

MACROECONOMIC COMPARISON OF THE CZECH NUTS 3 REGIONS

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Abstract. The aim of this paper is to discuss regional performance of the Czech economy. The first part of the paper offers basic characteristic of the Czech regions. The second part of the paper is based on the Czech Statistical Office's data. Using selected macroeconomic indicators like gross domestic product and registered unemployment rate, the paper examines trends in regional disparities at the NUTS 3 level during the period 1995-2009. The analysis shows a significant divergence process toward national average and a perceptible increase in regional disparities between the region of the capital city and the remaining regions.

Keywords: Czech economy, comparison, disparities, NUTS 3, regions.

Jel classification: R11, R12.

1. Introduction

The identification and measurement of regional disparities is a fundamental aspect in the design of economic policy-making and space-based instruments that are to mitigate or eliminate these inequalities (Wishlade and Yuill 1997). The economic performance, level of taxation (Kotlan *et al.* 2011) and regional competitiveness are important factors of the development of regions. A competitive region is attractive (attracts investments, knowledge and its characteristic feature is the location of companies and immigration). A competitive region could lead to better economic performance and a process of real convergence could be started up. The process of real convergence is observed both at the national and regional level and the most frequently used indicator is the gross domestic product per capita, respectively its rate of growth. Regional disparities are understood as differences in the socio-economic development of regions that are the result of some inequalities (Matlovič *et al.* 2008). Generally, if the GDP growth rate for countries or regions with lower GDP per capita is higher than that in advanced economies or regions, there exists a gradual convergence (Svennebye 2008 or Tvrdon and Skokan 2011). Moreover, according to Landesmann and Römisch (2007) since the beginning of the transition process in the New Member States it was obvious that the objective of post-communist countries will be to achieve the economic level of Western European economies within a certain timeframe. Looking at regional data, however, we can find that the process of real convergence does not take place in all regions with the same intensity. According to Hapiot and Slim (2004) a few questions arise: (i)

whether convergence at the national level automatically includes convergence at regional level, or (ii) whether regional convergence is a spontaneous process. It also is important to find the factors and sources which can obstruct real convergence. For this purpose it is necessary to characterize what phenomena and processes exist in regions and which comparison has any rational sense. As the main indicators of these inequalities, we used the development of gross domestic product (GDP), or GDP per capita and the unemployment rate. There are many approaches how to measure regional inequalities. For the calculation of regional disparities we can choose a dual approach (Shankar, Shan 2003):

a) the static measurement of regional disparities (Cuadro-Roura 2001; Dunford 1993; Ellison and Glaeser 1997; Felstein and Portnov 2005; Fujita and Hu 2001; Tvrdon 2010; or Villaverde and Mazza 2009) and b) the dynamic concept of measurement which monitors the regional development in the long run (Barrios and Strobl 2009; Hanclova 2012; Nevima and Melecký 2011 or Skokan and Stanickova 2011).

The Czech NUTS 3 regions were established pursuant to the Constitutional Act No 347/1997 Coll., as of January 1st, 2000. There are 14 NUTS 3 regions (“kraje”) in the Czech Republic compared with 8 NUTS 2 regions (“regiony soudržnosti”). The aim of the paper is to compare Czech NUTS 3 regions.

The paper is structured as follows: (i) in the first part, the paper deals with the Czech regional policy and its legislation frame; (ii) the second part focused on empirical results and we deal with the main trends in the development of the selected indicators that determine a position of individual regions among Czech NUTS 3 regions. The last part concludes.

2. Czech regional policy

Czech Republic as one of the twelve new Member States is fully integrated into the economic, social and territorial cohesion of the European Union. Since 1990, the candidate countries from Central and Eastern Europe had draw funds from the PHARE program which was designed to create economic and social conditions necessary for the subsequent accession into the European Union. During the integration process the European Union had created two other financial instruments - ISPA and SAPARD, which were ten years younger, and set to work as a practical preparation for future financial support from the Structural Funds (SAPARD) and the Cohesion Fund (ISPA). Although all three financial instruments were scheduled until the entry of these Candidate Countries to the EU only, drawing on funds for projects approved prior to the entry in some cases took place even in 2006.

Since joining the EU, the Czech Republic can fully participate in all the instruments of economic, social and territorial cohesion. Given that the EU enlargement took place in the middle of a seven-year programming period (2000-2006), all measures were programmed only for 2004-2006. However, the Candidate Coun-

tries were able to participate fully in the cohesion policy since the beginning of 2004, although they joined the EU on the first May 2004.

Economic and social cohesion is implemented through the programming that is based on the distribution of the Structural Funds on the basis of multi-annual development programs. They are also made up of priorities and measures of their own budgets.

The period just after the political changes in 1989 is characterized by major socio-economic changes, which started the economic transition from a centrally planned economy to a market one. First and foremost were solved necessary within the legislative and economic measures and regional policy was essentially narrowed to support small and medium enterprises. The approach in this period could be called liberal.

The first legislation act that focused primarily on the area of the regional policy, was the Government Resolution No. 481/1991. This act marked out the basic problems of economic and social development of territorial units and it defined the priorities of regional policy in the Czech Republic.

In 1992, Government Resolution No. 759/1992 approved the Principles of regional economic policy of the Government of the Czech Republic (Principles). This approach to regional development, however, failed in the field of comprehensive and coordinated manner. It was focused only on one type of support - initiation and attraction of entrepreneurial activity in economically troubled areas. According to the Principles it was not necessary to create a special legislation act dealing with the regional policy for the implementation of regional economic policy. It was sufficient provisions of the Act on the promotion of small and medium business for these purposes.

The real Czech regional policy in the strict sense was established after 1998. New approach was based on the classical definition of the regional policy – main aim of this policy was to contribute to the balanced development of all regions, to reduce economic disparities between regions.

Prerequisite for ensuring a coordinated institutional support of regional development policy and the adoption of a wider concept of regional policy was created by the establishment of the Ministry for Regional Development (MMR) - Act No. 272/1996 Coll. MMR was entrusted with the execution of state administration in matters of regional policy, however, the concept was still legally anchored.

Terminological and methodological shortcomings of regional policy made clear the broad Principles of regional policy of the Czech Republic (the Principles) adopted by Government Resolution No. 235/1998. The Government attaches significant importance in the adoption of principles of regional policy in line with the practice of EU policy. A revolutionary, it was in the Principles defining the implementation of regional policy at two levels: state - which provide the central government, which is selective (focused on predetermined regions) - and regional - which provides higher territorial self-governing units within the separate powers and which is distributed throughout nature.

The Principles were followed by Act No. 248/2000 Coll. This is the only normative document in the Czech Republic defines the term “region”. It also contains list of areas in which regional development is supported, the focus of government regional support. In addition, it defines the programming documents drawn up at national and regional level. The scope of MMR, counties and municipalities in promoting regional development are also mentioned in this act. We can say that it puts emphasis on the balanced development of the territory by encouraging problem regions. The Act also defines the cohesion regions whose territorial definition is consistent with the territorial statistical units NUTS 2, and their organs, including the determination of the scope.

3. Empirical results

We used Gross domestic product (GDP) as a main indicator. GDP is a measure for the economic activity and it is defined as the value of all goods and services produced less the value of any goods or services used in their creation. We can compute the volume index of GDP per capita in euro and in Purchasing Power Standards (PPS). PPS is a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. We can also express in relation to the European Union (EU-27) average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Basic tables are expressed in both euro and PPS.

Firstly, we used gross domestic product (GDP) at current market prices at the NUTS 3 level (in euro) for the evaluation and comparison of regional economic performance. Table 1 shows development of GDP during the time period 1995-2009. We can see that GDP per capita was remarkably higher in the Hlavní mesto Praha in comparison with national average. This phenomenon was due to dynamic growth of rich metropolitan regions, whose economic growth remarkably affects the catching-up process of the whole country (Paas and Schlitte 2006). GDP per capita in euro of the rest of the Czech regions did not differ much from national average during time (for more detailed analysis see Pokorný et al. 2008). The similar situation was in the case of GDP per capita in PPS (Table 2).

Table 1. GDP per capita at current market prices, in euro (Source: Eurostat)

GEO/TIME	1995	1997	1999	2001	2003	2005	2007	2009
Czech Republic	4 300	5 100	5 700	7 000	8 300	10 200	12 300	13 500
Hlavní mesto Praha	7 200	9 000	10 900	14 300	17 300	21 500	26 400	28 800
Středočeský kraj	3 800	4 500	5 400	6 600	7 700	9 300	11 500	12 100
Jihočeský kraj	4 100	4 800	5 300	6 400	7 500	9 300	10 700	11 600
Plzeňský kraj	4 100	4 800	5 200	6 600	7 800	9 700	11 400	11 700
Karlovarský kraj	4 200	4 600	4 900	5 900	6 900	8 000	9 100	10 000
Ústecký kraj	4 100	4 600	4 900	5 700	6 900	8 400	9 900	11 300

End of Table 1

GEO/TIME	1995	1997	1999	2001	2003	2005	2007	2009
Liberecký kraj	3 900	4 600	5 100	6 300	6 700	8 500	9 500	10 000
Královéhradecký kraj	4 000	4 900	5 300	6 500	7 400	8 900	10 500	11 700
Pardubický kraj	3 800	4 500	4 900	6 000	7 000	8 400	10 300	10 900
Kraj Vysočina	3 600	4 200	4 700	6 100	7 000	8 600	10 400	11 100
Jihomoravský kraj	4 100	4 800	5 200	6 500	7 700	9 200	11 300	12 700
Olomoucký kraj	3 600	4 200	4 500	5 500	6 400	7 700	9 100	10 200
Zlínský kraj	3 700	4 500	4 700	5 900	6 800	8 200	10 000	11 600
Moravskoslezský kraj	3 800	4 400	4 600	5 500	6 400	8 700	10 300	11 100

Table 2. GDP per capita at current market prices, in PPS (Source: Eurostat)

GEO/TIME	1995	1997	1999	2001	2003	2005	2007	2009
Czech Republic	11 200	12 300	12 800	14 500	15 900	17 800	19 900	19 300
Hlavní mesto Praha	18 900	21 800	24 600	29 300	33 300	37 400	42 700	41 200
Středočeský kraj	9 900	10 900	12 100	13 600	14 800	16 200	18 600	17 300
Jihočeský kraj	10 700	11 700	12 000	13 200	14 400	16 100	17 300	16 600
Plzeňský kraj	10 800	11 700	11 800	13 500	15 000	16 900	18 500	16 700
Karlovarský kraj	10 900	11 000	11 100	12 100	13 200	13 900	14 800	14 300
Ústecký kraj	10 800	11 100	11 000	11 700	13 300	14 600	16 100	16 200
Liberecký kraj	10 300	11 200	11 500	12 900	12 800	14 800	15 400	14 400
Královéhradecký kraj	10 500	11 700	12 000	13 400	14 100	15 500	17 000	16 800
Pardubický kraj	10 000	10 800	11 100	12 300	13 400	14 600	16 700	15 600
Kraj Vysočina	9 500	10 000	10 500	12 400	13 400	14 900	16 700	15 900
Jihomoravský kraj	10 700	11 600	11 800	13 400	14 700	16 100	18 300	18 300
Olomoucký kraj	9 400	10 200	10 100	11 300	12 200	13 400	14 800	14 500
Zlínský kraj	9 700	10 900	10 700	12 100	13 000	14 300	16 200	16 600
Moravskoslezský kraj	9 900	10 700	10 300	11 300	12 300	15 100	16 700	15 900

The calculation of GDP is linked with certain problems, mostly of methodological nature and its predicative ability or explanatory power is often overestimated and exaggerated. Kahoun (2007) illustrates this argument as follows: The regional GDP per capita is calculated dividing produced GDP in the region by population regardless the place of residence and including the commuting population from other regions. This ultimately leads to an overestimation of GDP per capita in regions with large urban centres. Secondly, we compared the Czech NUTS 3 regions in term of GDP per capita expressed in relation to the European Union average. Tables 3 and 4 show that it depends on what we choose currency. In the case of a mere conversion to the euro, the difference between the Czech regions and the EU average seems to be abysmal. We can see that the Czech average was found fewer than 30% of European Union average at the beginning of the observed period. However, a catching-up process could be seen during the observed period –

Czech average rose up to 57% of the European Union average. These values are to some extent distorted the used currency which does not reflect price differences in the comparison areas. If we use the comparison in PPS, it is clear that the differences between Czech and European Union averages will not be so significant (Table 4).

Table 3. GDP per capita at current market prices, in euro as percentage of EU average (Source: Eurostat)

GEO/TIME	1995	1997	1999	2001	2003	2005	2007	2009
Czech Republic	29	31	32	36	40	45	49	57
Hlavní mesto Praha	49	56	61	72	84	96	106	123
Stredočeský kraj	26	28	30	33	37	41	46	51
Jihočeský kraj	28	30	30	32	36	41	43	49
Plzeňský kraj	28	30	29	33	38	43	46	50
Karlovarský kraj	28	28	28	30	33	35	37	42
Ústecký kraj	28	28	27	29	33	37	40	48
Liberecký kraj	27	28	28	32	32	38	38	43
Královéhradecký kraj	27	30	30	33	36	40	42	50
Pardubický kraj	26	28	27	30	34	37	41	46
Kraj Vysočina	25	26	26	31	34	38	41	47
Jihomoravský kraj	28	30	29	33	37	41	45	54
Olomoucký kraj	24	26	25	28	31	34	37	43
Zlínský kraj	25	28	27	30	33	37	40	49
Moravskoslezský kraj	26	27	26	28	31	39	41	47

Table 4. GDP per capita at current market prices, in PPS as percentage of EU average (Source: Eurostat)

GEO/TIME	1995	1997	1999	2001	2003	2005	2007	2009
Czech Republic	77	76	72	73	77	79	80	82
Hlavní mesto Praha	129	134	138	148	160	166	171	175
Stredočeský kraj	68	67	68	69	71	72	74	74
Jihočeský kraj	73	72	68	67	69	72	69	71
Plzeňský kraj	74	72	66	68	72	75	74	71
Karlovarský kraj	74	68	62	61	64	62	59	61
Ústecký kraj	74	69	62	59	64	65	64	69
Liberecký kraj	70	69	64	65	62	66	62	61
Královéhradecký kraj	72	72	67	68	68	69	68	71
Pardubický kraj	68	67	62	62	64	65	67	66
Kraj Vysočina	65	62	59	63	64	66	67	68
Jihomoravský kraj	73	71	66	68	71	71	73	78
Olomoucký kraj	64	63	57	57	59	60	59	62
Zlínský kraj	66	67	60	61	63	64	65	71
Moravskoslezský kraj	67	66	58	57	59	67	67	68

If we look at empirical data concerning unemployment (Table 5), we could assume that the lowest share of long-term unemployment will be in metropolitan regions. This assumption has proved to be valid; however it is possible to reproach some other implications, which are by their nature rather surprising. If differences between the unemployment rate reached in the metropolitan areas and the regions with the highest unemployment rate were significant (sustained period of high regional disparities in unemployment indicates low labour market flexibility mobility of the population, especially low regional mobility), similar relation for long-term unemployment was not so remarkable. Although the remarkable decrease of the unemployment rate has been recorded in the problematic regions Ústecký kraj, Karlovarský kraj and Moravskoslezský kraj since the year 2005, the number of unemployed has stayed higher in these regions in comparison with other regions and it means a longstanding problem of highly regionalized structural unemployment. Generally, the economy of the Moravskoslezský kraj had been based on coal mining, metallurgy and heavy engineering. Thus, such structure of the economy had led to significant problems of regional nature during the 1990' after above mentioned industries declined (see Urbančíková and Burger 2010). This is partly because of wide geographic diversity in a level of structural reforms and dynamics of economic growth, but also because of weak labour mobility. Two parallel phenomena occurred simultaneously in all Czech NUTS 3 regions – (i) a decrease of the total unemployment rate in all regions in the period 2004-2008; (ii) a significant increase of the share of long-term unemployment in total unemployment with its peak in 2006; and (iii) deterioration of labour market performance during 2009. However, intensity of the unemployment rate decline was quite different during the observed period between 2004 and 2008. The unemployment rate did not decrease with the same intensity in Czech regions and we can state that its change ranged from -2.2 p.p. to -7.4 p.p. If we look at higher values of the unemployment rate in problematic regions Ústecký kraj, Karlovarský kraj and Moravskoslezský kraj, we can assume persisting problems in these regions. Unsatisfactory labour market performance was confirmed by another indicator in these regions – the share of long-term unemployment in total unemployment. This share exceeded 60 % in some years, which means that six out of ten were unemployed for more than 12 months. Another finding is that this share was increasing gradually during the observed period, until outbreak of the economic crisis. An increase of the number of unemployed was one among consequences of the crisis and thus increasing the denominator in the formula for calculating the share of long-term unemployment, which resulted in a reduction of the share. Higher unemployment rate in these regions means also lower competitiveness. The same trend was noticed on a national level. What is interesting is the fact that this trend was associated with all regions with no exceptions, even region Praha which still stayed below the whole national average. However, the share of long-term unemployment in total unemployment, which was over 39.2% in 2008, is too high for the region with the highest concentration of foreign capital, a strong tertiary sector and the highest GDP per capita in the coun-

try. We take the view that this finding validates considerations that many of the unemployed are in principle unemployable in the Czech Republic due to the lavish social system and even though they meet conditions for inclusion into the category of unemployed, they are not its part de facto.

Table 5. Unemployment rates (Source: Eurostat)

GEO/TIME	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Praha	4.0	4.2	3.9	3.6	4.2	3.9	3.5	2.8	2.4	1.9	3.1
Středočeský kraj	8.0	7.5	6.7	5.0	5.2	5.4	5.2	4.6	3.4	2.6	4.4
Jihočeský kraj	6.2	5.7	5.4	4.6	5.2	5.7	5.0	5.1	3.3	2.6	4.3
Plzeňský kraj	6.9	6.6	6.1	5.1	5.3	5.8	5.1	4.6	3.7	3.6	6.3
Karlovarský kraj	8.5	8.5	7.0	7.2	6.4	9.4	10.9	10.2	8.2	7.6	10.9
Ústecký kraj	15.4	16.2	13.6	13.0	13.0	14.5	14.5	13.7	10.0	7.9	10.1
Liberecký kraj	8.0	6.6	6.3	5.8	6.1	6.4	6.5	7.7	6.1	4.6	7.8
Královéhradecký kraj	7.0	6.1	5.4	4.8	5.9	6.6	4.8	5.4	4.2	3.9	7.7
Pardubický kraj	8.3	8.0	7.2	5.7	7.6	7.0	5.6	5.5	4.4	3.6	6.4
Kraj Vysočina	n.a.	n.a.	n.a.	n.a.	5.3	6.9	6.8	5.3	4.7	3.3	5.7
Jihomoravský kraj	n.a.	n.a.	n.a.	n.a.	8.1	8.4	8.1	8.0	5.4	4.4	6.8
Olomoucký kraj	13.5	14.8	13.4	12.1	9.6	12.0	10.0	8.2	6.3	5.9	7.6
Zlínský kraj	5.5	6.1	5.4	5.2	7.6	7.4	9.4	7.1	5.5	3.8	7.3
Moravskoslezský kraj	13.1	14.5	14.4	13.4	14.8	14.6	13.9	12.0	8.5	7.4	9.7

4. Conclusions

Paper deals with regional performance in the Czech economy. Our main territorial statistical unit used for an analysis was NUTS 3 region. We can find NUTS 14 regions in the Czech Republic. The question to which the answer we were looking for, is, whether conducted macroeconomic developments in the regions of the Czech Republic evenly. Our main findings are:

1. There was an increase in the gap between the economic performance of the region of the capital city and the rest of the regions during the observed period.
2. Analyzed data show that average regional economic performance, measured by GDP per capita, has been gradually approaching European average during the observed period.
3. Regional unemployment rates indicated that some structural problems occurred in some regions (Karlovarský, Moravskoslezský and Ústecký kraj).

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