Suggested citation:
Pupavac, D., Pavlić Skender, H., & Skendžić, A. (2015). Employment in distributive trade: Croatian experience and expectations. *International Entrepreneurship Review* (previously published as *Przedsiębiorczość Międzynarodowa*), 1(2), 75-82.

Employment in distributive trade: Croatian experience and expectations

Drago Pupavac

Polytechnic of Rijeka
Business Department
Trpimirova ul. 2, 51000, Rijeka, Coratia
e-mail: drago.pupavac@veleri.hr

Helga Pavlić Skender

Faculty of Economics, University of Rijeka
Department of International Economics
Ivana Filipovića 4, HR-51000 Rijeka, Croatia
e-mail: helga.pavlic.skender@efri.hr

Aleksandar Skendžić

Polytechnic of "Nikola Tesla", Gospić
Department of Information and Communicatin Sciences
Bana Ivana Karlovića 16, 53000 Gospić, Croatia
e-mail: askendzicwireless82@gmail.com

Abstract:

In Croatia, distributive trade is one of the most important economic sectors. The direct contribution of distributive trade to GDP in Croatia was 9,6% of total GDP in 2013. Another important fact is that distributive trade is a labour intensive industry. In Croatia, where problems such as high rate of unemployment, public debt, unfavourable trade balance systematically and cautiously planned distributive trade development plays an important role in the country's economy. It employs 205,849 people or 15,3% of the total labour force in Croatia. Economic crisis has diminished the importance of distributive trade in the creation of new jobs. Number of employees in this industry so decreased by 23.8 percent compared to 2008. Therefore, the main purpose of this research is to examine the relationship between the Gross Domestic Product(GDP), number of total employment and the number of distributive trade employees of the Republic of Croatia for periods 2000-2014. The methods of correlation and regression analyses are used to determine the possible contribution of trade sector as an economic activity in solution of the unemployment problem in Croatia by 2030. Data analysis and numerical calculations are performed using *Statistical* software.

Keywords: Croatia; employment; distributive trade; forecast
JEL codes: J21, J49

1. INTRODUCTION

Employment refers to the number of workplaces in one economy, economic sector or particular economic activity over a year. Employment in distributive trade shows the national economic structure and the level of human resource engagement and allocation. Distributive trade represents a significant economic activity within national economy (Knego, 2004). Its importance is commonly indicated by its contribution to the national GDP and labour force employment (Slabinac, 2014).

In periods of economic crisis distributive trade shows greater sensitivity to market events (Pupavac, 2014), in a way that trade companies quickly reduce labour costs in order to maximize profits or minimize losses, because that is the easiest way to make cuts in the short term. The reduction of salaries and/or downsizing them seems as an efficient solution so as to maintain market position of trade companies (Pupavac, 2015).

Accordingly, the objective of this paper is to evaluate the effects of the distributive trade and to point a solution of the unemployment problem in the post-crisis perspective. To achieve the intended goal, numerous scientific methods were used in various combinations, including statistical methods of regression and correlation analysis. The obtained insights could help trading companies and managers at all levels as a basis for calculating an estimated number of employees in the distributive trade.

2. RESEARCH PROBLEMS AND MTHODOLOGY

The labour market is a complex and important area of economic and social subsystems because it validates workforce and determines working conditions, amount of monetary compensation, employment levels, job security, dynamics and structure of employment, social division of labour, labour mobility, unemployment dynamics and the like. Economists agree that a certain unemployment rate should always exist. Low unemployment is not a big problem for a country. Even the most developed countries have a number of people of working age who are not employed, at any time. However, when the unemployment rate exceeds a certain limit and remains high year after year, it becomes a major problem, and it is usually a symptom of other economic disorders.

In 2008, arguably the greatest global financial and economic crisis since the Second World War happened, with consequences influencing economies of the EU-27 to a greater or lesser extent. In Croatia, the highest GDP decline was recorded in distributive trade and transport sectors. In the aforementioned sectors in 2009 there was a decline in unemployment compared to 2008. The share of distributive trade in the total number of employees declined from 17.36% to 15.33%, in

transport from 5.47% to 5.41%.The average number of employees in distributive trade(EDT) in 2014 has been reduced by 23,73% since 2008. In comparison, overall employment (TE) in the same period decreased by 13,68 %. This means that in times of employment decline, the number of distributive trade employees falls faster (cf. Figure 1.).

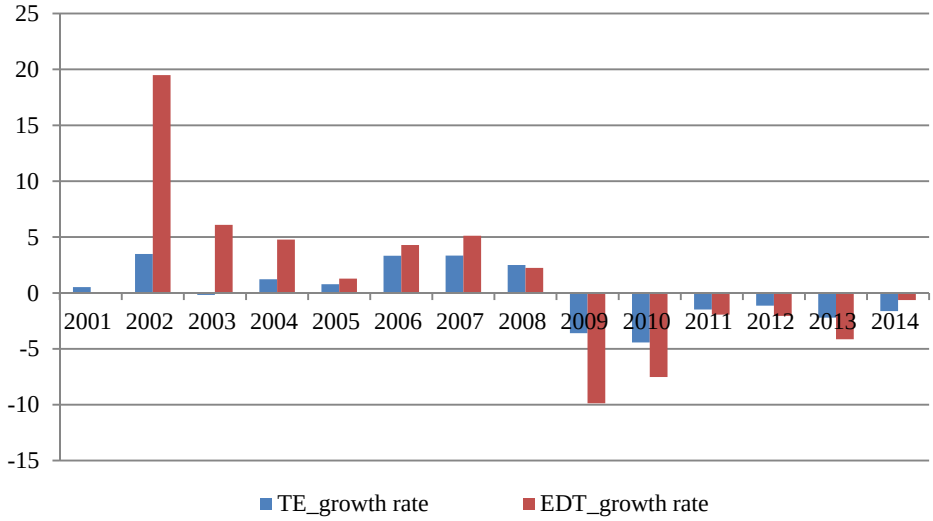

Figure 1. Interrelation of annual growth rates of total employment and distributive trade employment from 2000 to 2014
Source: own study on the basis of Statistical Yearbook of the Republic of Croatia 2015.

There are 5.5 million operating business entities in the distributive trade within the EU, that is, every fourth business is registered in trade. In Croatia, more than a quarter of businesses is registered in trade, or 26,03% (Anić, 2013). Number of employees in distributive trade in Croatia and the EU indicate that distributive trade is the leading and second largest employer (Dunković, 2014). According to the Central Bureau of Statistics, more than 15 % of all employees work in distributive trade, while in the EU that share is 13% or 29 million people.

Negative economic trends had a negative effect on Croatian distributive trade. Reduction in real income and purchasing power had a negative impact on employment trends within the distributive trade. Drop in employment in distributive trade has been intensified since the beginning of crisis. From 2008 to 2014, 64.063 positions in distributive trade were lost. Number of employees in trade continues to drop in 2015 – in January 2015 it dropped by 2,8% in comparison to January 2014, and in retail by 1,8%.

However, this is not unusual, since retail is labour-intensive business and in conditions of low demand retailers reduce the number of employees to rationalize labour costs and operating expenditures. In times of positive economic growth ratio of the total number of employees and number of employees in distributive trade is

declining, while in times of negative economic growth this proportion is growing (cf. Figure 2.).

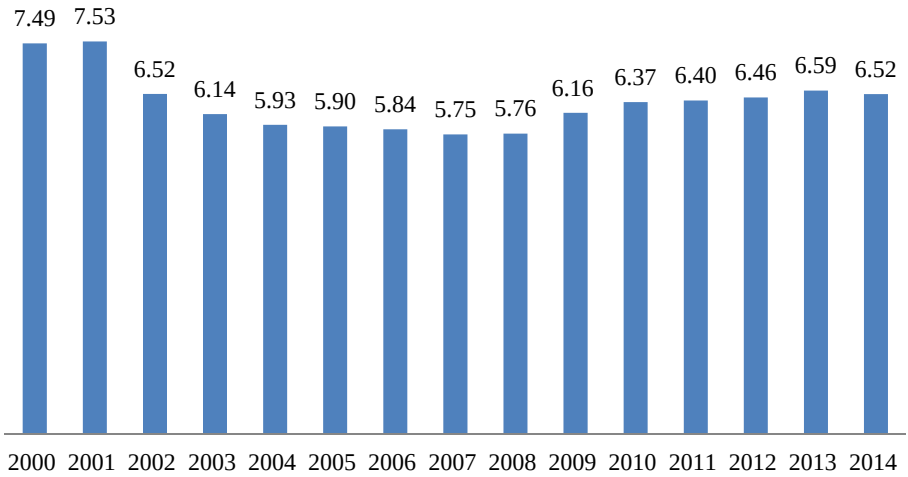

Figure 2. Ratio between total employment and employment in distributive trade
Source: own study on the basis of Statistical Yearbook of the Republic of Croatia 2015.

Managers of trading companies are faced with an important issue concerning planning of human resources: how are employment in the distributive trade, national economy and total employment exactly correlated? To answer this in a scientific manner, this study will explore the interdependence between the number of employed in the distributive trade, gross domestic product and total employment in Croatia using data from Table 1.

In order to make an objective forecast the number of employees in distributive trade in Croatia, a theoretical model should be defined first. This study investigates dependence the number of employees in distributive trade (EDT) as the dependent variable and the number of total employees (TE) and gross domestic product (GDP) as the independent variables. Accordingly, a model to estimate the number of employees in distributive trade can be written as a function:

$$EDT = f(GDP, TE) \tag{1}$$

where:

EDT – number of employees in distributive trade;
GDP – gross domestic product;
TE – total employees.

Variable EDT is a dependent variable, while GDP and TE are independent or explanatory variables.

Supposing that the number of employees in distributive trade depends on the GDP and the number of total emploees, its linear form would be as following:

$$EDT = b_0 + b_1 GDP + b_2 TE \tag{2}$$

Table 1. Movement of GDP, total employment and the number of employed in the distributive trade from 2000 to 2014

Year	GDP (mill.HRK)	Total employment (000)	Number of employed in the distributive trade (legal entities)
2000	239.9	1341	179 000
2001	250.4	1348	179 000
2002	263.5	1359	213 895
2003	274.8	1393	226 940
2004	285.2	1409	237 768
2005	297.5	1420	240 827
2006	311.8	1468	251 155
2007	329.8	1517	264 008
2008	344.1	1555	269 912
2009	324.1	1499	243 277
2010	320.2	1432	224 980
2011	320.2	1411	220 633
2012	314.4	1395	216 112
2013	311.3	1364	207 153
2014	310.1	1342	205 849

Source: Statistical Yearbook of the Republic of Croatia 2013., (online data at www.dzs.hr , PC-Axis) (access: 5/10/2014)

3. RESULTS AND DISCUSSION

Based on data given in Table 1, correlation analysis was conducted (cf. Table 2). It shows a high interdependence between the number of employed in the distributive trade and GDP (r=0,73), and between the number of employed in the distributive trade and the total employment (r=0,90).

Table 2. Interdependence of the number of employed in the distributive trade, GDP and total employment

	Means	Std. Dev.	GDP	TE	EDT
GDP	299.8	30.55	1.000000	0.736234	0.735542
TE	1416.9	66.60	0.736234	1.000000	0.907870
EDT	225 367.3	26 873.73	0.735542	0.907870	1.000000

Correlations (Distributive_trade.sta) Marked correlations are significant at p < ,05000 N = 15 (Casewise deletion of missing data)
Source: own calculation.

Since there was a high interdependence between the number of employed in the distributive trade, GDP and total employment, regression analysis was also conducted using data from Table 1 (cf. Table 3).

Regression analysis between the number of employed in the distributive trade (EDT), GDP and total employment (TE) has resulted with the following model of multiple linear regression:

$$EDT = -270\,631 + 129 \cdot GDP + 323 \cdot TE \qquad (3)$$

Table 2. Interdependence of the number of employed in the distributive trade, GDP and total employment

	Beta	Std. Err. of Beta	B	Std. Err. of B	t(12)	p-level
Intercept			-270631	72631,68	-3,72607	0,002895
GDP	0,146602	0,173764	129	152,83	0,84369	0,415345
TE	0,799936	0,173764	323	70,12	4,60359	0,000607

Regression Summary for Dependent Variable: EDT (Distributive_trade.sta) R = 0.91327418 R2 = 0.83406972 Adjusted R2 = 0.80641467 F(2.12) = 30.160p
Source: own calculation.

According to regression analysis (cf. Table 3), it can be concluded that there is a statistically significant correlation between the number of employed in the distributive trade, GDP and total employment ($R = 0.91$; $F(2.12) = 30.16$; $p < 0.01$). The correlation is positive, indicating that an increase in the number of employees in distributive trade is connected with the number of total employees (TE) and the GDP. Application of the mentioned model for planning the movement of the number of employees is shown by Figure 3.

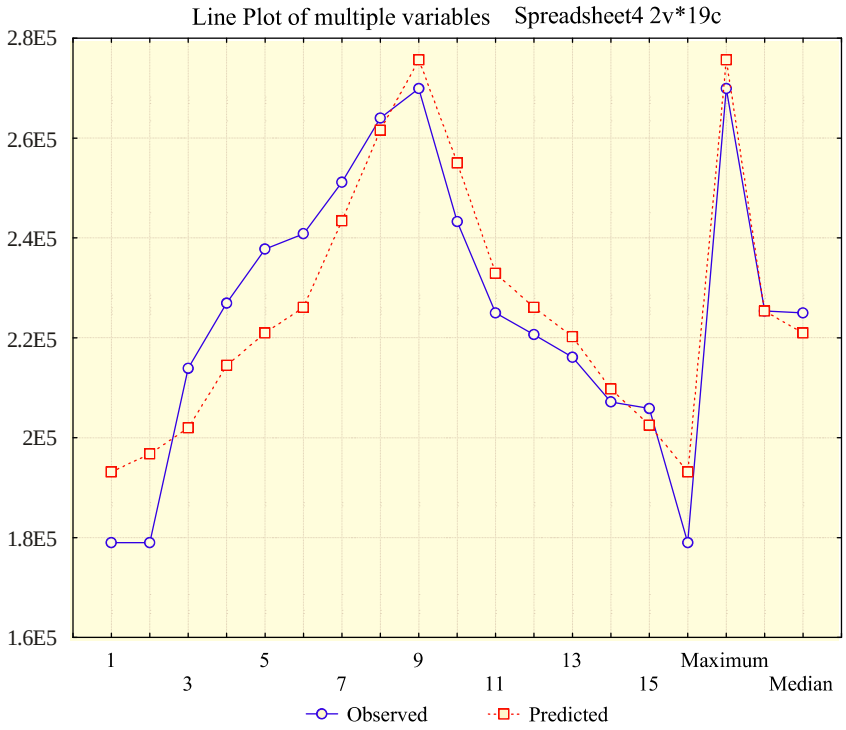

Figure 3. Comparison of results obtained by using econometric model and real data on the movement of the number of employed in the distributive trade in Croatia from 2000 and 2013
Source: own calculation.

Based on the given model (3), an estimate of the number of employees in the Croatian distributive trade by 2025 was made. It seems appropriate to assume that the considered variables – the number of total employees and GDP – will increase in the coming period, so if we anticipate that the average growth rate of GDP will grow at an annual rate of 2% and the number of total employees will grow at an annual rate of 0,81%, the number of employed in the Croatian distributive trade by 2030 will also be on the rise (as shown in Table 5). Assumptions on the average growth rates of GDP and the total number of employed were made based on average growth rates in times preceding the recession. From 2000 to 2009, the average growth rate of the GDP was 4.61%, and of total employment 1.87%. This means that for an increase in total employment by 1%, the growth rate of GDP had to be 2.46%.

Table 4. Estimate of the total number of employees in the Croatian distributive trade by 2030

Year	Number of employees
NE_{2017}	215 954
NE_{2019}	224 894
NE_{2021}	234 020
NE_{2023}	243 337
NE_{2025}	252 851
NE_{2027}	262 566
NE_{2029}	272 488
NE_{2030}	277 528

Source: own calculation.

4. CONCLUSIONS

Distributive trade is a significant source of employment. It employs 13% of the total labour force in the European Union. In Croatia, about 205 000 people are employed within the distributive trade or 15,3% of the total workforce. This study proves the statistically significant correlation between changes in the number of employees in distributive trade as the dependent variable and the number of total employees and GDP as independent variables. Estimated number of employees in the Croatian distributive trade by 2030 is calculated according to average annual growth rates of GDP of 2% and the number of total employees of 0.81%. According to a multidimensional linear regression model and assuming the average annual growth rate of the total number of employed and the GDP, we can estimate that Croatia will reach the 2008 number of employed in distributive trade in 2029. The main limitations of this study stems from the fact that employment in distributive trade is seen as a dependent variable of only two independent variables. In the future researches in the model for estimate the numbers of employees in distributive trade should be included the greater number of variables, for example the impact

of technology, sales formats, development of e-commerce, purchasing power and demographic factors.

REFERENCES

Anić, I.D. (2013). *Sektorske analize*, Ekonomski Institut Zagreb, 2, 20.

Anić, I.D. (2015). *Sektorske analize*, Ekonomski Institut Zagreb, 4, 36.

Dunković, D. (2014). Labour Force Prospects in Croatian Trade Sector. In N. Knego, S. Renko & B. Knežević (eds.), *Proceedings of Trade Perspectives 2014* (72-83). Zagreb: Faculty of Economics and Business.

Knego, N. (2004). Značaj distributive trgovine u gospodarstvima EU i Republike Hrvatske, *Suvremena trgovina*. 4/2004, 28.

Pupavac, D. (2014). Management of Human Potentials in Trading Companies – Cost or Developmental Aproach. In N. Knego, S. Renko & B. Knežević (eds.), *Proceedings of Trade Perspectives 2014* (84-97). Zagreb: Faculty of Economics and Business.

Pupavac, D. (2015). Employment Perspectives in Croatian Trade Sector. *Montenegrin Journal of Economics*, 11(1), 101-105.

Slabinac, M. (2014). Modern Development in Distributive Trade. In Z. Segetlija (ed.). *Business Logistics in Modern Management* (81-94). Osijek: Faculty of Economics.

Statistical Yearbook of the Republic of Croatia, different years from http://www.dzs.hr.