

# Challenges of the Output-Employment Growth Imbalance in Transition Economies

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## Abstract

The trade-off between output and unemployment has become an essential part of modern macroeconomics and is known as Okun's law. However, in transition and emerging markets economies' context, the output-employment nexus has a much more important role as these countries strive to significantly improve the growth dynamics of both variables. This paper aims to analyze the particularities of this relationship in selected Central- and South-Eastern European transition (and former transition) countries to find out a discrepancy between the output and employment growth. Therefore, the employment elasticity coefficients are calculated. The estimated results suggest that, in the observed period, economic growth has not contributed to satisfactory employment growth, which is commonly referred to as a "jobless growth" hypothesis. Accordingly, this paper attempts to single out the main challenges of the output-employment growth misbalance in these countries and propose adequate policy measures that could reduce it. The industrial policy that differentiates from the "one-size-fits-all" paradigm is emphasized as the most important part of macroeconomic policy in transition economies to make their development more balanced. Additionally, short-run stabilization policy, especially the one focused on the labour market, has a significant role in these economies.

**Keywords:** economic growth, employment elasticity, Okun's law, labour market, transition economies

## Introduction

The nexus between unemployment and output growth is one of the most frequently analyzed macroeconomic relations. It is commonly referred to as Okun's law, in honour of Arthur Okun, the first who has recognized the presence of the relationship in the United States (Okun, 1962). Okun's law indicates the negative relationship between unemployment and economic growth, stating that an economic upturn increases labour demand and thus reduces the unemployment rate.

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A kind of alternative view about the linkage between the situation in the labour market and economic growth is to observe the employment-output nexus. Although the unemployment reduction might not necessarily be closely connected with the employment growth (i. e. in the case when there is intensive emigration of the unemployed labour force), the relationship between employment and output growth is assumed to be positive.

Albeit the importance of the two approaches could be treated as identical in the case of developed economies, the situation in transition countries will often be different. Namely, if the unemployment rate in transition economies decreases, it could be a sign that the growing number of unemployed is finding a job. It can also indicate that these unemployed persons leave to other countries to find a better work opportunity. Indeed, when one observes the New European Union (EU) Member States, the opening of their borders has often been followed by intensive emigration of unemployed workers to the more developed Western European countries (Zaiceva, 2014).

Therefore, this paper aims to analyse the nexus between employment and output growth in selected Central and South-Eastern European (former) transition economies, to investigate the extent to which the dynamics of these variables is balanced. The motivation lies in the fact that the transition process has often induced different growth imbalances of these variables. The most frequently analyzed misbalance of the sort is commonly referred to as a "jobless growth" or "jobless recovery", which occurs when the employment growth is relatively lower than output growth. Having in mind that the presence of these imbalances could prevent the economic growth from being more balanced and sustainable, along with the fact that it affects the standard of living in the countries faced with the problem, it is essential to identify its potential sources to propose adequate economic policy response. According to the defined aim of the study, the following research hypotheses are tested:

*H1: In observed economies, the economic growth is accompanied by a less-than-proportionate growth of employment, indicating the presence of a jobless growth problem.*

*H2: The employment elasticities are higher in the economies which have completed the transition process earlier.*

The first hypothesis is tested by calculating the employment elasticity coefficients by regressing the employment growth on the output growth. The second hypothesis is based on the premise that the transition process in the particular economy had been completed when it joined the EU. Accordingly, the observed (former) transition economies

are divided into the countries which have joined the EU in 2004, in 2007, and are still in the process of accession to compare their employment elasticity coefficients.

The rest of the paper is structured as follows. The second section elaborates on some of the basic characteristics of the Okun's law relationship and the linkage between employment elasticity and Okun's coefficient. The third section reviews the recent and most important empirical studies to date, whereas the fourth presents the research methodology and data used. In the fifth section, the empirical results and discussion is provided. Finally, the sixth section contains the main conclusions and policy recommendations.

## Theoretical Background

The relationship between unemployment and output growth embodied in Okun' law is commonly presented as follows (Ball et al., 2015):

$$\Delta u_t = a + b\Delta y_t + \rho_t, \quad b < 0, \quad (1)$$

where  $a$  represents a constant,  $b$  refers to the "Okun's coefficient",  $u_t$  and  $y_t$  are unemployment rate and real output changes, respectively ( $\Delta u_t = u_t - u_{t-1}$ ;  $\Delta y_t = y_t - y_{t-1}$ ), whereas  $\rho$  represents the error term. This is known as the first difference version of Okun's law equation. Okun's coefficient measures the unemployment elasticity with respect to the real output changes (economic growth).

Since this study aims to enlighten the relation between employment and output growth, Equation (1) can be transformed in the following way:

$$\Delta n_t = a + \varepsilon\Delta y_t + \rho_t, \quad (2)$$

where  $n$  denotes employment, whereas  $\varepsilon$  represents the employment elasticity to the output changes. Having in mind the economic growth is equal to the sum of employment growth and labour productivity growth, the value of coefficient  $\varepsilon$  depends on the relative impact of these factors. If we express this in a more formal way, we get:

$$\Delta y = \Delta n + \Delta p, \quad (3)$$

where  $p$  refers to the labour productivity, measured as  $n/y$ . If we assume a constant economic growth, it means that any increase in employment must be accompanied with an equal decrease in labour productivity. Namely, by dividing

Equation (3) by  $\Delta y$  we obtain the following expression:

$$\varepsilon = 1 - \frac{\Delta p}{\Delta y}, \tag{4}$$

where employment elasticity ( $\varepsilon$ ) equals to  $\Delta n/\Delta y$ . The values of the coefficient  $\varepsilon$  can be positive and negative, and should be interpreted in a way presented in Table 1.

**Table 1.** Interpretation of the employment elasticity coefficient values

Employment elasticity	GDP growth	
	Positive GDP growth	Negative GDP growth
$\varepsilon < 0$	NEG PPG	PEG NPG
$0 \leq \varepsilon \leq 1$	PEG PPG	NEG NPG
$\varepsilon < 1$	PEG NPG	NEG PPG

Notes: NEG – negative employment growth, PEG – positive employment growth, PPG – positive productivity growth, NPG – negative productivity growth  
Source: Kapsos 2005, 4

### Literature Review

Bearing in mind the theoretical and practical importance of Okun’s law, several empirical studies dealt with the relationship between unemployment, employment, and output growth. Ball et al. (2017) provide an extensive analysis of the Okun’s law stability in the United States since 1948 and in 20 advanced economies since 1980. They indicate that the relationship between output and unemployment is quite stable over time in most of the analysed countries, whereas the unemployment rate responds more strongly to output in recessions than during expansions. Similar conclusion can be found in Kargi (2016) for all OECD countries over 1987-2012 period. On the other hand, Owyang and Sekhposyan (2012) and Grant (2018) find evidence of substantial time variation of the Okun’s coefficient in the United States, especially after the Great Recession of 2008. Novák and Darmo (2019) investigate the Okun's law in EU28 in the period 2000-2014, and two sub-periods: pre-crisis (2001-2007) and the post-crisis period (2008-2014). Their study reveals the higher Okun's coefficient in the post-crisis period. Kapsos (2005) provides an extensive analysis of employment elasticities in developed and transition countries to investigate the impact of employment and productivity on economic growth in the function of poverty reduction. In similar research, Misztal (2014) estimates the employment elasticities in the Global Triad Countries (US, EU-15, Japan), China

and India, aiming to examine the sustainability of the jobless growth hypothesis in these countries.

The research of the jobless growth problem in empirical studies is also commonly tied to Okun's law asymmetry assumption. Namely, employment (unemployment) exhibits an asymmetric pattern if it responds differently in contractionary and expansionary phases of the business cycle. Several empirical studies are devoted to this kind of analysis. Empirical findings commonly underpin the theoretically established fact that unemployment reacts more intensively to the negative changes in the output (in recessions) than to the output increases in expansion. For instance, Harris and Silverstone (2001) confirm the presence of asymmetry between unemployment and output in seven OECD countries, whereas Silvapulle et al. (2004) analyze post-war US data and demonstrate that the short-run cyclical unemployment is more sensitive to negative than to positive cyclical output, which indicates asymmetry in their relationship. Caraiani (2012) finds evidence that Okun's coefficient is higher during a recession and lower during expansion in Romanian economy. A similar conclusion for nine transition countries is made by Cevik et al. (2013). They demonstrate that cyclical unemployment is more sensitive to cyclical output in downswing regimes than upswing regimes, as well as that the Okun coefficients vary across regimes and countries.

Yet, some other studies confirm the opposite phenomenon, so called “labour hoarding” hypothesis: economic downturns lead to a lesser unemployment growth since firms are reluctant to fire trained workers (e. g. Leitner & Stehrer, 2012; Nebot et al., 2019). There is also empirical evidence that labour hoarding is present in transition countries, especially in the early stages of the reform process, due to administrative constraints aimed to stop firing (Boeri & Garibaldi, 2006).

Having in mind the subject of previous empirical research, this study tries to add further to the literature by estimating the employment elasticities in selected (former) transition countries from Central and South-Eastern Europe to quantify the extent to which the economic growth in these economies is "jobless", as well as to identify the key sources of such imbalance.

### Methodology and Data

To quantify the employment elasticities in observed economies, the model given by Equation (2) is estimated.

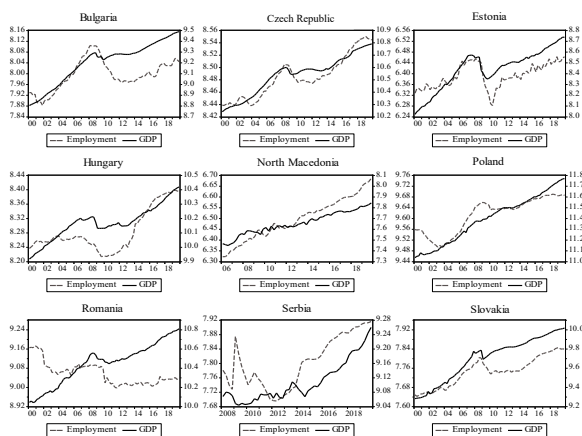
Hence, we regress the employment growth on the output growth to estimate the value of the employment elasticity

coefficient ( $\epsilon$ ). For that purpose, the Ordinary Least Squares method is employed.

The analysis includes nine (former) transition countries from Central and South-Eastern Europe: Bulgaria, Czech Republic, Estonia, Hungary, North Macedonia, Poland, Romania, Serbia, and Slovakia. The sample consists of countries that have joined the EU in 2004 (Czech Republic, Estonia, Hungary, Poland, and Slovakia), in 2007 (Bulgaria and Romania), and that are still in the accession process (North Macedonia and Serbia). The analyzed time period is 2000Q1-2019Q4 (80 observations) for all countries except for North Macedonia (2006Q1-2019Q4, 56 observations) and Serbia (2008Q1-2019Q4, 48 observations). The time series consists of quarterly, seasonally adjusted data about the number of employed persons and the real output (chain linked volumes, 2015=100). The source of data is Eurostat.

Figure 1 presents the empirical dynamics of the number of employed persons (left scale) and the real output (right scale) in observed countries. The data are transformed into logs using a natural logarithm. It is evident that the relationship between employment and output is different across countries. However, one can observe a kind of structural break in time series due to the Great Recession (2008). Indeed, this break is identified by the Zivot-Andrews test (Table 3). Accordingly, to make the estimation results more robust, in further analysis, the model is estimated not only for the entire period but also for two sub-periods: 2000Q1-2008Q4 and 2009Q1-2019Q4. In such a manner, it is possible to observe the tendency of the employment elasticity change as an important indicator of the employment-economic growth linkage over time.

**Figure 1.** Empirical dynamics of employment and GDP in observed economies



Source: Own calculation based on Eurostat database (2020)

## Results and Discussion

Before the estimation of the employment elasticities, the stationarity properties of time series are checked by applying the Augmented Dickey-Fuller (ADF) test (Dickey & Fuller, 1979) and Phillips-Perron (PP) test (Phillips & Perron, 1988) for the presence of unit root in levels and the first differences (Table 2). It is evident that all-time series are stationary in the first differences, indicating that applying the linear regression model is completely justified. In addition, the stationarity is checked by Zivot-Andrews test of unit root with a structural break (Zivot & Andrews, 1992), which reconfirmed that the differenced time series are stationary (Table 3). Besides that, the structural break dates are identified by the Zivot-Andrews test. It is apparent that the structural break in time series is directly connected with the Great Recession of 2008. In line with that, as explained before, the two sub-periods are jointly analyzed.

The results of employment elasticity estimates are reported in Table 4. According to the p-values, most of the estimates are statistically significant. Finally, Table 5 presents the results of residual diagnostic tests (for normality, serial correlation, and heteroscedasticity) all indicating that the models are well suited and stable.

If we focus on Table 4 and observe the entire time period, it is evident that the employment elasticity coefficients are generally low, except in Bulgaria. In five out of nine countries the employment elasticities are below 0.2, whereas in the case of North Macedonia and Serbia they are even negative (although for Serbia the results are not statistically significant). It indicates that, in the observed period, the employment reacted to a small extent concerning economic growth, supporting the jobless growth hypothesis.

On the other hand, when we concentrate on the first sub-period (2000Q1-2008Q4), it is apparent that the employment elasticities are even lower in all cases, excluding Bulgaria. Therefore, the "joblessness" of output growth is more profound. It could be a corollary of the fact that a majority of observed countries have accessed the European Union in 2004 (Czech Republic, Estonia, Hungary, Poland, and Slovakia). The opening of state borders to labour flows has induced a number of workers from these countries to leave to more developed economies, thus reducing the employment growth in them. Finally, in the post-crisis period (2009Q1-2019Q4), the employment elasticities are almost equal to the values for the entire time period, except in the case of Estonia and, to a lesser extent, in Romania, where these coefficients are higher. In contrast, in Bulgaria, the employment elasticity has been reduced in the post-crisis period.

**Table 2.** Results of the stationarity tests

Variables	Bulgaria		Czech Republic		Estonia	
	ADF	PP	ADF	PP	ADF	PP
$y$	-2.58 (3)	-1.12 [3]	-2.32 (1)	-1.77 [0]	-3.46* (0)	-3.46* [0]
$n$	-1.79 (1)	-1.01 [2]	-1.79 (1)	-1.56 [4]	-2.48 (0)	-2.49 [2]
$\Delta y$	-3.75*** (3)	-6.11*** [4]	-4.17*** (0)	-4.18*** [2]	-5.39*** (0)	-5.52*** [4]
$\Delta n$	-4.27*** (0)	-4.06** [5]	-4.25*** (0)	-4.28*** [4]	-6.36*** (0)	-6.38*** [3]
	Hungary		N. Macedonia		Poland	
	ADF	PP	ADF	PP	ADF	PP
$y$	-1.99 (1)	-1.79 [4]	-4.41*** (0)	-4.46*** [4]	-1.02 (0)	-1.19 [4]
$n$	-2.69 (0)	-2.51 [4]	-3.28* (1)	-2.06 [6]	-1.19 (2)	-1.06 [4]
$\Delta y$	-4.88*** (0)	-4.79*** [3]	-8.11*** (1)	-16.54*** [8]	-7.07*** (0)	-7.07*** [3]
$\Delta n$	-5.11*** (0)	-5.43*** [5]	-6.04*** (1)	-7.39*** [4]	-3.15** (1)	-5.57*** [3]
	Romania		Serbia		Slovakia	
	ADF	PP	ADF	PP	ADF	PP
$y$	-1.59 (1)	-1.12 [2]	-0.43 (0)	0.01 [5]	-3.62** (0)	-3.71** [11]
$n$	-1.62 (0)	-1.46 [3]	-2.02 (1)	-2.09 [3]	-1.87 (1)	-1.55 [1]
$\Delta y$	-5.03*** (0)	-4.93*** [5]	-5.58*** (3)	-6.89*** [3]	-8.58*** (0)	-9.87*** [9]
$\Delta n$	-8.47*** (0)	-8.55*** [3]	-7.17*** (0)	-7.61*** [9]	-5.18*** (0)	-5.14*** [2]

Notes: the significance levels: \*\*\* – 0.01, \*\* – 0.05, \* – 0.1;  $\Delta$  is the first difference operator; for ADF test, the numbers in parenthesis indicate the lag order selected (Akaike information criterion). For PP test, the numbers in brackets indicate the truncation for the Bartlett Kernel, as suggested by the Newey-West test (1987). For PP test are calculated the one-sided p-values.

Source: own calculation

**Table 3.** The results of Zivot-Andrews test of unit root with structural break

Variables	Bulgaria		Czech Republic		Estonia	
	t-stat.	Break	t-stat.	Break	t-stat.	Break
$y$	-3.64*** (4)	2010Q4	-3.52*** (1)	2008Q4	-6.26*** (3)	2008Q4
$n$	-3.43*** (3)	2009Q3	-4.16*** (1)	2009Q1	-7.09*** (4)	2009Q1
$\Delta y$	-5.98*** (3)	2008Q4	-5.41*** (0)	2008Q1	-4.07*** (2)	2007Q2
$\Delta n$	-4.67*** (4)	2008Q2	-4.54*** (1)	2008Q3	-8.88*** (0)	2010Q3
	Hungary		N. Macedonia		Poland	
	t-stat.	Break	t-stat.	Break	t-stat.	Break
$y$	-4.81*** (1)	2008Q4	-4.75*** (0)	2010Q4	-4.61*** (4)	2012Q2
$n$	-3.85** (4)	2008Q4	-0.62* (2)	2009Q4	-5.32*** (3)	2006Q2
$\Delta y$	-7.03** (0)	2008Q3	-7.75** (1)	2013Q2	-4.23** (4)	2008Q3
$\Delta n$	-3.41** (4)	2011Q2	-5.91** (1)	2009Q4	-3.14*** (4)	2008Q2
	Romania		Serbia		Slovakia	
	t-stat.	Break	t-stat.	Break	t-stat.	Break
$y$						
$n$	-1.62 (0)	-1.46 [3]	-2.02 (1)	-2.09 [3]	-1.87 (1)	-1.55 [1]
$\Delta y$	-5.03*** (0)	-4.93*** [5]	-5.58*** (3)	-6.89*** [3]	-8.58*** (0)	-9.87*** [9]
$\Delta n$	-8.47*** (0)	-8.55*** [3]	-7.17*** (0)	-7.61*** [9]	-5.18*** (0)	-5.14*** [2]

Notes: the significance levels: \*\*\* – 0.01, \*\* – 0.05, \* – 0.1; the numbers in parentheses indicate the selected lag length.

Source: own calculation

**Table 4.** The employment elasticities for observed economies

2000Q1-2019Q4		2000Q1-2008Q4		2009Q1-2019Q4	
Constant	Employment elasticity ( $\epsilon$ )	Constant	Employment elasticity ( $\epsilon$ )	Constant	Employment elasticity ( $\epsilon$ )
Bulgaria					
-0.01 (0.13)	0.42 (0.00)	-0.01 (0.17)	0.88 (0.02)	-0.01 (0.12)	0.24 (0.09)
Czech Republic					
0.00 (0.45)	0.14 (0.00)	0.00 (0.45)	0.12 (0.14)	0.00 (0.69)	0.15 (0.02)
Estonia					
-0.00 (0.86)	0.22 (0.01)	0.01 (0.34)	0.09 (0.22)	-0.00 (0.13)	0.71 (0.00)
Hungary					
0.00 (0.29)	0.18 (0.01)	-0.00 (0.21)	0.16 (0.02)	0.01 (0.06)	0.22 (0.03)
North Macedonia (2006Q1-2019Q4)					
0.01 (0.00)	-0.12 (0.07)	-	-	0.01 (0.00)	-0.16 (0.04)
Poland					
-0.00 (0.32)	0.27 (0.00)	0.00 (0.79)	0.25 (0.02)	-0.00 (0.04)	0.28 (0.00)
Romania					
-0.00 (0.04)	0.21 (0.04)	-0.00 (0.26)	0.11 (0.47)	-0.00 (0.08)	0.36 (0.01)
Serbia (2008Q1-2019Q4)					
0.00 (0.07)	-0.07 (0.74)	-	-	-	-
Slovakia					
0.00 (0.33)	0.18 (0.00)	0.00 (0.06)	0.13 (0.04)	-0.00 (0.90)	0.18 (0.00)

Note: the values in parenthesis refer to p-values.

Source: Own calculation

Although the analysis in this paper does not include some advanced economies to make a kind of reference point, it is helpful to compare the estimation results from Table 4 with some of the previous research dealing with developed economies. For instance, Misztal (2014) applied a similar methodology to estimate the employment elasticities in the Global Triad countries. He reveals that the value of the coefficient in the 1990-2012 period in the USA, EU-15, and Japan were 0.62, 0.50, and 0.25, respectively. It indicates that, generally, employment responds more strongly to economic growth in advanced economies. These findings are also in accord with the study by Mourre (2006), who reveals that the employment elasticities in the euro area in the period 1986-1990 were about 0.4, and increased to 0.6 in the period 1997-2000, whereas these elasticities in the United States were reduced from 0.6 to 0.4 between the first and second periods.

It is necessary to recognize the channels through which economic growth affects employment to properly address the problem of low employment content of economic growth in transition economies. Generally, there are three kinds of that influence: direct impact, indirect impact, and an induced impact (Lavopa & Szirmai, 2012). The direct impact is mainly related to the creation of new jobs, which means that previously unemployed persons become employed. The

indirect effect of economic growth on employment is determined by the relationship between the growing sector and the rest of the economy. If this linkage is stronger, then the indirect effect is more profound. Finally, the induced impact materializes by multiplying the positive effects of economic growth on the labour demand and the improvement of the employment process.

Therefore, it is important for transition countries to establish a tight linkage between the economy and the labour market. It can be done by improving the labour market policy aimed at increasing the employability. Accordingly, an active labour market policy measures could ameliorate the quality of the labour supply to meet the requirements of the economy in a better way (Card et al., 2018).

In addition, the source of jobless growth in transition economies can be linked to inadequate industrial policy. Namely, it is worth stressing that implementing the "one-size-fits-all" paradigm in these countries produces modest results if not adapted to the specificities of their economies. One of the most important aspects of the problem is premature deindustrialisation in some of these countries. While this process stems naturally from the development path of advanced economies, in transition countries it can produce economic growth without a proportional increase of employment

**Table 5.** The results of the residual diagnostic tests

Test	Observed time period		
	2000Q1-2019Q4	2000Q1-2008Q4	2009Q1-2019Q4
	Bulgaria		
JB test	5.47 (0.06)	5.16 (0.08)	0.03 (0.98)
BG LM test	1.78 (0.18)	0.55 (0.58)	2.32 (0.06)
BPG test	0.03 (0.85)	0.29 (0.26)	0.87 (0.36)
	Czech Republic		
JB test	0.45 (0.79)	0.83 (0.66)	0.44 (0.81)
BG LM test	3.57 (0.02)	3.12 (0.04)	2.45 (0.09)
BPG test	0.65 (0.42)	0.12 (0.73)	0.28 (0.61)
	Estonia		
JB test	0.16 (0.92)	1.03 (0.59)	0.43 (0.80)
BG LM test	1.36 (0.26)	2.78 (0.08)	1.94 (0.16)
BPG test	3.69 (0.06)	0.79 (0.38)	0.39 (0.53)
	Hungary		
JB test	5.51 (0.06)	1.33 (0.51)	1.97 (0.37)
BG LM test	0.299 (0.09)	1.51 (0.24)	1.17 (0.32)
BPG test	0.12 (0.73)	0.54 (0.47)	0.03 (0.87)
	North Macedonia		
JB test	0.07 (0.97)	-	0.43 (0.81)
BG LM test	3.68 (0.06)	-	6.39 (0.02)
BPG test	0.84 (0.36)	-	0.36 (0.55)
	Poland		
JB test	1.94 (0.38)	1.52 (0.47)	0.76 (0.68)
BG LM test	2.18 (0.13)	1.69 (0.20)	2.33 (0.06)
BPG test	2.85 (0.09)	1.08 (0.31)	3.94 (0.05)
	Romania		
JB test	4.25 (0.12)	0.90 (0.64)	4.74 (0.09)
BG LM test	0.99 (0.37)	0.49 (0.61)	3.61 (0.06)
BPG test	0.01 (0.91)	0.03 (0.85)	3.12 (0.08)
	Serbia		
JB test	0.44 (0.80)	-	-
BG LM test	0.65 (0.53)	-	-
BPG test	1.61 (0.21)	-	-
	Slovakia		
JB test	3.25 (0.19)	0.86 (0.65)	6.31 (0.04)
BG LM test	2.59 (0.06)	0.19 (0.83)	2.71 (0.06)
BPG test	0.29 (0.59)	0.07 (0.79)	1.09 (0.30)

Notes: JB, BG LM, and BPG denote Jarque-Bera test for normality, Breusch-Godfrey test for serial correlation, and Breusch-Pagan-Godfrey test for heteroscedasticity, respectively; the values in parenthesis refer to p-values.

Source: Own calculation



(Andreoni & Tregenna, 2018). Therefore, the industrial policy should be conducted in a manner to provide a more balanced economic growth concerning the sectoral structure of the economy, which would provide a more dynamic employment growth.

## Conclusions and Recommendations

Although the economic growth-employment imbalances are, in some extent, present in all economies, including the advanced ones, this problem is more profound in the transition economies' context. The main reason lies in the fact these countries strive to "catch up" with the developed economies but often without critical approach to the choice of ways to achieve that goal.

The analysis in this paper finds evidence that in observed (former) transitional countries from the Central and South-Eastern Europe is present the jobless growth phenomenon. The values of employment elasticities reveal that employment growth is slower than the growth of output. Therefore, the first research hypothesis is accepted. The identified sources of that discrepancy could be related to the structural reforms, changes in the relationship between the economy and labour market due to the EU accession, premature deindustrialisation, and inadequate active labour market policies which should ameliorate the matching

between labour supply and labour demand. Therefore, addressing these problems in observed transition economies could improve the employment content of economic growth, making it more balanced and sustainable.

As for the second hypothesis, the analysis does not provide enough empirical support to accept it. The estimated values of the employment elasticity coefficients give mixed evidence about the linkage between the time of completing the transition process and the extent to which employment reacts to economic growth.

However, there are some limitations of the analysis that should be taken into account. Regarding research methodology, there is a possibility to apply a variety of other econometric methods that would provide more valid results (such as Vector autoregression, Autoregressive Distributed Lag approach, Generalized method of moments, and so on). In addition, the research could incorporate a larger number of economies and include some indicators of jobless growth related to the sectoral structure of the economy. Finally, this study is only focused on employment as a quantity, whereas the problem of employment quality is not considered. The low quality of employment, or the so-called precarious employment, is a growing problem in transition and developing economies. In line with that, some further research can be focused on the impact of economic growth on employment quality, as the problem which represents the core of the economic development process.

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## Izzivi neravnovesja med rastjo outputa in zaposlenosti v tranzicijskih gospodarstvih

### Izvleček

Razmerje med outputom in brezposelnostjo je postalo ključni del sodobne makroekonomije in je poznano kot Okunov zakon. Vendar pa ima povezava med outputom in zaposlenostjo v kontekstu tranzicijskih in razvijajočih se gospodarstev mnogo pomembnejšo vlogo, ker si te države prizadevajo znatno izboljšati dinamiko rasti obeh spremenljivk. Cilj tega članka je analizirati posebnosti te povezave v izbranih srednje in jugovzhodno evropskih tranzicijskih (in nekdanjih tranzicijskih) državah, da bi ugotovili neskladnost med rastjo outputa in zaposlenosti. Zato smo izračunali koeficiente elastičnosti zaposlenosti v odvisnosti od gospodarske rasti. Ocenjeni rezultati kažejo, da v opazovanem obdobju gospodarska rast ni prispevala k zadovoljivi rasti zaposlenosti, kar običajno imenujemo hipoteza gospodarske rasti brez ustvarjanja novih delovnih mest. Na osnovi teh rezultatov si pričujoči članek prizadeva izpostaviti ključne izzive neustreznega ravnovesja med rastjo outputa in zaposlenosti v opazovanih državah in predlagati ustrezne ukrepe ekonomske politike za njegovo zniževanje. Kot najpomembnejši del makroekonomske politike za večjo uravnoteženost razvoja tranzicijskih gospodarstev poudarjamo industrijsko politiko, ki se razlikuje od paradigme "ena velikost ustreza vsem". V teh gospodarstvih ima prav tako znatno vlogo kratkoročna stabilizacijska politika, še posebej takšna, ki je osredotočena na trg dela.

**Ključne besede:** ekonomska rast, elastičnost zaposlenosti, Okunov zakon, trg dela, tranzicijska gospodarstva