4 Comparison with the Previous Convergence Programme and Sensitivity Analysis

4.1 Comparison with the Macroeconomic Scenario of the Previous Convergence Programme

The differences between the macroeconomic scenarios of the current programme and last year's programme ensue from the following:

- The exogenous assumptions of the programme sharply changed.
- New observations of macroeconomic phenomena were included.
- In addition to normal corrections, the timetables for the quarterly and yearly national accounts were revised regularly.

Among the assumptions in the programme's scenario, it is assumed that development in EU countries has markedly worsened compared to the previous programme due to shocks on world financial and equity markets. The impact of higher USD prices for oil was partially offset by the weaker USD exchange rate vis-à-vis the EUR and the CZK. Nevertheless, it was noticeably reflected, together with food prices, in the inflation growth.

Table 4.1: Changes in the external assumptions of the scenario

	CP 2007			CP 2008			Difference		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
GDP growth (%)									
USA	2,1	2,5	3,1	2,0	1,6	0,7	-0,1	-0,9	-2,4
EU27	2,7	2,5	2,5	2,9	1,4	0,9	0,2	-1,1	-1,6
Prices of oil									
(USD / barrel)	68	73	67	73	113	120	5	40	53
Exchange rate									
USD / EUR	1,35	1,34	1,34	1,37	1,49	1,39	0,02	0,15	0,05

Source: Ministry of Finance.

As was expected, following the very dynamic growth of 2005–2007, the economy in 2008 has slowed. Unlike in the previous programme's scenario, this slowing is much more perceptible in domestic demand. Household consumption has been affected by unexpectedly high inflation, and uncertainties about future development have clearly begun to be reflected in fixed capital formation. By contrast, nominal and real results in the area of external relations will be unexpectedly good in 2008, despite unfavourable exogenous factors. Furthermore, the employment rate is rising and unemployment declining at a faster pace in comparison to CP 2007.

Economic development in the Czech Republic during 2009 will be affected by the ongoing turbulence on global financial markets and its impact on trading partners' economies. This is also reflected in the differences from the previous CP.

Table 4.2: Change in the indicators of the macroeconomic scenario

	CP 2007			CP 2008			Difference (p.p.)		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Growth in real terms (in %)									
GDP	5,9	5,0	5,1	6,6	4,4	3,7	0,7	-0,6	-1,4
Households consumption	6,5	4,2	4,6	5,9	3,3	3,9	-0,6	-0,9	-0,7
Government consumption	-0,6	-0,4	-0,3	0,5	1,1	0,5	1,1	1,5	0,8
Gross fixed capital formation	6,0	9,0	7,8	5,8	5,1	4,5	-0,2	-3,9	-3,3
Contribution of domestic demand (pp)	6,0	5,1	4,1	5,5	2,2	3,3	-0,5	-2,9	-0,8
Contribution of foreign trade (pp)	-0,1	-0,1	1,0	1,1	2,2	0,4	1,2	2,3	-0,6
Potential product	5,2	5,5	5,6	5,1	5,2	5,0	-0,1	-0,3	-0,6
Output gap (%)	1,3	0,9	0,4	2,0	1,2	-0,1	0,7	0,3	-0,5
Growth (in %)									
HICP	2,4	3,9	2,3	3,0	6,4	2,9	0,6	2,5	0,6
GDP deflator	3,5	3,1	2,3	3,6	2,4	2,1	0,1	-0,7	-0,2
Employment	1,5	1,1	0,5	1,9	1,7	0,7	0,4	0,6	0,2
Unemployment rate (level in %)	5,5	4,8	4,5	5,3	4,4	4,4	-0,2	-0,4	-0,1
Exchange rate CZK/EUR (level)	28,0	27,4	26,6	27,8	24,9	24,7	-0,2	-2,5	-1,9
Balance of goods and services (in % of GDP)	4,2	4,3	5,2	5,0	5,4	5,4	0,8	1,1	0,2
Net lending/borrowing (in % of GDP)	-2,4	-1,6	-0,4	-0,8	-1,0	-0,5	1,6	0,6	-0,1

Source: Ministry of Finance.

4.2 Comparison with the Fiscal Framework of the Previous Convergence Programme

The fiscal scenarios for last year's and this year's CP updates are compared in Table 4.3. In 2007, the general government balance as well as general government debt achieved markedly more favourable values than expected. This was caused by higher than expected economic growth that was reflected in higher revenues from taxes and social contributions, but also especially by a considerable volume of the budgeted expenditures being put away into reserve funds.

Thanks to the higher level of tax revenues, and provided that the expenditure limits are maintained, the deficits anticipated in the coming years may be markedly lower than those predicted in last year's update. The difference relative to the original plans, however, will be substantially less than that in 2007, especially due to the more dramatic slowdown of economic growth and the anticipated gradual incorporation of reserves into expenditures.

In addition to the expected lower deficits, the approved privatisation of Správa Letiště Praha, s.p. (Prague Airport) in 2009 is reflected in the faster decline in debt as a proportion of GDP. This privatisation should bring additional funds for non-debt financing of the deficit in the coming years.

Table 4.3: Comparison with the previous convergence programme

% of GDP	ESA code	Year 2007	Year 2008 (1)	Year 2009 (2)	Year 2010 (2)	Year 2011 (2)
Real GDP growth (%)						
Previous update		5,9	5,0	5,1	5,3	.
Current update		6,6	4,4	3,7	4,4	5,2
Difference		0,7	-0,6	-1,4	-0,9	.
General government net lending						
Previous update	EDP B.9	-3,4	-2,9	-2,6	-2,3	.
Current update	EDP B.9	-1,0	-1,2	-1,6	-1,5	-1,2
Difference		2,4	1,7	1,0	0,8	.
General government gross debt						
Previous update		30,4	30,3	30,2	30,0	.
Current update		28,9	28,8	27,9	26,8	25,5
Difference		-1,5	-1,5	-2,3	-3,2	.

(1) Forecast, notifications (October 2008).
(2) Outlook.

Source: Ministry of Finance.

4.3 Sensitivity Analysis

The Czech economy is small, open and, to a large extent, dependent upon raw materials. The development of prices for mineral resources usually represents the greatest risk for the domestic economy's development.[8] Therefore, the sensitivity analysis is based on a simulation of oil shock impacts. An unfavourable development of raw material prices, however, does not have a negative impact only on the Czech economy, but it very likely also affects economic development in the EU as a whole.[9] We decided to test the sensitivity of the Czech economy based on various developments of the aforementioned factors and using two scenarios.

The pessimistic scenario is based on simulating impacts of an oil shock, which is defined as a 10% growth in the price of oil against the so-called steady state value (long-term average). The start of the shock is dated at the beginning of 2008.

The optimistic scenario is based on a decline in oil prices by 10% compared to the long-term average. For the sake of simplicity, we assume that the two scenarios are symmetrical.

Simulation results

The settings of the scenarios mentioned above are characterised by the nominal and secondary real impacts on the Czech economy. Due to the assumed gradual passing of the negative oil shock, we can expect an immediate worsening of the external imbalance measured by the balance of payment's current account. Furthermore, CPI inflation will also accelerate temporarily.

[8] For a quantitative analysis of the effects of the aforementioned factors on Czech economic development, the Ministry of Finance is employing a new macroeconomic model as a trial.
[9] For this purpose, the model is supplemented with a very simple model of the EU-15 economy.

The real impact on GDP or its individual components may be relatively complex. As results from the simulations, the growth in the price of oil has negative effects particularly on private consumption and investments. It must also be mentioned that this growth influences the economic performance within the EU, which is reflected in a lower demand for Czech exports. These circumstances contribute to the negative real impact of an oil shock on Czech GDP.

The oil shock in the pessimistic scenario negatively affects government finances due to the lower revenues and moderately faster growth of social expenditures. Less favourable fiscal development in the pessimistic scenario would lead to a share of government debt in GDP some 0.5 percentage points higher than that in the baseline scenario by the end of the period in 2011.

Table 4.4: Basic macroeconomic indicators – baseline scenario

		Year 2007	Year 2008	Year 2009	Year 2010	Year 2011
Gross domestic product	volumes, y/y in %	6,6	4,4	3,7	4,4	5,2
Inflation	y/y in %	3,0	6,4	2,9	3,0	2,5
Unemployment rate[1]	in %	5,3	4,4	4,4	4,6	4,7
Government deficit	in % of GDP	-1,0	-1,2	-1,6	-1,5	-1,2
Gross government debt	in % of GDP	28,9	28,8	27,8	26,8	25,5
Current account	in % of GDP	-1,8	-2,5	-2,3	-1,4	-0,6

Source: Ministry of Finance.

Table 4.5: Basic macroeconomic indicators – optimistic scenario

		Year 2007	Year 2008	Year 2009	Year 2010	Year 2011
Gross domestic product	volumes, y/y in %	6,6	4,6	3,9	4,6	5,3
Consumer price index	y/y in %	3,0	6,2	2,8	2,9	2,5
Unemployment rate	in %	5,3	4,3	4,3	4,5	4,7
Public deficit	in % of GDP	-1,0	-1,2	-1,4	-1,5	-1,2
Gross public debt	in % of GDP	28,9	28,7	27,6	26,5	25,2
Current account	in % of GDP	-1,8	-2,4	-2,1	-1,3	-0,6

Source: Ministry of Finance.

Table 4.6: Basic macroeconomic indicators – pessimistic scenario

		Year 2007	Year 2008	Year 2009	Year 2010	Year 2011
Gross domestic product	volumes, y/y in %	6,6	4,3	3,4	4,3	5,1
Consumer price index	y/y in %	3,0	6,6	3,0	3,1	2,5
Unemployment rate	in %	5,3	4,4	4,5	4,6	4,8
Public deficit	in % of GDP	-1,0	-1,3	-1,7	-1,6	-1,2
Gross public debt	in % of GDP	28,9	28,9	28,0	27,1	25,9
Current account	in % of GDP	-1,8	-2,7	-2,5	-1,5	-0,7

Source: Ministry of Finance.