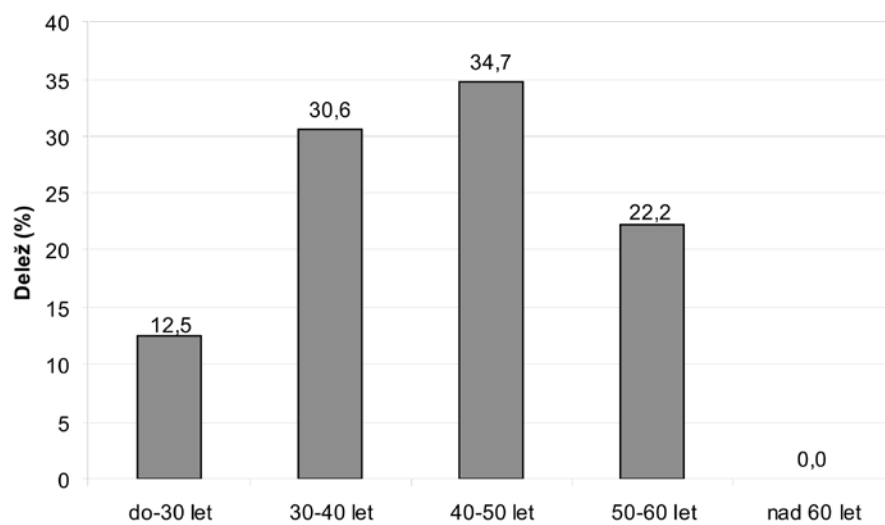
Tabela 1: Strukture anketirancev po spolu, starosti in izobrazbi

<b>SPOL</b>	<b>Število</b>	<b>Delež (%)</b>
Moški	57	79,2
Ženski	15	20,8
<b>Skupaj</b>	<b>72</b>	<b>100,0</b>
<b>STAROST</b>	<b>Število</b>	<b>Delež (%)</b>
do 30 let	9	12,5
31 do 40 let	22	30,6
41 do 50 let	25	34,7
51 do 60 let	16	22,2
nad 60 let	0	0,0
<b>Skupaj</b>	<b>72</b>	<b>100,0</b>
<b>Povprečna starost (let)</b>		<b>41,7</b>
<b>IZOBRAZBA</b>	<b>Število</b>	<b>Delež (%)</b>
4. stopnja	21	29,2
5. stopnja	30	41,7
6. stopnja	7	9,7
7. stopnja	12	16,7
8. stopnja in več	2	2,8
<b>Skupaj</b>	<b>72</b>	<b>100,0</b>
<b>Povprečno število dokončanih let izobraževanja</b>		<b>12,7</b>

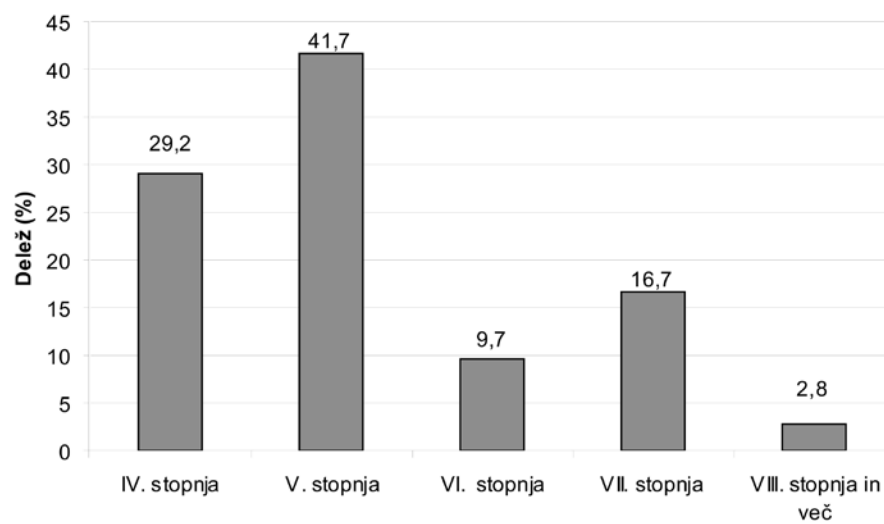
Vir: Rezultati lastno izvedene raziskave.



Slika 1: Struktura vzorca po spolu



Slika 2: Struktura vzorca po starosti



Slika 3: Struktura vzorca po izobrazbi

Tabela 2: Delovni procesi, odnosi in zadovoljstvo zaposlenih (interval med 1 ni pomembno in 5 zelo pomembno) (število opazovanj = 72)

Št.	Vprašanje	Oznaka spremenljivke	Srednja vrednost	Rang	Standardni odklon
1.	Ocena delovnih razmer procesa	delovne razmere	3,7	4.	0,87
2.	Ocena možnosti napredovanja v procesu	možnost napredovanja	2,7	11.	0,94
3.	Ocena obveščenosti o dogodkih v podjetju	obveščenost v podjetju	2,9	9.	0,93
4.	Ocena plače in drugih materialnih ugodnosti procesa	plača	2,9	10.	0,88
5.	Ocena odnosov s sodelavci v procesu	odnosi s sodelavci	3,8	1.	0,89
6.	Ocena ustvarjalnosti dela v procesu	ustvarjalnost	3,3	7.	0,88
7.	Ocena metode sedanje sistemizacije delovnih mest procesa	sistemizacija delovnih mest	2,6	12.	0,93
8.	Ocena organizacije dela v procesu	organizacija dela	3,0	8.	0,89
9.	Ocena fleksibilnosti (prilagodljivosti) v spremenjenih okoliščinah za učinkovito obvladovanje novih, nepredvidljivih in stresnih situacij v procesu	fleksibilnost	3,3	6.	0,87
10.	Ocena samoiniciativnosti, dajanja pobud, samomotiviranja, učenja in razvijanja svojih potencialov v procesu	Samoiniciativnost	3,4	5.	0,95
11.	Ocena zanimivosti dela v procesu	zanimivost dela	3,8	2.	0,81
12.	Ocena zahtevnosti dela (fizično in psihično)	zahtevnost dela	3,8	3.	0,62

Vir: Rezultati lastno izvedene raziskave.

pa so razpršeni odgovori za vprašanje glede zahtevnosti dela (0,6).

Korelacijska analiza za delovni proces kaže, da je parcialna korelacijska povezanost med ocenami posameznih analiziranih spremenljivk zmerna. Največja je korelacijska povezanost med spremenljivkami: plača in sistemizacija delovnih mest (0,71), organizacija dela in obveščanje o dogodkih (0,66), ustvarjalnost in samoiniciativnost (0,57), fleksibilnost in samoiniciativnost (0,53) in odnosi s sodelavci in samoiniciativnost (0,50).

## 4.2 Faktorska analiza

Iz Kaiser-Meyer-Olkin (KMO = 0,767) mere primernosti vzorca in Barlettovega testa sferičnosti (približen Chi-kvadrat 291,46, Sig. 0,000) sklepamo, da so podatki ustrezni za faktorsko analizo. S faktorsko analizo ocenimo faktorski model v dveh korakih: najprej ocenimo deleže pojasnjene variance proučevanih spremenljivk s skupnimi faktorji (komunalitetami) z metodo glavnih osi in z metodo največjega zaupanja. V drugem koraku ocenimo še faktorske uteži s poševno ali pravokotno rotacijo. Kolenski grafikon za oceno smiselnega števila faktorjev je potrdil, da se krivulja lomi pri tretjem faktorju. Najpomembnejši pri dojetju zaposlenih so trije faktorji. S prvim skupnim faktorjem materialni sistem iz delovnega razmerja pojasnimo 41,5 % variance trinajstih analiziranih spremenljivk, z drugim skupnim faktorjem delovni pogoji dodatnih 14,0 % in s tretjim skupnim faktorjem zaposlitev in nagrajevanje v delovnem procesu 11,8 %. S tremi

faktorji kumulativno pojasnimo 67,3 % variance opazovanega vzorca spremenljivk. Zanesljivost latentnih spremenljivk smo preverjali z Cronbachovim indeksom  $\alpha$ , ki potrjuje zanesljivost latentnih spremenljivk.

Pri metodi glavnih osi s tremi skupnimi faktorji izračun ni izločil skupnih faktorjev. Pri metodi največjega zaupanja – brez rotacije faktorjev iz matrike faktorskih uteži izhaja, da imajo znotraj prvega skupnega faktorja zaposlitev in nagrajevanje v procesu (materialni sistem iz delovnega razmerja) največjo težo spremenljivke sistemizacija delovnih mest, plača in organizacija dela (tabela 3). Drugi skupni faktor odnosi v procesu (nematerialni sistem iz delovnega razmerja) ima največjo težo v spremenljivkah: obveščanje, organizacija dela, delovne razmere, odnosi s sodelavci, možnost napredovanja in samoiniciativnost. Tretji skupni faktor delovni pogoji ima največjo težo v spremenljivkah odnosi s sodelavci, ustvarjalnost in samoiniciativnost.

Ocena faktorjskega modela z metodo največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo z uporabo poševne rotacije faktorjev bolj izkristalizira vpliv posameznih faktorjev. Struktura modela je nespremenjena in komunalitete se ob rotacijah bistveno ne spreminjajo, kar kaže na to, da so ocene stabilne in posamezni skupni faktorji neodvisni. Pri poševni rotaciji s tremi skupnimi faktorji je značilen prvi skupni faktor zaposlitev in nagrajevanje v procesu (materialni sistem iz delovnega razmerja), ki ima največjo težo v spremenljivkah sistemizacija delovnih mest, plača in organizacija dela. Drugi in tretji skupni faktor sta se med seboj zamenjala. Drugi skupni faktor delovni pogoji ima največjo težo v spremenljivkah obveščanje o dogodkih, organizacija



dela in delovne razmere. Tretji skupni faktor odnosi v procesu (nematerialni sistem iz delovnega razmerja) ima največjo težo v spremenljivkah odnosi s sodelavci, samoiniciativnost, ustvarjalnost in fleksibilnost.

Ocena faktorkega modela s pomočjo metode največjega zaupanja z rotacijsko metodo Varimax s Kaiserjevo normalizacijo in uporabo pravokotne rotacije faktorjev ob enakem modelu in komunalitetah pokaže majhno razliko v primerjavi s poševno rotacijo. Korelacijski koeficienti pri pravokotni rotaciji pri prvem skupnem faktorju odnosi v procesu, imajo največjo težo v spremenljivkah odnosi s sodelavci, samoiniciativnost, ustvarjalnost in fleksibilnost. Drugi skupni faktor delovni pogoji ima največjo težo v spremenljivkah obveščanje o dogodkih in organizacija dela. Tretji skupni faktor zaposlitev in nagrajevanje v procesu ima največjo težo v spremenljivkah sistemizacija delovnih mest in plača.

## 5 Osebni dejavniki zaposlenih

### 5.1 Povprečne ocene posameznih spremenljivk

Osebni dejavniki zaposlenih so ocenjeni z Likertovo lestvico z ocenami od 1 (ni pomembno) do 5 (zelo pomembno). Povprečne vrednosti odgovorov na 11 vprašanj, ki

so bila zastavljena kot trditve o osebnih dejavnih zaposlenih, so navedene v tabeli 4. Zanesljivost tega dela anketnega vprašalnika je bila testirana z Cronbachovim indeksom  $\alpha$ , ki znaša 0,851, kar potrjuje zanesljivost anketnega vprašalnika.

Najvišje srednje vrednosti v delovnem procesu imajo dejavniki: stalnost zaposlitve – socialna varnost, ocena neposrednega vodje in zahtevnost dela (fizično in psihično) z vidika zaposlenih. Zaposleni so zadovoljni z visoko socialno varnostjo pri zaposlitvi. Zaposleni bi potrebovali več znanja za govorno izražanje pri pogajanjih in menedžerske sposobnosti. Najnižje srednje vrednosti imajo dejavniki: prenašanje čustvenih obremenitev (ko prihaja do pritiskov, težav, ovir v stresnih situacijah, kakršni sta časovni pritisk in negotovost), motivacija (pohvala, priznanje, dodatna stimulacija za dobro delo, zavestnost, prijaznost) zaposlenih in soodločanje zaposlenih pri delu in poslovanju.

Najbolj razpršeni odgovori (standardni odklon nad 0,9) so pri vprašanjih: prenašanje čustvenih obremenitev, motivacija, strokovni razvoj, soodločanje, neposredni vodja; sledijo: svoboda in samostojnost pri delu, ugled dela, sposobnost načrtovanja organizacije; najmanj razpršeni odgovori so pri vprašanjih: stalnost zaposlitve – socialna varnost, ustno komuniciranje in zahtevnost dela.

Korelacijska matrika kaže, da je parcialna korelacijska povezanost med ocenami posameznih analiziranih spremenljivk zmerna. Največja je korelacijska povezanost med spre-

Tabela 3: Delovni procesi, odnosi in zadovoljstvo zaposlenih (matrika štirih različnih izločitvenih metod s tremi pomembnimi faktorji)

	Metoda največjega zaupanja <sup>a</sup>			Metoda največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo – poševna rotacija <sup>b</sup>			Metoda največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo – poševna rotacija			Metoda največjega zaupanja z rotacijsko metodo Varimax s Kaiserjevo normalizacijo – pravokotna rotacija <sup>c</sup>		
	Faktorske uteži (Factor Matrix)			Strukturna matrika (Pattern Matrix)			Strukturna matrika (Structure Matrix)			Rotacijska faktor-ska matrika (Rotated Factor Matrix)		
Dejavniki	1	2	3	1	2	3	1	2	3	1	2	3
Delovne razmere procesa	0,195	<b>0,518</b>	0,182	-0,030	<b>0,354</b>	0,342	0,224	<b>0,500</b>	0,494	<b>0,401</b>	<b>0,414</b>	0,089
Možnost napredovanja	0,308	<b>0,405</b>	0,010	0,156	<b>0,361</b>	0,114	0,328	<b>0,469</b>	0,337	0,214	<b>0,400</b>	0,231
Obveščeno o dogodkih v podjetju	0,204	<b>0,848</b>	-0,315	-0,074	<b>1,000</b>	-0,126	0,242	<b>0,916</b>	0,306	0,087	<b>0,921</b>	0,070
Plača in druge materialne ugodnosti procesa	<b>0,709</b>	0,208	0,034	<b>0,640</b>	0,146	0,073	<b>0,719</b>	0,411	0,374	0,206	0,268	<b>0,658</b>
Odnosi s sodelavci v procesu	0,090	<b>0,481</b>	<b>0,584</b>	-0,182	0,049	<b>0,788</b>	0,124	0,345	<b>0,744</b>	<b>0,736</b>	0,196	-0,031
Ustvarjalnost dela v procesu	0,240	0,353	<b>0,549</b>	0,026	-0,052	<b>0,708</b>	0,266	0,282	<b>0,694</b>	<b>0,671</b>	0,116	0,141
Sistemizacija delovnih mest	<b>0,999</b>	-0,004	-0,001	<b>1,025</b>	-0,040	-0,034	<b>0,998</b>	0,315	0,323	0,126	0,132	0,983
Organizacija dela v procesu	<b>0,463</b>	<b>0,652</b>	-0,046	0,227	<b>0,625</b>	0,115	<b>0,495</b>	<b>0,759</b>	<b>0,484</b>	0,284	<b>0,666</b>	0,343
Fleksibilnost	0,378	0,347	<b>0,482</b>	0,180	-0,018	<b>0,627</b>	0,403	0,335	<b>0,684</b>	<b>0,626</b>	0,157	0,282
Samoiniciativnost v procesu	0,327	0,401	<b>0,520</b>	0,101	0,009	<b>0,687</b>	0,355	0,361	<b>0,728</b>	<b>0,676</b>	0,183	0,220

<sup>b</sup> 17 potrebnih iteracij, <sup>c</sup> Rotacija v 5 iteracijah, <sup>d</sup> Rotacija v 5 iteracijah. Cronbachova  $\alpha$  faktor 1 = 0,800, N=5 (odnosi s sodelavci, samoiniciativnost, ustvarjalnost, fleksibilnost in delovne razmere). Cronbachova  $\alpha$  faktor 2 = 0,754, N=4 (obveščanje o dogodkih, organizacija dela, delovne razmere, možnost napredovanja). Cronbachova  $\alpha$  faktor 3 = 0,828, N=2 (plača, sistemizacija delovnih mest).

Tabela 4: Osebnostni dejavniki zaposlenih (interval med 1 ni pomembno in 5 zelo pomembno) (število opazovanj = 72)

Št.	Vprašanje	Oznaka spremenljivke	Srednja vrednost	Rang	Standardni odklon
1.	Ocena stalnosti zaposlitve (socialna varnost)	Stalnost zaposlitve – socialna varnost	4,0	1.	0,78
2.	Ocena možnosti strokovnega razvoja zaposlenih	strokovni razvoj	3,4	7.	0,94
3.	Ocena svobode in samostojnosti pri delu zaposlenih	svoboda in samostojnost pri delu	3,6	5.	0,87
4.	Ocena motivacijskih faktorjev pri delu (pohvala, priznanje, dodatna stimulacija za dobro delo, zavestnost, prijaznost) zaposlenih	motivacija	3,0	10.	0,94
5.	Ocena ugleda dela z vidika zaposlenih	ugled dela	3,4	6.	0,85
6.	Ocena soodločanja zaposlenih pri delu in poslovanju	Soodločanje	2,9	11.	0,94
7.	Ocena neposrednega vodje z vidika zaposlenih	neposredni vodja	4,0	2.	0,93
8.	Ocena zahtevnosti dela (fizično in psihično) z vidika zaposlenih	zahtevnost dela	3,8	3.	0,62
9.	Ocena ustnega komuniciranja, zmožnosti tekočega, jasnega govornega izražanja, tako da drugi ideje, mnenja, misli lahko dobro razumejo	Ustno komuniciranje	3,6	4.	0,77
10.	Ocena sposobnosti zaposlenih za načrtovanje in organizacijo službe z vidika metodike, strukture in delovnih operacij	Sposobnost načrtovanja in organizacije	3,0	8.	0,82
11.	Ocena zaposlenih z vidika prenašanja čustvenih obremenitev, ko prihaja do pritiskov, težav, ovir, v stresnih situacijah, kakršni sta časovni pritisk in negotovost	Prenašanje čustvenih obremenitev	3,0	9.	0,96

Vir: Rezultati lastno izvedene raziskave.

menljivkami: motivacija in soodločanje poslovanja (0,67), ustno komuniciranje in načrt organizacije službe (0,58), motivacija in prenašanje čustvene občutljivosti (0,53), svoboda in motivacija (0,53), svoboda in prenašanje čustvenih občutljivosti (0,52), motivacija in načrt organizacije službe (0,51), ugled dela in soodločanje poslovanja (0,51) ter med načrtom organizacije službe in prenašanjem čustvenih občutljivosti (0,50).

## 5.2 Faktorska analiza

KMO (0,826) mera primernosti vzorca in Barlettov test sferičnosti (približen Chi-kvadrat 286,88, Sig. 0,000) kažejo, da so podatki ustrezni za faktorsko analizo. S faktorsko analizo ponovno ocenimo faktorski model. Kolenski grafikon za oceno smiselnega števila faktorjev je potrdil, da se krivulja lomi pri tretjem faktorju. S prvim skupnim faktorjem motivacija in zaupanje pojasnimo 46,6 % variance, z drugim skupnim faktorjem ugled in sodelovanje dodatno pojasnimo 13,1 % variance in s tretjim skupnim faktorjem vodenje, managerske sposobnosti in socialna varnost dodatno pojasnimo 8,4 % variance, kar pomeni, da s tremi skupnimi faktorji kumulativno pojasnimo 68,0 % variance opazovanega vzorca spremenljivk. Zanesljivost latentnih spremenljivk smo preverjali z Cronbachovim indeksom  $\alpha$ , ki z izjemo pri tretjem faktorju, potrjuje zanesljivost latentnih spremenljivk.

Pri metodi glavnih osi prvi skupni faktor motivacija in zaupanje ima največjo težo v spremenljivkah motivacija pri delu, soodločanje zaposlenih pri delu in poslovanju, načrtovanje organizacije službe, svoboda in samostojnost pri delu, prenašanje čustvenih obremenitev v stresnih situacijah, sposobnost ustnega komuniciranja in razumljivega izražanja in ugled dela z vidika zaposlenih (tabela 5). Drugi skupni faktor socialna varnost ima težo v spremenljivki stalnost zaposlitve. Tretji skupni faktor notranje komuniciranje ima težo v spremenljivki sposobnost ustnega komuniciranja in razumljivega izražanja.

Iz matrike faktorskih uteži pri metodi največjega zaupanja izhaja, da imajo znotraj prvega skupnega faktorja motivacija in zaupanje največjo utež spremenljivke soodločanje pri delu in poslovanju, ocena neposrednega vodje z vidika zaposlenih, motivacija ter svoboda in samostojnost pri delu. Drugi skupni faktor je povezan z ugledom in sodelovanjem, ki ima največjo težo v spremenljivkah soodločanje pri delu in poslovanju. Tretji skupni faktor socialna varnost in managerske sposobnosti ima največjo težo v spremenljivki načrtovanje organizacije službe.

Ocena faktorskega modela z metodo največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo z uporabo poševne rotacije faktorjev bolj izkristalizira vpliv posameznih faktorjev. Koeficienti strukturne matrike pri poševni rotaciji ostajajo pri prvem skupnem faktorju motivacija in zaupanje podobni v enakih okvirih spremenljivk soodločanje

Tabela 5: Osebni dejavniki zaposlenih (matrika štirih različnih izločitvenih metod s tremi pomembnimi faktorji)

Dejavniki	Metoda glavnih osi <sup>a</sup>			Metoda največjega zaupanja <sup>b</sup>			Metoda največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo – poševna rotacija <sup>c</sup>			Metoda največjega zaupanja z rotacijsko metodo Oblimin s Kaiserjevo normalizacijo – poševna rotacija			Metoda največjega zaupanja z rotacijsko metodo Varimax s Kaiserjevo normalizacijo – pravokotna rotacija <sup>d</sup>		
	Faktorske uteži (Factor Matrix)			Faktorske uteži (Factor Matrix)			Strukturna matrika (Pattern Matrix)			Strukturna matrika (Structure Matrix)			Rotacijska faktorska matrika (Rotated Factor Matrix)		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Stalnost zaposlitve	<b>0,415</b>	<b>0,378</b>	0,037	0,144	0,218	<b>0,435</b>	-0,045	0,145	<b>0,540</b>	0,256	0,053	<b>0,484</b>	<b>0,492</b>	0,111	-0,053
Svoboda, samostojnost pri delu	<b>0,649</b>	-0,175	-0,158	<b>0,524</b>	-0,015	<b>0,410</b>	0,023	-0,281	<b>0,536</b>	<b>0,426</b>	-0,389	<b>0,604</b>	<b>0,505</b>	0,197	0,385
Motivacija pri delu	<b>0,775</b>	-0,092	-0,164	<b>0,630</b>	0,256	0,349	<b>0,365</b>	-0,129	<b>0,436</b>	<b>0,669</b>	-0,302	0,689	<b>0,528</b>	<b>0,474</b>	0,282
Ugled dela z vidika zaposlenih	<b>0,573</b>	0,394	-0,178	0,341	<b>0,411</b>	0,324	<b>0,328</b>	0,171	<b>0,385</b>	<b>0,527</b>	0,018	0,557	<b>0,472</b>	<b>0,408</b>	-0,035
Soodločanje poslovanja	<b>0,746</b>	-0,044	-0,195	<b>0,838</b>	<b>0,544</b>	-0,003	<b>1,004</b>	-0,060	-0,034	<b>0,998</b>	-0,298	<b>0,604</b>	0,302	<b>0,919</b>	0,250
Neposredni vodja	<b>0,482</b>	-0,546	0,067	<b>0,837</b>	-0,547	-0,001	0,079	<b>-0,960</b>	0,064	0,354	-0,992	0,297	0,074	0,148	<b>0,986</b>
Ustno komuniciranje	<b>0,703</b>	0,063	<b>0,506</b>	<b>0,469</b>	0,078	<b>0,484</b>	0,011	-0,162	<b>0,621</b>	<b>0,438</b>	-0,284	<b>0,659</b>	<b>0,583</b>	0,205	0,280
Načrt organizacije	<b>0,727</b>	0,069	0,143	<b>0,497</b>	0,151	<b>0,545</b>	0,046	-0,112	<b>0,693</b>	<b>0,505</b>	-0,256	<b>0,743</b>	<b>0,663</b>	0,255	0,250
Prenašanje čustvenih obremenitev	<b>0,643</b>	0,006	-0,046	0,405	0,242	<b>0,493</b>	0,102	0,013	<b>0,617</b>	<b>0,483</b>	-0,130	<b>0,678</b>	<b>0,612</b>	0,277	0,122

<sup>a</sup> 88 potrebnih iteracij, <sup>b</sup> 14 potrebnih iteracij, <sup>c</sup> Rotacija v 7 iteracijah, <sup>d</sup> Rotacija v 5 iteracijah. Cronbachova  $\alpha$  faktor 1 = 0,799, N=4 (načrtovanje organizacije službe, prenašanje čustvenih psihičnih obremenitev v stresnih situacijah, sposobnost ustnega komuniciranja in razumljivega izražanja, motivacija); Cronbachova  $\alpha$  faktor 1 = 0,813, N=6 (isto kot za N=4 in svoboda – samostojnost pri delu, stalnost zaposlitve); Cronbachova  $\alpha$  faktor 1 = 0,826, N=7 (isto kot za N=6 in ugled dela). Cronbachova  $\alpha$  faktor 2 = 0,768, N=3 (soodločanje pri delu in poslovanju, motivacija in ugled dela). Cronbachova  $\alpha$  faktor 3 = 0,616, N=2 (neposredni vodja, svoboda – samostojnost pri delu).

pri delu in poslovanju, motivacija in načrtovanje organizacije službe. Drugi skupni faktor ugled kaže šibak, negativen vpliv spremenljivk, pozitivnega imata stalnost zaposlitve in ugled dela. Tretji skupni faktor managerske sposobnosti in socialna varnost je izražen z močnimi spremenljivkami načrtovanje organizacije službe, prenašanje čustvenih psihičnih obremenitev v stresnih situacijah, sposobnost ustnega komuniciranja in razumljivega izražanja ter svoboda in samostojnost pri delu. Iz negativnega stanja je močnejše povečanje pri poševni rotaciji dosegla spremenljivka soodločanje pri delu in poslovanju.

Ocena faktorskega modela s pomočjo metode največjega zaupanja z rotacijsko metodo Varimax s Kaiserjevo normalizacijo in uporabo pravokotne rotacije pri prvem skupnem faktorju motivacija in zaupanje ostajajo uteži spremenljivk podobne, le da je zamenjan njihov pomen: načrtovanje organizacije službe, prenašanje čustvenih psihičnih obremenitev v stresnih situacijah in sposobnost ustnega komuniciranja in razumljivega izražanja. Drugi skupni faktor ugled in sodelovanje ima največjo težo v spremenljivki soodločanje pri delu in poslovanju. Tretji skupni faktor vodenje, managerske sposobnosti in socialna varnost ima največjo težo v spremenljivkah ocena neposrednega vodje z vidika zaposlenih.

## 6 Sklep

V raziskavi smo proučili zaznavanje organizacijske klime z vidika organiziranja delovnih procesov in zadovoljstva zaposlenih v distribucijskem podjetju za električno energijo. Elektro distribucijska podjetja v razmerju do odjemalcev imajo dve ključni možnosti, in sicer z izboljšano motiviranostjo zaposlenih za kakovostnejše storitve in odnose s porabniki električne energije in z ceno električne energije kot dejavnikom konkurenčnosti. Reorganizacija trga distribucije električne energije vnaša nujno prilagajanje in spremembe v organiziranju in razvijanju novih pristopov distribucijskih podjetij na trgu. Izziv dajejo organizacijske veščine managementa trga in sicer segmentiranje porabnikov, tržne strategije do porabnikov in do konkurentov, dejavniki porabnikov za dodatne in bolj kakovostne storitve, tehnična podpora in komuniciranje s porabniki. Pri tem podjetje lahko uporabi različna orodja za analize kot so tržna raziskava z anketo in komercialna učinkovitost s snovanjem novih ključnih zmožnosti in meril. V reorganizaciji trga distribucije električne energije v Sloveniji je pomembna vloga na managementu glede pristopov in uporabi orodij ter človeških virov kot notranjih potencialov podjetja.

Analizirana so mnenja zaposlenih o odnosih v procesu, delovni pogoji, zaposlitev in nagrajevanje v procesu v podjetju. Z rezultati ankete med zaposlenimi v podjetju o mnenjih glede organizacije delovnih procesov na odnose in zadovoljstvo zaposlenih smo potrdili hipotezo, da so delovni pogoji, delovni procesi, medsebojni odnosi in zadovoljstvo z delom medsebojno povezani. Za upravo podjetja je zato pomembno spremljati vidike zadovoljstva z delom.

Med odnosi v procesu v smislu nematerialnega nagrajevanja iz delovnega razmerja so bili izpostavljeni odnosi s sodelavci, samoiniciativnost, ustvarjalnost in fleksibilnost. Zanimivost dela v procesu je priložnost za izboljšanje in napredek v delovnem procesu, s čimer pa je potrebna preureditev in sprememba sedanjega sistema nagrajevanja v procesu dela.

Med delovni pogoji so najpomembnejši obveščanje o dogodkih, organizacija dela, delovne razmere in možnost napredovanja. Čeprav so delovne razmere ugodno ocenjene, so zaposleni najmanj zadovoljni z možnostjo napredovanja in s sistemom nagrajevanja ter z obveščanjem o dogodkih v podjetju in notranjim komuniciranjem.

Pri zaposlitvi in materialnem nagrajevanju iz delovnega razmerja so zaposleni izpostavili sistemizacijo delovnih mest, plačo in v manjši meri organizacijo dela. Za povečanje uspešnosti poslovanja podjetja je pomembna uspešna trženjska dejavnost, ki temelji na ustrezno izvedenih analizah stanja na trgu in konkurenčne sposobnosti v primerjavi z drugimi bolj in manj razvitimi trgi, da se zadrži obstoječe in pridobi nove porabnike za obstoječe storitve, njihovo izpopolnjevanje in razvijanje novih storitev.

Za stalno izboljševanje sistema kakovosti je potrebno razvojno in kadrovsko načrtovanje in strateško vodenje razvoja in izobraževalno-kadrovskega načrtovanja. Za izboljšavo prepoznavnosti na trgu je potreben usmerjen pristop tržnega komuniciranja in seznanjanja upravičenih odjemalcev z novimi produkti in paketi podatkovnih in svetovalnih storitev.

Ugotovili smo medsebojno povezanost dejavnikov motivacija in zaupanje, ugled in sodelovanje ter vodenje managerske sposobnosti in socialna varnost. Pri motivaciji in zaupanju so se potrdili pomembni motivacija, svoboda in samostojnost pri kreativnem delu ter ocena zaposlenih neposrednega vodje. Pri ugledu in sodelovanju so pomembni ugled dela in soodločanje zaposlenih pri delu in poslovanju. Vodenje, managerske sposobnosti in socialna varnost so tesno povezani z načrtovanjem organizacije službe, prenašanjem čustvenih psihičnih obremenitev v stresnih situacijah, sposobnost ustnega komuniciranja in razumljivost izražanja ter stalnost zaposlitve, ki zagotavlja socialno varnost. Anketirani opozarjajo na porajajoče psihične pritiske in občutja prenašanja čustvenih obremenitev v stresnih situacijah, ki jih prinaša drugačen način pri trženju in konkurenci, ki ga je prinesla liberalizacija trga z električno energijo, pri čemer možnosti strokovnega razvoja še niso izčrpane. Upravljanje z merjenjem, načrtovanjem in organiziranjem organizacijske klime pridobiva na pomenu, saj okolje organizacij postaja vse bolj nepredvidljivo, dinamično in z višjo stopnjo tveganj. Tudi v organizacijah z močno tehnično infrastrukturo in informacijsko podporo dobra organizacijska klima pomembno vpliva na motiviranost in zadovoljstvo zaposlenih in uspešnost poslovanja podjetja.

## Literatura

- Adizes, I. (1996). *Obvladovanje sprememb*. Ljubljana: Gospodarski vestnik.
- Energetski zakon (EZ) (1997-2007). Uradni list RS, št. 79/1999, št. 8/2000, št. 26/2005, št. 27/2007.
- Fuller, J. (1997). *Managing Performance Improvement Projects*. San Francisco: Pfeiffer.
- Gorišek, K. (2003). Korporacijska kultura grozda kot kultura projektne odličnosti. Slovenija dežela projektne managementa: zbornik prispevkov. *Projektne forum ZPM 2003*. Maribor, 11. - 13. junij 2003. Maribor: Slovensko združenje za projektne management.
- Ivanuša Bezjak, M. (2006). *Zaposleni – največji kapital 21. stoletja*. Maribor: Pro-Andy.
- Mihalič, R. (2007). *Upravljam organizacijsko kulturo in klimo*. Škofja Loka: Zbirka Managerjeva orodja.
- Musek Lešnik, K. (2003). *Od poslanstva do vizije zavoda in neprofitne organizacije: kako razjasniti vrednote, opredeliti poslanstvo in ustvariti vizijo zavoda ali neprofitne organizacije za nove čase*. Ljubljana: Inštitut za psihologijo osebnosti.
- Norušič M.J., (2002). *SPSS 11.0 guide to data analysis*, Prentice Hall, Upper Saddle River (N.J.).
- Kachigan S.K., (1991). *Multivariate Statistical Analysis: A Conceptual Introduction*, Radius Press, New York.
- Pagon, M. & Pagon, A. (1993). Predpogoji in značilnosti uspešnih sistemov plačila po znanju. *Organizacija in kadri*, 26(6): 416-427, 26(7/8): 506-514.
- Papler, D. & Bojnec, Š. (2006). Pomen managementa na dereguliranem maloprodajnem trgu električne energije v Sloveniji. *Management*, 2(2): 115-129.
- Papler, D. & Bojnec, Š. (2007). Electricity Supply Management for Enterprises in Slovenia. *International Journal of Management and Enterprise Development*, 4(4): 403-414.
- SUDEL (2010). *Association of Transmission System Operators in the South-East European Interconnected System*. <http://www.sudel.org>.
- Škarabot, A. (2003). Projektne odličnosti in slovenska podjetja. Slovenija dežela projektne managementa: zbornik prispevkov. *Projektne forum ZPM 2003*. Maribor, 11. - 13. junij 2003. Maribor: Slovensko združenje za projektne management.
- Tavčar, M. (2002). *Strateški management*. Koper: Visoka šola za management.
- UCTE (2010). *Union pour la Coordination du Transport de l'Electricite*. <http://www.ucte.org>.
- Vrčko, M. & Erjavšek, B. (1998). *Drugačen način organiziranja podjetij ali morganiziranje podjetja po delovnih sredinah – temeljnih enotah dela ali mini družbah*. Ljubljana: Biro Praxis.
- Vrčon-Tratar, N. & Snoj, B. (2002). *Pomen organizacijske kulture za kakovost izvajanja storitev v bančnih ustanovah*. Koper: Visoka šola za management.
- Zakon o spremembah in dopolnitvah Energetskega zakona*, (2004-2010). Uradni list RS, št. 51/2004, št. 118/2006, št. 70/2008, št. 22/2010.
- Zupan, N. (2001). *Nagradite uspešne*. Ljubljana: GV Založba.

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menedžer« za prvonagrajeni »sonaravni projekt 2008« partnerskega razvojno izobraževalnega modela pri izgradnji sončne elektrarne Strahinj. Maja 2009 je prejel »Trimovo raziskovano nagrado« za magistrsko delo Primerjava razvojnih učinkov obnovljivih virov energije, oktobra 2009 pa državno nagrado za trajnostni razvoj družbe. Aprila 2010 je prejel posebno priznanje za razvoj in promocijo okolju prijazne proizvodnje električne energije Ministrstva za gospodarstvo in Centra za energetske učinkovitost Inštituta Jožefa Štefana na 12. Dnevih energetikov. Objavil večje število samostojnih prispevkov, vključno samostojno monografijo.

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**Vlado Dimovski,  
Miha Marič,  
Jasmina Žnidaršič,  
Marko Ferjan,  
Miha Uhan**

## Unemployment and Government's Subsidizing

Unemployment has become more and more pressing matter nowadays. Governments all across the world are implementing policies to increase the employment rates back to the levels before the economic downturn. One of the most important policies implemented by countries governments were employment subsidies, which means that companies got government funding when employing and also that private citizens had the possibility for entrepreneurship stimulus packages. The scope of our study was to determine how the gross domestic product and the government's subsidizing on a country's level affect the number of unemployed on a country level. We have conducted the empirical part of our study on the case of Slovenia and found out that gross domestic product has a bigger effect on the number of unemployed than government's subsidies.

**Keywords:** unemployment, employment, crisis, government subsidizing, GDP

**Dragan Čočkalo,  
Dejan Đorđević,  
Zvonko Sajfert**

## Customer Satisfaction and Acceptance of Relationship Marketing Concept: An Exploratory Study in QM Certified Serbian Companies

Satisfying customers and other groups of interest is the key output of relationship marketing. This paper presents the parts of the research that had been carried out by

the first quarter of 2008 which included 84 quality management (QM) certified companies and 37 experts from Republic of Serbia. The goals of the research, related to this article, were: firstly, to explain customer satisfaction from the standpoint of relationship marketing concept; secondly, to show that relationship marketing concept is/can be accepted and implemented in QM certified Serbian companies – in order to integrate customer satisfaction and relationship marketing in QM concept.

**Key Words:** the process of customer satisfaction, QM, RM, Serbia

**Aleš Ahčan**

## Testing the Sustainability of Growth of the LJSEX in the January 2000 to May 2010 period

In this paper we analyse the behaviour of the LJSEX, the main index of the Ljubljana Stock Exchange, in the period from January 2000 till May 2010. More precisely, we test for the presence of bubbles and antibubbles and try to determine whether or not a bubble could have been predicted (both the formation and the date of the bubble burst). Second, we also employ techniques used to model antibubbles to forecast the future behaviour of the LJSE index. Besides modelling index dynamics for the aforementioned period, we also seek to determine the factors that led to the bubble forming and later bursting. We find that the bubble could have been forecasted at least several months in advance. On the other hand, a very precise date of the crash seems harder to identify. By more closely analysing the interplay between interest rates, credit activity and the LJSEX, we conclude that there is a clear connection between decreasing interest rates, increased credit activity and the formation of a stock bubble. If there is a clear correlation between the early phase of a bubble and increased credit activity of the banking sector, the link between the end of the bubble and the restriction of credit activity is less pronounced. By fitting the extended antibubble model from (Johansen

1999<sub>a</sub>) we obtain the values of parameters that give us some indication of the future behaviour of the LJSEX. Based on these results we conclude that in the next few years we are likely to experience a period of increased volatility with no clear increasing or decreasing growth pattern.

**Keywords:** bubbles, antibubbles, LPPL, forecast

**Suzana Laporšek,  
Primož Dolenc**

## Flexicurity in the European Union and Slovenia

The purpose of this paper is to present the characteristics of labour markets in the EU Member States, with special emphasis on Slovenia, especially in terms of design and implementation of flexicurity policies. The empirical analysis points on existence of considerable differences in flexibility and security in the labour market between EU Member States. The least successful at simultaneous implementation of flexibility and security at labour market are eastern and Baltic Member States, showing rigid labour markets at very low security of employees. Even more rigid labour market have Mediterranean States (including Slovenia), however they attain higher employment security. The most balanced flexicurity policies, thus ensuring high levels of flexibility and security, can be found among Scandinavian States. The latter, together with the United Kingdom and Ireland that show the highest labour market flexibility, are characterised with the highest GDP per capita among the EU Member states, high employment rates and low rates of long-term unemployment. The Slovenian labour market is very rigid with generous social security system. In terms of flexicurity it faces many challenges, among them low flexibility of contractual arrangements, low expenditures for active employment policies and suitability of the unemployment benefits system.

**Keywords:** flexicurity, labour market, European Union, Slovenia.

**Drago Papler, Štefan Bojnec**

## **Organisation of Working Processes and Satisfaction of Employees in the Electricity Distribution Enterprise**

Organisation of working processes and satisfaction of employees are important factors of enterprise efficiency. This

paper presents the in-depth survey results between the employees in the enterprise about opinions on organisation of working processes on relations and satisfaction of the employees. They are related to good relations between the employees and working conditions for employees. Less satisfactory are found organisation of informing of employees, level of wages and opportunities for promotion. The employees spare the remuneration according to the achievements in the market environment. The multivariate factor analysis indicates that for the employees are important factors of motivation and trust, image and cooperation between the

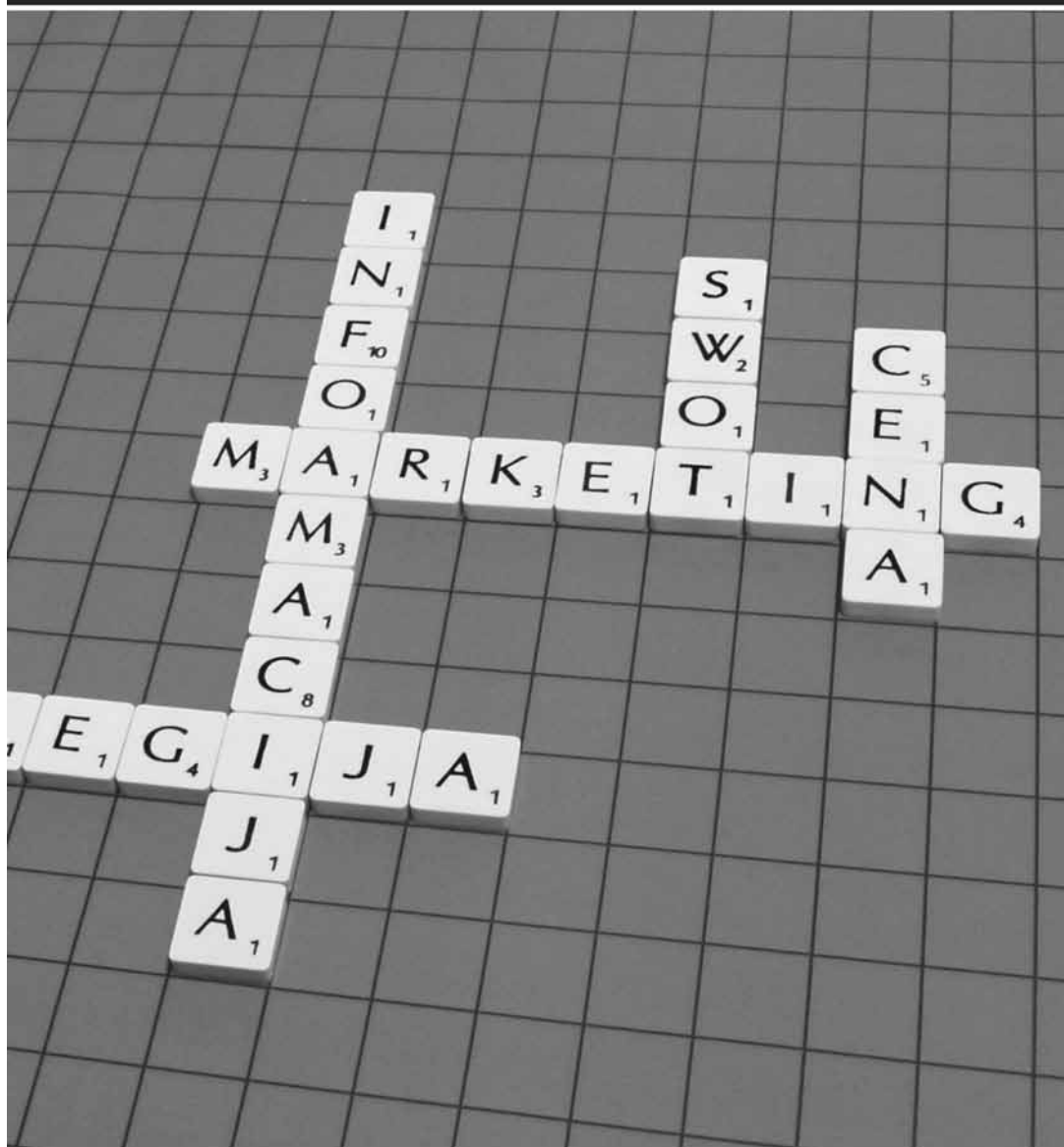
employees as well as the leadership and managerial abilities for successful business operation and for social security of employees. Deficient is investment into the human capital to improve abilities of employees for programming and organisation of methods and working operations as well as for improvements of working climate and incentives for introduction of new ways of motivation and management of business conduction.

**Keywords:** employees, organisation, satisfaction, factor analyses



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