Assessment of the Fulfilment of the Maastricht Convergence Criteria and the Degree of Economic Alignment of the Czech Republic with the Euro Area

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Contents:

Tables:

Charts:

1 Summary and Recommendations Regarding the Czech Republic's Preparedness for Joining ERM II and the Euro Area

Besides being required to harmonise their legislation with Articles 108 and 109 of the Treaty establishing the European Community and the Statute of the European System of Central Banks, EU Member States are required to achieve a high degree of sustainable convergence in order to join the euro area.

As regards European structures, this is measured by the fulfilment of four convergence criteria: a high degree of price stability, as apparent from the rate of inflation; sustainability of the government financial position, as measured by the government deficit and government debt; exchange rate stability, as measured by movements in the exchange rate within the normal fluctuation margins of the ERM II system for two years without devaluation; and durability of convergence, as reflected in long-term interest rate levels.

The Czech Republic is obliged to take steps to be prepared to join the euro area as soon as possible. However, setting the date for joining the euro area is within the competence of the Member State and depends on its preparedness. Potential non-fulfilment of the convergence criteria has no direct consequences for the Czech Republic at present. The only exception is the criterion on the sustainability of public finances. Failure to meet this criterion resulted in the Czech Republic being in the excessive deficit procedure from 2004 to June 2008.

1.1 Assessment of Fulfilment of the Convergence Criteria

The Czech Republic will evidently not fulfil **the criterion on price stability** in 2008. Inflationary shocks in particular have shifted inflation significantly, albeit temporarily, above the criterion value. These shocks included above all changes to indirect taxes, connected with the reform of public finances and also with harmonisation with EU law (a rise in the lower VAT rate, excise duty on cigarettes and the introduction of environmental taxes), as well as extreme growth in global food and energy prices. After these one-off effects subside, inflation will fall significantly in 2009 to values allowing fulfilment of the price stability criterion. Turning to the outlook for fulfilling this criterion in subsequent years, 2010 can be considered potentially risky owing to uncertainties regarding the contribution of administrative measures (the rate of increase of regulated rents).

The reduction of the CNB's inflation target for the national consumer price index (CPI) to 2.0%, with a tolerance band of ±1.0 p.p., from 1 January 2010 creates better conditions for the fulfilment of the price stability criterion beyond this horizon. It is desirable, however, that no substantial inflationary changes to indirect taxes or other administrative measures in the consumer price area hindering the fulfilment of the criterion be made during the reference period for the assessment of this criterion.

The Czech Republic is compliant with **the criterion on the sustainability of the government financial position.** The government's fiscal strategy, which forms the basis of the updated Convergence Programme of the Czech Republic, should ensure that the government deficit is maintained below 3% of GDP. The structural deficit should fluctuate around 1.5% of GDP in 2008 and 2009, which should ensure that the government deficit will not exceed 3% of GDP even in the event of the expected economic slowdown.

The public debt-to-GDP ratio is well below the threshold. It should fall systematically in the medium run owing to a decrease in the government deficit and thanks to the use of expected privatisation revenues for non-debt financing of the deficit. However, not even a successful medium-term fiscal consolidation will be able to stabilise the government debt-to-GDP ratio in a sustainable manner if the fiscal system is not prepared for the expected adverse effects of population ageing. Unless the necessary reforms of the pension and health care systems are implemented, a gradual increase in the debt-to-GDP ratio is to be expected in the long term.

Formal assessment of **the exchange rate criterion** will only be possible after the Czech Republic joins ERM II and the related central parity for the koruna's exchange rate is announced. Moreover, the definition of the criterion is such that its interpretation is not entirely clear and so the assessment of its fulfilment cannot be clear either. The koruna has been showing an appreciation trend for some time, but – except in 2007 and 2008 – this has not resulted in an overall appreciation exceeding 15% during two consecutive years. However, given highly unfavourable external factors such as the currently escalating financial market crisis, sizeable fluctuations towards the weaker side of the hypothetical band of ±15% cannot be ruled out either. Consequently, one cannot say for sure whether such a situation would be assessed as being compliant with the condition of movement close to the central parity "without severe tensions". It is impossible to estimate the depth, scope and duration of the current financial market crisis. In this situation, one cannot even estimate how long the period of increased exchange rate volatility, with potential koruna fluctuations in both directions, will last. Fulfilling the exchange rate criterion after joining ERM II could thus be very difficult under these conditions.

The Czech Republic is currently compliant with **the criterion on long-term interest rates** and no problems are expected in this area in the future.

1.2 Assessment of Economic Analyses

Owing to high economic growth, the Czech economy has gradually been catching up with the average GDP level of the euro area in recent years. The functioning of the Czech economy has recently seen some improvement, partly due to cyclical developments. The public finance deficit was reduced quite substantially in 2007. However, eliminating the structural deficit and ensuring public finance sustainability are still a challenge. On the labour market, some structural improvement is being observed in addition to the cyclical improvement. The business environment is also gradually improving. However, problems persist in the institutional framework on the labour market. The current financial crisis and its impacts pose a risk to the outlook for the economic alignment and overall performance of the Czech economy.

In the longer term, i.e. since 2003, when the Czech Republic's Euro-area Accession Strategy was adopted, there have been both favourable and unfavourable developments in terms of euro adoption and the flexibility of the Czech economy. The aforementioned positive shift in some indicators since 2006 came after a relatively adverse period during 2004–2006 which saw a deterioration in economic alignment with the euro area and potential sources of asymmetric development and in the economy's ability to adjust to economic shocks. The Czech Republic's preparedness for euro adoption is thus roughly at the 2003 level for many indicators. Compared to 2003, in addition to advancing real and nominal convergence, there have been positive shifts in the fiscal outlook – even though there is a persisting need to reduce the structural deficit and to ensure long-term sustainability of public finances – and in

the unemployment rate. By contrast, the global financial crisis is fostering higher macroeconomic risk.

In terms of its current preparedness to adopt the euro, the characteristics of the Czech economy can be divided into four groups.

The economic indicators that speak in favour of the Czech Republic adopting the euro traditionally include the high degree of openness of the Czech economy, its close trade and ownership links with the euro area, and the achievement of convergence of the inflation rate and nominal interest rates.

The second group comprises **areas which, in terms of euro adoption in the Czech Republic, continue to pose a risk of macroeconomic costs, but which have shown noticeable improvements in recent years.** The positive developments include continuing fast real economic convergence in the Czech Republic, including further convergence of the price level towards that in the euro area, even though a difference in the price level and in the level of economic development persists. According to some analyses, the alignment of economic activity between the Czech Republic and the euro area appears to have slightly increased recently. Owing to favourable cyclical developments and partly also to gradual structural changes, some improvements can be observed on the labour market, manifesting themselves, among other things, in a decline in total and long-term unemployment and a halt in the decline in the rate of economic activity of the population. International labour mobility has also increased, particularly as regards the inflow of foreign workers to the Czech Republic. However, this suggests persisting rigidities concerning the system of incentives for employing low-skilled Czech workers. In terms of labour market flexibility, the positive developments also include a halt in the growth in overall labour taxation, as well as a halt in the growth of the minimum wage ratio to the average wage. The conditions for entrepreneurship are also improving slowly. The public finance deficit has been reduced, its outlook for subsequent years decreased and the excessive deficit procedure against the Czech Republic has been abrogated; these are vital steps in terms of the country's preparedness to adopt the euro. A reduction in the structural deficit has created space for automatic stabilisers to work without any acute risk of the 3% limit for the government deficit being exceeded.

The third group contains **areas which traditionally represent bottlenecks as regards the economy's flexibility and ability to adjust to shocks and which, moreover, are not showing any significant improvements**. The stabilising effect of public finances continues to be limited by the existence of a structural deficit and by the relatively low effectiveness of automatic stabilisers. In the long run, it will also be necessary to ensure that demographic changes do not adversely affect fiscal policy effectiveness and the long-term sustainability of public budgets. The tax and benefit system, which, despite the measures adopted, still creates a demotivating environment for the long-term unemployed in low-income families with children, is a bottleneck on the labour market. According to analyses, wages in the Czech Republic do not seem to be responding flexibly enough to economic developments. Another problem is that the skills of the long-term unemployed do not meet the current needs of the corporate sector. The costs of terminating open-ended employment contracts, particularly after a short period of employment, remain very high by international comparison.

The area of financial integration, where a satisfactory situation prevailed in the past, can be identified as the fourth group. Amid the current global financial crisis, the existence of an independent monetary policy has both benefits and costs; in general, however, it is likely that having one's own currency is more of a benefit in such a situation. The financial crisis can also be viewed as a temporary adverse factor as regards future adoption of the euro. From the point of view of the indicators monitored, the

financial crisis has brought a slight reduction in the alignment of the exchange rate of the koruna with the euro and in the alignment with the euro area of yields on individual financial market instruments. The financial crisis can also be regarded as an example of an asymmetric shock, having various effects on individual economies depending on whether their financial sectors have suffered direct losses from investing in risky assets or whether these economies are facing only indirect impacts of the crisis. The continuing major uncertainty on financial markets does not constitute a favourable environment for the Czech Republic's entry into ERM II, even though the Czech Republic is not among the countries that have been hit directly by the crisis. As a system of fixed but adjustable exchange rates, ERM II is vulnerable to changes in financial market sentiment and in short-term capital flows. Any unfavourable developments during the Czech koruna's stay in this mechanism could generate macroeconomic costs and reduce the Czech economy's alignment with the euro area. As the financial crisis abates, we can expect the results in the area of the Czech economy's financial integration with the euro area to improve again and more favourable conditions for ERM II entry to be established. However, the financial crisis could also have longer-term adverse consequences for the alignment of individual Member States' economies if fiscal discipline in the EU is relaxed as a result. However, there is widespread uncertainty regarding the future application of the Stability and Growth Pact rules at the moment.

1.3 Conclusions and Recommendations

The government financial position is no longer the main barrier to the fulfilment of the Maastricht convergence criteria now that the excessive deficit procedure against the Czech Republic has been terminated. As the one-off inflationary effects that generated a temporary pronounced increase in inflation in 2008 subside, there will be a marked fall in inflation in 2009 to values allowing fulfilment of the price stability criterion. This will be aided by the CNB's new inflation target which takes effect in 2010. The criterion on long-term interest rates is being – and very probably will continue to be – fulfilled without any problems. The Czech Republic does not fulfil the exchange rate criterion because it does not participate in ERM II. The present global financial crisis is, among other things, increasing the volatility of the koruna's exchange rate, and so fulfilment of the exchange rate criterion after the country potentially joins ERM II could thus be very difficult under these conditions.

Turning to economic alignment, the Czech Republic has gradually been decreasing the gap in its economic level vis-à-vis the euro area in recent years, and the functioning of the Czech economy is showing some improvement. Despite a substantial reduction in the public finance deficit in 2007, eliminating the structural deficit and ensuring long-term public finance sustainability are still a challenge. On the labour market, some structural improvement is being observed in addition to the cyclical improvement. Some aspects of the business environment are also gradually improving. However, problems persist in the institutional framework on the labour market. The current global financial crisis can be viewed as a temporary adverse factor as regards future adoption of the euro, since it is acting as an asymmetric shock affecting the individual euro area countries to differing degrees. Moreover, the continuing major uncertainty on financial markets does not constitute a favourable environment for joining ERM II, since ERM II is potentially vulnerable to changes in financial market sentiment and in short-term capital flows. Any adverse developments during the Czech koruna's stay in this mechanism could generate macroeconomic costs and reduce the Czech economy's alignment with the euro area. The financial crisis could also have longer-term adverse consequences for the alignment of individual Member States' economies if fiscal discipline in the EU is relaxed as a result.

In the context of the current global financial crisis, the outlook for fulfilling the Maastricht convergence criteria and, in particular, for maintaining and further increasing the degree of alignment of the Czech economy with the euro area is highly uncertain. **In this situation, therefore, it is impossible to conclude that the Czech Republic has made sufficient progress in laying the groundwork for euro adoption to allow it to set a target date for entry into the euro area. Therefore, in line with the Czech Republic's Updated Euro-area Accession Strategy (the "Strategy"), the Ministry of Finance and the Czech National Bank recommend that the Czech Government should not set the target date for the time being. The recommendation not to set a target date for euro area entry at the same time implies a recommendation that the Czech Republic should not attempt to enter ERM II during 2009.** In line with the Strategy, the length of stay in ERM II should be as short as possible. Consequently, the decision to join the mechanism cannot be made before the target date for euro adoption has been set. Potential ERM II entry under the current conditions of global financial crisis could, moreover, be considered relatively risky, not only from the point of view of fulfilling the exchange rate criterion, but also from the point of view of prudent economic policy generally.

2 Assessment of the Current and Expected Fulfilment of the Maastricht Convergence Criteria

The convergence criteria (price stability, public finance sustainability as measured by the government deficit and government debt, exchange rate stability, and convergence of long-term interest rates) are defined in the EC Treaty (the "Treaty") and specified in the Protocol on the convergence criteria and the Protocol on the excessive deficit procedure annexed to the Treaty. Fulfilment of the convergence criteria in a sustainable manner is a necessary condition for adoption of the single currency by a Member State with a derogation.

2.1 Criterion on Price Stability

> **Box 2.1: Definition of the criterion on price stability**
>
> **Treaty provisions**
> The first indent of Article 121 (1) of the Treaty requires: "the achievement of a high degree of price stability; this will be apparent from a rate of inflation which is close to that of, at most, the three best performing Member States in terms of price stability".
>
> Article 1 of the Protocol on the Convergence Criteria referred to in Article 121 of the Treaty stipulates that: "the criterion on price stability referred to in the first indent of Article 121 (1) of this Treaty shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1½ percentage points that of, at most, the three best performing Member States in terms of price stability. Inflation shall be measured by means of the consumer price index on a comparable basis, taking into account differences in national definitions."
>
> **Application of Treaty provisions in ECB and EC Convergence Reports**
> With regard to "an average rate of inflation, observed over a period of one year before the examination", the inflation rate is calculated using the increase in the latest available 12-month average of the Harmonised Index of Consumer Prices (HICP) over the previous 12-month average.
>
> The reference value relating to the values of "at most, the three best performing Member States in terms of price stability" is calculated in practice as the unweighted arithmetic average of the rate of inflation in the three countries with the lowest inflation rates, given that these rates are compatible with price stability.
>
> **Implementation of the price stability criterion – current practice**
>
> Both the Treaty and the Protocol in some areas leave scope for interpretation by the institutions that assess the fulfilment of the criteria. Therefore, when assessing the fulfilment of the criteria one should also take into account the specific way in which these institutions apply the criterion.
>
> As experience from the Convergence Reports published since 2004 has shown, both the Commission and the ECB have in these reports used the three countries with the lowest non-negative inflation, even though they have differed somewhat in their specific interpretations of the phrase "best performing Member States in terms of price stability".
>
> Moreover, the negative verdict for Lithuania[1] in the May 2006 Convergence Reports indicated that a very strict assessment can be expected as regards sustainable fulfilment of the criterion. If the outlook for the coming months foresees inflation rising above the reference value, the conclusion may be that the country is failing to satisfy the criterion in a sustainable manner. A similar signal has been sent out in the relatively strict assessment of the risks to the sustainable fulfilment of this criterion by Slovakia in the ECB Convergence Report 2008, despite the fact that Slovakia will ultimately enter the euro area in 2009.

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[1] *Lithuania recorded a significant rise in inflation between 2004 and 2006. As a result, inflation in Lithuania exceeded the price stability criterion reference value by 0.1 percentage point in the spring 2006 assessment.*

According to the calculation of the reference value for the three countries with the lowest positive inflation (see Table 2.1), the Czech Republic did not fulfil this criterion in 2007 (when a sharp rise in world prices of food and oil occurred) and is even further from fulfilling it in 2008. The main exogenous factor was food prices, as a result of growing world prices, accompanied by an increase in the lower VAT rate from 5% to 9%. The introduction of environmental taxes and health care fees, further increases in excise duties and an extreme surge in oil prices acted in the same direction. Administrative measures (including changes in VAT and energy prices) will account for about 60% of total consumer price inflation this year.

Table 2.1: Harmonised index of consumer prices
(average for last 12 months vs. average for previous 12 months, growth in %)

	2005	2006	2007	08/08	2008	2009	2010	2011
Průměr 3 zemí EU s nejnižší inflací	1,0	1,4	1,3	2,6	2,6	2,4	1,7	1,7
Hodnota kriteria	2,5	2,9	2,8	**4,1**	**4,1**	3,9	3,2	3,2
Česká republika	1,6	2,1	3,0	**6,1**	**6,4**	2,9	3,0	2,5

Sources: Eurostat, European Commission, Convergence Programmes and Stability Programmes of Member States (2007); the forecast for the Czech Republic is taken from the Convergence Programme of the Czech Republic (2008).

Note: The outlook for EU countries for 2008–2009 is taken from the European Commission's spring 2008 economic forecast.

Table 2.1 shows that while in 2009 and 2011 the Czech Republic should fulfil the price stability criterion comfortably if inflation expectations continue being well anchored, in 2010 it might fulfil this criterion by only a narrow margin. Uncertainty is associated, among other things, with the question of to what extent municipalities will take the opportunity to increase regulated rents by the maximum percentage (the estimated average increase may be as much as 50% year on year). Another uncertainty is the assumption of stable exogenous factors (world prices, exchange rates).

However, when assessing the future ability to maintain inflation below the reference value, one needs to take into account that the individual countries' inflation forecasts, with few exceptions, do not deviate far from the ECB's inflation objective, whereas actual inflation deviates from it significantly more. This may mean a lower inflation level in the countries that form the basis for calculating the criterion, and thus a lower reference value. This was reflected in the criterion in previous years, when it tended to be lower than in the outlook for the criterion given in Table 2.1. Moreover, the probability of a low reference value is higher than in the past, owing to the larger number of EU Member States, among which three countries with very low inflation will more probably be found.

By contrast, a greater degree of certainty of future fulfilment of the criterion will be fostered by the CNB's new inflation target of 2.0% for the national CPI, with a tolerance band of ±1.0 percentage point, from 1 January 2010.[2] It is desirable, however, that no substantial inflationary changes to indirect taxes or other administrative measures in the consumer price area be made during the reference period for the assessment of this criterion (i.e. ERM II participation). Such measures would hinder fulfilment of the criterion.

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[2] *In its Inflation Report IV/2008, the CNB forecasts lower inflation for 2008–2010 than given in the Czech Republic's aforementioned 2008 Convergence Programme.*

2.2 Criterion on the Sustainability of Public Finances[3]

Government deficit criterion

The excessive deficit procedure against the Czech Republic was opened in 2004. On the commencement of the procedure by the ECOFIN Council, the Czech Republic was given a deadline of the end of 2008 to bring its government deficit below 3% of GDP in a credible and sustainable manner. The favourable fiscal result for 2007 led to the abrogation of the procedure in June 2008.

Box 2.2: Definition of the criterion on the sustainability of the government financial position

Treaty provisions

The second indent of Article 121(1) of the Treaty requires "the sustainability of the government financial position; this will be apparent from having achieved a government budgetary position without a deficit that is excessive, as determined in accordance with Article 104 of the Treaty".

Article 2 of the Protocol on the Convergence Criteria referred to in Article 121 of the Treaty stipulates that this criterion "shall mean that at the time of the examination the Member State is not the subject of a Council Decision under Article 104(6) of this Treaty that an excessive deficit exists".

Article 104 of the Treaty sets out the excessive deficit procedure. According to Article 104 (2) and (3), the European Commission prepares a report if a Member State does not fulfil the requirements for fiscal discipline, in particular if:

1.   the ratio of the planned or actual government deficit to GDP exceeds a reference value (defined in the Protocol on the Excessive Deficit Procedure as 3% of GDP), unless:

- either the ratio has declined substantially and continuously and reached a level that comes close to the reference value, or

- the excess over the reference value is only exceptional and temporary and the ratio remains close to the reference value.

2.   the ratio of government debt to GDP exceeds a reference value (defined in the Protocol on the Excessive Deficit Procedure as 60% of GDP), unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.

The current settings of the Czech Republic's public finance parameters enable it to satisfy the government deficit criterion in the medium term. Provided that the approved expenditure frameworks are complied with, the government's fiscal strategy should ensure that the government deficit remains safely below 3% of GDP (see Table 2.2).

Table 2.2: General government balance
(ESA 1995 methodology, in % of GDP)

	2004	2005	2006	2007	2008	2009	2010	2011
Hodnota kritéria	-3,0	-3,0	-3,0	**-3,0**	**-3,0**	**-3,0**	**-3,0**	**-3,0**
Česká republika	-3,0	-3,6	-2,7	**-1,0**	**-1,2**	**-1,6**	**-1,5**	**-1,2**

Sources: CZSO, Government Deficit and Government Debt Notifications (October 2008), Convergence Programme of the Czech Republic (November 2008).

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[3] *The criterion on the sustainability of public finances is satisfied only when both components of the fiscal criterion, i.e. the government deficit and government debt, are fulfilled in a sustainable manner.*

The medium-term budgetary objective for the Czech Republic under the Stability and Growth Pact is to achieve a structural general government deficit of 1% of GDP. The current strategy for reducing the structural general government deficit assumes that this objective will be achieved by 2012.

The structural deficit should be around 1.5% of GDP in 2008 and 2009 and decline gradually in the years that follow. This structural deficit level provides a certain margin of safety against exceeding the 3% threshold in the event of a somewhat sharper-than-expected economic slowdown in the Czech Republic.

Greater involvement of reserve funds in government expenditure, with a negative impact on the deficit, remains another risk to the fiscal outlook in the years ahead.[4] The adoption of a law to rectify some property injustices against churches and/or a one-off solution to environmental obligations could also widen the deficit. The potential impacts on public finances will depend on the exact form of the relevant measures.

Government debt criterion

Given the low initial level of government debt, the Czech Republic has no problem fulfilling this criterion. The sharp rise in government debt in 2001–2003 largely reflected the inclusion of the majority of the government's indirect liabilities identified (primarily government guarantees and the classification of Česká inkasní, the Czech Consolidation Agency and their subsidiaries in the general government sector). More recently, the public debt-to-GDP ratio has gradually been reduced thanks to fast economic growth and a decline in the government deficit.

This ratio should decline further in the medium term owing to a decline in the deficit below the level stabilising the debt-to-GDP ratio and the expected use of privatisation revenues for non-debt financing of government expenditure (see Table 2.3).

Table 2.3: Government debt
(ESA 1995 methodology, in % of GDP)

	2005	2006	2007	2008	2009	2010	2011
Hodnota kritéria	60,0	60,0	60,0	60,0	60,0	60,0	60,0
Česká republika	29,8	29,6	28,9	28,8	27,9	26,8	25,5

Source: CZSO, Government Deficit and Government Debt Notifications (October 2008), Convergence Programme of the Czech Republic (November 2008).

However, not even a successful medium-term fiscal consolidation guarantees the stabilisation of the government debt-to-GDP ratio in a sustainable manner if the fiscal system is not prepared for the expected adverse effects of population ageing. Unless the necessary reforms are implemented to mitigate the fiscal impacts of population ageing, in particular a pension system reform and health care reform, a gradual increase in the debt-to-GDP ratio is to be expected in the long term.

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[4] *A total of CZK 96.9 billion (2.7% of GDP in 2007) had been accumulated in the reserve funds by the end of 2007. Of this, around CZK 40.7 billion (1.2% of GDP in 2007) are funds that would widen the government deficit if included in expenditure. The remaining funds are to be used for the pre-funding of projects co-financed by EU funds and will thus be refunded from the EU budget once the projects are implemented.*

2.3 Criterion on Exchange Rate Stability

The Czech Republic does not participate in ERM II, so the central parity of the CZK/EUR rate has not been set yet. For this reason, the exchange rate criterion cannot be formally assessed. In Chart 2.1, the hypothetical central parity is, for illustration, assumed to be the average of the daily exchange rates for 2005–2007.

The koruna's exchange rate has been recording a long-term appreciation trend. The exchange rate fluctuated within the hypothetical band until 2007. The trend appreciation took place amid relatively low short-term volatility and at such a pace that the exchange rate did not appreciate by more than 15% in total during two consecutive years. However, the developments in 2008 showed that deviations from the average rate can be enormous and that a 15% appreciation can be achieved in much shorter times given some combination of external and domestic factors. In the current financial market crisis, moreover, the fluctuations in the CZK/EUR exchange rate may go in either direction.

Chart 2.1: Nominal CZK/EUR rate
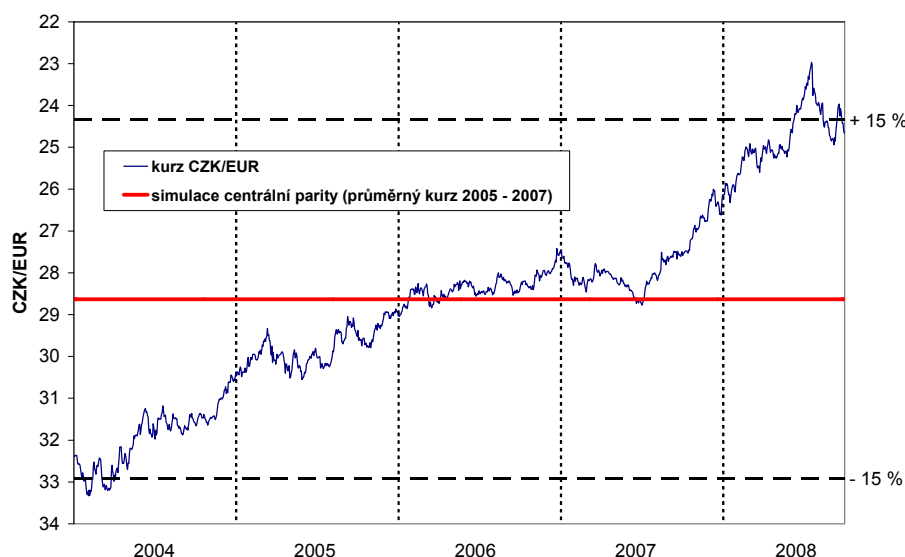
Source: CNB, Ministry of Finance calculations
Note: In the chart, an upward movement of the exchange rate means an appreciation of the koruna.
*   The hypothetical central parity is simulated by the average exchange rate for 2005–2007.*

The definition of the criterion is such that its interpretation is not entirely clear. In an attempt to reduce this ambiguity, the ECB published a statement in 2003 stating that the assessment of the fulfilment of this criterion would take into account other factors than the exchange rate level alone (see Box 2.3). However, the assessment is not unambiguous even in the light of this statement. Consequently, one cannot say for sure whether the present situation would be assessed as being compliant with the condition of movement close to the central parity "without severe tensions".

Successful ERM II participation may be aided in particular by alignment with the euro area economy and consistency of economic policies. The Czech Republic's 2003 Euro-area Accession Strategy and its 2007 update recommend participation in ERM II for the minimum required period of two years only. This implies that "the Czech Republic should enter the ERM II only after conditions have been established which enable it to introduce the euro at

the time of the assessment of the exchange rate criterion (two years after entering the ERM II) and then to benefit from its introduction without experiencing any problems".[5]

Compared to the present exchange rate regime of (managed) floating, ERM II entry will be a new element which might have a substantial effect on the behaviour of the exchange rate. The key issue when switching to the ERM II mechanism will be setting an appropriate and sustainable central parity.

Given the currently spreading financial market crisis, which is causing larger exchange rate fluctuations, this criterion might be very difficult to fulfil after ERM II entry.

2.4 Criterion on Long-term Interest Rates

Box 2.4: Definition of the criterion on long-term interest rates

Treaty provisions
The fourth indent of Article 121 (1) of the Treaty requires: "the durability of convergence achieved by the Member State and of its participation in the exchange-rate mechanism of the European Monetary System being reflected in the long-term interest-rate levels".

Article 4 of the Protocol on the Convergence Criteria referred to in Article 121 (1) of the Treaty stipulates that: "the criterion on the convergence of interest rates referred to in the fourth indent of Article 121 (1) of this Treaty shall mean that, observed over a period of one year before the examination, a Member State has had an average nominal long-term interest rate that does not exceed by more than 2 percentage points that of, at most, the three best performing Member States in terms of price stability. Interest rates shall be measured on the basis of long-term government bonds or comparable securities, taking into account differences in national definitions".

Application of Treaty provisions in ECB and EC Convergence Reports
First, with regard to "an average nominal long-term interest rate" observed over "a period of one year before the examination", the long-term interest rate has been calculated as an arithmetic average over the latest 12 months for which HICP data were available.

Second, the notion of "at most, the three best performing Member States in terms of price stability" which is used for the definition of the reference value has been applied by using the unweighted arithmetic average of the long-term interest rates in the three countries with the lowest inflation rates. Interest rates have been measured on the basis of harmonised long-term interest rates, which were developed for the purpose of assessing convergence.

The Czech Republic is currently comfortably compliant with the criterion on long-term interest rates and no problems are expected in this area in the future[6] (see Table 2.4). The decline in the criterion level in 2010 and 2011 is due to a technical assumption of real interest rate stability, and thus also of stable financial market sentiment. Given the previous and

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[5] *For details, see the joint documents of the Czech Government and the CNB: "The Czech Republic's Euro-area Accession Strategy" and "The Czech Republic's Updated Euro-area Accession Strategy" at http://www.mfcr.cz/cps/rde/xchg/mfcr/hs.xsl/eu_acc_stra.html.*

[6] *As no forecast for the time horizon under review is available for the long-term interest rates of the countries that should, according to the inflation forecast, form the basis for calculating the criterion, the projection of the reference value in Table 2.4 for 2009–2011 is based on the technical assumption that long-term interest rates will move in line with inflation, i.e. real interest rates will not change. The future reference value should therefore be viewed as only tentative.*

expected developments in this area, it cannot be ruled out that the real level of this criterion will be higher.

Table 2.4: 10-year interest rates on government bonds on the secondary market
(average for the last 12 months, in %)

	2005	2006	2007	08/08	2008	2009	2010	2011
Průměr 3 zemí EU s nejnižší inflací	3,4	4,2	4,4	4,4	4,6	3,9	3,2	3,2
Hodnota kriteria	5,4	6,2	6,4	**6,4**	**6,6**	**5,9**	**5,2**	**5,2**
Česká republika	3,5	3,8	4,3	**4,7**	**4,7**	**4,4**	**4,3**	**4,2**

Source: Eurostat, Convergence Programmes and Stability Programmes of Member States (2007), Convergence Programme of the Czech Republic (November 2008).

The forecast for interest rates on government bonds in the Czech Republic is dependent on the sound development of public finances. Any decline in financial market confidence in the positive fiscal outlook could lead to a rise in the risk premium on long-term interest rates and make this convergence criterion more difficult to fulfil.

3 Assessment of the Czech Republic's Current Economic Alignment with the Euro Area

This part summarises the results of a set of analyses directed at assessing the Czech economy's alignment with the euro area over and above the formal criteria, the fulfilment of which is assessed in the previous part. If the Czech economy is to reap the benefits associated with introducing the euro it will need to be able to operate without an independent monetary policy and without the option of exchange rate adjustment vis-à-vis its most important trading partners. This ability will be affected by the similarity of economic developments in the Czech economy with those in the euro area, since the degree of alignment will co-determine the appropriateness of the monetary conditions in the euro area to the current situation in the Czech Republic. The ability to adjust rapidly to economic shocks will be also an important factor. The Czech economy's alignment and its preparedness to adopt the euro can thus be assessed in terms of the long-term economic trends, the medium-term development of economic activity and the structural similarity of the Czech economy to the euro area economy, all of which affect the probability of asymmetric developments and the occurrence of asymmetric shocks, and in terms of the ability of the economy to absorb shocks and adjust flexibly to them.

The analyses are divided into two basic groups according to the type of question they try to answer. The section entitled "Cyclical and Structural Alignment" indicates the size of the risk of economic shocks whose impact on the Czech economy will differ from that on the euro area as a whole ("asymmetric shocks"). The section entitled "Adjustment Mechanisms" answers the question of to what extent the Czech economy is capable of absorbing the impacts of potential asymmetric shocks. The basic theoretical starting point for the underlying analyses is the theory of optimum currency areas. These analyses are aimed at assessing the evolution of the alignment indicators over time and in comparison with selected countries. The countries under comparison either are euro area members already (Austria, Germany, Portugal and Slovenia)[7] or will become so in the near future (Slovakia) or aspire to such membership (Poland and Hungary). The individual studies were prepared using the statistical data and information available in September 2008. The conclusion as to whether the Czech economy is sufficiently prepared for adopting the single currency cannot be made in absolute terms, but can ensue from the aforementioned comparison with other countries and the assessment of developments over time. In general, it can be expected that the benefits of adopting the euro will grow with greater economic alignment and stronger adjustment mechanisms.

3.1 Cyclical and Structural Alignment

The costs arising from the loss of the Czech Republic's own monetary policy will be particularly pronounced if the Czech economy is not aligned with the euro area economy. The risks arising from the Czech Republic's accession to the euro area will decrease as the degree of alignment increases.

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[7] *The selection of euro area countries included in the comparison comprises countries that are comparable in terms of economic level and countries with which the Czech economy has trading links. The values of the indicators for the euro area are defined at the EA-13 level.*

The degree of real economic convergence is an important indicator of the Czech economy's similarity to the euro area. A higher level of such convergence fosters greater similarity of long-run equilibrium development. Indirectly it can also foster a lower likelihood of misalignment in the shorter run. A higher degree of convergence in the economic level prior to ERM II entry and euro adoption should further increase the relative price level, which will decrease potential future pressures for growth of the price level and equilibrium appreciation of the real exchange rate. The process of convergence of the GDP and price levels has accelerated over the past five years. At present, GDP per capita in the Czech Republic is almost 75% of the euro area average, which means that the standard of living is comparable with the less advanced members of the euro area (see Chart 3.1). However, at 60% of the euro area level in 2007, the price level in the Czech Republic is still below that corresponding to its economic level. This indicator shifted upwards in 2004–2007, mainly due to rapid nominal appreciation of the koruna, and the same factor will underlie the likely further significant convergence in 2008. The real exchange rate of the koruna appreciated at an average pace of 3.2% a year between 1998 and 2007, which is a significantly higher pace than in the current euro area countries under comparison. The pace of real appreciation increased even more significantly in 2008. Going forward, the equilibrium trend of real appreciation of the koruna against the euro can be expected to continue in line with the real convergence, according to the analyses at a rate of 1.3%–2.4% a year. Persistence of this trend following the euro area entry will initially engender a corresponding higher rate of inflation in the Czech Republic than in the euro area and related lower domestic real interest rates (possibly even negative in the case of short-term money market rates). If this situation persists in the long term, there would be a risk of an overheating of the economy associated with adverse consequences for macroeconomic and financial stability.

Chart 3.1: Real economic convergence of selected countries towards euro area in 2007 *(EA-13 average = 100)*

Legend: ■ HDP na obyvatele v paritě kupní síly ■ průměrná cenová hladina HDP
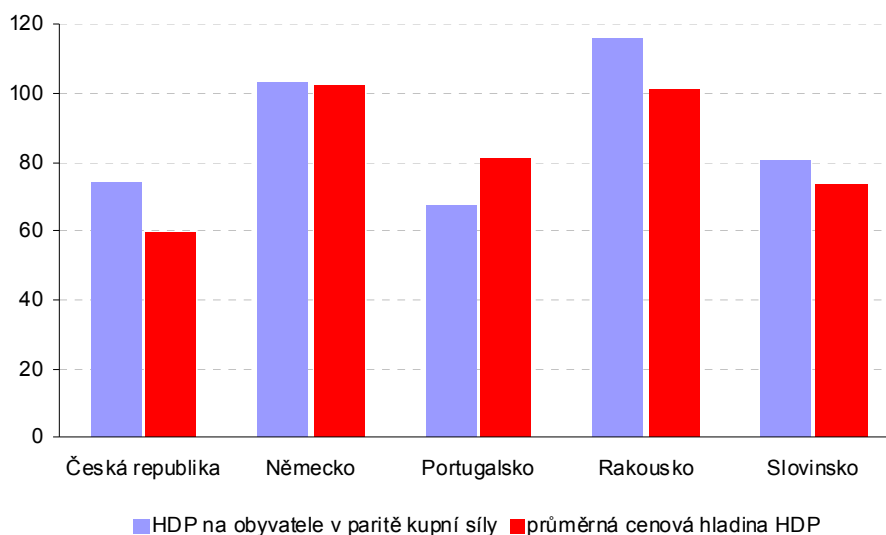
Source: Eurostat, CNB calculations.

Alignment of economic activity and similarity of economic shocks will help the single monetary policy to have an appropriate effect on the economy in the monetary union. The analyses suggest that the overall economic activity during the business cycle in the Czech Republic is becoming more aligned with that in the euro area (see Chart 3.2). However, the results are not unambiguous and this relationship may be partially distorted by the trend developments in the Czech economy. Although the observed correlations are lower than those

of the euro area countries under review, they are slightly higher than those for the currently acceding Slovakia, for example. However, the analysis of the occurrence of demand-side and supply-side macroeconomic shocks failed to find any alignment of the Czech economy with that of the euro area. By contrast, a relatively high degree of alignment with the euro area is signalled by some other indicators, for example by the alignment of activity in industry and export activity. According to the analyses, the Czech Republic's export activity has recently been statistically significantly correlated with euro area exports rather than with GDP growth in the euro area. This may be linked with the integration of Czech exporters into the production chains of multinational companies, and creates conditions for relatively symmetrical transmission of external shocks hitting the euro area to the Czech economy.

Chart 3.2: GDP growth in the Czech Republic and the EA-13 *(in %, year on year)*
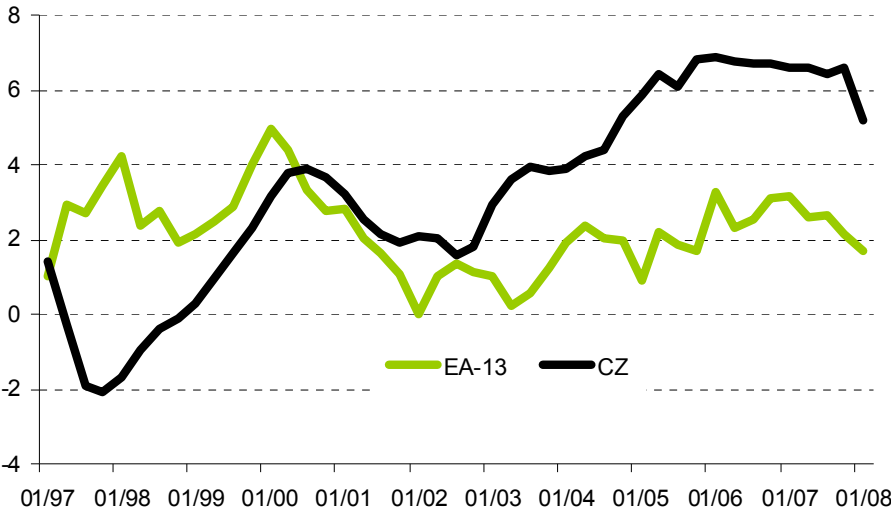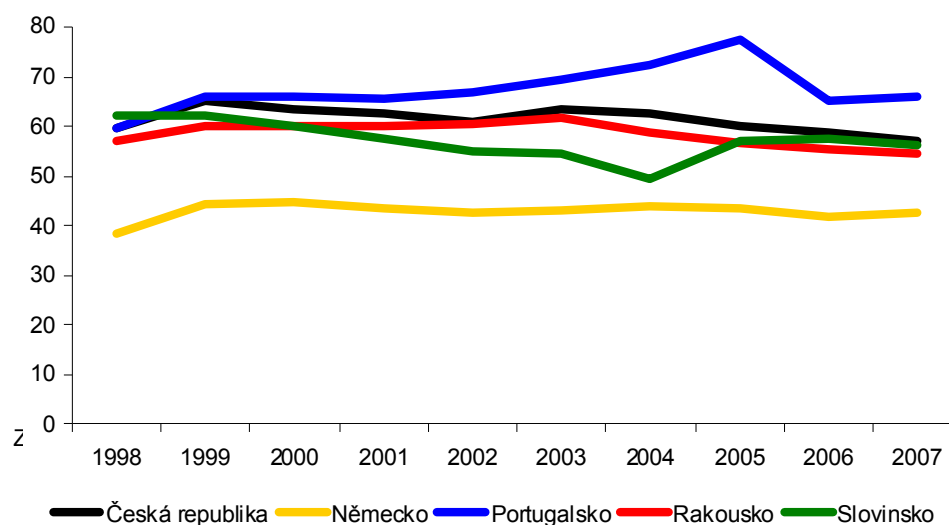

Source: Eurostat, CNB calculations.

Similarity of the **structure of economic activity** with the euro area should decrease the risk of occurrence of asymmetric economic shocks. In terms of production structure, the Czech economy retains a specific feature in the form of a higher share of industry and a smaller share of certain services in GDP compared to the euro area. The high share of the **car industry** in Czech industrial production and exports and its cyclicality are often viewed as a potential source of asymmetric developments. The share of the car industry in the total output and value added of the Czech economy is comparable to that of Germany, which means that it is higher than the euro area average. Therefore, although any sector-specific shock will affect numerous countries, the disproportionately high share of the car industry in economic output compared to the euro area average may mean that the single monetary policy, in the event of such a shock, will not respond to inflationary or anti-inflationary risks in the Czech economy in the same way as an independent monetary policy would. The relatively high energy intensity and almost complete dependence of the Czech economy on imports of oil are reasons for analysing the impacts of a potential **oil price shock** on the Czech economy. The adverse effect of an oil price shock will depend on the size of the changes in oil prices and their impacts on global demand and demand for Czech exports. Nevertheless, according to estimates in the available literature a relatively subdued impact can be expected, although the impact could be somewhat higher than that on the euro area, mainly because of the higher energy intensity of the Czech economy.

Fast convergence of **nominal interest rates** in the run-up to joining the euro area has acted as an asymmetric shock in some economies in the past. For a country planning to enter, earlier gradual convergence of such rates is therefore an advantage. The difference between Czech interest rates and euro area interest rates has been zero or negative since 2002. A positive interest rate differential opened up temporarily for five-year rates in 2008 H1, although this was probably associated with the impacts of the emerging credit and liquidity crisis in the USA. Provided that no major changes occur, the effects of interest rate convergence when the Czech Republic joins the euro area can be expected to be generally small from the current perspective. The Czech koruna's **exchange rate** against the dollar had been moving very much in line with the euro's exchange rate against the dollar in past years. In 2007 and 2008, however, this relationship loosened, mainly because of the financial crisis and the related increased volatility of exchange rates. The observed medium-term volatility of the Czech koruna against the euro increased in 2008. The Hungarian forint and the Polish zloty showed a similar trend, while the volatility of the Slovak koruna decreased owing to the planned adoption of the euro in Slovakia.

Increased **inflow of resources from EU structural funds** could be a specific asymmetric factor that might impact on the Czech economy. Conditional on a sufficient absorption capacity of the economy this could act as a considerable economic stimulus, materialising primarily in increased investment activity. Although the net financial position of the Czech Republic vis-à-vis the European Union increased in 2007, the rise was due mainly to advance payments to Czech public budgets. The actual drawdown of funds and their economic use has been slow so far. By 2013, the net position will gradually increase to 1.8% of GDP, the highest annual rise being expected in 2009. However, the economic stimulus from these flows will depend on the actual extent of utilisation of these funds by final beneficiaries in the private and public sectors. The financial flows between the Czech Republic and the EU can also be expected to affect the Czech public budgets. The impact on public finances should be positive, provided that a proportion of the funds is re-directed from national projects. The analysis indicates that in 2008 a roughly neutral effect and from 2009 a slightly positive effect of drawdown of EU funds on the economic activity of the Czech Republic is to be expected. However, this situation will not require a sizeable monetary policy reaction or a koruna exchange rate adjustment that would endanger the stay in ERM II or assessment of the Maastricht exchange rate criterion.

The Czech economy's strong **trade and ownership links with the euro area** magnify the benefits arising from the elimination of potential fluctuations in the exchange rate. The euro area is the partner for approximately 60% of Czech exports and imports (see Chart 3.3) and its share will increase to around 66% after Slovakia joins the euro area. Strong links are also apparent for the other economies under comparison. The Czech economy's ownership links with the euro area on the direct investment inflow side are slightly stronger than in the other countries under comparison, except for Slovakia, and are continuing to grow. The Czech economy's strong economic integration with the euro area creates conditions for increasing economic alignment with this area. Another positive aspect from this perspective is the high intensity of intra-industry trade with the euro area, which is only slightly lower than in Austria and Germany.

Chart 3.3: Exports to the EA-13 as a percentage of total exports *(in %)*

Legend: Česká republika, Německo, Portugalsko, Rakousko, Slovinsko

Source: IMF, CNB calculations.

The analysis of the Czech **financial sector**, and, within it, the banking sector, reveals that despite its relatively smaller size and depth of financial intermediation in comparison with the euro area, it need not be expected to have a fundamentally different effect on the economy at a time of normal economic development. The monitored indicators have in recent years recorded further slight convergence towards the euro area. The depth of financial intermediation in the Czech Republic is currently roughly one-third of that in Germany, Austria and the euro area and 42% of that in Portugal. The Czech Republic has lower volume of lending in particular. However, as a result of dynamic growth in loans to households and corporations in the Czech Republic, client loans are rising as a percentage of both total loans and GDP. On the one hand, this trend implies convergence towards the corresponding ratios in the euro area, but on the other hand, it could pose a risk of loan defaults in the event of a further build-up in household and corporate debt. The historical experience of some countries with high long-term credit growth shows that at a time of crisis and economic slowdown, over-leveraging can cause extensive economic problems. Less prudent assessment of client creditworthiness and of the financial and economic outlook is often a source of credit risk growth and financial instability. The crisis on the global financial market and the related economic stagnation of the Czech Republic's major trading partner countries have so far spilled over into the Czech financial sector and domestic economy to only a limited extent, in the form of increased volatility of the koruna's exchange rate, slowing economic growth and a decline in prices of some assets. In the past, domestic financial institutions focused primarily on revenues from the dynamically expanding retail banking activities in the Czech market, while their owners generally concentrated the management of risky securities and derivatives portfolios in parent banks and branches in international financial centres. The stability of the domestic banking sector is aided by the banks' high balance sheet liquidity and solvency, the financing of loans mostly by primary deposits and hence minimum dependence on funds raised on foreign markets, and minimal investment in bonds backed by foreign subprime mortgages. Despite this, the effects of the crisis may, to a limited extent, directly affect some domestic financial institutions via their risky investments. However, the indirect effect through a worsening financial situation of households and corporations will be dominant. Owing to the financial crisis, the growth of the Czech Republic's major trading partner economies is slowing, which in turn is generating deteriorating export conditions. The ensuing slowdown in the domestic economy can potentially increase the loan default rate.

The structure of the financial assets and liabilities of Czech non-financial corporations and households maintains certain differences from that of euro area entities. The difference is particularly visible in a relatively high share of trade receivables in corporate assets and in the structure of households' liabilities. However, gradual convergence towards the structure in the euro area can be observed. The indebtedness of Czech corporations and households is currently significantly lower than in the euro area countries under review. The use of the euro in the financial transactions of non-financial corporations is gradually growing, reflecting the Czech economy's openness and foreign trade integration. However, the degree of spontaneous euroisation is still relatively low, although there is a difference between corporations and households. The expansion of foreign currency cash holdings and deposits of households in the Czech Republic is roughly comparable with the selected Central European countries, but foreign currency borrowing is very low.

The degree of **integration of the Czech financial markets** (money, foreign exchange, stock and bond) with the euro area markets is comparable or higher than that in Hungary, Poland and Slovakia. In comparison with Austria and Portugal, the integration of the stock market is similar, but that of the bond market is lower. The speed of elimination of shocks on the Czech stock market has increased since 2002, but, like on other markets, the speed of adjustment has recently declined somewhat as a result of the global financial market turbulence. The degree of integration of the Czech money market with that in the euro area is at the level of Slovenia before it adopted the euro. The comparison with Slovenia regarding the degree of foreign exchange market integration is not very relevant, as it had a different exchange rate regime. Owing to recent developments, the degree of integration is lower than that in Slovakia, which is to enter the euro area.

3.2 Adjustment Mechanisms

As regards **the public finances** of the Czech Republic, the effectiveness of the stabilisation function within the European fiscal rules will be crucial. Under the Stability and Growth Pact, the Czech Republic committed itself to steering towards a structural general government deficit of no more than 1% of GDP by 2012. The closer the deficit is to zero, or the larger the surplus, in its structural part, the more room there will be at a time of economic downturn for the functioning of automatic stabilisers and, in the extreme case, for the implementation of discretionary measures. So far, the Czech Republic's government sector deficits have been due primarily to structural factors. The effect of the business cycle started to be felt more strongly only in 2007 and 2008. Eliminating the adverse structural effects is an important condition for the use of the stabilising function of public budgets. Developments in 2007 and 2008 suggest a gradual improvement in the state of public finances. Another condition for maintaining fiscal policy effectiveness will be to ensure public finance long-term sustainability, in particular by addressing the effect of demographic changes on pension and health care system expenditures.

Wage elasticity can enhance the economy's ability to absorb shocks to which the single monetary policy cannot respond. The analyses indicate that real wage elasticity in the Czech Republic is currently low, just like in the other countries under comparison, and has not improved substantially over time. Differences in **inflation persistence** in the countries of the monetary union might lead to different impacts of the single monetary policy. Inflation persistence in the Czech Republic is among the lowest of the countries under comparison.

Thanks mainly to recent cyclical developments, the Czech **labour market** has recently been experiencing some improvements in its performance, as the overall and long-term

unemployment rates have declined (see Chart 3.4). Structural unemployment is also probably falling. The improving business environment may also be contributing indirectly to labour market flexibility. In some respects, though, the labour market is considerably less flexible than in the countries under comparison, and no major improvement is occurring. The institutional rules do not create the right conditions for employment of people with low skills. The main risk factors are the interaction of taxes and social benefits and the costs of terminating open-ended employment contracts after a short period of employment.

Despite some improvements, the Czech Republic still has the largest regional differences in the unemployment rate. This may be due to regional gaps between the demand for, and supply of, labour and the low regional, occupational and sectoral mobility of the labour force, exacerbated, among other things, by the dominance of owner-occupied housing. It is thus reasonable to expect that the contribution of cross-border mobility of Czech citizens to the adjustment in the event of economic imbalances will be relatively limited, even after movement of labour between the Czech Republic and all the original EU countries has been fully liberalised by 2011. The inflow of foreign labour into the Czech Republic has been very dynamic since 2005, contributing to the flexibility of the Czech labour market. On the other hand, however, it suggests that some serious problems persist in this market (in particular low incentives to work among the long-term unemployed with low skills), since the foreigners work mainly in jobs requiring low qualifications. At the same time, the fact that movements of foreign workers can take place independently of labour demand and the business cycle in the Czech Republic poses a risk to labour supply.

Chart 3.4: Long-term unemployment rate: ratio of persons unemployed for more than one year to the labour force *(%)*
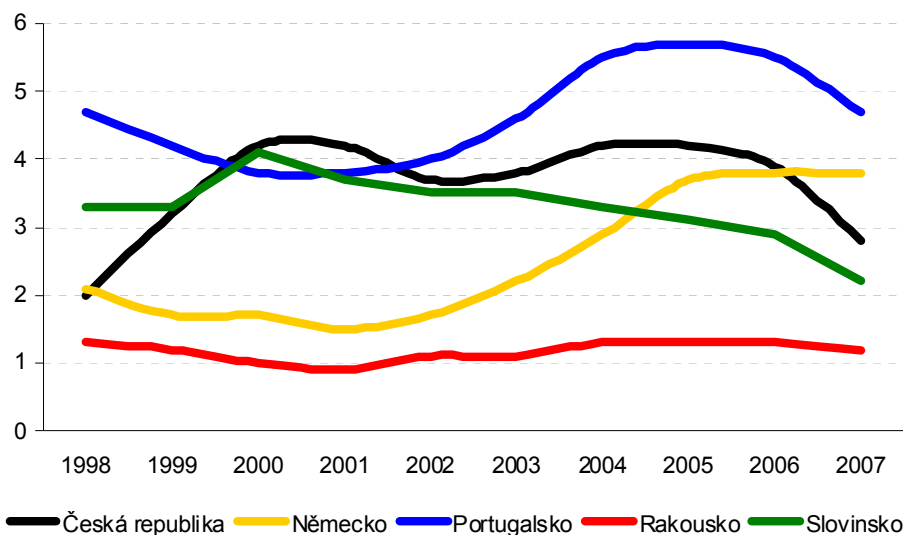
Source: Eurostat.

Labour market flexibility is determined to a great extent by the **institutional rules**. Collective bargaining has a smaller effect on wage setting in the Czech Republic than in most of the countries under comparison. The impact of the minimum wage on the flexibility of low wages and on job creation is also rather low on average by international comparison. The halt in growth, or slight decline, of the minimum wage as a percentage of the average wage can be regarded as positive, since high minimum wages coupled with high labour taxation could have an adverse effect on labour market flexibility. Overall labour taxation in the Czech Republic increased slightly in 2007. The effect of taxation on long-term unemployment and

job creation was roughly the same as in Austria, Hungary and Poland, but higher than in Portugal and Slovakia. Compared to other countries, the financial incentives to accept a job given by the combination of taxes and benefits in 2006 were comparable or higher for the short-term unemployed, but average for the long-term unemployed. According to the simulations, the financial incentives to seek employment weakened for some groups of the population in 2007 because of the reform of the social benefit system. The level of social benefits coupled with the tax burden may diminish efforts to seek or keep a job, particularly of households with children. Although the 2008 reform has halted the adverse trends, it has not delivered a significant reduction of the existing problems. The Czech Republic is one of the countries with a relatively high degree of job protection in the area of permanent employment but relatively low protection of temporary employment, which may present a risk in particular as regards the entry of young people to the labour market.

In the area of **product market flexibility**, the regulatory environment for entrepreneurship is more burdened with administrative obstacles by international comparison. However, the situation is slowly improving. In particular, gradual steps are being taken to simplify the procedures for setting up a business and carrying on business activities. These measures are likely to have a positive effect on job creation as well. As in the other countries under comparison, the corporate taxation rate has been declining recently and is currently one of the lower ones, but the overall tax burden on Czech corporations is higher than in Austria, Portugal, Poland and Slovakia.

Stability and effectiveness of the banking sector is a precondition for the sector to be able to assist in absorbing the impacts of economic shocks. The banking sector has achieved a high level of efficiency and profitability in the European context, and in past years has accumulated a sufficient capital reserve from its profits. The percentage of non-performing loans in the Czech Republic has in recent years declined to a level only just above the euro area average. At a time of falling economic growth amid a continuing global financial crisis, a slowdown in lending and a deterioration of loan portfolios can be expected. This will adversely affect the capital adequacy and profitability of banks. Stress test results so far indicate that the Czech banking sector is sufficiently resilient to external shocks, although a strongly adverse macroeconomic scenario would naturally have a negative impact on the performance and stability of the banking sector.