2 Macroeconomic Scenario

Although the Czech economy seems very likely to have come out of the recession, great uncertainties remain regarding the intensity of the economic recovery. The CP scenario was drawn up to be conservative and with an effort to balance the potential positive and negative divergence of economic development while drawing upon the current state of knowledge[1].

2.1 The World Economy and Technical Assumptions[2]

The world economy is recovering from the global financial and economic crisis. Equity markets have been improving since spring 2009, while industrial output and export began to revive at around the same time. China and other Asian economies have returned to strong growth. Any remaining uncertainty is connected primarily with the unfinished consolidation of the financial sector and with how economies will respond to the termination of stimulus measures.

The crisis on financial markets was manifested in EU 27 economies by a slowdown in GDP growth during 2008 and its deep decline at the start of 2009. Already for 2010, the scenario plans for gradual recovery, which should be followed by an increase in dynamics in following years. An important element in this situation is the early and relatively strong recovery in Germany. The impacts of the prepared "exit strategies", on the other hand, will be a significant risk factor.

Although the current USD price for oil is certainly well below its peaks from mid-2008, it will likely remain high. The expected increase above the level of USD 90/barrel in 2011 should be caused particularly by low flexibility of supply and growth in demand in certain Asian countries, which should be dampened, however, by weaker demand from advanced economies.

Table 2.1: Exogenous assumptions of the scenario

		Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
USD/EUR exchange rate	(annual average)	1,46	1,39	1,44	1,43	1,43
CZK/EUR exchange rate	(annual average)	24,9	26,4	25,8	24,8	23,8
Government bond yield to maturity 10Y		4,6	4,7	3,8	4,0	4,0
PRIBOR 3M		4,0	2,2	1,7	2,4	2,8
GDP EU27	(real growth in %)	0,8	-4,0	1,1	2,0	2,2
Oil prices	(Brent, USD/barrel)	98	62	81	92	91

Source: Czech National Bank, Eurostat, IMF, Ministry of Finance calculations.

An assumption for moderate appreciation of the euro to around a 1.43 USD/EUR exchange rate was chosen. Following the correction in 2009, the CZK/EUR exchange rate should continue its previous appreciating trend and reach approximately 23.8 CZK/EUR in 2012.

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[1] The CP was prepared on the basis of data available as of 11 January 2010. The development on world financial and commodities markets after that date is not taken into consideration.

[2] "Common assumptions on the external environment" were not used in preparing the CP. Therefore, the CP was supplemented by a sensitivity analysis for certain macroeconomic indicators based on the exogenous variables.

The assumptions on short-term interest rates were chosen to be consistent with meeting the CNB's inflation target.

2.2 Current Macroeconomic Development

During 2005 to 2007, the Czech economy went through a period of high GDP growth. After the gradual slowdown beginning at the start of 2008, the economy fell into a recession in Q4 2008 and Q1 2009. The quarter-on-quarter GDP growth rates for Q2 2009 (+0.2%) and Q3 2009 (+0.8%) suggest that the decline in GDP has already reached its bottom. The main source of economic growth in 2006 and 2007 was domestic demand driven equally by household expenditures on final consumption and by gross capital formation. Since 2008, gross capital formation has contributed negatively to growth, particularly due to a year-on-year drop in inventories. In the first three quarters of 2009, all components of demand, apart from final consumption, contributed negatively to year-on-year GDP growth.
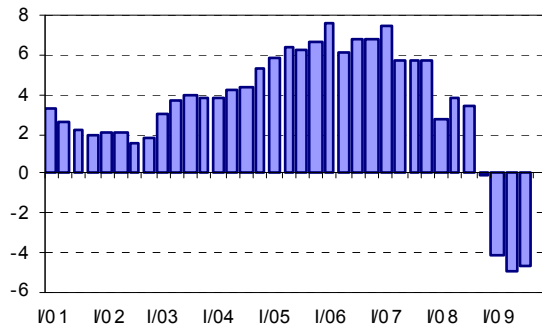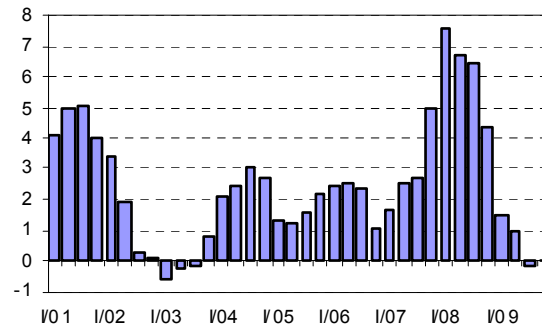
Chart 2.1: Real GDP
y-o-y growth in %

Chart 2.2: Consumer prices (HICP)
y-o-y growth in %

Source: Czech Statistical Office.

The low-inflationary environment that had been typical for the Czech economy was interrupted by an episode in 2008 when the average inflation rate reached 6.3% (on an HICP basis). The anchor of inflation expectations, however, appeared to be stable. This was supported by CNB's new inflation target of 2% with a ±1 percentage point tolerance band. Once the overblown prices for energy and food on world markets subsided, inflation slowed sharply. The slowing growth or, as the case may be, decrease in household demand (based on seasonally adjusted data) in connection with the recession played its part as well. Year-on-year inflation in Q3 2009 even fell temporarily just below zero (–0.1%), rising to 0.0% in Q4. The annual average reached 0.6%.

With a delay of about four quarters behind the cyclical development of the Czech economy, employment (according to SNA) rose without interruption from H2 2004 until the end of 2008. In connection with the recession, the lag became shorter and employment fell by 1.2% year on year in Q2 2009 and by 2.1% in Q3 2009. Reciprocally, this effect was also evident in a rise in the unemployment rate. From Q1 2004, when the unemployment rate (according to the Labour Force Survey) reached 8.7%, its value gradually fell to 4.2% in Q2 2008. In Q3 2009, the unemployment rate increased to 7.3%.

Chart 2.3: Employment (SNA basis)
y-o-y growth in %
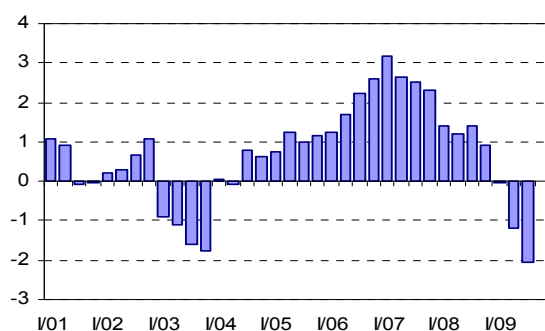
Chart 2.4: Current account/GDP
in %
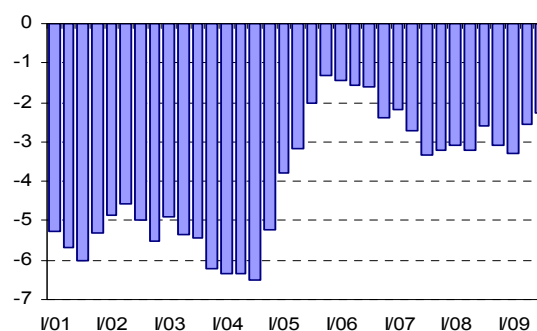
Source: Czech Statistical Office, Czech National Bank.

The external economic imbalance, expressed by the current account balance as a proportion of GDP in 12-month rolling sums, has been within a sustainable range. In Q3 2009, the current account deficit as a proportion of GDP was 2.3% with a surplus balance of goods and services of 5.3% of GDP. The deficit income balance stems from the previous high investment activity, which, however, was not reflected in adequate domestic savings. The negative income balance still exceeds the positive balance of goods and services, which, in contrast, points to a solid performance of foreign trade.

Chart 2.5: CZK/EUR exchange rate
y-o-y appreciation in %
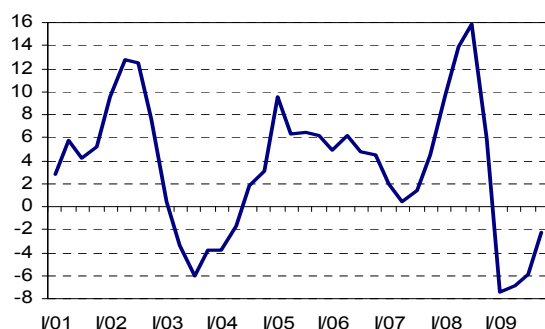
Source: Czech National Bank.

As measured by its actual performance and price level, the Czech economy in the long term will draw near the EU average. A result of this is the trend of long-term strengthening of the CZK/EUR exchange rate. This appreciation culminated in Q3 2008 when it reached 15.9% against the euro year on year. The subsequent correction in late 2008 and early 2009 helped the economy in terms of competitiveness of export prices. The exchange rate in Q3 and Q4 2009 (25.60 and 25.90 CZK/EUR, respectively) was already basically in correspondence with trend values.

2.3 The Medium-Term Scenario

Potential GDP and the position within the economic cycle

Under present circumstances, with the level of economic performance having changed abruptly, it is difficult to distinguish between the effect of the output gap and that of the

slowdown in potential GDP growth. The results of decompositions show great instability, and it is necessary to approach them with considerable caution. Nevertheless, it seems indisputable that the economic crisis plunged the economy into a deep negative output gap and at the same time led to a significant slowdown in potential GDP growth.

According to current calculations[3], the output gap reached a level of around 4.6% in 2009. The high negative output gap in the economy is evident in the extremely low use of production capacities in industry, the significant rise in unemployment, the decrease in the number of job vacancies, and inflationary pressures.
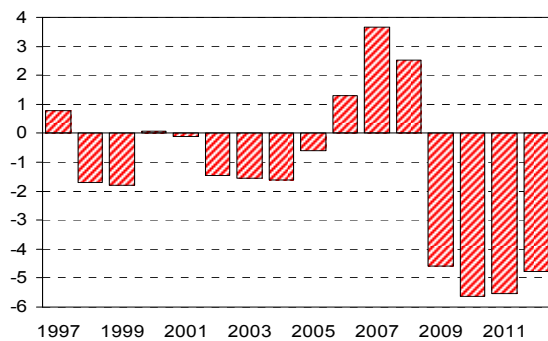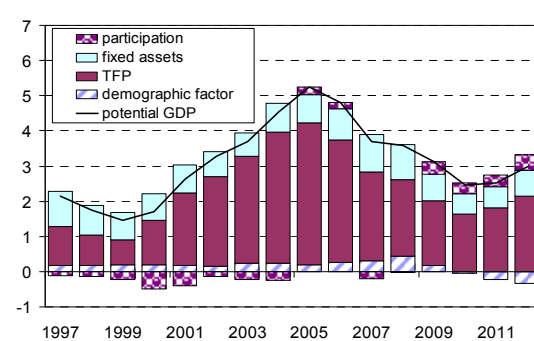
Chart 2.6: Output gap
in % of potential GDP

Chart 2.7: Potential GDP growth
contribution to growth in percentage points

Source: Ministry of Finance calculations.

The most affected component of potential GDP is total factor productivity (TFP). Economic problems led to a slowdown in its trend growth below 2% in comparison with the average of 3.4% from 2004 to 2007. Impacts on growth in capital stock are less significant. In contrast, the growth in the labour supply, expressed as a ratio of the labour force to the number of residents aged 15–64, accelerated in 2009.

The slowdown in total trend productivity growth is directly reflected in the year-on-year potential GDP growth, which is now likely to move slightly below 3%. The future development of potential GDP will depend on the duration of the adverse economic situation. According to the CP scenario, we expect that the bottom of the economic slowdown should be reached in 2010.

The decisive factor will be the contribution of TPF. After slowing to 1.6 percentage points in 2010, TPF should exceed 2 percentage points in 2012. The contribution of growth in capital stock should be below 1 percentage point. The contribution of the participation rate should stay in positive values due to partial increased work motivation as a result of partial structural measures made. The influence of economic activity should outweigh adverse demographic factors. After slowing down to 2.5% in 2010, potential GDP growth could then reach 3.0% in 2012.

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[4] Calculations of potential GDP and the output gap are currently made using the national methodology, based on the Cobb-Douglas production function. The methodology was described in the 2002 Pre–Accession Economic Programme. The main difference from the European Commission's method, important for interpreting the results, is the use of the "zero sum of output gaps over time" stipulation.

Within the outlook horizon, therefore, real GDP should still move well below its potential level. The deepest output gap of below –5.5% should be reached in 2010. It should then gradually and slightly close in the following years. It is not expected to be fully closed within the CP horizon, however, and according to this scenario would still be below –4% in 2012.

GDP and the demand side

Once the economic crisis has passed, real GDP growth should gradually accelerate to 3.8% in 2012. Domestic demand's contribution (without the change in inventories) should reach its bottom of –1.6 percentage points sometime in 2010 as a result of fiscal consolidation measures and reaching the deepest point of the drop in employment. All components of demand, except for government consumption, should contribute positively to GDP growth in the following years.

The relative level of GDP per capita compared with the EU27 average at purchasing power parity should be affected in the short term by the depth of the economic downturn and the rapidity of the onset of recovery. The Czech Republic's relative economic level should, after a period of stagnation, once again begin to increase and reach approximately 82.6% in 2012.

Chart 2.8: Decomposition of GDP growth
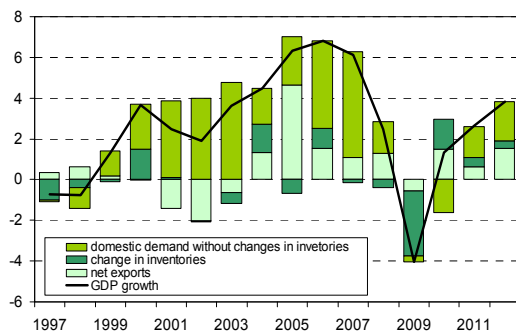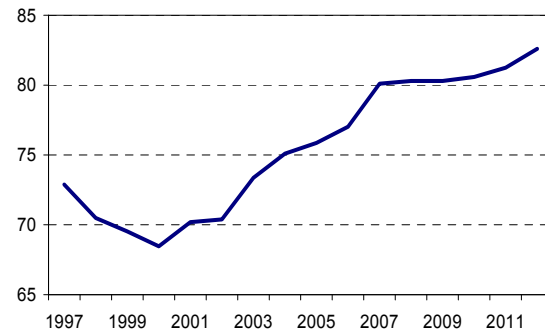*contribution to growth in percentage points*

Chart 2.9: GDP per capita
calculated in purchasing power parity, EU27 = 100

Source: Czech Statistical Office – quarterly national accounts, Eurostat, Ministry of Finance calculations.

Household consumption should decline some time in 2010, as it will strongly reflect measures taken to stabilise public budgets. Even in subsequent years, the increasing risk and debt burden of households should reduce the growth rate in final consumption spending. Nevertheless, it should fall behind that of GDP growth.

Government consumption[4] in future should for the most part decrease. Government institutions are expected to behave thriftily with respect to employment in the general government sector as well as in procuring goods and services. One-off outlays associated with the Czech Republic's EU presidency in 2009 also will fade away.

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[4] More decisive reduction of government expenditures on final consumption with the goal of greater contribution to consolidation of public budgets was agreed only after finalisation of the regular macroeconomic forecast of the Czech Republic from January 2010. The CP macroeconomic scenario therefore was subsequently updated and differs slightly from the January forecast.

Table 2.2: Economic growth
CZK billion, increase in %

	ESA code	Year 2008 level[1]	Year 2008 rate of change	Year 2009 rate of change	Year 2010 rate of change	Year 2011 rate of change	Year 2012 rate of change
1. Real GDP	B1*g	3623	2,5	-4,0	1,3	2,6	3,8
2. Nominal GDP	B1*g	3689	4,3	-1,1	1,9	3,6	5,4
Components of real GDP							
3. Private consumption expenditure	P.3	1748	3,6	1,4	-0,8	2,0	2,5
4. Government consumption expenditure	P.3	725	1,0	4,0	-1,7	0,0	-0,4
5. Gross fixed capital formation	P.51	877	-1,5	-7,5	-3,7	2,5	3,6
6. Changes in inventories and net acquisition of valuables [2]	P.52+P.53	51	1,4	-1,8	-0,3	0,3	0,7
7. Exports of goods and services	P.6	3000	6,0	-11,9	4,4	6,4	6,5
8. Imports of goods and services	P.7	2779	4,7	-11,9	2,4	6,1	4,9
Contribution to real GDP growth							
9. Final domestic demand			1,5	-0,3	-1,6	1,5	2,0
10. Change in inventories and net acquisition of valuables	P.52+P.53		-0,4	-3,2	1,4	0,5	0,3
11. External balance of goods and services	B.11		1,3	-0,6	1,5	0,6	1,5

[1] *Levels 2008 are stated in prices from the previous year.*

[2] *This item expresses change in inventories as a percent of GDP in current prices.*

Source: Czech Statistical Office – quarterly national accounts, Ministry of Finance calculations.

Following a significant slump in investment activities in 2009 and 2010, their dynamics should be gradually renewed. We expect a positive impact due to a higher drawdown of resources from the structural funds, the Cohesion Fund and infrastructure investment. Renewal of the inflow of foreign direct investment can be expected. We expect that new capacities will continue to be primarily export oriented.

The contribution of the trade balance for goods and services in constant prices to GDP growth was always positive between 2004 and 2008. We anticipate a negative contribution of –0.6 percentage point for 2009. After foreign demand is restored, a return of foreign trade's contribution to positive values can be expected. Export should once again begin to contribute significantly to economic growth.

Prices

The long-term low-inflationary character of the Czech economy (with the exception of 2008) should be preserved in future years, as well. The positive influence of the inflation-targeting regime, which guides the inflation expectations of economic agents, and the high level of competition on the internal market have contributed to this development. Other anti-inflationary factors include the appreciation of the Czech koruna and non-inflationary growth of unit labour costs.

Table 2.3: Prices of goods and services

	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
HICP	6,3	0,6	1,8	1,5	1,8
GDP deflator	1,8	3,1	0,5	1,0	1,5
Consumption of households deflator	4,9	0,3	1,6	1,5	2,2

Source: Czech Statistical Office – price statistics and quarterly national accounts, Ministry of Finance calculations

The significant slowing of inflation in 2009 was caused by the synergistic effects of the drop in cost pressures and the disappearance of demand impulses in an environment of a deeply

negative output gap. In coming years, we expect that inflation expectations will approach the CNB's new target (national CPI of 2% with a ±1 percentage point tolerance band) effective from 2010. This creates conditions for meeting the inflation convergence criterion.
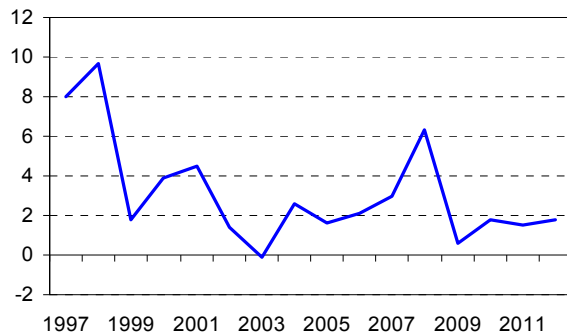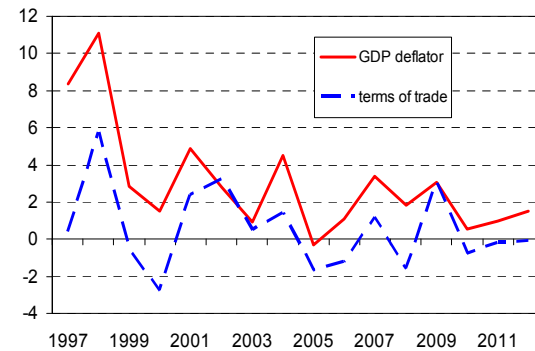
Chart 2.10: HICP

y-o-y growth in %

Chart 2.11: GDP deflator and terms of trade

y-o-y change in %

Source: Czech Statistical Office – price statistics and quarterly national accounts, Ministry of Finance calculations.

The labour market and wages

Labour market indicators reacted promptly to the economic downturn at the turn of 2008 and 2009. Due to the high level of job vacancies and the declaration of social partners to prefer employment at the expense of shorter working hours, or even lower wages, the overall impact on employment was not so radical as compared with neighbouring countries. Future development will depend on a combination of gradual alleviation of the dramatic decrease on the demand side and restoration of economic growth generating jobs, as well as the resolution of existing structural problems on the supply side (professional and regional mobility, motivation for low-income groups to actively seek work, rigidity of labour contracts concluded for indefinite periods, and the like).
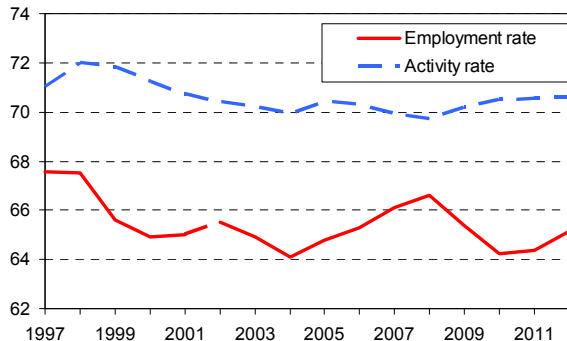
Chart 2.12: Employment, participation rates
in %

Chart 2.13: Unemployment rate
in %
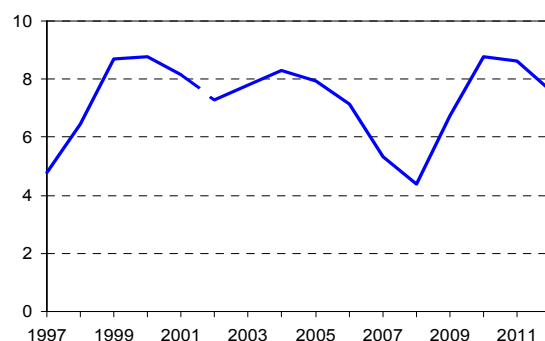
Note: The employment and unemployment rates from the Labour Force Survey are not comparable between 2001 and 2002 due to changes in methodology.

Source: Czech Statistical Office – employment statistics, Ministry of Finance calculations.

At the beginning of the scenario period, we expect a decrease in employment by 1.8%, which should be replaced by stagnation in 2011 and then, in connection with economic recovery in 2012, slight growth of 0.7%.

Table 2.4: Employment and wages

	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
Percentage change					
Employment (ESA 95)	1,2	-1,3	-1,6	-0,4	0,6
Compensation of employees	7,7	-1,8	0,1	3,9	5,4
Compensation per employee [1]	6,3	0,3	2,5	4,1	4,8
Unit labour costs [2]	5,1	3,2	-0,5	1,0	1,6
Unemployment rate (ILO)	4,4	6,7	8,8	8,6	7,6
Employment rate [3]	66,6	65,4	64,2	64,4	65,1
Activity rate [4]	69,7	70,2	70,5	70,6	70,6

[1] *Compensation per employee (a Czech concept) according to the national accounts.*
[2] *Ratio of nominal compensation per employee and labour productivity growth to real GDP.*
[3] *Share of 15-to-64-year-old employment to population of the same age, according to the Labour Force Survey.*
[4] *Share of 15-to-64-year-old labour force to population of the same age, according to the Labour Force Survey.*

Source: Czech Statistical Office – employment statistics and quarterly national accounts, Ministry of Finance calculations.

The unemployment rate seems to have reached 6.7% in 2009. This represents a year-on-year increase by over 2 percentage points. In 2010, it still can be expected to increase up to 8.8%, though for the following years of the scenario we expect a slow decline to a level of 7.6%.

After periods of strong growth in compensation of employees, it declined in 2009, with the main factors being slow growth in average wages, decline in employment, and a lower rate of social security contributions. The anticipated stagnation in 2010 will be related to the moderate development of wages in the private sector and the freezing of wages in the government sector. In 2011 and 2012, compensation could slightly accelerate once more by about 4.4% p.a. on average, i.e. roughly approximating nominal GDP growth.

On the other hand, the low growth rate of compensation per employee failed to offset the decline in labour productivity, and thus unit labour costs have risen by about 3.2% in 2009. The year 2010 is likely to be rather exceptional in that, among other things, unit labour costs will decline. The coming years will already be marked by around 1.3% growth.

2.4 Net Lending/Borrowing and Sectoral Balances[5]

The process of gradual improvement in the net lending balance should continue. After a deficit of –6.3% of GDP in 2003, the balance in 2009 should reach a value of around –0.2% of GDP, and it could achieve a surplus in 2010 for the first time in the history of the Czech Republic.

The increasing trend of surplus in the non-fuel component of the goods balance was halted in 2009 by the effect of limiting external demand. In future years, the surplus should again

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[5] In accordance with the rules of the "Code of Conduct", this chapter is prepared using the national accounts methodology. Based on the relationship between investments and savings, this allows the complete disaggregation of a surplus or deficit in foreign relations to the individual economic sectors. This differs from the analogous, customarily employed methodology of the balance of payments current account in its accrualisation, its categorisation of some items, and in the fact that it contains additional items (capital transfers).

steadily rise due to gradual alleviation of the consequences of the global economic crisis, better export performance and improvement in the competitiveness of domestic producers. The fuel component of the balance should reflect the development of koruna prices for mineral fuels. For the services balance, we expect a slightly increasing surplus as a share of GDP.

Table 2.5: Net lending/borrowing

	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012
% of GDP					
Balance of goods and services	4,6	6,0	6,8	7,0	8,1
- mineral fuels (SITC 3)	-4,5	-3,0	-3,6	-3,9	-3,8
- other goods	6,8	7,5	9,1	9,5	9,7
- services	2,2	1,5	1,3	1,4	2,1
Balance of primary income and transfers	-8,0	-7,1	-6,8	-7,7	-8,4
- primary income	-7,1	-6,3	-6,3	-7,3	-8,1
- transfers	-0,9	-0,8	-0,6	-0,4	-0,3
Capital transfers	0,9	1,0	1,0	1,0	1,0
Net lending/borrowing vis-a-vis ROW (B.9)	-2,4	-0,2	1,0	0,2	0,6
Net lending/borrowing of the private sector	-0,3	6,4	6,3	5,0	4,8
Net lending/borrowing of general government (EDP B.9)	-2,1	-6,6	-5,3	-4,8	-4,2

Source: Czech Statistical Office – annual national accounts, Ministry of Finance calculations.

The most significant negative component in net lending is—and will continue to be—the worsening balance of primary incomes, which reflects the flow of repatriated and reinvested profits from direct investment and compensation for foreign employees. The balance of current and capital transfers will be positively affected by the balance of financial flows from the EU (structural funds, the Cohesion Fund, and resources supporting agriculture and regional development).