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Editor: © Komerční banka. a.s.. Prague – Chief Economist

Tel.: + 420 224 214 666

Fax: + 420 224 222 839

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CZECH ECONOMY IN THE FIRST HALF OF 2008

Kamil Janáček, Kamila Fialová

1. Economic Growth

The period of dynamic economic growth from years 2005–2007 has already reached its peak and the Czech economy started to show some signs of slowdown, apparent already since the end of 2007. In the first quarter of 2008, GDP increased by 5.3%, y/y, which is 1 percentage point less than in the last quarter of 2007. Despite this slowdown, Czech economy exhibited the pace of growth more than twofold compared to the EU-27 average (2.5%) and even higher compared to the eurozone (2.2%). This confirms the ongoing economic convergence of the Czech Republic. In 2007, it reached more than 80% of income level in the EU (PPS, per head) and the catch-up process will continue in 2008, although with a weaker dynamics.

The main factors influencing the GDP developments in the first quarter of 2008 were considerable deceleration of households' consumption, slowdown of industrial production growth and exports, acceleration of growth of consumer prices and prices of some key imported commodities (oil products mostly), and worsening of the terms of trade.

The most pronounced determinant of the weakening economic growth was the domestic consumer demand, which registered a year-over-year increase of 2.1% only (this means a decrease of growth dynamics by 1.6 percentage points compared to the previous quarter). Considerable nominal growth of households' consumption was mostly eliminated by high inflation, resulting in real growth of 2.8%, y/y, only. Consumption of government sector rather stagnated (real growth of 0.7%, y/y).

The remaining components of the GDP, investment and foreign trade balance, sustained a relatively strong growth dynamics; however, could not compensate for the weakening consumers' expenditure. Expenditure on gross capital formation grew by 7.1%, y/y. Out of this, expenditure on fixed capital formation increased by 2%, y/y, mainly due to investment in machinery, transport equipment and housing. Foreign trade in the first quarter of 2008 registered a positive balance, surplus exceeding the Q1/2007 figures by CZK 10.4 bill. The exports grew by 13.8%, y/y, and imports by 12.1%, y/y, only. The development was adversely affected by worsening of the terms of trade.

The period of dynamic economic growth from years 2005–2007 has already reached its peak and the Czech economy started to show some signs of slowdown, apparent already since the end of 2007. In the first quarter of 2008, GDP increased by 5.3%, y/y.

The most pronounced determinant of the weakening economic growth was the domestic consumer demand, which registered a year-over-year increase of 2.1% only.

Table 1: Main Macroeconomic Indicators

		2004	2005	2006	2007	01/08	02/08	03/08	04/08	05/08	2008F
GDP	%, y/y	4.5	6.3	6.8	6.6		5.3			n.a.	4.8
Inflation	%, y/y	2.8	2.2	1.7	5.4	7.5	7.5	7.1	6.8	6.8	5.5
Inflation	%, m/m	–	–	–	–	3.0	0.3	-0.1	0.4	0.5	–
Industrial prices	%, y/y	7.7	-0.3	2.6	5.3	6.0	5.6	5.3	4.7	5.2	3.0
Industrial prices	%, m/m	–	–	–	–	1.9	0.1	0.3	0.0	1.0	–
Unemployment rate	%, eop.	9.5	8.9	7.7	6.0	6.1	5.9	5.6	5.2	5.0	5.0
Industrial production	%, real	9.6	6.7	9.7	8.2	9.1	11.3	-2.1	12.2	n.a.	6.0
Construction output	%, real	9.7	4.2	6.6	6.7	1.0	11.5	0.8	2.0	n.a.	6.0
Retail sales	%, real	2.5	4	6.4	7.7	4.0	6.3	-2.9	4.6	n.a.	4.0
State budget	CZK bill.	-93.5	-56.4	-97.3	-66.4	9.7	-5.0	-13.4	-28.1	-38.3	-70.0
Trade balance	CZK bill.	-26.4	38.6	39.8	85.0	12.2	14.3	8.1	8.3	n.a.	90.0
FOREX reserves	USD bill.	28.4	29.5	31.3	34.9	36.1	37.0	40.0	38.3	37.7	38.0
PRIBOR 3M	%, average	2.36	2.01	2.3	3.1	4.0	3.9	4.0	4.1	4.1	4.2
CZK/EUR	average	31.9	29.8	28.3	27.8	26.1	25.4	25.2	25.1	25.1	26.3
CZK/USD	average	25.7	23.9	22.6	20.3	17.7	17.2	16.2	15.9	16.1	17.5

Source: Czech National Bank, Czech Statistical Office, Ministry of Finance of the CR, forecasts by Komerční banka

Note: As of July 2004, the unemployment rate is published according to the new methodology

On the supply side, the main driver of the economic growth continued to be the manufacturing industry, with a share on the GDP almost one quarter. The total year-on-year growth of the industrial production from January to April 2008 reached 7.4%. The steady 66-months lasting growth was only interrupted by a fall in March (industrial production declined by 2.1%, y/y). However, this result was partially influenced by a strong comparable base of the previous year and also by the Easter holiday, resulting in different number of working days.

The sales in the industry recorded a real growth of 7.1%, y/y. The role of foreign companies in the industry has been further increasing – they accounted for approximately 60% of total sales in the industry. Industry has been driven by both foreign and domestic demand, the pace of growth of domestic and export sales was roughly balanced. Growth dynamics in the industry was pulled predominantly by manufacturing of transport equipment, electronic and optical equipment and general machinery (growth in each reached roughly 12%, y/y, from January to April). On the other hand, there was a decline registered in foods and textile industry and in manufacturing of wood.

The industry registered an ongoing increase of employment, although the dynamics have been decelerating. The total employment growth from January to April reached 2.4%, y/y, and was influenced mainly by the most expanding industries – transport, electronic and optical equipment, general machinery, and also by manufacturing of rubber. Real average wages in the industry rose by 3.8%, y/y, and were pulled mainly by the shortage of skilled labour. Productivity of labour in the industry increased by 3.9%, y/y, in the examined period; this is only 0.1 percentage point more than the real wages. The diminishing positive gap between the productivity and real wage growth might represent a threat for future competitiveness of the Czech industry and provoke the wage-driven inflation.

In the first four months of 2008, construction output rose by 3.4%, y/y, however, with notable fluctuations – while the growth in January, March and April did not exceed 2%, February increase reached 11.7%. Generally, the figures for the beginning of 2008 were negatively affected by a very strong comparable base of the previous year. The dynamics in the construction was largely driven by big projects in transport and other infrastructure, partly financed by the EU funds. The growth was thus

mostly pulled by civil engineering output (increased by 11%, y/y). On the other hand, building construction decreased by 1.2%, y/y.

The data on newly granted building permits in Q1/2008 confirm the continuation of dynamic growth of construction output. The number of permits increased by 5%, y/y, and their approximate value grew by 7.4%, y/y. New permits for residential buildings declined by 0.5%, y/y, which indicates the effects of the hike in the VAT, decreasing purchasing power of consumers and a slowdown in growth of mortgages. On the other hand, new permits for non-residential buildings went up by 11.6%, y/y. The number of completed dwellings in the first quarter of 2008 grew by 9.8% compared to the previous year. However, there is a slowdown apparent in the dwellings construction – number of dwellings started went up by 4.4%, y/y, only.

In the first quarter of 2008, employment in construction stagnated, mostly due to a shortage of qualified labour force. The demand for construction workers is concentrated into selected regions, where the demand is below saturation. On the other hand, in some regions, construction workers cannot find an appropriate job. In addition, the shadow economy is more frequent in construction than in other sectors.

The weakening consumer demand was reflected in the developments of retail sales. After a record high growth from 2007, retail sales registered a decelerating growth dynamics and even a decline in March 2008 (fell by 2.9%, y/y, which was partly also influenced by the Easter holiday). However, the dynamics was partly recovered in April (growth of 4.6%, y/y). The situation was negatively affected by increasing prices resulting in declining purchasing power of consumers. On the other hand, developments on the labour market and continuing expansion on borrowing had a positive effect here.

Non-food consumer goods were the main factor driving the retail sales growth, boom in housing stood behind the massive demand for housing-related durables. Car sales witnessed a solid growth of sales (with the exception of March), while the sales of fuels recorded more moderate growth dynamics. Increasing prices of oil and foods thus have had an adverse effect on consumer demand. Food sales declined in March and April, stagnated in January and the growth in February was rather moderate.

On the supply side, the main driver of the economic growth continued to be the manufacturing industry, with a share on the GDP almost one quarter. The total year-on-year growth of the industrial production from January to April 2008 reached 7.4%.

2. Foreign Trade and Exchange Rate

In the period from January to April 2008, the exports increased by 7.4%, y/y, the imports rose by 8.2%, y/y. The surplus of the trade balance amounted to CZK 41.3 bill., which was CZK 2.5 bill. less than in the same period of 2007. This development was influenced by the worsening terms of trade that decreased by 0.6 percentage point in Q1/2008 (the exports became relatively cheaper than the imports). The growth of foreign trade has been higher than the growth of GDP, indicating the increasing openness of the Czech economy, which is already one of the most opened economies in the EU-27. The European Commission estimates the share of trade turnover of goods and services at 80%, which is the sixth position among the EU countries.

In the first four months of 2008, machinery, fuels and chemistry continued to be the key items of the trade balance. Machinery produced a surplus of CZK 122.8 bill., which was an increase of CZK 9 bill. compared to the same period of 2007. Trade with cars accounted for 60% of the machinery surplus (CZK 73.5 bill.). Machinery exports thus performed well in spite of strong CZK. In the trade with machinery, there was a slight improvement in terms of trade, indicating again that the effect of strong currency is more significant for the imports than for the exports in this field. The impact of weak USD however could not compensate for the effect of high world oil prices: the deficit with fuels increased to CZK 51.2 bill. (by CZK 12.8 bill., y/y). High fuel prices affected the trade balance also indirectly, as the deficit with chemistry increased to CZK 36.2 bill. (by CZK 3.7 bill., y/y).

In the period January-April 2008, the trade with the EU-27 ended in a surplus of CZK 175.8 bill. The highest surpluses were generated in trade with Germany (CZK 36.5 bill.) followed by Slovakia (CZK 31.2 bill.). The largest deficits were produced by China (CZK 59.3 bill.), Russia (CZK 29.5 bill.), and Japan (CZK 23.7 bill.). Czech trade registered deterioration of these deficits compared to the previous year mainly due to increasing value of imports of oil and fuels (Russia) and machinery imports (China and Japan). The surplus with Slovakia slightly increased; on the contrary, the trade surplus with Germany fell moderately.

Appreciation of the Czech currency continued to be an important factor attenuating the inflationary pressures. The total appreciation from January to June towards the EUR and USD amounted to 10% and 16%, respectively. The CZK appreciated very rapidly in January and February 2008. Between March and May the appreciation slowed down and CZK oscillated, but rapid appreciation was recovered again in June. The average exchange rate of CZK amounted to 26.1 CZK/EUR and 17.7 CZK/USD in January and fell to 24.3 CZK/EUR and 15.6 CZK/USD in June. Strong appreciation towards the USD compensated for high world oil and some other raw materials prices.

3. Inflation and Monetary Policy

Continuing strong economic activity and shortage of labour accompanied by rising wage pressures resulted in emerging demand inflationary pressures. At the same time, the pass-through from high raw materials, fuel and energy prices to producer prices took place. Global increase in food prices due to increasing world demand, and production of bio-fuel affected the domestic food prices that registered a considerable upturn after two years of moderate growth. There was also a significant administrative component of the price increase at the beginning of 2008 (hike in the VAT, new regulation fees in health care, regulated prices of energies and water, deregulation of rental housing etc.).

The year-over-year growth of consumer price index exceeded 7% in the first quarter of 2008 and stagnated on 6.8% in April and May. The average inflation in the last 12 months was at 5% in May 2008. This growth comprised the dynamic rise in food (7.8%) and alcoholic beverages and tobacco prices (13.1%). There was also a rapid price increase in housing, water, energy and fuels prices (6.4%) and health services (14.7%). However, some of the price increases connected with the hike in the VAT took place already before the effectiveness of the new tax rates, by the end of 2007. Consequently, food prices in January rose only by 2.3%, m/m, due to the fact that the expected VAT increase was already introduced to the food prices in the November and December 2007.

In the period from January to April 2008, the exports increased by 7.4%, y/y, the imports rose by 8.2%, y/y. The surplus of trade balance amounted to CZK 41.3 bill.

The year-over-year growth of consumer price index exceeded 7% in the first quarter of 2008 and stagnated on 6.8% in April and May. The average inflation in the last 12 months was at 5% in May 2008.

Rapidly increasing inflation led the Czech National Bank to tighten the monetary policy. The 2W repo rate, which was originally at 3.5%, was raised to 3.75% on the February meeting of the Board of the CNB. The 3M PRIBOR was around 4% in the first half of 2008, which means a rise by 1 percentage point compared to the 2007 average. Nevertheless, even after the increase, Czech interest rates have remained very low (basic interest rates stood at 4.25% in Slovakia, 5.75% in Poland and even 8.5% in Hungary in June 2008). The negative differential vis-à-vis the ECB refi rate contracted to 25 basis points and the differential between 3M PRIBOR and 3M EURIBOR has been increasing from 50 to 80 basis points between January and May 2008.

4. Unemployment

In the first five months of 2008, Czech labour market continued in favourable developments recorded already in 2007. The unemployment rate smoothly decreased from 6.1% in January to 5.0% in May. In a year-over-year comparison, rate of unemployment fell significantly, down from 6.4% in May 2007. The situation in the Czech economy is close to full employment. The harmonised Czech unemployment rate published by the Eurostat was at 4.3% in April 2008. This was significantly below the overall average for EU-27 (6.7%).

The supply of vacancies still sustains a high level, moving around 150 thousands. The number of unemployed fell from 365 thousands in January to 303 thousands in May. This means that in the average, there were 2 unemployed people per vacancy in May. Still, there exist significant disparities among regions – some districts exhibit very low unemployment indicating the situation of full employment and the number of vacancies exceeding the number of unemployed. However, structural mismatch on the Czech labour market is not limited to regional nature only. There is also a qualification mismatch, reflected in a shortage of skilled labour force. The tight labour market has been one of the factors increasing the inflationary pressures in the economy and represents a barrier to future economic growth.

The decreasing trend of unemployment in 2008 was mainly a result of seasonal trends and the continuing cyclical upswing of the

Czech economy. Despite the favourable developments of unemployment, there remain considerable challenges for improving the performance and flexibility of the Czech labour market. Besides the regional and qualification mismatch, it is mainly the relatively high long-term unemployment, falling economic participation and gender inequalities that should be stressed.

Total labour force participation in the CR is lower than the EU average and moreover, exhibits a decreasing trend. This situation is mainly caused by very low participation of women – in 2007 it amounted for 61.5% only, while the EU average was at 63.3%. On the other hand, labour force participation of men is above the EU average (78.1% compared to 77.6%). Women have also registered significantly higher unemployment than men have: in May 2008, women unemployment rate amounted to 6.4%, unemployment of men 4.0%. The share of women on total unemployment significantly exceeds their share on labour force and moreover, exhibits an increasing trend in time (55.4% share of all unemployed in May 2008). According to the CZSO analyses, one of the important reasons behind this is extremely low share of part-time employment. In the CR, only 8% of women work part-time, while the respective share is around 40% in the old EU countries.

Inadequate regulations of temporary work and part-time employment might be considered just one of many deficiencies of the inappropriate Czech institutional framework, resulting in a substantial rigidity of the labour market. Institutional reforms might increase the motivation of people to accept a paid job compared to relying on generous social system and also increase the motivation of firms to hire new workers.

5. Outlook

In 2008, we expect the consumer demand to register further slowdown (due to higher inflation and slower growth of real incomes) and the investment demand to continue in stable growth. We expect full-year growth of the GDP growth at 4.8%. We also expect a slowdown in foreign trade; the exports will be hit by the impact of strong EUR to eurozone activity. Among domestic factors, the tight labour market is expected to limit the export activity. Nevertheless, weak USD will

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continue to compensate for expensive fuel and raw materials. In 2008, the trade surplus is expected to reach CZK 80 – 90 bill.

In April 2008, new orders in industry started to grow again – they increased by 6.5%, while foreign orders grew by 4%. In 2008, the growth of industrial output will be around 6%. Construction will be promoted by infrastructure projects supported partially by the EU funds. The projects of foreign investors will be helpful, as well. In addition, the construction of new flats – at least temporarily – will grow rapidly. Growth in construction in 2008 is expected to be around 6%, which corresponds to production capacity of the Czech construction. High inflation will attenuate the real growth of retail sales in 2008. At the same time, tightening of monetary policy and increasing interest rates will limit the space for households' spending. The 2008 growth in retail trade is expected around 4%.

Price increases in 2008 have been in line with our expectations that in the coming months,

inflation would be around 6%, and would go down to 5% bar only in the second half of the year. Despite the growing inflation, strong consumer demand will continue (albeit with declining force) to push prices up. The growth of real incomes will maintain a high dynamics; moreover, inflationary expectations might increase as well. The appreciating exchange rate will be able to attenuate the inflationary pressures only partially. With a high probability, the Czech National Bank will increase the 2W repo rate by 25 basis points at the end of June. In 2008, we expect the year over year CPI to be above 5 % at the end of the year. Average inflation will be above 6 %.

All indicators show increasing pressures on the labour market and shortage of skilled labour force. There can already be identified some signs of the expected slowdown in supply of vacancies due to weaker economic growth. However, this development will be more pronounced in the second half of 2008, easing the year-over-year decline of the unemployment rate. At the end of 2008, we expect unemployment rate around 5 %.

In 2008, we expect the consumer demand to register further slowdown (due to higher inflation and slower growth of real incomes) and the investment demand to continue in stable growth. We expect full-year growth of the GDP growth at 4.8%.

Price increases in 2008 have been in line with our expectations that in the coming months, inflation would be around 6%, and would go down to 5% bar only in the second half of the year.

FOUR CENTRAL EUROPEAN COUNTRIES: CATCH-UP IN THE MIDST OF WORLD FINANCIAL CRISIS¹⁾

Kamil Janáček

1. World Financial Turbulence and 4CE Countries

The direct impact of financial turbulence in the USA, and elsewhere in the world, on economies of the four Central-European countries will be of little significance. Financial institutions of these countries did not trade in credit derivatives (CDO, securitized mortgages, etc.) – as is proved both by the banks' balances, and by declarations of central banks of all four countries. This was a favourable consequence of the fact that most of the Polish, Hungarian,

Slovak and Czech banks are owned by foreign capital. Foreign owners shifted this type of trading to the mother banks, so that – as different from the second half of the 1990s – banks in this region stopped trading with such products. Today, it is the mothers who are hit by write-offs and requirements to increase their capital (Erste, Société Générale, KBC) – not their daughters active in the Central-European region.

However, indirect effects of the financial crisis, and of the following slowdown of the world economy, will be much more sizable. Growth slowdown in the 4CE countries will be to a large extent caused by weaker growth

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¹⁾ Paper prepared for ICCBE 2008 Annual Conference held in Melbourne, Australia, June 23 to June 27, 2008

performance of the euro area. The euro area has a two-thirds share in exports of Hungary and the Czech Republic, and as much as a three-quarters share in Slovakia's exports. Only in Poland, its share is a mere one third – and as a result, the slowdown of economic growth in Poland will be less pronounced (see below).

The question is, will the growth slowdown in four Central-European countries also mean a slowdown in their catch-up process with the "old" EU member countries? The answer will depend decisively on the extent of the deceleration in the original EU-15 countries, resulting from present world economic conditions. If the positive growth differential of the 4CE countries stays at the level of 2 to 2.5 percentage points, it can be expected that first of them – the Czech Republic – would reach the EU-15 average in 12 to 15 years, i.e. at the start of the third decade of this century.

Economic situation in each of the four countries is of course different, yet some problems are and will be common: how to control inflation, now fuelled also by high commodity prices, how to keep public budgets in equilibrium over a longer time, and how to win popular support – and political courage – for necessary reforms of public finance.

finance with hesitation. Hence, the fall of the deficit under 3% is mainly cyclical, not structural. Poland's exit from the EU's excessive fiscal deficit procedure (EDP) could result in additional social outlays, which would send the deficit back up toward the 3% line. The sizable public debt, with debt service blown up by increased interest rates, aggravates the situation. The government moreover has promised to raise wages in the public sector (concerning mainly health care personnel, teachers, miners and railway workers), and to cut taxes for physical persons. Old pension expenditures will grow due to the re-introduced indexation, and the "baby bonus" will double. The result will be a growth of government budget expenditures by 1.5 % of GDP.

Inflation goes up rapidly in Poland, as the strong domestic demand, and growing commodity prices, push consumer prices upwards. In all probability, National Bank of Poland (NBP) will further increase the interest rates, to bring inflation in 2011 back to its target of 2.5%.

In spite of some hesitation at the start, the Donald Tusk's government has in the last weeks decided to revive the privatization process, which practically stopped in 2005 under the Jaroslaw Kaczynski government. Of all the 4CE countries, Poland has the highest share of firms in government hands (banking, insurance, mining, energy, etc.). In the last decades, several Polish governments played with the idea of "national champions". Whether now the turn toward privatization will prevail is a question. As different from the pro-reform Civic Platform (PO), the other coalition partner, the rather leftist Peasants Party (PSL), is much more reserved with respect to privatization of national property into foreign hands.

Another – very urgent – task is to increase productivity through liberalization of the labour market, now strongly regulated, with many regulations dating back to communist times.

Indirect effects of the financial crisis, and of the following slowdown of the world economy, will be much more sizable. Growth slowdown in the 4CE countries will be to a large extent caused by weaker growth performance of the euro area.

Economic situation in each of the four countries is of course different, yet some problems are and will be common: how to control inflation, now fuelled also by high commodity prices, how to keep public budgets in equilibrium over a longer time, and how to win popular support – and political courage – for necessary reforms of public finance.

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2. Poland

Poland had in 2007 the fastest GDP growth in the last decade, namely, 6.5 %. The public budgets deficit fell toward 2%, as tax revenues (from both direct and indirect taxes) increased, and sharp fall of unemployment improved the social budget balance. However, sound public finance remains a big challenge for the new right-centre coalition government. The government, in spite of pre-election promises, has been approaching the reform of public

Table 1: Poland – Main Macroeconomic Indicators, 2006–2008

	2006	2007	2008(f)
GDP (growth in %, c.p.)	6.2	6.5	5.1
Inflation (average)	1.0	2.5	4.5
Unemployment	13.8	9.4	7.2
Current Account Balance (as % of GDP)	-3.2	-3.7	-3.8
Exchange Rate ZL/EUR (average)	3.90	3.78	3.60
Exchange Rate ZL/USD (average)	3.10	2.77	2.33

Source: Polish Statistical Office, National Bank of Poland, Eurostat; forecasts by Komerční banka

Perhaps even more important is to curb radically the red tape preventing private businesses from efficient working. In the last World Bank study, Poland has occupied an alarming 74th place in the ranking of countries according to the obstacles for business activity (behind even such countries as Bulgaria and Romania, which are notoriously adverse to business). The first step in Poland has now been the creation of a parliamentary commission that will look into excessive regulation.

Although the perspective of public finance is uncertain, and the government's determination to go on with necessary reforms is questionable, the markets see the Tusk's government in a better light than the previous one. Therefore the Zloty can be expected to appreciate further (roughly by 3% yearly), enabling the National Bank of Poland to be more cautious in increasing the interest rates. Thanks to currency appreciation, the increase in interest rates will be slower and its impact on economic growth will be limited.

3. Hungary

In Hungary, economic growth was lower in 2007 than most experts had expected. Reforms introduced by the government led to a decline in all parts of domestic demand – government demand, household demand, as well as fixed capital investment. The austerity program however brought some results: the public finance deficit fell from 9.2 % of GDP in 2006 to 5.5% in 2007, with a further cut to 4.2 % expected in 2008.

Yet the costs of reforms were high. Real wages decreased by almost 6 % over 2007, and government investment in the public administration, defence, schooling and health

care was drastically curbed. The private sector was unable to absorb labour freed from the public sector, so that the downward trend of unemployment almost came to a halt. Strong resistance from the population forced the government to recall some reform steps. The government became so unpopular that the Hungarian Liberal Party left the government coalition. Since April 2008, the Hungarian Socialist Party runs a minority government.

Nowadays, economic growth in Hungary is far below that of its neighbours, and even below the euro area average. Catch-up with more advanced countries practically stopped. Even if growth in 2008 slightly exceeds 2%, that will only save the country from further lagging behind. If, in the next two to three years, Hungary fails to achieve real progress in sustainable economic growth, there are fears that the post-accession advancement of the country will resemble the models of Greece or Portugal after they joined the EU, a far cry from the achievements of the Irish or even Spanish economies.

Inflation stayed at the 8% level during 2007, and started to decrease slightly in the first quarter of 2008. During 2008, it will fluctuate around 6%, driven by the fast increase in wages. Fears of higher inflation will force the National Bank of Hungary to keep interest rates at high levels, or even to increase them (as the latest increase of the basic rate proved, to 8.5% on May 26, 2008 – this being the highest level in the last three years).

In view of the sluggish economic growth, high inflation and a sizable (and not diminishing) current account deficit, the exchange rate of Hungarian forint can be very volatile. As mentioned, the precarious position of the Hungarian government will force it to refrain from further reforms of public finance. Consequently, the forint may even become the only weakening Central-European currency.

Table 2: Hungary – Main Macroeconomic Indicators, 2006–2008

	2006	2007	2008(f)
GDP (growth in %, c.p.)	3.9	1.3	2.3
Inflation (average)	3.9	8.0	6.0
Unemployment	7.5	7.3	7.0
Current Account Balance (as % of GDP)	-6.1	-5.8	-5.9
Exchange Rate HUF/EUR (average)	264.26	251.35	253.0
Exchange Rate HUF/USD (average)	210.51	183.83	167.0

Source: Hungarian Statistical Office, National Bank of Hungary, Eurostat; forecasts by Komerční banka

Nowadays, economic growth in Hungary is far below that of its neighbours, and even below the euro area average. Catch-up with more advanced countries practically stopped. Even if growth in 2008 slightly exceeds 2%, that will only save the country from further lagging behind.

4. Slovakia

Slovakia is the “star performer” among the four analyzed countries. Rapid economic growth (double-digit in 2007) was fuelled both by foreign demand and by strong household demand, as well as fixed capital investment. Exports from the car industry and electronics grew by almost 20%, and trade deficit shrunk substantially during 2007. Good results of external trade contributed to a fall of current account deficit from 7.1 % of GDP in 2006 to the acceptable 5.3 % of GDP in 2007.

The government and the central bank in 2007 and 2008 have oriented their policies toward keeping the fiscal deficit under 3%, and the inflation rate safely within the Maastricht limit. The goal of euro adoption forced the left-centre government of premier Fico to refrain – in spite of all pre-election promises – from reversing the reforms achieved by the preceding Dzurinda government. Premier Fico has only explicitly stopped all further privatizations; his government will support solely public-private-partnership projects in transport and energy.

The koruna continued to strengthen in the last six quarters; National Bank of Slovakia (with the consent of ECB) raised the central parity of Slovak koruna by 8.5% in March 2007. Appreciation, however, continued, so that Slovakia was forced, on May 28, 2008, to revalue the central parity by another 17.6 %. Currency appreciation was the decisive factor enabling to bring inflation under the Maastricht limit in 2007. Growing world prices of commodities and energy will in 2008 somewhat increase Slovak inflation, mainly in the second half of the year.

Strong economic growth led to a rapid fall of unemployment, previously a long-term problem of the Slovak economy. In the last year, the situation in the labour market turned –

mainly the export firms suffer lack of qualified labour. The majority (above 80 %, say qualified estimates) of the remaining unemployed are people without specific job training, with only basic education or lacking any education. Preparing them for a job is very costly and the result is highly unpredictable. As demand for qualified labour exceeds supply, wage pressures in the medium horizon are growing.

It can be expected that after Slovakia enters the euro area in 2009, fiscal policy will become more relaxed. The present government coalition does not plan to continue with the reform of public finance, which the previous government started so vigorously. Moreover, with next parliamentary election coming in spring 2010, the government is prone to become more populist, and increase budget expenditures. Thus, it will be able to realize some goals that were postponed due to the desired euro adoption – namely, to increase some social benefits substantially, and to raise the wages in the health care sector. Slovakia thus will probably follow the example of Slovenia after it entered the euro area in 2007.

5. Czech Republic

For the Czech Economy, 2007 was a period of continued stable growth, accompanied by an improvement of both internal and external imbalances. After two years of economic growth higher than 6 %, GDP in 2007 increased by 6.6 % – the strongest figure in Czech history. It was 3.6 percentage points above the average GDP growth in EU-27, proving the ongoing process of real convergence (catch-up). According to the estimates of Czech Statistical Office, GDP per capita in PPS reached 82 % of EU-27 average. That is significantly above the other three countries analyzed here.

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Table 3: Slovakia – Main Macroeconomic Indicators, 2006–2008

	2006	2007	2008(f)
GDP (growth in %, c.p.)	8.5	10.4	7.5
Inflation (average)	4.5	2.8	3.5
Unemployment	13.4	11.2	9.5
Current Account Balance (as % of GDP)	-7.1	-5.3	-3.5
Exchange Rate SKK/EUR (average)	37.23	33.78	30.50
Exchange Rate SKK/USD (average)	29.72	24.71	21.10

Source: Slovak Statistical Office, National Bank of Slovakia, Eurostat; forecasts by Komerční banka

GDP growth was fuelled both by domestic and external demand. External trade played a higher role in GDP growth, compared to the previous year. Trade balance surplus contributed 1.1 percentage points to the overall GDP increase. The growth of exports accelerated to 15.3 %, exceeding the growth of imports by 2.1 percentage points. Partly, this reflected an improvement in terms of trade (by 2.3 %) – but also it was due to economic recovery enjoyed by the main trading partners. Current account deficit fell to 2.5 % of GDP (from 3.1 % in 2006) – despite a record-high deficit in the balance of incomes (a consequence of high FDI inflows in the preceding period).

Inflation accelerated in the course of 2007. In the first quarter, the y/y inflation rate was only 1.9 % – while at the end of the year, it reached 5.4%. The average yearly inflation figure for 2007 was 2.8 %. Measured by the harmonized CPI index, it was 3.0 %, compared to the 2.1 % average in EU-27; prices in the Czech Republic thus grew faster than in the EU. The price increase had several reasons. There were one-off factors such as the increase of value-added tax, as part of the government's tax reform. Also, on the domestic side, strong economic activity in conditions of shortage of skilled labour led to rising wage pressures. That, in turn, resulted in strong growth of retail sales, and inflationary pressures on the demand side. However, external factors also played a large role, mainly the rise of prices of raw materials, fuel, energy and foods.

Increasing inflation, which significantly exceeded the medium-term CNB target, led the Czech National Bank to tighten monetary policy. The repo rate was raised four times between May 2007 and May 2008, from 2.5% to 3.75 %. The differential between ECB and

CNB basic rates narrowed to 25 basis points at the end of March 2008. Even so, Czech interest rates remained the lowest among the 27 European Union countries.

For the Czech koruna, 2007 was another year of appreciating trend. Only in the first quarter of 2007 appreciation stopped, the reason being in the prevailing markets sentiment toward most currencies in the region, rather than in fundamentals. Since the second half of March 2007, the koruna started again to strengthen – moderately against the euro, more vigorously against the USD – and the appreciation continued in the rest of 2007 as well as in the first quarter of 2008.

The weakest point of Czech economic policy over the last decade has been the inability of governments to introduce the long-overdue reforms of public finance, especially of the pension system and health care. The present right-centre coalition government has reforms in its program, but its weak position (parliamentary majority of one vote) provides little room for bold decisions; hence, the reality of reform steps is very modest.

Another neuralgic point – and a possible barrier of growth – is situation in the labour market. Strong GDP growth has led to a very significant fall of unemployment, and increase of the employment rate. Tight labour market (in spite of 260 thousand legal foreign workers – and at least 150 thousand illegal ones) leads to wage pressures. During 2007, real wages increased by almost 5 %. The gap diminishes between productivity increase and real wage growth; the decrease of unit labour costs slows down significantly. This might negatively affect the competitiveness of Czech exporters in future.

Table 4: Czech Republic – Main Macroeconomic Indicators, 2006–2008

	2006	2007	2008(f)
GDP (growth in %, c.p.)	6.4	6.6	4.8
Inflation (average)	2.5	2.8	5.5
Unemployment	7.1	6.0	5.0
Current Account Balance (as % of GDP)	-3.1	-2.5	-2.8
Exchange Rate SKK/EUR (average)	28.34	27.76	26.0
Exchange Rate SKK/USD (average)	22.61	20.31	17.5

Source: Czech Statistical Office, Czech National Bank, Eurostat; forecasts by Komerční banka

After two years of economic growth higher than 6 %, GDP in 2007 increased by 6.6 % – the strongest figure in Czech history. It was 3.6 percentage points above the average GDP growth in EU-27, proving the ongoing process of real convergence (catch-up). According to the estimates of Czech Statistical Office, GDP per capita in PPS reached 82 % of EU-27 average.

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6. EMU entry

All four Central-European new EU members are now facing the question of timing the euro area entry. The accession agreements state no fixed date; they however require the country to fulfil, before EMU entry, nominal convergence criteria (plus criteria of real convergence, and of so-called legal convergence).

Important is that all four are catch-up economies – they converge toward their richer EU neighbours not only in GDP per head, but also in their price levels. And, as Table 5 shows, the gap in price levels between euro area average and the individual Central-European countries is larger than the gap in economic levels (as measured by GDP per head in PPP). Convergence of price levels can go by two channels (or their combination): by positive inflations differentials (if the catching-up country has higher inflation than the euro area), or by appreciation of the currency. The second channel is more favourable: the population is not exposed to the negative impact of shrinking value of savings, and the country fulfils the Maastricht inflation criterion.

By the adoption of euro (or by fixing the exchange rate to euro by means of currency board – as we see in the Baltic countries) the channel of currency appreciation will be lost. Catch-up of price levels than goes exclusively through the channel of higher inflation.

The example of Slovenia could be seen as a warning for the new candidates of euro

adoption. In 2006, inflation in Slovenia was at a very acceptable level of 1.6 %. But euro area entry closed the exchange rate channel through which part of the catch-up of Slovenian price level with the eurozone average had proceeded. The only channel left open was the inflation differential. And the effect came immediately: in the first year of EMU membership, inflation shot up to 5.7 % (top among eurozone countries), and Slovenia took over from Ireland the role of the highest-inflation member (Ireland had “only” 3.7 % while the euro area inflation average was 3.1 %). This trend continues, at the end of the first quarter of 2008 yearly inflation in Slovenia grew to 6.9%. Similarly, in the three Baltic countries with currency fixed to euro, inflation in March 2008 reached 10.9 % in Estonia, 16.8 % in Latvia, and 11.3 % in Lithuania. That speaks in favour of those economists who argue that suitable time for euro adoption comes when the price levels have almost fully converged – otherwise the country is condemned to long-term inflation high above the average.

As to officially announced intentions, the situation is as follows:

- only two of the four analyzed countries have, in the first half of the present decade, officially announced a “tentative date” of euro area entry: Slovakia (2009) and Czech Republic (2010);
- Czech Republic has revoked this decision, so that now the official stance is: we shall announce the date when the first positive results of the reform of public finance are seen;

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Suitable time for euro adoption comes when the price levels have almost fully converged – otherwise the country is condemned to long-term inflation high above the average.

Table 5: GDP and Price Levels in 4CE Countries, 2007
(Euro area average = 100)

	GDP Level	Price Level
Poland	50.0	58.0
Hungary	58.5	59.0
Slovakia	61.9	57.0
Czech Republic	75.0	61.0

Source: Eurostat

Table 6: 4CE Countries: euro area entry

	Original date	New date
Poland	X	(2013–2014)
Hungary	X	(2014–2015)
Slovakia	2009	2009
Czech Republic	1010	(2013–2014)

Source: Komerční banka

- Poland or Hungary never announced the tentative date of euro adoption at the official (government) level.
- Opinions of experts, and conditioned proclamations of politicians and of central bankers, give some clues as to earliest possible dates of entry. Considering realistically – and in cool blood – the pros-and-contras of fast entry into the EMU, and the preparedness of individual countries to fulfil the required criteria for entry in

a sustainable way, Table 6 suggests a (perhaps optimistic) timetable for euro adoption.

Slovakia is to be accepted as a new EMU member as of January 1, 2009. The dates of entry of Poland and Czech Republic may be 2013–2014. For Hungary, the first possible date is the year 2014, but 2015 is more probable (and pessimists among Hungarian economists speak about 2016).

REGIONAL LABOUR MARKET DIFFERENTIATION IN THE CZECH REPUBLIC

Kamila Fialová

Recent developments of the Czech labour market have been rather favourable. Unemployment follows a decreasing trend and long term unemployment also declined; current situation may be considered close to full-employment. Nevertheless, this development is attributable to the recent economic upswing mainly. Structural and institutional problems of the Czech labour market still remain an issue. Besides relatively high long-term unemployment with a significant structural component, and inappropriate institutional framework, regional disparities can be considered a substantial problem.

Overall regional differentiation has been dynamically increasing in the Czech Republic already since the beginning of the transformation process.²⁾ The basic pattern of “new” regional differentiation was realized already by the end of 1990s and at the turn of the millennium, regional disparities have roughly stabilised (Blažek, Csank, 2007). This article attempts to describe and explain the developments of the regional labour market disparities since the beginning of the transformation period. It also focuses on the importance of differences in the unemployment rates in determining the wage levels of different regions. The average regional NUTS-4 level data for 77 districts of the Czech Republic in years 1991–2007 has been employed. The source of

data was predominantly the Czech Statistical Office (CZSO) and the Ministry of Labour and Social Affairs (MLSA).

1. Average Wages in the Regions

Average nominal wage³⁾ in the Czech Republic recorded a quite straightforward development – it has been increasing since the early 1990s and the pace of growth hasn’t changed much. The situation is depicted in Figure 1. While the average real wage sharply declined at the beginning of transformation,⁴⁾ it was accompanied by a sharp increase of the regional wage disparities. Coefficient of variation almost doubled during 1990s and peaked in 2000. There was a soft decline afterwards, and the regional wage variability stabilized around 9–10% since 2001.⁵⁾ The difference between the average wage in the CR and the district average wage (green and yellow line in the figure, respectively) is mostly given by a very high wage level in Prague, continuously moving away from the other districts level. The growing difference between these two figures also indicates deepening of the regional wage disparities. However, the regional differences in wages in

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²⁾ Hampl (2001) considers the rise of regional disparities not only a result, but also a necessary precondition of the socio-economic transformation.

³⁾ It is impossible to examine regional real wages, as price indices are not monitored on the regional level.

⁴⁾ The average real wage declined by 26% in 1991 (CZSO).

⁵⁾ The data for 77 districts of the CR (NUTS-4 level) are available until 2005 only. Since 2005, NUTS-3 level data (14 territories) represent the lowest level of disaggregation. Generally, more aggregated NUTS-3 level data exhibit higher degree of variability, but the trends are similar. According to NUTS-3 level data, regional variability decreased moderately at the end of the examined period.

the CR still can not be considered large, compared to other labour market indicators (see below).

At the beginning of the transformation period, the highest average wages were concentrated into heavy industrial regions in the northern part of the republic. The main changes in the pattern of regional wage differences took place already in early 1990s, mostly up to 1993 and partly also up to 1997. There were no major movements in relative wage positions of districts since then. The exception might be considered the rapid wage growth in Prague and Mladá Boleslav, which have increased their distance from the other districts. These two districts got to the top of the regional wage chart; the average annual wage growth since 1991 was 2 percentage points higher than in all other regions.

Generally, higher regional wages are connected with big cities influential in a larger region, or profiting from a favourable geographical location (mostly in sense of close proximity or good infrastructure connection to Prague), with a concentration of tertiary sector activities. On the other hand, declining districts are typically rather rural, suffer unfavourable economic structure, geographical location, and underdeveloped transport infrastructure. Generally, Bohemian regions exhibit higher wage level than Moravian (with an exception of big cities and districts in northern Moravia, which maintain still relatively high wages).

2. Economic Activity

The rate of economic activity exhibits a decreasing trend in the Czech Republic; Figure 2 outlines the development since 1991. According to the data from the CZSO, based on quarterly surveys, average rate of economic activity in population aged 15+ has been continuously falling from 61.5% in 1993 to 59% in 2007. Measured as an average rate from the district data reported by the MLSA (statistics reported by the regional employment agencies), there was a visible fall in the economic activity at the beginning of 1990s, followed by an increase since 2000. The differences between the two data sources and the significant rise in the MLSA figures after 2004 lie in the different and changing methodology.⁶⁾ However, the CZSO activity rate data are usually considered more reliable and internationally comparable.⁷⁾

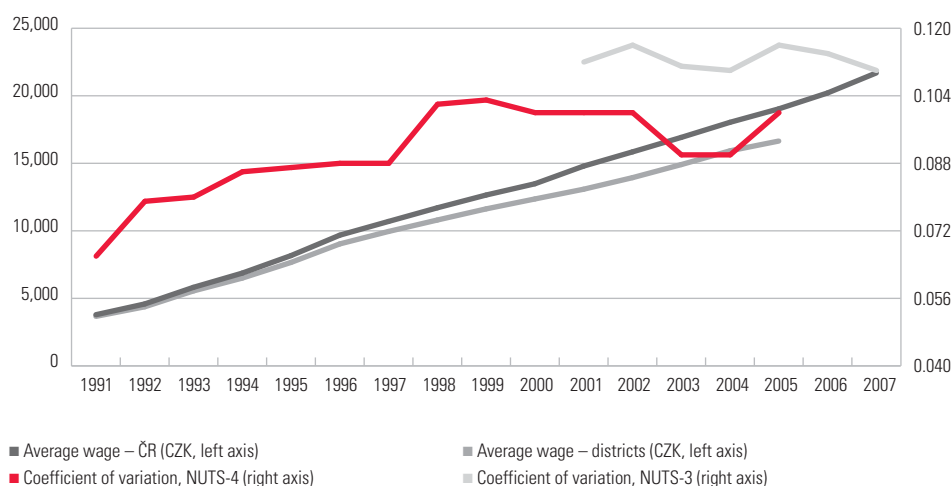
The decreasing tendency of economic activity has been accompanied by a relatively stable variation among the districts in the examined period, with the exception of early 1990s. Between 1991–93, regional differentiation was twofold compared to the latter period, and it fell in 1994. Regional disparities have stabilized since then, coefficient of variation has amounted to 5–6%. This makes the variability of economic activity in the Czech districts very low, compared to other labour market indicators.

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⁶⁾ There was a break in the comparability of data on labour force coming from MLSA before 2004 and after 2004. Before 2004, the data covered all the unemployed and employed people in the economy. Since 2004, only "available" unemployed are covered and moreover, data on employed foreigners has been added.

⁷⁾ Despite the decreasing trend, economic activity in the CR still remains relatively high in the international comparison. According to the Eurostat methodology, economic activity rate (population aged 15–64) in the Czech Republic was 69.9% in 2007, while the corresponding average EU-27 rate was 70.5%, only slightly higher. Average activity rate in other new member states was lower (for instance 63.2% in Poland, 61.9% in Hungary, 68.3% in Slovakia; on the other hand, Baltic countries report rather higher economic activity – Estonia 72.9%, Latvia 72.8%).

Figure 1: Average wage in the CR and its regional variation, 1991–2007



Source: Czech Statistical Office, own calculations

The highest activity rates are typically concentrated in Bohemian districts – Prague and surrounding urban regions (Mladá Boleslav has been persistently among the districts showing the highest activity rates), northern and western Bohemia (Česká Lípa, Louny, Most, Sokolov, Chomutov, Karlovy Vary, Tachov) and generally also some districts in southern Bohemia (Český Krumlov mainly). These districts are specific by their geographical proximity to Prague, representing the economic centre of the country, or borders with Germany and Austria, indicating an importance of international cross-boarder labour mobility and trade. On the other hand, the lowest economic activity is to be found generally in the Moravian districts, mostly in northern and central parts, but also in some of the Bohemian regions (Prague-East, Plzeň-City, Písek, Kutná Hora). There can be found significant negative correlation between the level of economic activity and unemployment in regions in 2007, indicating a potential presence of a de-motivating effects of high unemployment on labour market participation.

3. Regional Unemployment

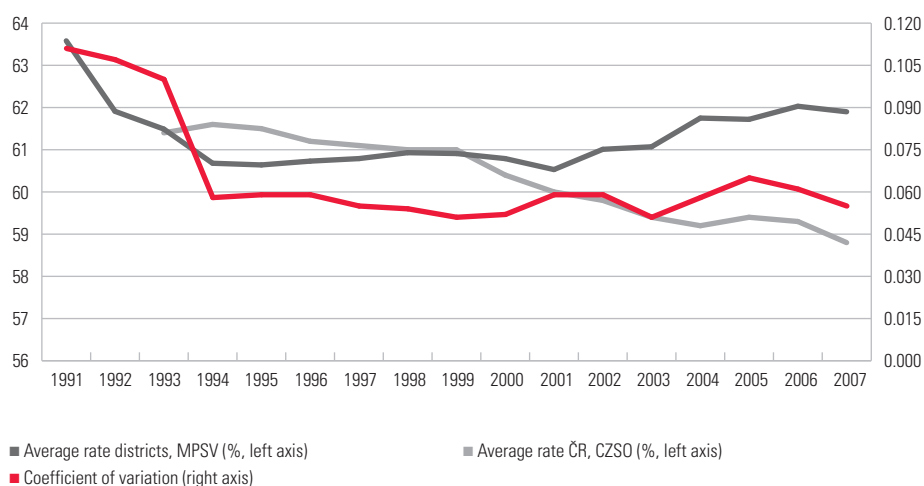
The development of the regional unemployment was not as straightforward as it was in case of wages and economic activity. The analysis of the time trend is also complicated by the change of the methodology of reporting the unemployment by the MLSA in July 2004,

which practically meant a decrease of the figures by 1 percentage point in an average (usually larger decrease for higher rates of unemployment). Comparability of the data is thus partly limited.

Figure 3 depicts the situation in the examined period. Unemployment was very low in the first half of 1990s; however, there was already present a strong regional differentiation. Coefficient of variation reached the highest levels in this period, gradually decreasing with the increasing average rate of unemployment thereafter. The development of the average rate of unemployment and its coefficient of regional variation has roughly followed the mirror reflection path. Also, there is a connection to the economic growth in the whole country. As pointed out by Hůlka (2007), economic recovery usually means a rise in the regional differentiation, with some lag. This pattern was not very clear in the Czech Republic so far (correlation between the regional variation and economic growth is insignificant, amounts to -0.16 only and doesn't increase much even when accounting for the lagged values), which might be connected to the transitional processes related to the transformation and convergence of the economy.

The most significant changes in the pattern of regional differentiation of unemployment again took place already in the beginning of 1990s, and the regional disparities have stabilised since 1998. However, this stabilisation represents a rather high degree of regional differentiation, both compared to the other

Figure 2: Economic activity in the CR and its variation among districts, 1991–2007



Source: Czech Statistical Office, Ministry of Labour and Social Affairs, own calculations

The decreasing tendency of economic activity has been accompanied by a relatively stable variation among the districts in the examined period, with the exception of early 1990s.

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labour market indicators and in an international comparison. According to the Eurostat, dispersion of regional unemployment rates on NUTS-3 level was 49.6% in the Czech Republic in 2007, while it was significantly less in all the other countries with data available (Slovakia 43.4%, Hungary 35.8%, and Poland 23.6%).

The movements in the pattern of geographical dispersion of unemployment were influenced by several factors. The most important was the initial position of a district (specific conditions of the region, economic and structural characteristics) and also the level of restructuring and transformation of the economy. In the initial period, high levels of unemployment were concentrated in rural districts with low population density and urbanisation and specialized in agriculture (south Bohemia and Moravia and rural districts of Moravia). Gradually the pattern has changed and in the final phase of the development, there can be identified two broad regions suffering from a relatively high unemployment – northern Bohemia and northern Moravia (now also urban districts). These regions are specific by their specialisation in heavy industry, seriously hit by the restructuring. The distinctive attributes connected with higher unemployment further represent deficient infrastructure and lower level of urbanisation: also some rural agricultural regions exhibit higher unemployment (southern Moravia mainly). Again, the location of a district with respect to the economical centres of the republic plays the key role here.

On the other hand, there are districts that have recorded persistently low unemployment rates. The lowest levels are concentrated exclusively in Bohemia and concern Prague, Mladá Boleslav and some regions in their surroundings. Furthermore, some districts in southern and western Bohemia and southern Moravia close to the German and Austrian borders exhibit very low unemployment. The existing regional differences tend to prevail in time due to inefficient functioning of the migration as an equilibrating mechanism (Čermák 2001, Hampel 2001).

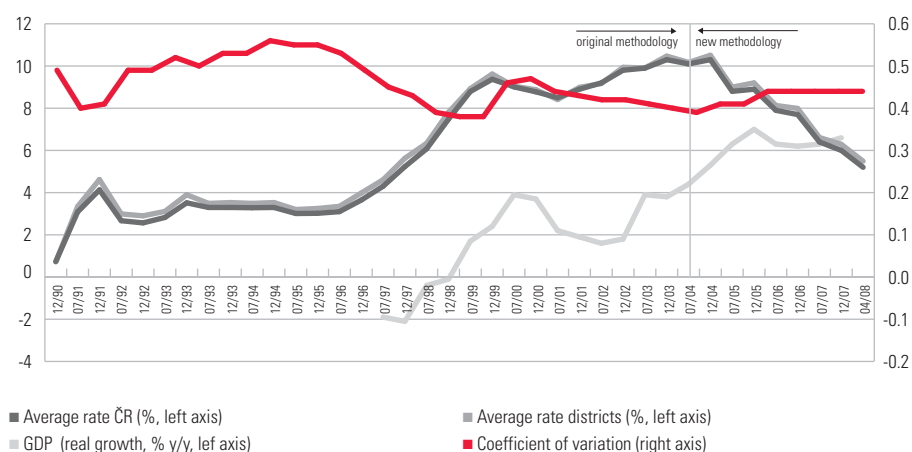
4. Vacancies and Regional Mismatch

As follows from what has already been written, a significant part of the unemployment in the Czech districts comprises the structural component. This is confirmed by the figures on regional vacancies. Examining the data, there is a clear mismatch between the presence of unemployment and supply of vacancies. There is a persistent trend of lower supply of vacancies in the high-unemployment regions compare to the low-unemployment regions. In 20 districts suffering from the highest unemployment between 2004–2007, the vacancy rate tends to be only on the half of the level prevailing in 20 districts with the lowest unemployment (0.95% and 1.97% was the average vacancy rate in 2004–2007, respectively). The vacancy rate exhibits a similar level of variability as the unemployment rate –

The most significant changes in the pattern of regional differentiation of unemployment again took place already in the beginning of 1990s, and the regional disparities have stabilised since 1998. However, this stabilisation represents a rather high degree of regional differentiation, both compared to the other labour market indicators and in an international comparison.

The existing regional differences tend to prevail in time due to inefficient functioning of the migration as an equilibrating mechanism.

Figure 3: Unemployment in the CR and its variation among districts, 1990–2008



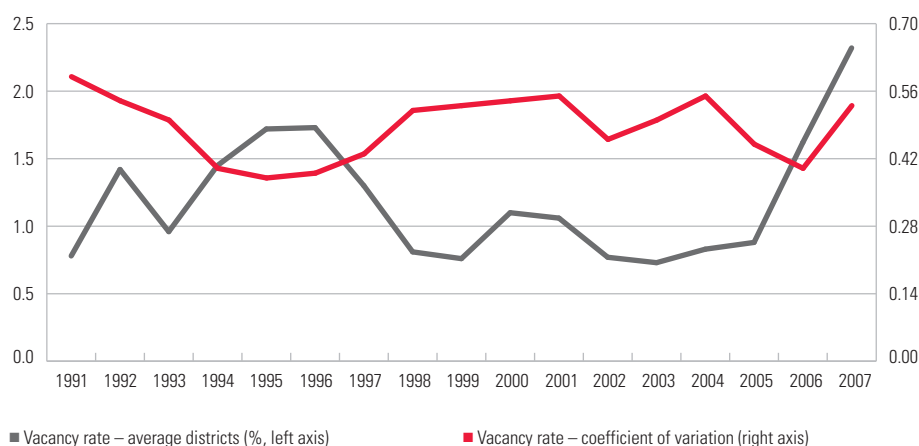
Source: Czech Statistical Office, Ministry of Labour and Social Affairs, own calculations

coefficient of variation fluctuated around 0.4–0.5 and its development was mirrorlike. Figure 4 describes the situation in this respect.

The disparity between unemployment and supply of vacancies practically means that there are more unemployed people falling on one vacancy in the depressed regions. The UV

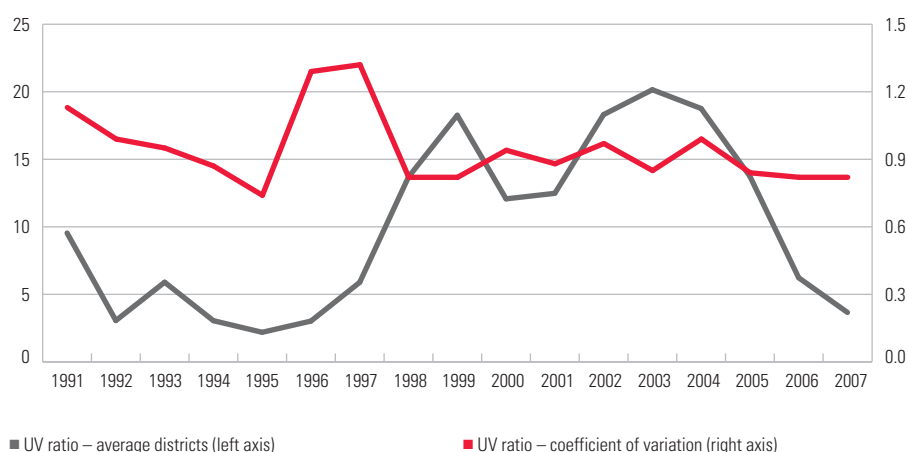
ratio in 20 worst-performing regions concerning the unemployment rate amounted to 20.4 in the average in 2004–2007, while it was 4.2 in the best unemployment-performing regions only, the difference thus being fivefold. The UV ratio exhibits very strong variability among districts, coefficient of variation fluctuating between 0.8–1.3.

Figure 4: Vacancy rate in the districts of the CR, 1991–2007



Source: Czech Statistical Office, Ministry of Labour and Social Affairs, own calculations
 Note: Data concern December 31st of the given year. The averages represent the average rate for the districts. Vacancy rate reports the number of vacancies per 100 economically active people.

Figure 5: UV ratio in the districts of the CR, 1991–2007



Source: Czech Statistical Office, Ministry of Labour and Social Affairs, own calculations
 Note: Data concern December 31st of the given year. The averages represent the average rate for the districts. UV ratio states the number of unemployed per one vacancy.

A significant part of the unemployment in the Czech districts comprises the structural component. There is a clear mismatch between the presence of unemployment and supply of vacancies.

The mismatch index exhibited an increasing trend in the examined period, peaking between 2000 and 2004, when it almost doubled compared to the early 1990s, and slightly declined thereafter. It is apparent that the attempts to diminish the regional and structural disparities on the Czech labour market haven't had a strong effect so far.

Table 1: Mismatch index in the districts of the CR, 1991–2007

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Mismatch index (%) ⁹⁾	0.99	0.85	1.08	1.04	0.93	1.03	1.24	1.48	1.75	1.91	1.88	1.94	1.95	1.98	1.76	1.68	1.5

Source: Czech Statistical Office, Ministry of Labour and Social Affairs, own calculations
 Note: Data concern December 31st of the given year.

The structural mismatch between the distribution of vacancies and unemployment among districts can be evaluated by the mismatch index (see Jackman, Roper 1987). This index represents the number of unemployed as a share of total labour force (in %), which is situated in a “wrong” region, where is a limited supply of vacancies. Moving these unemployed into a “good” region would attain a structural balance, resulting in a similar UV ratio in all the regions. The mismatch index exhibited an increasing trend in the examined period, peaking between 2000 and 2004, when it almost doubled compared to the early 1990s, and slightly declined thereafter (see table 1). It is apparent that the attempts to diminish the regional and structural disparities on the Czech labour market (through active labour market policies, educational programmes, financial flows from the EU structural funds etc.) haven't had a strong effect so far.

2006). The situation of the remaining regions is very different and incomparable to the central Bohemia. In average, the share of other NUTS-3 regions is 3%; higher level was recorded in Moravia-Silesian region (7%), and also Southern Moravian region, and Southern Bohemia region and Ústecký region. With an exception of southern parts of the republic all these regions typically exhibit higher wage level. Correlation between FDI inflow and wage level in the districts is positive and significant, equals to 0,3. However, also other regional factors may be present behind this relationship – FDI is mostly attracted into bigger cities, specialized in the service sector, and paying higher wages.

Specific regional factors account for a significant part of the variability in wages among districts. Huber and Wörgötter (1999) believe that exogenous regional factors have been contributing to over 60% of the regional disparities. The theory of wage curve (Blanchflower, Oswald, 1994) focuses on the specific regional factors affecting wages. These factors reflect the specific conditions of each single district (exogenous determinants such as location, urbanisation, infrastructure, conditions for commuting, attraction for tourism etc.) and their expression is represented by the regional unemployment rate. This empirical relationship runs from regional unemployment to wages: higher unemployment in a district negatively influences the wage level. This empirical relationship might be theoretically based on the effect of higher unemployment on decreasing bargaining power of the employees in collective bargaining over wages and also increased role of unemployment as a motivation device in the efficiency wages framework (Shapiro, Stiglitz, 1984). Taken this relationship in the reverse direction, lower average wage in the region might to certain extent affect the unemployment rate through the influence of minimum wages on the regional economies. The lower is the wage level in the region, the higher is the real economic burden put on employers by the minimum wage and the larger are the adverse effects on employment of low-qualification and low-wage workers.

Both of these relationships can be empirically documented on the Czech data. Controlling for different characteristics of inhabitants and business sector in regions, the rate of unemployment had a negative impact on regional wages in 2001.¹⁰⁾ The results of the regression analysis indicate that there are mainly two groups of factors of influence on the regional wage differentiation. Firstly, there

The rate of unemployment had a negative impact on regional wages in 2001. The coefficient of the unemployment elasticity of wages equals –0,1, which can be considered an evidence of the existence of the wage curve in the districts of the Czech Republic. There was a stronger relationship between wages and unemployment in the districts exhibiting low unemployment level in 2001.

5. Factors Affecting the Development of the Regional Labour Market Disparities

There are many factors influencing the regional differentiation of unemployment and wages. On the individual level, personal characteristics of the inhabitants and economic structure of businesses in the region play the key role. According to the theory of wage differentiation (coming out mostly from Mincer, 1970), age, gender, educational structure, and experience of the employed people in the region influence the wage level. Moreover, characteristics of the individual businesses such as sector classification, ownership and size can also affect the wage in the region (on the aggregate regional level, mostly structural characteristics of the economy such as sector structure, level of specialization and concentration are concerned).

In this sense, foreign direct investment (FDI) inflow to the region might be considered an important factor affecting the average wage in a positive direction.⁹⁾ According to the Czech National Bank's data on regional FDI, highest inflows were concentrated to Prague (amounted for 53% of total stock of FDI in the CR in 2006), followed by surrounding Central Bohemian region (11 % of total FDI stock in

⁸⁾ Index is calculated according to the following formula:

$$\frac{1}{2} \sum_{i=1}^{77} s_i [(u_i - v_i) - (u - v)]$$

where s_i is a share of the labour force in the given region, u_i represents the unemployment rate in the district, u is the overall unemployment in the CR, v_i is the vacancy rate in particular district and v is the total vacancy rate in the CR. Certain advantage of the index is that it is adjusted for the influences of the business cycle and doesn't change with the variation in the total unemployment or supply of vacancies. This allows for structural imbalances comparisons between the periods with different level of unemployment (see Jackman, Roper 1987).

⁹⁾ According to the CZSO data (ČSÚ, 2007), foreign and internationally owned companies pay significantly higher wages than the domestic companies. Moreover, there might also exist positive spillovers, promoting the economic performance of other businesses in the region and influencing the wages in other companies, too.

¹⁰⁾ Year 2001 was selected because of good accessibility of regional population characteristics data from census.

is a strong determination by the individual characteristics of people living in the region; in addition there is a significant influence of the unemployment rate itself. The coefficient of the unemployment elasticity of wages equals $-0,1$, which can be considered an evidence of the existence of the wage curve in the districts of the Czech Republic. There was a stronger relationship between wages and unemployment in the districts exhibiting low unemployment level in 2001.

On the other hand, there can be also identified the negative effect of lower wage level on regional unemployment through the minimum wage channel. Regression analysis of panel data for 77 Czech districts in years 1995–2004 indicates a statistically significant positive effect of the share of minimum wage to the average wage in a region (which is higher for lower wage level) on the regional rate of unemployment (for details see Fialová, 2007). The elasticity of unemployment with respect to the share of minimum wage on the average wage in the region reaches $0,3-0,7$, depending on the specification of the model. This indicates that the minimum wage system might represent a large economic burden for low wage regions, resulting in higher unemployment (mainly in the most vulnerable groups – the least productive, young, part-time workers, and women).

Apart from the institutional factors, differentiated among the districts, such as impacts of minimum wage system, or collective bargaining over wages, regional variability of unemployment might be also influenced by the personal characteristics of the inhabitants of the region and structural characteristics of the economy. Moreover, supply of vacancies, to certain extent reflecting the economic development of a region, plays an important role. Foreign direct investment inflow might also be considered a considerable factor in this respect; correlation between the FDI inflow and unemployment is significant, negative and equals to -0.1 . However, as FDI is mostly concentrated into urban regions, exhibiting low unemployment, it is not clear which way the causality runs and more detailed research would be necessary in this field. Finally, economic development of the whole country might also affect the regional disparities, but the relationship is not straightforward. Hůlka (2007) indicates that regional disparities tend to rise in the onset of economic expansion and the divergence decelerates during the running expansion. However, no clear result was proved during of recession.

There can be also identified the negative effect of lower wage level on regional unemployment through the minimum wage channel. The minimum wage system might represent a large economic burden for low wage regions, resulting in higher unemployment.

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Authors:	Kamil Janáček Chief Economist	+420 224 214 666 kamil_janacek@kb.cz
	Kamila Fialová Macroeconomic Analyst	+420 955 536 633 kamila_fialova@kb.cz
Assistance:	Pavčina Souralová Assistant	+420 955 536 632 pavlina_souralova@kb.cz Fax: +420 224 222 839

