# The Impact of Labor Taxation on Job Creation and Unemployment

*Tanja KOSI – Štefan BOJNEC**

**Abstract**

*This paper investigates the relationship between labor taxation and labor market performance in the European Union (EU), with special attention to the new EU member states. The impact of the labor tax wedge on employment/ unemployment rates and their growth are analyzed. We employ ordinary least square (OLS) regression framework, which confirms very weak positive association between labor taxes and unemployment rate in the EU. Panel regression framework confirms statistically significant negative association between tax wedge on labor costs and employment growth in the EU as a whole, though the correlation coefficient is rather small to make conclusions. The negative impact of labor taxation on employment growth tends to be larger in the eight EU transition countries than in the rest of the EU.*

**Keywords:** *labor taxation, labor market performance, employment, EU panel data*

**JEL Classification:** E24, J32, H24, H31, H32

## 1. Introduction

One of the common efforts of the European Union (EU) member states is combating unemployment and creating more and better jobs. The European Employment Strategy (EES) is envisaged to create a new environment for coordinated response to employment problems in Europe. One of the policy areas, in which the EES guidelines call for policy shifts at the national level, is taxation policy. The guidelines encourage the EU members to make taxation systems more employment friendly by reducing overall taxes and taxes on labor, especially on relatively unskilled and low-wage labor.

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In the last fifteen years there has been a range of studies analyzing the effects of labor taxation on labor market performance in the OECD (Organisation for Economic Cooperation and Development) and in the old EU (EU-15) countries. Most of these researches found significant impact of labor taxation on employment.

The focus of this article is to test the relationship between labor taxation and labor market performance in the EU member states, with the special attention to the new EU member states (NMS-10). We test the hypothesis whether and how taxes levied on employed labor influence employment/unemployment rates and their growth in the EU countries. We employ ordinary least square (OLS) regression framework. We expect negative association between the level of taxes levied on labor and job creation/employment, and positive association between the level of taxes levied on labor and unemployment rate.

The article is organized as follows. Section 2 presents theory and summary of main studies conducted recently on the impact of labor taxation on labor market performance. Section 3 presents basic statistics and trends in labor taxation in the EU with special attention to the NMS-10. Section 4 is devoted to testing causalities between labor taxation and employment/unemployment rates and their growth on cross-country basis using panel regression analysis. The final Section 5 concludes.

## 2. The Impact of Labor Taxation on Labor Market Performance

Taxation system has a potential impact on job creation and therefore on labor demand on one side and on labor market participation and thus on labor supply on the other. The decision of a potential employer about hiring of workers is based on a gross wage as the total price for labor input and not on the net wage the employee takes home (von Mises, 1996). If laws or business customs force employers to make other expenditures besides wages to the employees, then it is more likely employers will try to shift additional tax burden on to the employees or will lower their demand for labor. At any given real wage taxes on labor income increase labor costs causing a shift of the labor demand curve downwards and thus reduce employment. When taxes on labor increase more than taxes on capital, the price of labor rises relative to capital what tend to detriment labor demand. Higher real labor costs lower the international competitiveness of a country. This can be caused by increases in employer's social security contributions or payroll taxes (Carone and Salomäki, 2001).

Labor suppliers' decisions to enter or exit from the labor market, their work efforts and hours worked are also responsive to tax changes. Tax sensitivity

seems to be more important in terms of market participation than in terms of decision how much to work (Carone and Salomäki, 2001). Tax-benefit system can have impacts on these decisions through two main channels. First, by changing the relationship between benefits and earnings what affects labor market participation and can induce possibility of unemployment trap.[1] Second, by lost of benefits as disposable income rises what can induce poverty trap. Taxes on labor tend to discourage the individual's labor supply. Taxation reduces worker's net income and changes the relationship between marginal product of labor and marginal value of leisure. Behavioral responses of workers to tax changes cannot be precisely predicted, since there is no single representative agent's elasticity. Elasticity of labor supply relative to tax changes depends on the marginal tax rates individuals face, their marital status, sex, age and type of a job (Carone and Salomäki, 2001).

How an increase in personal income tax rates or an increase in payroll tax rates are shared between employees and employers depends on price elasticity of labor supply and labor demand (Carone and Salomäki, 2001). According to Nickell (1997), an increase in labor taxes in a small open economy, with international capital mobility will be entirely borne by labor.

A range of studies that have focused on the effects of labor market institutions on labor market performance suggest that labor market institutions (employment protection, unemployment and welfare-related benefits, wage bargaining, bargaining structure, wage compression, employee rights, labor and product market regulation, and labor taxation) can explain a significant share of differences in labor market performance between countries. Main studies conducted in this research field during the last decade confirm the causalities between labor taxation and labor market performance (ECFIN, 2004). First, they suggest a negative effect of high marginal personal income tax rates on labor supply. Second, labor taxes positively affect unemployment, especially if higher labor costs are required to sustain welfare provision. This particularly holds in the case of the tax wedge considering payroll taxes, income taxation and in some cases also for consumption taxes. Third, more or less obvious are negative effects of tax wedge on labor costs on employment rates, which can be weakened by centralized wage setting. Fourth, labor supply of women is more responsive to tax changes than labor supply of men. This means elasticity of labor supply is greater for women than for men. Finally, considering wage setting behavior, the higher is the real wage resistance, the higher will be labor costs and the related employment loss (ECFIN, 2004; Checchi and Lucifora, 2002). Garibaldi and Mauro (1999) suggest

[1] Fitoussi et al. (2000) states that an increase of tax rates on labor would exacerbate quitting and thus lower employee valuations.

that a policy package including low taxation and flexible employment protection legislation is associated with high job creation. Most of these studies have been carried out for OECD countries.

There are also some important analysis on the impact of labor taxes on behavior and performance in the old EU-15 countries (e.g. Daveri and Tabellini, 2000; Arpaia and Carone, 2004). Daveri and Tabellini (2000) argue that the slowdown in economic growth and the increase in unemployment in Europe stem from higher labor taxes. An exogenous and lasting increase in labor costs reduces labor demand. Arpaia and Carone (2004) warn that the effects of labor taxes on labor market performance tent to be significant only in a short- or medium-term. In a short run there is probably some wage resistance, thus tax wedge on labor influence labor costs and consequently employment/job creation, as higher taxes can lead to higher gross wages. The final labor market income of a change in labor taxes depends on the institutional factors influencing labor and product market functioning. In the long run the effect of the labor tax wedge on overall equilibrium unemployment is limited. In the perfectly competitive model, taxes should be neutral, since labor supply is supposed to be vertical (Arpaia and Carone, 2004).

Lawson (2005) assessed tax wedges and analyzed the impact of the tax wedge on employment in eight of the new EU member states (Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Slovakia and Slovenia). He found that the relative burden for low wage earners is much higher in these eight countries than in the EU-15, what leads to negative employment consequences. The correlation between employment growth rate on one side and tax wedge and the growth of gross domestic product (GDP) on the other side is relatively strong according to Lawson's (2005) analysis. The correlation coefficient is estimated at 0.45 considering tax wedge for 67 percent average production wage earner.

## 3. Labor Taxation in the European Union

Taxes on labor represent the most important tax revenue source in the most EU countries. According to Eurostat's (2005) data, taxes on labor in 2003 amounted to 47.8 percent of total taxation and tend to be the main determinant of the level of overall tax burden. Labor taxes can be defined as the sum of direct and indirect taxes and social contributions (SSC) levied on employee's labor income.

There are two main indicators of total labor taxation in an economy: implicit tax rate (ITR) on labor as a macro indicator, which is based on Eurostat's methodology, and total tax wedge on labor costs as a micro indicator, which is based

on the OECD methodology.[2] ITR on labor measures the effective average tax burden on labor on the basis of national accounts. It expresses the revenue derived from the taxation of labor as a percentage of the total potential tax base afforded by labor.[3] It serves as a summary measure that approximates the average effective tax burden on labor in the economy. It does not show variation in effective tax rates across different wage levels and household types (Eurostat, 2005; Heijmans and Acciari, 2004). On the other hand, total tax wedge is calculated on the basis of the tax legislation and does not relate to the actual tax revenue. It represents the ratio of total labor taxes to total labor costs. Total tax wedge considering OECD methodology is calculated as the sum of personal income tax, employee plus employer social contributions and any payroll tax, expressed as a percentage of labor costs.[4] It can be calculated for various examples of households' types and representative wage levels and has from this aspect the precedence over Eurostat's ITR on labor. Both indicators measure effective tax burden on labor (as opposed to statutory tax rates), since they indicate a de facto rate to be paid (Eurostat, 2005; Lawson, 2004). When analyzing development patterns and present situation in labor taxation we consider both measures.

### 3.1. Recent Trends in Labor Taxation in the European Union

The EES calls the EU member states to make their taxation systems more employment friendly and in this manner exposes the reduction of the tax burden on labor, which has been showing an upward trend in the period 1970 – 1995.

From Figure 1 it is evident that taxes on labor, considering ITR as a summary measure, have not started to decline in the old EU-15 member states until 2000. Downward movements after the year 2000 are more convincing, but only until 2003, when the downward trend again occurred. Development in labor taxation for the EU-25 as a whole shows similar patterns as labor taxes in the EU-15. In 2003, prior to the accessions to the EU, labor taxes were a bit lower in the NMS-10 than in the EU-15. Countries contributing to this feature the most are Malta with ITR on labor of 22.4 percent and Cyprus with ITR on labor of 24.4 percent. Without considering these two low tax countries, the arithmetic average of ITRs on labor for the rest of NMS-10 amounts to 38.5 percent what is for 1.7 percentage

[2] OECD (2004) publishes annual data on total tax wedges for various examples of households' types and representative wage levels of production workers in the manufacturing industry.

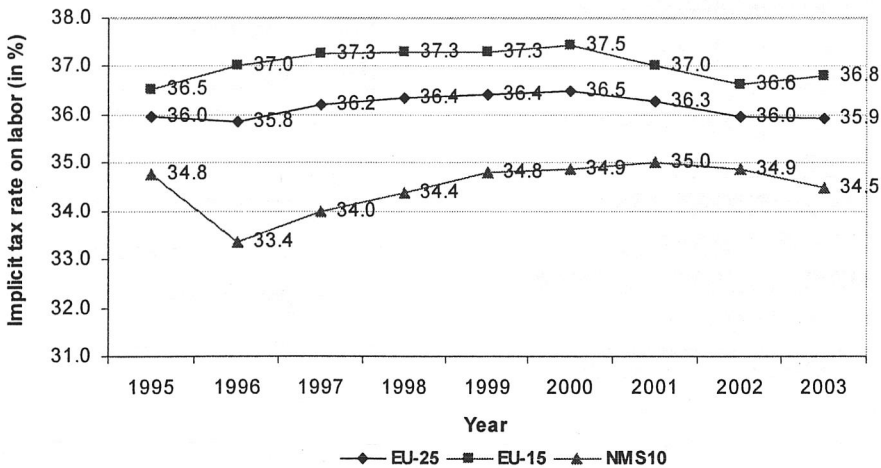
[3] ITR on labor is calculated as the sum of all direct taxes (personal income taxes), indirect taxes (payroll taxes paid by employer) and employees' and employers' social contributions levied on employed labor income divided by the total compensation of employees working in the economic territory (Heijmans and Acciari, 2004).

[4] Labor costs are defined as gross wage earnings plus employers` social security contributions and payroll taxes (OECD, 2004).

points higher than in the EU-25. Movement of ITR on labor in the NMS-10 is unsteady. After relatively sharp decline in 1996 taxes have shown increasing tendency up to 2001, when weak reversed negative tendency occurred. But the reductions of tax burden on labor were prominent only in Slovakia by 5.1 percentage point decrease in the period 1999 – 2003 and in Hungary by 3.5 percentage point decrease in the same period. These latter movements could provide an optimistic signal for certain reductions in the future movements of labor taxes. In 2004 Slovakia introduced flat tax rate for personal income tax (PIT) and corporate income tax (CIT). The PIT was reduced and set at 19 percent to motivate high-income earners to increase labor supply. The CIT was reduced from 25 percent to 19 percent to lower taxation costs, increase international competitiveness and encourage domestic and foreign investments.

Figure 1

**Recent Development Patterns in Taxes on Labor in the EU in the Period 1995 – 2003, in %**




*Note*: EU-25 denotes all present 25 EU members, EU-15 the old EU members and NMS-10 denotes the new 10 EU members that joined the EU on May 1st 2004. Data for EU-25, EU-15 and NMS-10 represent arithmetic averages of ITRs on labor.

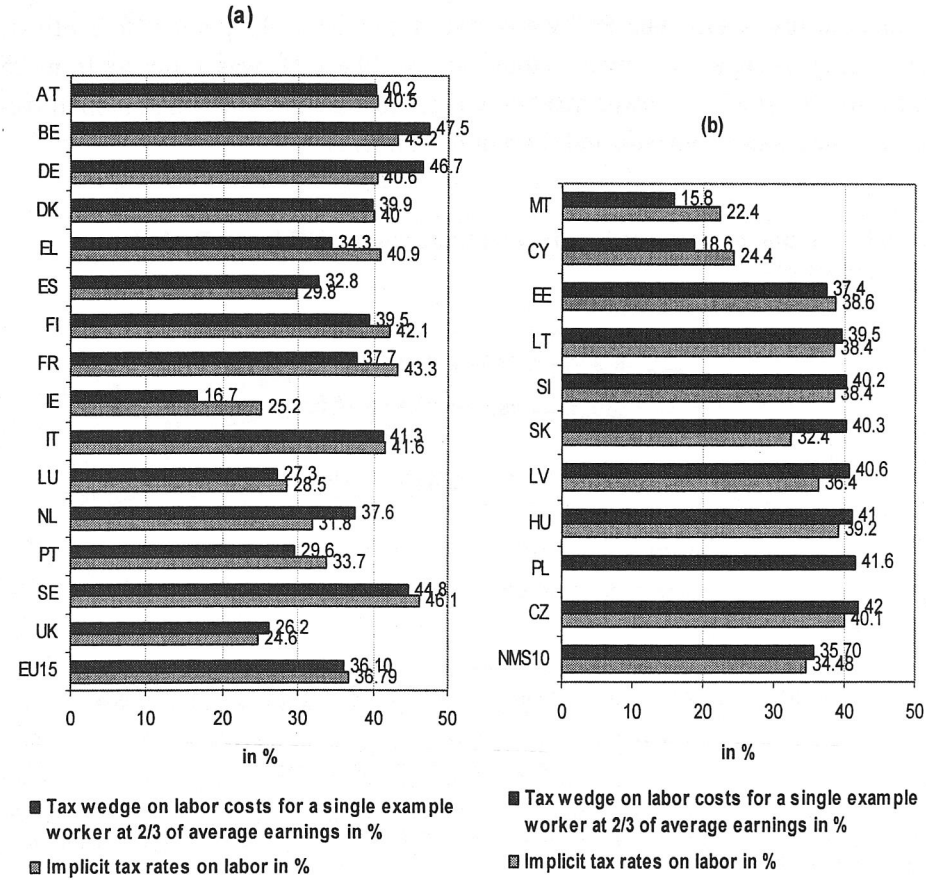
*Source*: Eurostat, 2005.

Tax changes and their levels vary across the EU member states. In some countries taxes on labor have declined (especially in Ireland, Hungary, and Finland, as well as in the most recent years in the Netherlands and Slovakia) or have remained at the relatively low level (Cyprus, Malta, and the United Kingdom – UK). However, in most other countries they have remained at the relatively high level. Therefore, the EES appears to have little impact on national tax policies of the EU member states. There is also a criticism of the EES employment guidelines

being too broad in possible reforms and too general without clearly defined quantitative targets as a ground for the EU members to avoid needed changes (Trubek and Mosher, 2001). Figure 2 presents ITR on labor and tax wedge on low paid for EU-15 countries on the left side (part a) and for NMS-10 on the right side (part b) of Figure 2 in 2003.

Figure 2

**Tax Wedges for a Representative Worker and ITRs on Labor in the EU Member States in 2003, in %**




*Note*: Tax wedge is calculated for a single individual without children at the income level of the average production worker. Tax wedge in Estonia is for 2002. There is no data available for ITR in Poland.

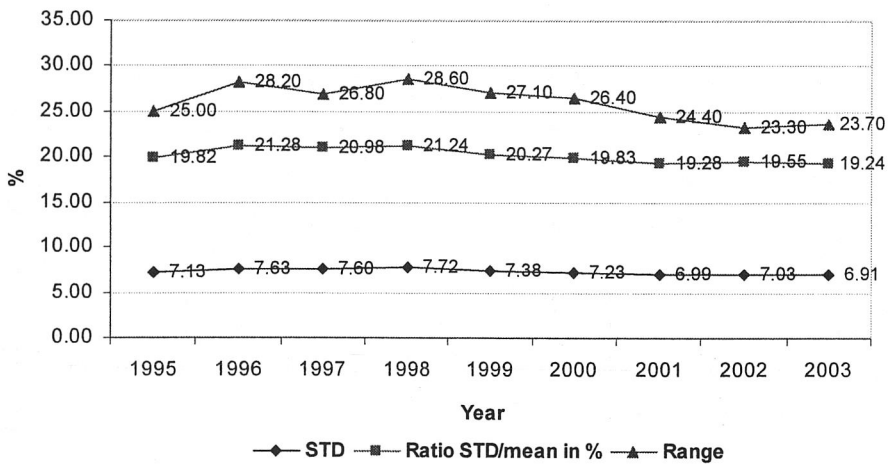
*Source*: Eurostat, 2005.

Tax wedge on low paid in an indicator used – beside ITR on labor – by the Eurostat (2005), which calculates tax wedge on the basis of OECD methodology only for a representative worker as a single person without children at income level of two thirds of APW.[5] Comparison between the macro indicator (ITR on labor) and micro indicator (total tax wedge for a representative worker) shows

a reasonably strong correlation (correlation coefficient of 0.88), but for certain countries there is an important gap between these two measures. The arithmetic average ITR on labor in the NMS-10 was at 34.5 percent in 2003, what is just 2.3 percentage point less than the average ITR on labor in the EU-15 (36.8 percent) in the same year. If we divide the EU countries into three groups considering both indicators of labor taxation, we can find out that the vast majority of the NMS-10 is ranked in the medium-tax class with Malta and Cyprus as two exceptions, which are placed in the low-tax class of countries next to Ireland and the UK (with ITRs on labor and tax wedges below 27 percent). Labor is most heavily taxed in Sweden, Belgium and Germany, where the simple average of indicators (ITR on labor and the tax wedge) exceeds 43 percents.

Figure 3 presents measures of the variability of ITR on labor. It can be noticed that there is no significant change in standard deviation of ITR on labor in the EU-25, whereas the range has been steadily decreasing since 1998 suggesting a slight convergence in labor taxation in the EU.

Figure 3
**Variability of ITR on Labor in the EU-25 in the Period 1995 – 2003**




*Note*: STD denotes standard deviation as a measure of how spread the data is around the mean value in each observed year. Ratio STD/mean value denotes coefficient of variability expressed in percents. Mean value for the EU-25 is calculated as the arithmetic average of ITRs on labor for the EU-25 countries. Range is the difference between the maximum and minimum ITR on labor in a single year in the EU-25.

*Source*: Eurostat, 2005.

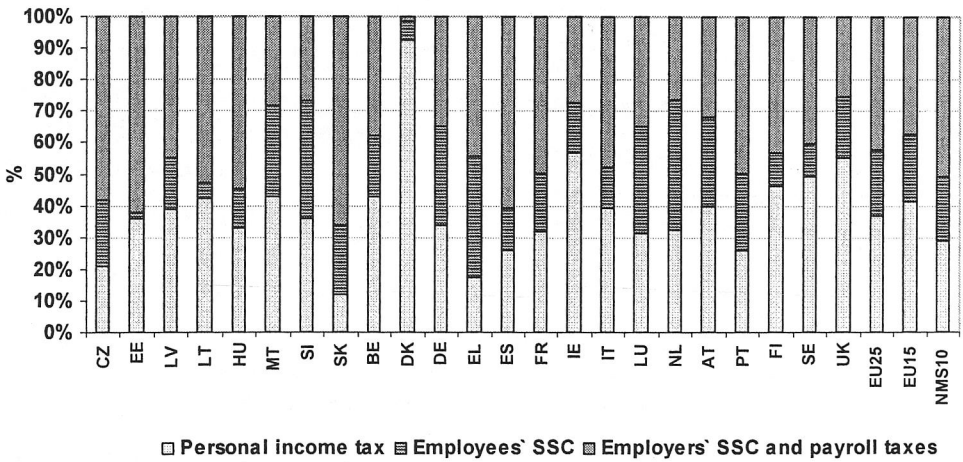
[5] Tax wedge on low paid represents tax wedge for single individuals without children at the income level of two thirds of the average production worker (APW). The same indicator is used in the framework of the EU Lisbon Strategy to estimate the potential impact of tax provisions on the labor market. OECD otherwise publishes tax wedges also for other income levels (income level of one-third, 100 percent, four-third and five-third of the APW) and also separately by marital status of a person and by number of children.

### 3.2. Decomposition of Taxes on Labor

The indicators of labor taxation comprise the following duties on employed labor income: direct taxes (personal income tax paid by employees), indirect taxes (payroll taxes paid by employers) and social security contributions (SSC) that are paid by employees and by employers. Figure 4 shows the structure of tax burden on labor in 2003 according to three components: personal income tax, employees' SSC and employers' SSC with payroll taxes. Our calculations for the EU-25 show that on average only 36.7 percent of the total labor taxes are collected in the form of personal income tax. The rest or 63.3 percent of labor taxes is collected in the forms of SSC paid by employers and employees and payroll taxes paid by employer. There are two countries that stand out the most. Denmark with the highest share of personal income tax and the lowest (almost negligible) share of employers` SSC in total tax on labor on one hand, and Slovakia with the lowest share of personal income taxation and the highest share of employers` SSC in total tax on labor on the other.

Figure 4

**Decomposition of Taxes on Labor (2003, in %)**




*Note*: Data for EU-25, EU-15 and NMS-8 represent arithmetic averages. Data for Poland and Cyprus are not available.

*Source*: Own calculation on a basis of Eurostat, 2005.

By analyzing the structure of SSC in the EU-25, we can find out that around two thirds of SSC is pertained to employers and around one third to employees. Countries that the most significantly stand out from this rule are Denmark, Slovenia and the Netherlands, where employees pay higher SSC than employers.

Employers in some countries pay beside SSC also other types of payroll taxes and different contributions from wages.

The average tax rate on labor in the EU-25 is relatively high according to international standards. Total tax wedge for a single individual without children at the income level of two thirds of the average production worker in the EU-25 amounts to 36 percent in 2003 (Eurostat, 2005 on the basis of OECD methodology), whereas tax wedge in the USA (27.1 percent) and Japan (26.1 percent) is prominently lower (OECD, 2004). To increase international competitiveness and to stimulate employment growth it is desirable to reduce or abolish especially payroll taxes, since they tend to hinder labor demand and job creation.

## 4. Analysis of Relationship between Labor Taxation and Employment and Unemployment Growth

This part of the article focuses on the relationship between labor taxation, employment and unemployment in the EU member states. We employ data for tax wedge on labor costs for single persons without children at income level of two thirds of the APW when analyzing its potential impact on employment and unemployment. The relationship between tax wedge on labor costs and employment rate (employment growth rate) is investigated by the use of scatter plots. Part a of Figure 5 suggest there is no clear association between tax wedge and employment rate in the EU-25 in the period 1996 – 2003, which holds for both, the old EU-15 and the NMS-10. Part b of Figure 5 contrary depicts clear but weak negative association between tax wedge and employment growth rate.

As seen from part c of Figure 5, there is a weak positive relationship (the correlation coefficient of 0.096) between tax wedge on labor and unemployment rate in the EU-25 in the period 1996 – 2004. The correlation coefficient between tax wedge on labor and unemployment growth rate is even lower at 0.003 as shown in part d of Figure 5. Therefore, we perceive a weak positive association between tax wedge on labor and unemployment rate but find no evidence for the association between tax wedge and unemployment growth rate.

To analyze the impact of labor taxation on labor market performance, we employ panel regression analysis with the following econometric model specification:

$$EMPLgr_{i,t} = \beta_0 + \beta_1 * TW_{i,t} + \beta_2 * TW_{i,t} * D_i + \beta_3 * GDPgr_{i,t} + \beta_4 * LPgr_{i,t} + u_{i,t}$$

where, $i$ and $t$ denote country and year and $u$ stands for stochastic disturbances as an unobservable random variable; *EMPLgr* denotes total employment growth rate, *TW* stands for tax wedge on labor costs for a single production worker at income level of two thirds of the average production worker, *GDPgr* denotes real gross domestic product (GDP) growth and *LPgr* stands for growth rate of

labor productivity per person employed. Moreover, we also introduce a dummy variable D in the interactive, or multiplicative, form (*D* multiplied by *TW*), to analyze whether the relationship between tax wedge on labor and employment growth differs between transition and non-transition countries. The dummy (*D*) denotes whether a country is a post-socialist country (dummy takes the value 1) or not (dummy takes the value 0). Namely, features of socio-economic systems of transition (former socialist) countries differ from that of non-transition countries what could also be reflected in the magnitude of the effect of labor taxation on employment growth. Real GDP growth and growth rate of labor productivity represent control variables. Data used for dependent and explanatory variables[6] are defined in the following ways.

Total employment growth rate is defined as the share of employed persons aged 15 to 64 in the total population of the same age group. The indicator is based on the EU's Labour Force Survey. Employed population is understood as all persons who during the reference week did any work for pay or profit for at least one hour, or were not working nor had jobs from which they were temporarily absent (Eurostat, 2006).

Tax wedge on labor costs represents the tax wedge for a single production worker at income level of two thirds of the average production worker (APW). It is defined as income tax on gross wage earnings plus the employee's and the employer's social security contributions, expressed as a percentage of the total labor costs of the earner, defined as gross earnings plus the employer's social security contributions plus payroll taxes, where applicable (Eurostat, 2006). We expect that employment growth is negatively associated with tax wedge on labor costs.

Real GDP growth rate is defined as growth rate of GDP at constant 2000 prices and is expressed as percentage change on previous year (Eurostat, 2006). Similar to Lawson (2004), we assume that GDP growth comprises some of the influences of more complex factors on employment growth such as economic structures, institutional economic environment, and various shocks influencing on economies.

Labor productivity per person employed is measured as GDP in Purchasing Power Standards (PPS) per person employed. On the basis of data for this indicator, expressed in relation to EU-25 = 100, growth rates are computed as a percentage change from previous year (Eurostat, 2006).

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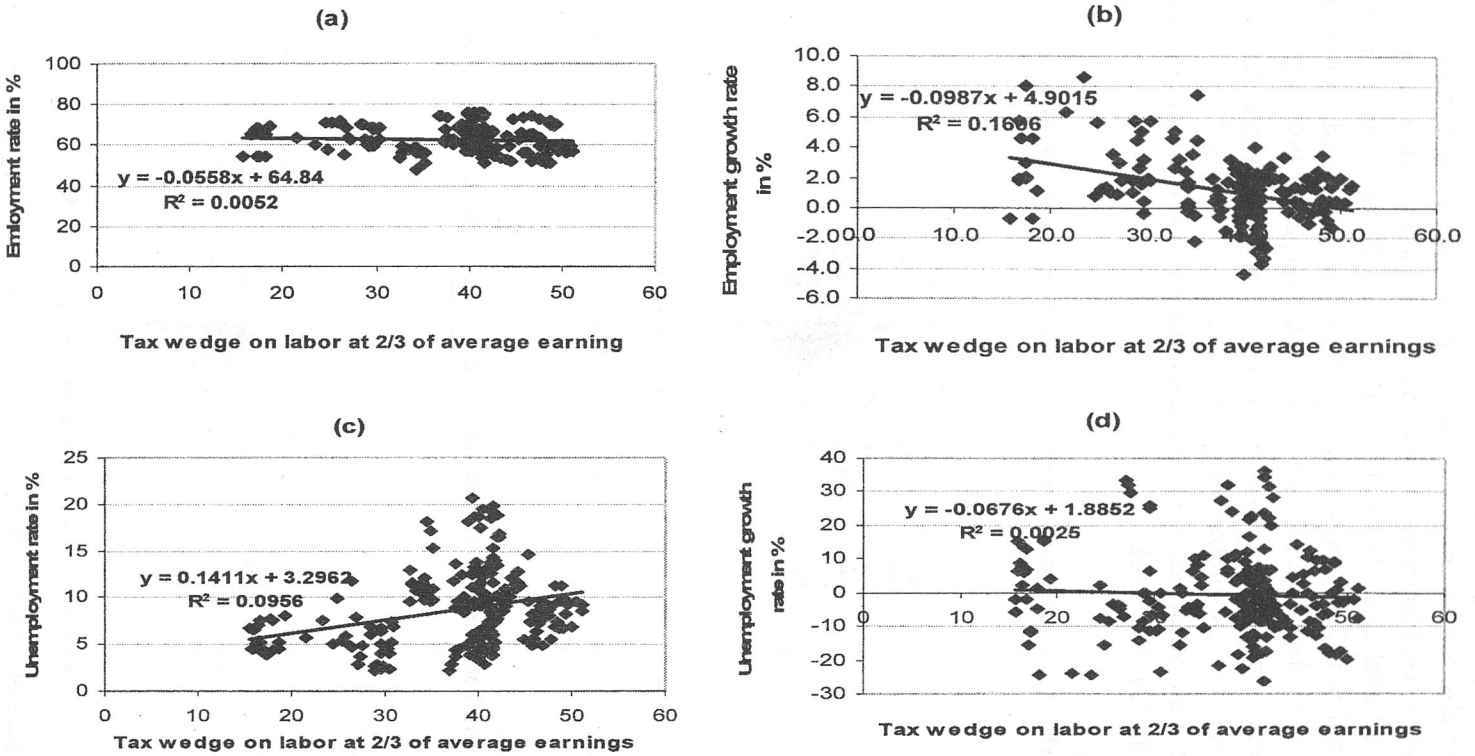
[6] By including also the growth rate of real unit labor costs (the growth rate of the ratio between compensation per employee divided by GDP – both in current prices – per total employment) into the described model, it turns out that growth rate of labor productivity does not significantly affect employment growth rate in the EU-25 in considered period. For this reason we omit this variable and present only the results for the model as specified by the equation.

Figure 5

**Relationship between Tax Wedge on Labor Costs and Employment Rate (part a), Employment Growth Rate (part b), Unemployment Rate (part c) and Unemployment Growth Rate (part d) in the EU-25**




*Note*: Panel data for employment and employment growth in the EU-25 are for the period 1996 – 2003. Panel data for unemployment and unemployment growth rate in the EU-25 are for the period 1996 – 2004. Data on wages include only production workers

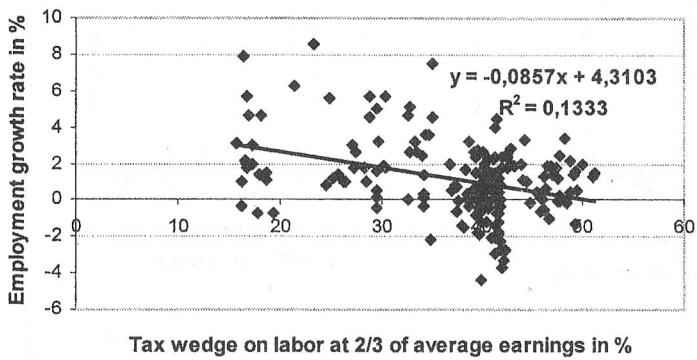
*Source*: Eurostat, 2005 and 2006, own calculations of unemployment growth rates.

We employ changes or growth rates of employment, GDP and labor productivity, but absolute values of the tax wedge. The reason is that not many significant changes have appeared in labor taxation in the EU in the considering period. Data for all used dependent and explanatory variables is obtained from Eurostats' (2006) statistics. The econometric model has been estimated on the basis of the pooled annual data for all EU-25 countries for the period 1997 – 2004.

By analyzing the relationship between employment growth rate and tax wedge on labor costs in the period 1997 – 2004 in the EU-25, we find out there is negative but weak association between these two variables (correlation coefficient of 0.133) (Figure 6).

Figure 6

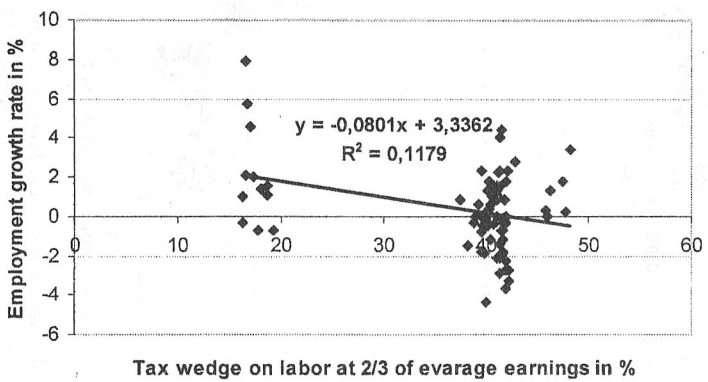
**Relationship between Tax Wedge and Employment Growth Rate in the EU-25**




*Note*: Panel data for the EU-25 for the period 1997 – 2004. Data on wages include only production workers.
*Source*: Eurostat, 2005 and 2006.

Figure 7

**Relationship between Tax Wedge and Employment Growth Rate in the NMS-10**




*Note*: Panel data for the NMS-10 are for the period 1997 – 2004. Data on wages include only production workers.
*Source*: Eurostat, 2005 and 2006.

If we look separately at the data for NMS-10, we can notice that panel data for the period 1997 – 2004 are concentrated in two groups. On one side there are two low-tax countries regarding taxes on labor (Malta and Cyprus) and on the other NMS-8 (transition countries), which tax labor quite heavily. Figure 7 clearly illustrates that employment growth rate was on average higher in low tax countries.

The results of linear OLS regression are presented in Table 1. Though the adjusted $R^2$ of the regression model is not very high (0.620), the model as such can be accepted as sufficient in explaining variability of employment growth during the period 1997 – 2004. The estimated regression coefficient for the association between the tax wedge on labor costs and employment growth is negative and statistically significant. We can accept the hypothesis that tax wedge on labor costs statistically significantly negatively influences employment growth in the EU-25. However, the estimated bivariate correlation coefficient at 0.133 is rather low and the estimated regression coefficient moreover suggests small impact of tax wedge on labor costs on employment growth in the EU-25 in the period 1997 – 2004. We also find evidence on statistically significant difference in the impact of tax wedge on labor costs on employment growth between transition and non-transition countries. The results show that the impact of labor taxation on employment growth tends to be significantly larger in the eight EU transition countries (NMS-8) than in the EU non-transition countries. That implies that lowering tax burden on labor would provide better results in transition countries, though even in these countries the effect is limited.

Table 1

**Pooled Regressions of Employment Growth Rate, Annual Data in the Period 1997 – 2004**

| **Dependent variable: *EMPLgr*** | **Constant** | ***TW*** | ***TW*D*** | ***GDPgr*** | ***LPgr*** | ***N*** | ***Adj.R²*** | **F-test** |
|---|---|---|---|---|---|---|---|---|
| *(1) EU-25* | | | | | | | | |
| *Coefficients*<br>*t-test*<br>*(p value)* | 4.310<br>7.113<br>(0.000) | –0.086<br>–5.434<br>(0.000) | | | | 194 | 0.133 | 29.528 |
| *(2) EU-25* | | | | | | | | |
| *Coefficients*<br>*t-test*<br>*(p value)* | 1.126<br>2.435<br>(0.016) | –0.033<br>–2.937<br>(0.004) | –0.021<br>–3.875<br>(0.000) | 0.571<br>13.362<br>(0.000) | –0.377<br>–11.167<br>(0.000) | 194 | 0.620 | 79.834 |

*Note*: p-value in brackets; N – Number of observations. Data are pooled annual data.

*Source*: Own calculations.

We have also tested some additional associations in the labor market as suggested by specified equation. As expected, we have found significant positive association between GDP growth and employment growth and significant negative relationship between labor productivity growth and employment growth.

## Conclusion

Labor taxation represents the most important source of the tax revenues in the most EU-25 countries, what makes the average tax rate on labor in the EU-25 relatively high according to international standards. Taxes on labor are on average a bit lower in the NMS-10 in comparison to the EU-15. Among the NMS-10 Malta and Cyprus tax labor income the least. These two countries also face greater employment growth than the rest of the NMS-8. Without considering these two low labor tax countries, tax burden on labor is higher in the NMS-8 relative to the EU-15. During the most recent years labor tax reductions have been noticed in Hungary and Slovakia, but in both countries labor taxation still remains high.

It has been confirmed a negative association between labor taxes and employment growth and a positive association between labor taxes and unemployment rate in the EU-25. The association in both cases is found to be weak. Panel regression framework confirms statistically significant negative association between labor taxation (tax wage on labor costs) and employment growth in the EU-25 in the period 1997 – 2004, but the estimated regression coefficient is relatively small. The relationship is a bit less convincing for the sub-sample of the NMS-10 than for the EU-25 as a whole. The impact of labor taxation on employment growth tends to be larger in the eight EU transition countries (NMS-8) what implies better results of lowering tax burden on labor in transition countries than in the rest of EU-25, though even in these countries the effect is limited.

As confirmed for labor low-tax Malta and Cyprus, the new EU member states should continue to implement policies of reducing and simplifying tax burden on labor to stimulate job creation and employment growth. Job creation and employment growth are even more affected by labor taxation in small open economies.

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