4. Convergence of the Czech Republic to average EU level

4.1. Real convergence

- ***HDP per capita in purchasing power parity by national accounts data (CZSO) decreased in 2010***

A complex look at the performance of the economy of the Czech Republic from socio-economic perspective through GDP per capita in purchasing power parity (PPP) according to data of the Czech Statistical Office from regional national accounts showed that following the permanent growth of relative position of the Czech Republic by GDP per capita based on PPP against EU-27 average that had been evident since 2001, there was a drop in 2010. Therefore, the trend shows that the Czech Republic trails behind regarding to the convergence to the EU average level.

GDP of the Czech Republic per capita based on purchasing power parity (PPP) according to data of the Czech Statistical Office[1] derived from regional national accounts increased against the EU-27 average to 82.2% in the crisis year of 2009 from 81% in 2008 – therefore the Czech economy still converged to average economic level of the European Union. However, its relative position worsened in 2010, to 79.6%.

- ***Decline from relative position of CR regarding GDP per capita in PPP in the period of post-currency crisis…,***

The decline from relative position occurred particularly in 1997–2000 when the Czech economy was recovering from the previous currency crisis having undergone a minor recession. Other European countries remained unaffected by this crisis therefore the reasons for imbalance in Europe were specific for the Czech Republic (significant excess of short-term foreign capital that was leaving the country over the short period of time and after years of recorded surpluses the state budget found itself in a significant deficit). Subsequent restrictions aimed to improve these imbalances were steps inhibiting growth.

- ***…Thus, in the period 1995–2011, the Czech Republic converged to average level only in 2001–2009***

Therefore, it can be said that in the time period of 1996–2011 the Czech Republic converged to the average European level under the time series devised by CZSO only in 2001–2009 when the second part of this successful wave represented the strongest boom of domestic economy since the independence of Czech Republic ever. It was a successful period with regard to the fact that the EU economy as a whole was growing as well.

However, as in the second half of 1990s the recession was a result of internal not external reasons, also in 2011, or already in 2010, the reasons consisting in the significant restriction of growth stimuli were behind the loss of dynamics of the economic development in the Czech Republic – the implication of which was the stagnating convergence.

- ***With regard to convergence, apart from the Czech Republic, unfavourable***

Countries, the Czech Republic is traditionally compared with, especially in case of Poland and Hungary, were not losing with regard to convergence to the EU average level (Please see Chart 46). Similarly as in the Czech Republic, the convergence to the EU level is not convincing in Slovakia in recent years. The debt-related problems of Portugal were responsible for lower GDP per capita in PPP in 2011. On the

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[1] GDP per capita based on purchasing power parity generally reflects not only changes in GDP dynamics but also movements of comparable price levels and parities. Eurostat websites show slightly different data concerning the relative position of the Czech Republic with regard to GDP per capita based on PPP. According to them, the Czech economy stopped converging to the average level of the EU already in 2008. According to Eurostat, at that time there was a drop in GDP per capita based on PPP to 81% from 83% in 2007 when the position of the Czech Republic was the best in the entire period 1995–2011 concerning this relative comparison. In 2009, the position improved again by one percentage point to 82% of the EU-27 average, but subsequently the indicator dropped again to 80% and in 2011 stagnated at this level. Such a discrepancy between Eurostat and CZSO data caused by the methodology. Following an extraordinary revision of national accounts, there was an increase in the HDP of the Czech Republic since 1995 (predominantly by including the imputed rent). Even though this methodology is reflected by Eurostat, there is still some inconsistency of the time series of the coefficient of purchasing power parities until 2007 (despite repeated requests from CZSO, Eurostat has not revised this time series). On the contrary, the national accounting of CZSO maintains a consistent time series of these parities, but at the same time it does not reflect the change given by the extraordinary revision. According to the opinion of authors from the national accounting unit of CZSO, this version gives a better picture of the development than the Eurostat version.
By analogy, according to Eurostat data this trend of discontinuation of convergence was seen in relation to the "old" European countries representing the EU-15 group – i.e. the group before the enlargement to another 10 countries in 2001 and also Romania and Bulgaria. If the HDP per capita based on PPP stood at 75% in case of the Czech Republic in 2007, it dropped to 73% in 2010 and 2011.

development was also recorded by Slovenia

contrary, the loss of Slovenia seems to be unchanged since 2009 – however from the monitored countries it holds the best position – it is also connected with the lost dynamics of Slovenian economy which was less than in case of the Czech Republic.

Chart No. 45 **GDP per capita based to purchasing power parity** (in CZK, preliminary data for 2010 and 2011)

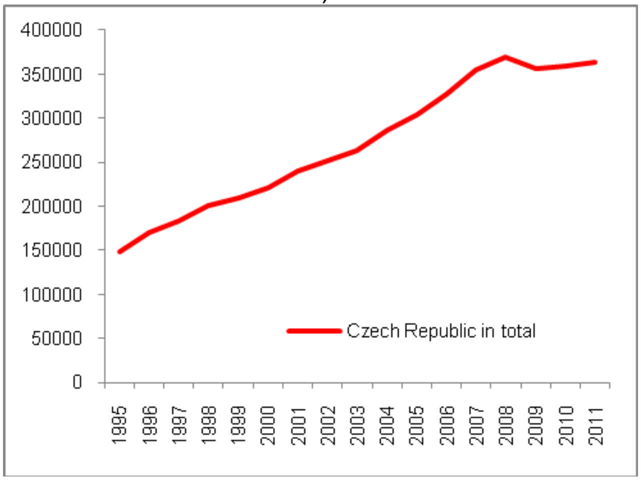
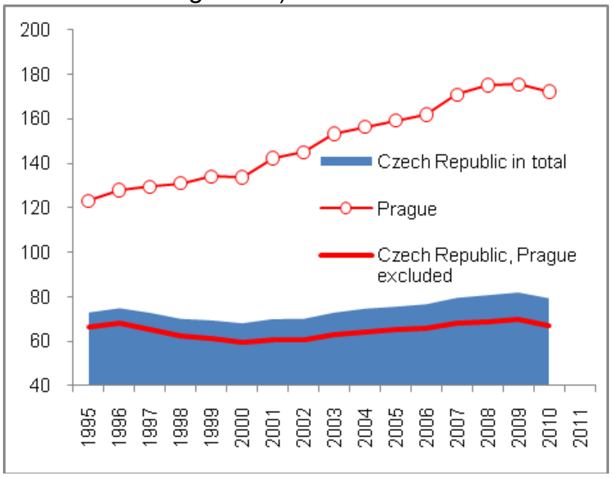


Chart No. 46 **GDP per capita with regard to purchasing power parity** (PPP, EU27 average=100)



Source: CZSO, Eurostat

- ***Growth of GDP per capita with regard to PPP in Prague is responsible for convergence of the Czech Republic to EU average level in 1995–2010…***

For the development of real convergence of the Czech Republic to the EU average level, a high disproportion concerning the development of GDP per capita in PPP in the capital city of Prague and regions as a whole is characteristic for the entire period of 1995–2010. While, according to CZSO, relative GDP per capita in PPP to the EU-27 average rose in 1995–2010 in Prague by 40 p.p. to 172.3%, in the Czech Republic, with Prague excluded, it rose by only 0.8 p.p. (67.1%). In total, the indicator for the Czech Republic increased by 8.7 p.p. and reached 79.6%.

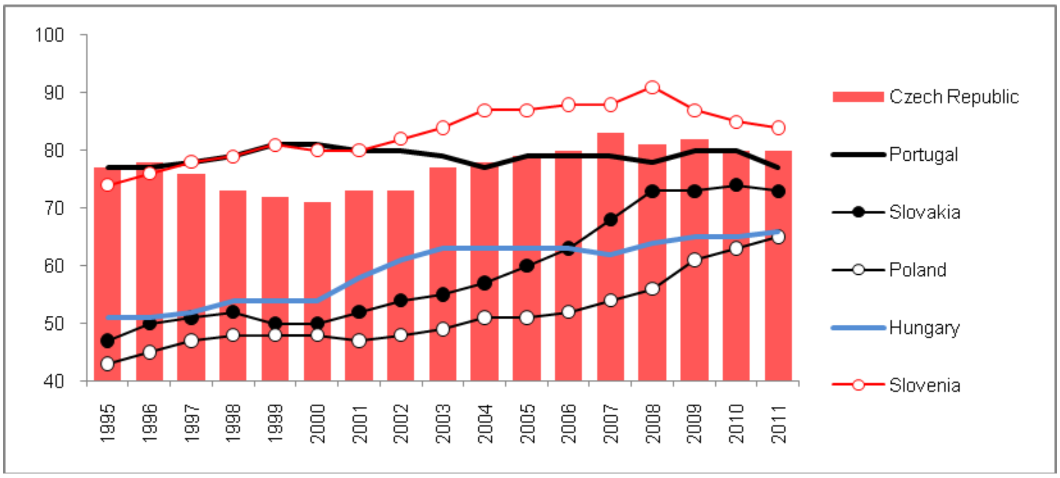
The huge gap between Prague and the rest of the country can be explained not only by the level of income, the character of salaries and wages (the average nominal salary in Prague was CZK 36,000, while the average for the whole country was approx. CZK 24,000). According to CZSO experts specializing in regional GDP, natural regional disparities that have been previously suppressed are responsible for this gap (as well as for the people's income). Another reason might be the fact that the regional level only catches up with the development at current prices where Prague due to industrial structure shows better dynamics (services at current prices grow while industry in other regions shows stagnation with regard to prices.). The effect of commuting for work is also significant as given its employment capacity Prague also absorbs a large number of workers from other regions.[2] The employment of foreign nationals concentrated in Prague is also on the rise.

- ***… because on the whole, regions in the Czech Republic, Prague excluded, have not converged to the EU average level at all***

Both the drop in GDP per capita in PPP in the capital city of Prague and in the regions as a whole, contributed to a discontinuation of the Czech Republic's convergence to the average EU level seen on the whole national level in recent years. In the case of Prague, the term "convergence" is not an adequate one, because its GDP per capita with regard to PPP has been increasingly exceeding the EU-27 average (it was by one fourth higher as early as 1995). On the contrary, it is clear from Chart 45 that the Czech Republic, Prague excluded, has not made any progress regarding the convergence in 1996–2010: GDP per capita in PPP of the "rest of the country" remains at two thirds of the EU-27 average with 67.1% in 2010, while the proportion was 66.6% in 1995.

[2] However, these are included according to their place of residence into the number of citizen of the given region – therefore they enter the calculations of GDP per capita as an effect reducing this indicator in relevant region (denominator of the fraction is higher), while for calculation for Prague it is the other way round (the numerator is higher for value added by them).

Chart No. 47: Development of real convergence by GDP per capita in PPP in selected countries (EU-27=100)[3]



Source: Eurostat

- ***Regions outside Prague remained at two thirds of the EU-27 level in 1995–2010***

However, this does not mean that the development of regions outside Prague reflected in the comprehensive indicator of GDP per capita with regard to purchasing power parity was weak. In 2010, GDP per capita expressed in CZK stood at CZK 302,000 on average according to CSO, and compared to its level from 1995, it was 124% higher (for Prague, the analogical figures were CZK 777,000 in 2010 with growth of 211% against 1995). For the entire Czech Republic, GDP per capita grew in 1995–2010 by 142% to CZK 359,000. The stagnation reported in the convergence of regions outside Prague thus follows from the fact that the European average has been growing with the same dynamics. At the same time, the spread of regional GDP stands at approximately the European average.

Chart No. 48 **Disproportion of real convergence in Prague and the rest of the CR** (GDP per capita in PPP, EU27=100)

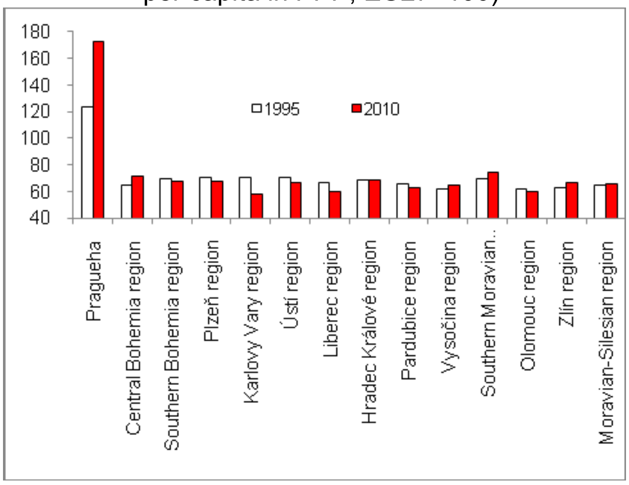
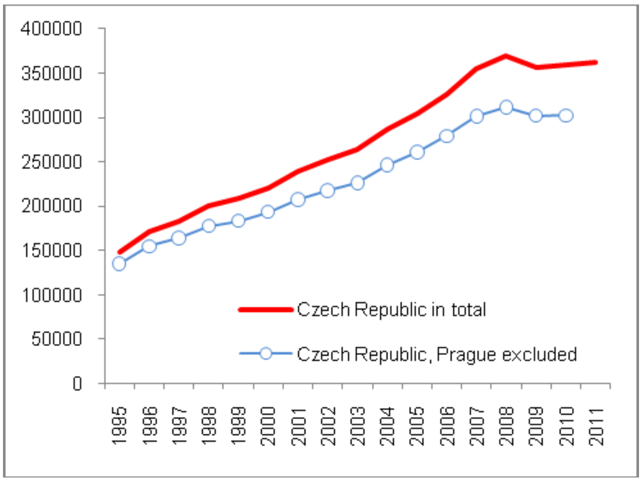


Chart No. 49 **GDP per capita in CZK**



Source: CZSO

- ***In 1995–2010, besides Prague, only five regions had converged***

With the exception of Prague, GDP per capita in PPP of which was as early as in 1995 almost by one quarter higher than EU-27 average (123.1%), less than half of the rest of the total of 13 regions converged in 1995–2010 (Chart 47).

The Central Bohemian region posted the most significant growth (from 64.7% to

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[3] The time series used with the exception given in footnote 17.

71.6% of the EU-27 average), probably also a result of strong direct foreign investments. This was followed by the South Moravian region (from 69.4% to 74.5%) and also – by 3 p.p. or more – Zlín region (from 63.2 to 66.8%) and Vysočina region (from 61.9% to 64.9%). Regarding GDP per capita based on PPP, Vysočina region was in fact the region with the second lowest performance in the Czech Republic. The progress of Moravian-Silesian region (from 4.4% in 1995 to 65.9% in 2010) was insignificant, but still positive. The Hradec Králové region stagnated in real convergence (at 68.5%).

Other regions were trailing behind the European average in 2010 by more than in 1995. GDP per capita in PPP was slightly lower in South Bohemian region (from 69.6% to 68%), Plzeň region (from 70.5% to 68%) and Olomouc region (from 61.5% to 60.1%). A significant drop occurred in Pardubice region (from 65.5% to 62.9%), Ústí region (from 70.4% to 66.4%), Liberec region (from 66.9% to 59.5%) and particularly Karlovy Vary region, where this indicator dropped from 71% of the EU-27 average in 1995 – which earned the region the position of the second most economically effective region after Prague – to a mere 57.6% in 2010.

4.2. Nominal convergence

- ***Maastricht criteria for convergence***

Convergence criteria for the European Union are determined by the Maastricht Treaty, and the fulfilment of these shows the success of the given country with regard to the so-called nominal convergence. The nominal convergence reflects whether or not its price development in the field of consumer prices significantly deviates from the price development[4] based on the quantified data for development in EU-27. In addition, it reflects whether the country does not show in similar comparison a significant imbalance with regard to government sector deficit[5] and its gross consolidated debt[6] in relation to nominal GDP. Maastricht stability criteria also determine limits for the development of long-term nominal interest rates[7] and exchange rate volatility of the relevant currencies.[8]

- ***Long-term success of the Czech Republic regarding the nominal convergence***

In the long-term, the Czech Republic has been – particularly in the first half of the last decade – among the countries that did not have significant problems with fulfilling the Maastricht convergence criteria. At the same time, it did not strive to join the Eurozone, as opposed to other Central European countries, which set their deadlines for acceptance of a single currency despite the fact that the volatility of their currencies, interest rates and consumer inflation indicated problems with nominal convergence (Hungary, whose government had an ambition to adopt the euro in the beginning of 2007, was a typical example).

- ***The crisis in 2009 and subsequent unconvincing performance of the economy did not significantly influence a satisfactory fulfilment of Maastricht criteria***

An analysis from 2007–2011 (Table 3) shows that the economic crisis in 2009 and the rather unconvincing post-crisis development of the Czech economy reflected in the discontinuation of the real convergence (see chapter 4.1), did not negatively influence the fulfilment of the Maastricht criteria.

Surprisingly enough, the Czech Republic has fulfilled nominal convergence criteria since 2009, with the exception of the fiscal criterion (the proportion of deficit of the government sector to nominal GDP). Determining whether the Czech Republic also fulfils the criterion of stability of the CZK exchange rate is not possible, because the country is not yet a member of the ERM II system, in which the country must operate for at least two years before the anticipated deadline for the adoption of the single currency. However, given the fact that the volatility range (+15%/-15%) is relatively wide, it can be assumed that fluctuations in the CZK exchange rate have not exceeded this range in recent years.

[4] Inflation by HICP (in %) at maximum of 1.5 p.p. above the average of three European countries with lowest inflation.
[5] Government sector deficit (in % of nominal GDP) at 3% at maximum.
[6] Gross consolidated government debt (in % of nominal GDP) at 60% at maximum.
[7] Long-term nominal interest rates (in %) of government bonds denominated in national currency at 2 p.p. above the average of three European countries with the lowest positive inflation at maximum.
[8] Exchange rate stability for two years of successful membership in the ERM II system, i.e. without deviation of the course outside the interval set around the officially announced mean value.

Table No. 3: Nominal convergence of the Czech Republic – Fulfilment of Maastricht criteria
(values in %)

	2007	2008	2009	2010	2011
Inflation criterion (HICP) in %	3.0	6.3	0.6	1.2	2.1
	No	No	Yes	Yes	Yes
Fiscal criteria					
deficit (< 3% GDP in c.p.)	-0.7	-2.2	-5.8	-4.3	-3.1
	Yes	Yes	No	No	No
debt (< 60% of GDP in c.p.)	27.9	28.7	34.4	38.1	41.7
	Yes	Yes	Yes	Yes	Yes
Stability criteria					
Interest rates in %	6.2	6.0	5.3	4.9	4.7
	Yes	Yes	Yes	Yes	Yes
Exchange rate	The Czech Republic does not participate in the ERM II system.				

Source: Eurostat, own calculations