A Forecast assumptions

High divergence of possible future developments of exogenous parameters considerably increases uncertainty of Macroeconomic Forecast. Interpretation of forecasts under these conditions is discussed in Box C.1.

The forecast was made on the basis of data, known as of 16 January 2009. Neither political decisions nor newly published statistics and events on world financial or commodity markets could be taken into account after this date.

A.1 External environment

The world economy is in the grips of crisis on financial markets and its subsequent spillover into the real economy.

The euro area has been in recession since the second quarter of 2008 while the US economy recorded quarter-to-quarter decline in GDP in the third quarter too. The situation has further dramatised after the collapse of US investment bank Lehman Brothers in mid-September 2008. At the turn of September and October a radical change occurred. Advanced economies' problems have deepened, extending to emerging economies too. Under available data, world trade fell sharply in November with industrial production falling too in many countries.

Considerable uncertainty is connected with concerns about effectiveness of adopted and implemented measures of fiscal and monetary policies in the most-hit countries.

Consequently, under current state of knowledge it is not possible to estimate reliably depth or duration of global economy's problems.

Graph A.1.1: **Growth of GDP in EA12**
QoQ growth in % (adjusted for seasonal and working day effects)
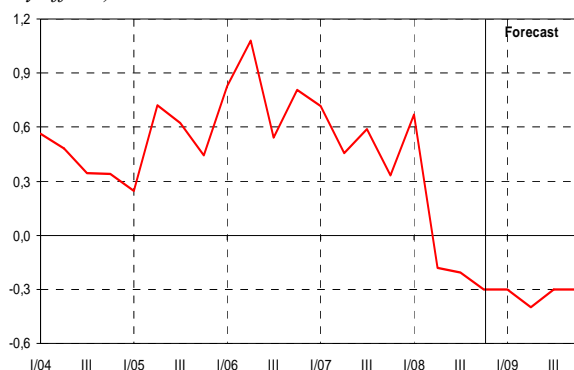

Our projection stems from the assumption that no more major negative events will occur on the financial markets and financial sector crisis will not deepen. Nevertheless, real economy's turmoil can be expected to persist in global terms till 2010.

With extremely high volatility of oil prices it is also very difficult to draw a realistic scenario of their future development.

Dollar prices of Brent oil fell sharply in the second half of 2008. For the next period, a scenario of recovery of medium-term tendency to moderate growth similarly as in 2002-2006 was chosen. In the conditions of global cooling a fall in demand can be expected, which can be however compensated by supply restriction by means of either cuts in OPEC's production quotas or by economic reasons of producers with higher extraction costs.

Graph A.1.2: **Dollar Prices of Brent Crude Oil**
in USD per barrel
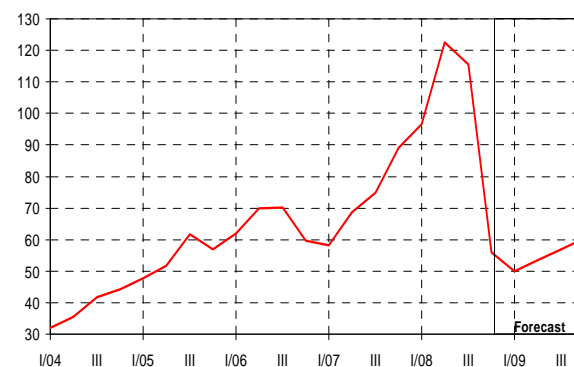
Impacts of external environment problems on the Czech economy are described in Box C.2.

For more details on external environment, see chapter C.8.

A.2 Fiscal policy

Government sector performed well in previous two years, which had been influenced especially by cyclical peak. However, the current development of the economy will bring, should volume of spending be not reconsidered, a worsening of deficit, reminding once again of structural problems on the spending side of general government.

For 2008, deficit of government sector is expected to have reached 1.2 per cent of GDP, which is some 1.7 p.p. better than set in the initial fiscal target. Under current knowledge, deficit thus deepened negligibly compared with 2007 as effects of both less favourable economic development and inclusion of reserves into spending had slightly prevailed over economies stemming from stabilization measures. Risk for the deficit size estimate is seen especially in accrual volume of tax on legal persons' income for 2008.

General government deficit for 2009 is based on an assumption of adherence to budgeted expenditures except for an increase in social spending, especially unemployment benefits, and lower general government revenue due to slower pace of the economy's growth. In such circumstances, 2009 deficit for government institutions sector can be expected at 3.0 per cent of GDP. Should adopted spending ceilings for 2010 and 2011 be kept, then deficits in the mentioned years would reach 2.9 per cent and 2.5 per cent of GDP, respectively.

The scenario is then autonomous where room is left for automatic stabilizers to act freely just as set by fiscal rules of the Czech Republic. Fiscal policy in such situation supports, quite automatically, economic activity in the CR.

The government nevertheless expressed its determination to make additional budgetary cuts of some CZK 12-15bn for 2009, i.e. approx. 0.4 per cent of GDP. Then, when changes in 2009 state budget are approved by the Czech parliament, effect of automatic stabilizers will be somehow weakened. From the view of long-term sustainability of the Czech general government, sharp rise in demand of individual EU governments for financial sources, and due to approaching to Maastricht deficit criterion, this step can be however assessed as stabilizing one. At the same time, the government will create room for decision on possible further, or differently structured, boosting of domestic economy and will decide on potential change of spending frameworks for the next period.

Reform measures introduced from 1 January 2008 and aimed to stabilize general government can be also assessed as anti-crisis steps as they strengthen household demand, reduce tax burden of businessmen, increase labour market flexibility and cut some expenditures of the state budget, as currently proposed by many experts.

At the same time many other measures were adopted over 2008 to boost the Czech economy under worsening external economic environment and its possible impacts on domestic real economy. Following measures can be mentioned:

- Cuts in social security contributions paid by employees with expected budgetary impact of CZK 18.4bn, which provided, compared with initially planned change in income tax, additional funds to all households,
- CZK 14.4bn contribution to construction and modernization of infrastructure within the State Fund of Transport and Infrastructure,
- Increase of salaries in the government sector by CZK 2.7bn as a response to a decrease of public sector salaries in 2008 in real terms,
- Increase of capital of CEB (Czech Export Bank) and other export and guarantee promoting institutions by some CZK 2bn,

- Increase of capital of Supporting Guarantee Agricultural and Forestry Fund by CZK 0.3bn,
- CZK 0.6bn allocation for investment incentives for technology centres projects,
- CZK 0.5bn support of project co-financing from EU funds aimed at projects improving the environment (within the Financial Perspective from 2004-2006).

Inflow of finance from EU funds remains to be a positive expansionary factor. In principle, these means have no direct effect on general government balance as they are government revenue and expenditure at the same time. Nevertheless, they represent large additional demand-generating resources.

*For more details on general government till 2008, see chapter C.7.*

A.3 Monetary policy and exchange rates

Monetary policy of the CNB is based on inflation targeting regime. Presently the CNB's inflation target is set at 3 per cent with tolerance band of ± 1 p.p. and is defined as year-on-year increase in consumer price index. In March 2007 a new inflation target of 2 per cent was announced, effective from January 2010. Inflation target is set as medium-term with monetary-policy horizon of 12-18 months.

Dramatic decline in cost- and demand-related pressures deviated risks considerably toward anti-inflationary course. A space thus opened for the CNB to cut key interest rates, which could help restore economic activity.

However, reduced effectiveness of monetary policy remains to be a problem. It is seen in considerable spreads of inter-bank and especially of client credit rates compared with monetary-policy rates due to still very high values of risk premia (see Box C.2 for more).

Graph A.3.1: **PRIBOR 1Y**
in %
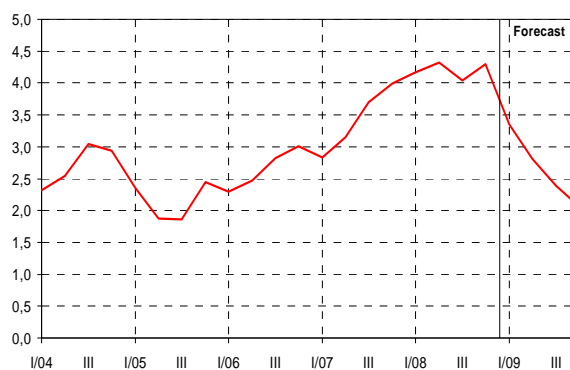
For more details on interest rates, see chapter C.6.

As of 21 July 2008, a historic record of the exchange rate of CZK 22.97/EUR was reached. Following correction, caused by outflow of financial investment from emerging markets, resulted in average value of the exchange rate of CZK 26.11/EUR in December 2008, which represents year-to-year appreciation by mere 0.7 per cent. As of 16 January 2009 the exchange rate was CZK 27.16/EUR. Such exchange rate was weaker by full 5.0 per cent compared with the trend value. Depreciation of the exchange rate could help exporters to cope better with drop in external demand.

Adopted scenario assumes that in the first quarter of 2009 the exchange rate will reach CZK 26.00/EUR on average. In the following period long-term tendency toward moderate nominal and real appreciation should be restored.

Risks are deviated rather toward weaker values of the exchange rate.

Graph A.3.2: **Exchange Rate**
CZK/EUR
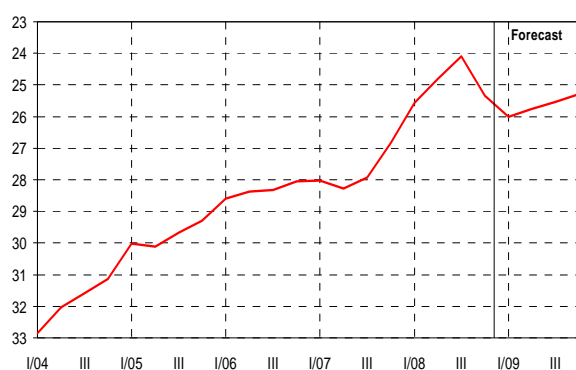
A.4 Structural policies

The current unfavourable development of the world economy made the Czech government adopt several extraordinary measures in recent months. On 2 December 2008 the Czech prime minister declared **Strategy of Preparedness and Growth Acceleration,** aimed to restore confidence in financial sector, prevention and elimination of risks related with the world crisis, stabilization and increase in flexibility of economic environment and providing pro-growth impulses. Individual instruments of the Strategy (fiscal and monetary policy, structural policies, impulses to supply and demand) will be applied depending on further course of the Czech economy.

Following upon the Strategy, government's **National Economic Council** (NERV in the Czech acronym) was established on 8 January 2009. The Council's primary task is to analyze risks and impacts of the current financial and economic crisis and to identify measures and tools to minimize unfavourable effects.

Business environment

Medium-term reform measures are aimed to restrict red tape, reduce administrative burden of businessmen and simplify business environment. The most important reforms adopted in the last quarter include **act on free movement of services** approved by the Czech government on 5 January 2009 and implementing Directive on internal market services (considerably liberalizing provision of services in the EU) into the Czech system of law.

With a view of removing excessive bureaucratic burden, the government approved **Plan to Reduce Administrative Burden of the Businessmen** setting out binding approach to cut the burden by 20 per cent till 2010.

Financial market

In effort to strengthen confidence in banking sector, **100 percent guarantee for deposits** up to EUR 50 000 was introduced.

On 8 October 2008 the Czech government approved the **subject design of the act on financial market supervision.** The primary aim of the act is to introduce a unitary law regulating practices of the CNB when executing financial market supervision.

Taxation

In taxation further shift from direct taxes to indirect ones occurred. Corporate income tax rate was reduced from 21 per cent in 2008 to 20 per cent in 2009. Since 1 January social security contributions were reduced while amendments to the acts on real estate tax and on inheritance and gift tax came into force.

To boost business environment and reduce administrative burden, a comprehensive reform of tax system is under preparation covering reforms of income and property taxation, reform of taxation process and institutional reform. Within the taxation process adjustment, the government approved a new **taxation order** on 19 November 2008, resulting in reduction of administrative costs and simplification of administrative process, restricting some competences of the minister of finance and introducing a new concept of tax execution.

Education, science and research

High quality of education is of key importance for competitiveness and transition to knowledge economy. In 2008 **White Book of Tertiary Education** was finished to serve as basis for overall reform of university education. The basic concept of the reform consists in elimination of the most serious barriers to access to university education, changes in university education structure

and its financing. The act should be adopted this year. On 5 January 2009 the government approved **Implementation Plan of the Lifelong Learning Strategy,** representing a coherent conception of lifelong learning for 2007-2015.

Presently **Reform of the R&D and Innovation System,** approved by the government on 26 March 2008, is being implemented. It is aimed at simplification of administration, more effective use of public funds for R&D and higher contribution of research, development and innovation for the Czech economy.

Energy and climate changes

In the sphere of energy and climate change further shift is seen toward reducing energy intensiveness of European economies and their transformation to low-carbon ones. In December 2008 the European Council and European Parliament adopted the so-called **climate-energy package** setting out de facto a real market with carbon since 2013. Final version of the package is favourable for the Czech Republic as efforts to put a gradual launching of energy auctions through were successful and concerns about leap growth of energy prices and redeployment or liquidation of energy-intensive industries were dispelled.

To boost development of production and use of renewable energy resources, on 16 December 2008 the government approved an amendment to the **act on excise tax** exempting pure bio-fuels from taxation (as regards fuels with high share of bio-component, the share of bio-component is tax-exempt).

Labour market

Several persisting structural problems (lack of motivation to work, discrimination of older workers, insufficient harmony of education system with changing demands of the labour market and low regional and professional mobility) are being joined by cyclical problems as well.

Strengthening of economic activity is the main aim of amendments to the **act on employment and act on assistance in material poverty** (effective from 1 January 2009) increasing interconnection of job seekers' material-security claims with system of assistance in material poverty and introducing clear rules of active employment policy. The period of support in unemployment is shortened by 1 month while unemployment benefit is increased – for the first two months it amounts to 65 per cent of average net monthly earning reached in the last job, for the next two months to 50 per cent and for the remaining part of period of support to 45 per cent. Way of payment of material-poverty assistance benefit has been newly tightened: 35 per cent of benefit at least and 65 per cent at most is provided in the form of vouchers for purchase of goods.

Payments of **sickness benefits** was abolished for the first three calendar days while during the fourth through fourteenth day the benefits will be paid out by an employer. The measure is to eliminate benefits abuse and to achieve reduction in sickness rate in the CR, which is above Europe's average in the long run. The changes are accompanied with cut in social security rate by 1.0 p.p. (in 2010 by further 0.9 p.p. for some employers). Also security contributions paid by employees are cut by 1.5 p.p. (employees are now paying only contributions for pension and health security) with rate of personal income tax and size of tax deductions being preserved.

Approved **first stage of pension reform** extended gradual increase of the statutory retirement age up to 65 years for men and 62-65 years for women depending on number of brought-up children. Furthermore, it extended necessary time of insurance to 35 years and excluded time of study from the category of alternative periods. It re-considered also definition of full and partial disablement, introducing three degrees of disablement with differing size of pension paid. It strengthened **motivation of older persons** to stay on the labour market by means of more severe cuts in old-age pensions in case of early retirement and by growth of percent term of old-age pension in case of concurrence of employment and drawing a full or partial pension.

The second stage should change a structure of financing of the basic pension system and make changes in conditions of supplementary pension insurance and life insurance. Under the **third stage** the insured should have possibility of partial opt-out from the basic pension insurance connected with individual saving.

Continuing reform efforts make head for harmonization of family and working life (the so-called pro-family package) and further liberalization and flexibility of labour market legislation.

B Economic cycle

B.1   Position within the economic cycle

Potential product, specified on the basis of calculation by means of Cobb-Douglas production function, indicates the level of GDP with average use of production factors. Growth of potential product describes possibilities of sustainable growth of the economy free of imbalances. It can be broken down into contributions of labour force, capital stock and total factor productivity. Output gap identifies cyclical position of the economy, expressing the relation between GDP and potential product. Concepts of potential product and output gap are used for analysis of economic growth and calculation of the general government structural balance.
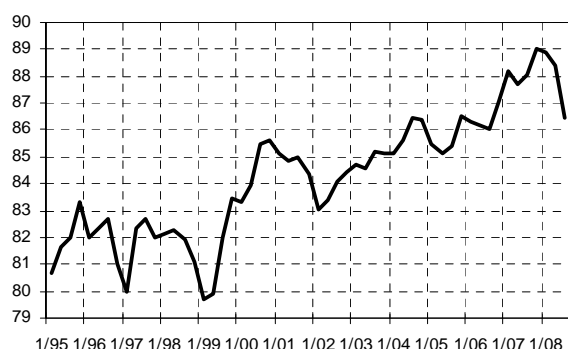
Graph B.1: **Output Gap**
in % of GDP
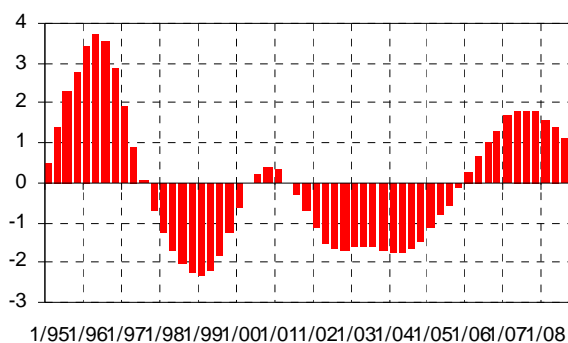
Graph B.2: **Potential Product Growth**
in %, contributions in percentage points
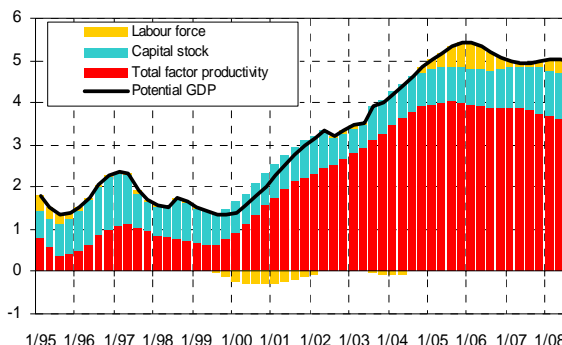
Graph B.3: **Utilisation of Capacities in Industry**
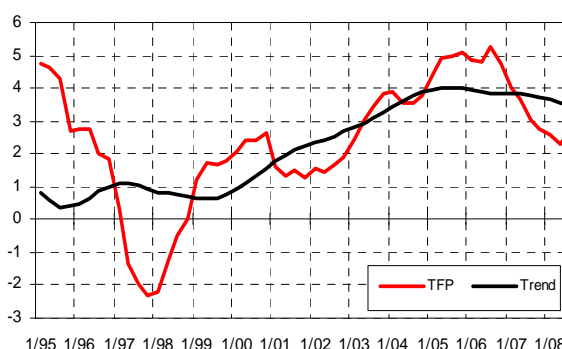*in %*

Graph B.4: **Total Factor Productivity**
YoY growth in %

Table B.1: **Output Gap and Potential Product**

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 *Estimate*
Output gap	*per cent*	-1,9	0,0	-0,2	-1,5	-1,6	-1,7	-0,7	0,8	1,8	0,9
Potential output	*growth in per cent*	1,4	1,7	2,6	3,3	3,7	4,5	5,2	5,2	5,0	5,0
Contributions:											
TFP	*percentage points*	0,7	1,2	2,0	2,5	3,0	3,7	4,0	3,9	3,8	3,6
Fixed assets	*percentage points*	0,8	0,8	0,8	0,7	0,7	0,8	0,8	0,9	1,0	1,1
Participation rate	*percentage points*	-0,2	-0,5	-0,4	-0,1	-0,2	-0,2	0,2	0,2	-0,2	-0,1
Demography [1]	*percentage points*	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,3	0,3	0,4

[1] *Contribution of growth of working-age population (15-64 years)*

Positive **output gap** fell further in the third quarter of 2008 to some 1.0 per cent of potential product from 1.5 per cent in the previous quarter. A considerable slowdown in year-on-year growth in

the fourth quarter should nearly eliminate output gap while in 2009 the economy will be obviously deeply below its potential.

Diminishing output gap is reflected in steep fall in the number of vacancies, use of production capacities in industry and inflationary pressures. Besides, rate of unemployment is growing.

Year-on-year growth of **potential product** has kept close to 5 per cent since 2007. The current economic problems should be of cyclical character mostly and pace of potential product should decrease only slightly.

For the most part, growth of potential product is pulled by trend of **total factor productivity.** Lower growth of observed

productivity in recent period can be regarded as usual development during cyclical slowdown. Moreover, it is compensated by favourable development of other components of potential product growth.

On the **labour market,** decline of participation has been slowing (ratio of the number of the employed and unemployed to working-age population). It can be interpreted that adopted reform measures in taxation and social benefits moderate decline of the number of persons that are able and willing to work. A contribution of an increase in the **economy's capitalization** to growth of potential product is also slightly growing.
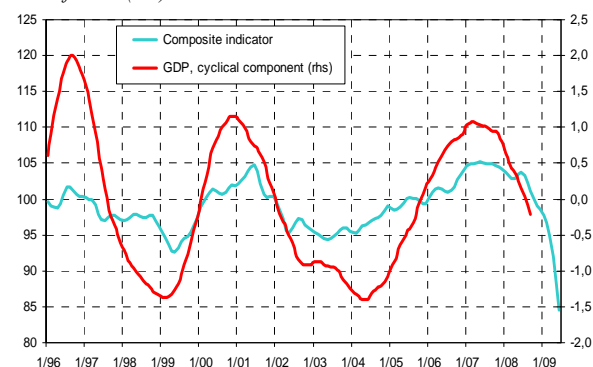
B.2   Leading composite indicator

Leading composite indicator is set up based on the results of business cycle surveys meeting basic demands made on cyclical leading indicators – economic significance, statistically observable relation to the course of economic cycle and timely and regular availability.

Based on an analysis of relations between individual business cycle indicators and cyclical component of real GDP, a change was made in construction of leading composite indicator after release of national account data on 10 December 2008. Presently, indicator is set up from those business cycle indicators that showed a high level of correlation with average lead of six months.

Graph B.5: **Composite Leading Indicator**
average 2000=100 (lhs)
synchronized with cyclical component of GDP based on statistical methods (Hodrick-Prescott filter)
in % of GDP (rhs)

Leading composite indicator had signalled slowdown in growth dynamics for the first three quarters of 2008. Released data on real GDP development confirmed this signal, which was proved also by falling relative cyclical component of GDP, whose value for last month (September) had been negative.

For the fourth quarter of 2008 and first half of 2009, indicator signals further slowdown in the economic growth. Therefore, relative cyclical component of GDP will further fall below 1 per cent in the next period. Some components of composite indicator showed a moderate growth in last month, which could signal slowdown in decline or virtually turnaround in indicator's development in the next period.

The components include especially three-month outlook of credit availability in construction and six-month outlook of economic situation in industry. On the other hand, indicator is greatly pulled downward by three-month outlook of export demand in industry.
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B.3   Individual business cycle indicators

        Business cycle surveys express respondents' views of current situation and short-term outlook and serve to identify possible turning points of economic cycle in advance. The main advantage lies in quick availability of results reflecting a wide range of effects shaping expectations of economic agents.

        The surveys share a common characteristic: respondents' answers do not give a direct quantification but use more general expressions (such as better, the same, worse, or growing, not changing, falling etc.). Tendencies are reflected in business cycle balance, which is a difference between answers „improvement" and „worsening", expressed in per cents of observations (see Methodology of the CZSO).

        Aggregate indicator of confidence is presented as weighted average of seasonally adjusted indicators of confidence in industry, construction, selected services and consumer confidence indicator. Weights are set up as follows: indicator of confidence in industry is assigned weight of 40 per cent, construction and trade 5 per cent both, selected services 30 per cent and consumer confidence indicator 20 per cent.

Graph B.6: **Confidence Indicators**
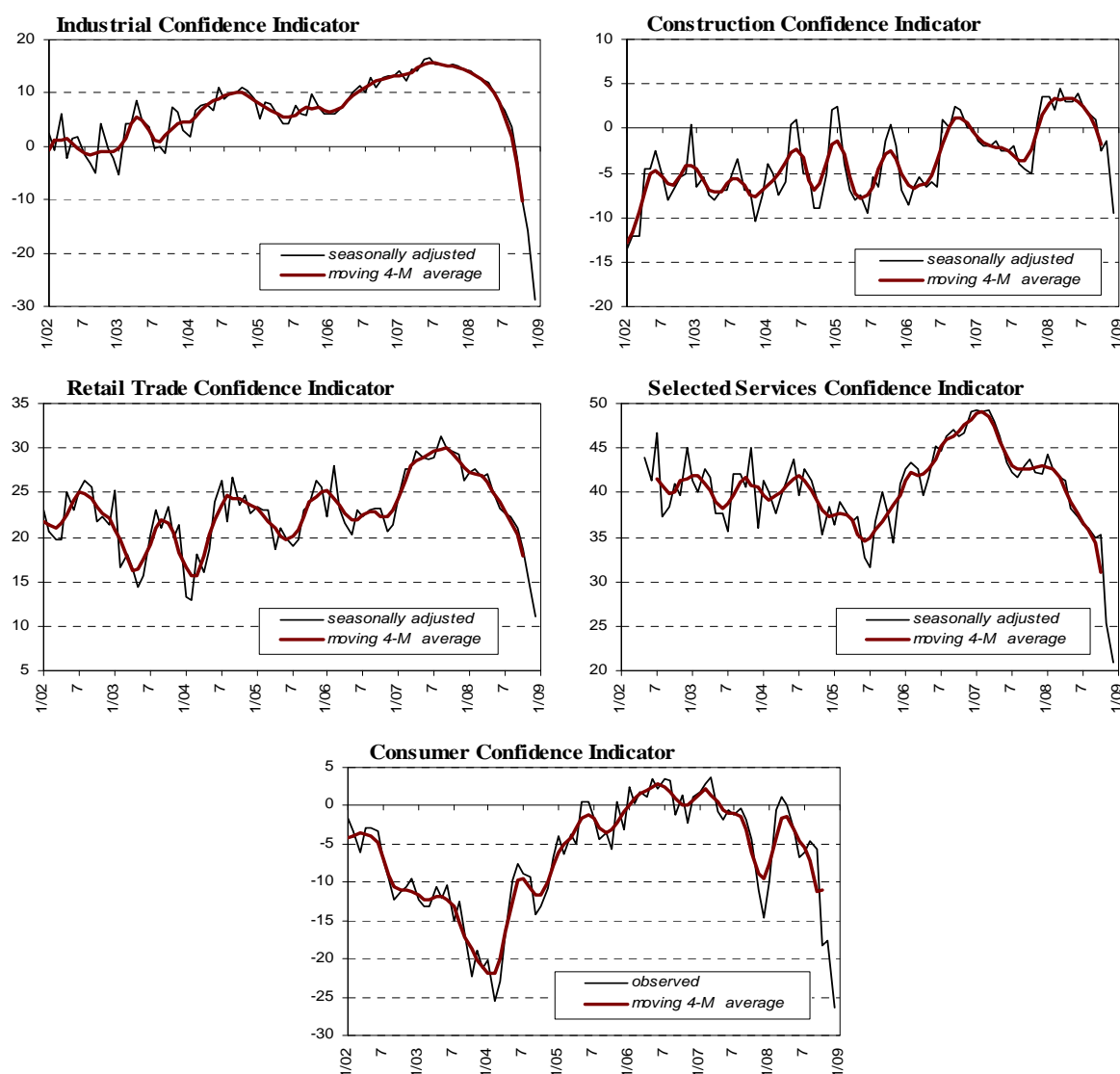
        In the end of 2008 it was clearly seen that the business sphere perceived fully the extent of economic problems. As negative effects in the economy had sudden impact in the fourth quarter, higher assessment of business cycle indicators toward worsening was recorded. Tendencies to decline thus were emphasized.

        In **industrial and construction businesses,** assessment of both current economic situation and of demand, especially foreign (industry), worsened in the fourth quarter. For the first quarter of 2009 respondents allow for further slowdown in production and construction activities and fall in employment. Also their expectations as regards total economic situation worsened.

Slowdown in total economic activity in the CR manifested itself also in answers of respondents in **trade** and **selected services** by worsened assessment of their economic situation.

Consumer confidence was falling further in the fourth quarter of 2008. Consumers assume in December survey that development in the next twelve months will bring worsening of both total economic situation and their own financial situation. Share of respondents expecting increase in unemployment rose while share of consumers intending to save fell.

Graph B.7: **Aggregate Confidence Indicator**
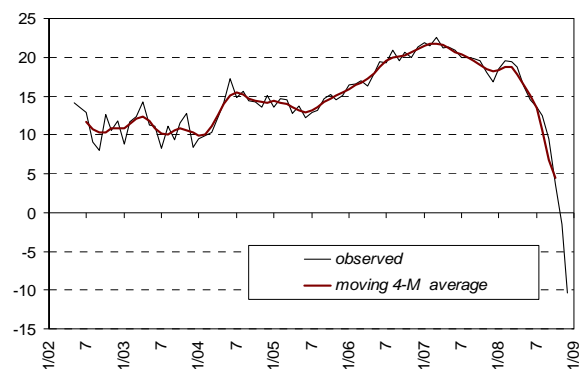
Decline of aggregate indicator of confidence has been accelerating since the first quarter of 2008. Besides business indicator, which had shown a slight tendency to decline as soon as in the first quarter, also indicator of consumer confidence has started falling since the second quarter. Based on opinions of economic entities it can be assumed that economic activity slowed in the fourth quarter of 2008 and no change in this tendency can be expected in the first quarter of 2009.

C Forecast of macroeconomic indicators

Box C.1: Interpretation of point forecasts under conditions of increased uncertainty

Global financial and economic crisis reflects in macroeconomic forecasts not only by permanent worsening of outlooks but also by their increased uncertainty. With available knowledge it is very difficult (if not impossible) to estimate depth and duration of global problems, not mentioning the extent and intensity of impacts on the Czech economy, which is not primary source of problems and only absorbs shocks from external environment.

Tremendous uncertainty can be documented by random examples:

1. E.g. IMF World Economic Outlook from October 2008 (Appendix 3.1)[1] illustrates uncertainty by stating that oil futures option prices from 19 September 2008 suggest that the 90 per-cent confidence interval for end-2008 will range from USD 60 to USD 165 a barrel. This calculation was based on „hard" data of commodity market grounded on in investors' positions. Actual spot prices of various types of oil were at some USD 36 a barrel on 31 December 2008.
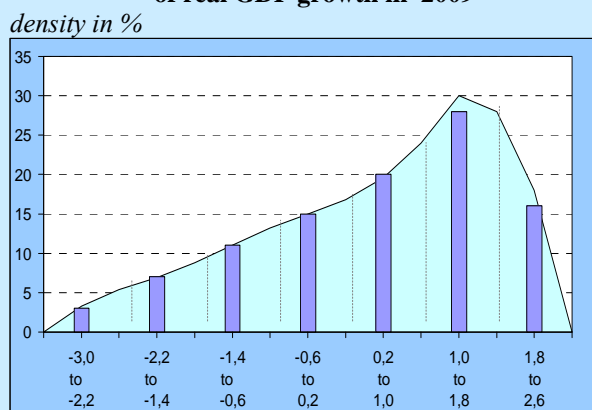
2. ECB in its projection from September 2008 forecast economic growth in the euro area with 75 % probability between 0.6 % and 1.8 per cent in 2009. In December projection[2] this interval shifted to –1.0 % to 0,0 %, i.e. to the range to which probability of less than 10 percent had been assigned to more than 3 months ago. *(Note: ECB's projection is quoted here as it is the one and only international institution producing exclusively range forecasts. Similar shift in forecasts has been seen also as regards other international and national institutions engaged in macroeconomic forecasting including the MoF.)*

To make orientation of Macroeconomic Forecast's users easier, its authors tried to construct probability distribution for real GDP growth in 2009 based on the current state of knowledge.

Within equally broad intervals, economic growth between 1.0 % and 1.8 % is considered to be the most probable. Growth higher than 1.8 % is not excluded but probability is low. On the other hand, growth lower than 1.0 % or small decline in GDP is relatively probable. Probability of decline by 2.0 per cent or more is very small.

The said above leads to **skewed and very flat probability distribution,** as seen from Graph C.1.1. For the sake of comparison, Graph C.1.2 illustrates customary normal probability distribution.

Graph C.1.1: **Flat and skewed probability distribution of real GDP growth in 2009**   Graph C.1.2: **Normal probability distribution**

density in %   *density in %*
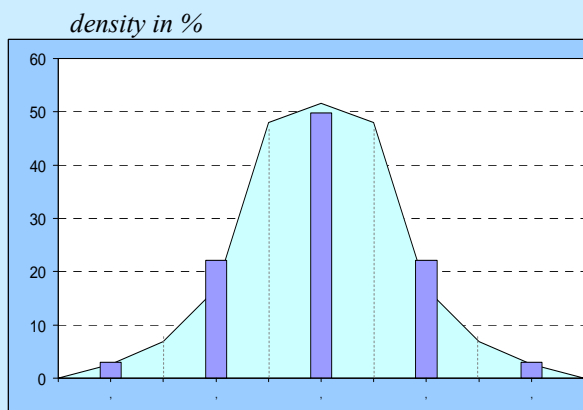
Several different point forecasts can be assigned to skewed flat probability distribution from graph C.1.1:
   a) Mode as the most probable forecast of the future with 1.4 percent value,
   b) Median – 50% chance that the result will be better and the same chance that it would be worse - of 0.8 %,
   c) Arithmetic average of 0.5 %,
   d) Quadratic mean of 0.4 %.

By choosing statistics, the **MoF tends to practice of international institutions** – OECD[3], IMF[4], EC and EBRD – interpreting their central projections as a **mode of distribution,** i.e. the **most probable forecast of the future**. Risks, surrounding the projection, are specified. They can be, and presently are, highly imbalanced.

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[1] http://www.imf.org/external/pubs/ft/weo/2008/02/pdf/c3.pdf
[2] http://www.ecb.int/pub/pdf/other/eurosystemstaffprojections200812en.pdf
[3] http://stats.oecd.org/glossary/detail.asp?ID=310
[4] http://www.imf.org/external/pubs/ft/weo/2008/02/pdf/c1.pdf

Consequently, point forecast of GDP growth of **1.4 per cent with risks strongly deviated downwards** corresponds to the given situation. 75 % probability interval can be set in broad range between **–1.2 % and 2.0 %.**

Data from the previous forecast from October 2008 are marked in italics. Data in the tables covering the year 2011 are indicative, outlining only the direction of possible development and as such are not commented in the following text.

Development of the main macroeconomic indicators of the Czech economy and their forecasts are summed up as follows:

Table C.1: **Main Macroeconomic Indicators**

		2004	2005	2006	2007	2008 Estimate	2009 Forecast	2010		2008	2009 Previous forecast
Gross domestic product	*increase in %, const.pr.*	4,5	6,3	6,8	6,0	4,0	1,4	2,1		*4,4*	*3,7*
Consumption of households	*increase in %, const.pr.*	2,9	2,5	5,4	5,3	2,9	3,2	3,0		*3,3*	*3,9*
Consumption of government	*increase in %, const.pr.*	-3,5	2,9	-0,7	0,4	1,5	0,5	0,0		*1,1*	*0,5*
Gross fixed capital formation	*increase in %, const.pr.*	3,9	1,8	6,5	6,7	4,5	-0,2	2,0		*5,1*	*4,5*
Contribution of foreign trade to GDP growth	*p.p., const.pr.*	1,3	4,6	1,6	1,0	2,9	-0,7	0,2		*2,2*	*0,4*
GDP deflator	*increase in per cent*	4,5	-0,3	0,9	3,6	1,3	1,8	1,8		*2,4*	*2,1*
Average inflation rate	*per cent*	2,8	1,9	2,5	2,8	6,3	1,3	2,1		*6,4*	*2,9*
Employment *(LFS)*	*increase in per cent*	-0,6	1,2	1,3	1,9	1,5	-0,3	-0,8		*1,6*	*0,7*
Unemployment rate *(LFS)*	*average in per cent*	8,3	7,9	7,1	5,3	4,4	5,2	5,9		*4,4*	*4,5*
Wage bill *(domestic concept)*	*increase in %, curr.pr.*	6,3	6,9	8,0	9,3	8,1	4,2	5,3		*9,5*	*8,3*
Current account / GDP	*per cent*	-5,2	-1,3	-2,6	-1,8	-2,8	-1,8	-1,7		*-2,5*	*-2,3*
Assumptions:											
Exchange rate CZK/EUR		31,9	29,8	28,3	27,8	25,0	25,6	24,7		*24,9*	*24,7*
Long-term interest rates	*% p.a.*	4,8	3,5	3,8	4,3	4,6	3,8	3,8		*4,7*	*4,4*
Crude oil Brent	*USD/barrel*	38	54	65	73	98	55	69		*113*	*120*
GDP in Eurozone (EA-12)	*increase in %, const.pr.*	2,1	1,7	2,9	2,6	0,9	-1,0	-0,7		*1,3*	*0,7*

Box C.2: Impact of global financial and economic problems on the Czech economy

Before global financial and economic problems worsened in September 2008, the Czech Republic had enjoyed favourable macroeconomic situation. Economic growth, slowing down naturally due to cyclical effect, was despite extremely appreciated exchange rate pulled by foreign trade contribution. Acceleration of inflation was of temporary character, similarly as in neighbouring countries. Functioning of labour market has improved recently. Current account deficit has showed very sustainable values in international comparisons and foreign exchange debt of economic entities has not been significant. Fiscal and monetary policies have been quite adequate. In the light of subsequent events, the only substantial shortcoming can be seen in too high commodity specialization of exports in some machinery products, especially in cars and their accessories.

Unfavourable external development should reflect in the Czech economy through following channels:

1. Foreign trade
Euro area's economy has been in recession since the second quarter of 2008 and probably will stay in it over 2009. Also growth of other our important trade partners (Slovakia and Poland) has been slowing. As a result, volume of export markets (weighted pace of growth of their imports) will obviously fall after estimated growth by 3.8 per cent in 2008 to some 0.4 per cent in 2009. Lower demand for some export products will thus reflect in cut in contribution of foreign trade with goods and services to GDP growth from 2.9 p.p. in 2008 to some –0.7 p.p. in 2009 (see chapter C.4 and C.1 for more).

2. Confidence in the economy
Fall in confidence (described in chapter B.3) and concerns of economic entities, supported by imbalanced approach of some media, will obviously have psychological effect of more prudent microeconomic decisions. From macroeconomic point of view it will lead to slowdown in growth of domestic demand, mainly for investment. Contribution of domestic final demand (without change in inventories) to GDP growth could fall from 3.0 p.p. in 2008 to 1.8 p.p. in 2009.

3. Financial intermediation
Despite unfavourable external development and gradual cooling of domestic economy, the Czech banking sector remains in good shape. Banks are sufficiently capitalized (as of 30 September 2008 capital adequacy of

the banking sector was 12.89 per cent) and profitable (growth of profit was nearly 12 per cent in the first three quarters of 2008, year on year. Their exposure toward „toxic" assets is negligible and quality of credit portfolio is good. Banks have not granted credits in foreign exchange to a higher extent.

There is tension on inter-bank money market since October. It stems from surveys of average daily money-market turnovers that banks are not willing in fact to lend one another larger volumes of money for a period longer than one week. Moreover, in the end of October money market rates (especially of longer maturities) got off the corridor set by discount and Lombard rates. They return to this band rather slowly in spite of two cuts in CNB rates in November and December by 1.25 p.p. in total. Spread between PRIBOR and PRIBID rates remains between 20 and 45 basic points. Also increased interest of banks in deposit facilities and 2W repo tenders is visible. On the other hand, three-month repo tenders are hardly used by the banks. Surplus of liquidity is still characteristic for the Czech banking.

From data as of 30 November 2008, growth of risk premium and preference of bank liquidity is visible[5]. Under normal circumstances it could be deduced from difference between interest rates on new credits and some of money-market rates but with regard to the fact that part of the money market „has frozen", 2W repo rate of the CNB has been chosen for this purpose[6]. Growth of risk premium and preference of liquidity appeared especially during November (see Graphs C.2.1 and C.2.2). Cuts in monetary-policy rates, that is to say, did not result in similar cuts in interest rates for new credits (for many categories of credits interest rates even increased).

Graph C.2.1: **Spread between interest rate on new loans to households and 2W repo rate**
*in percentage points.*
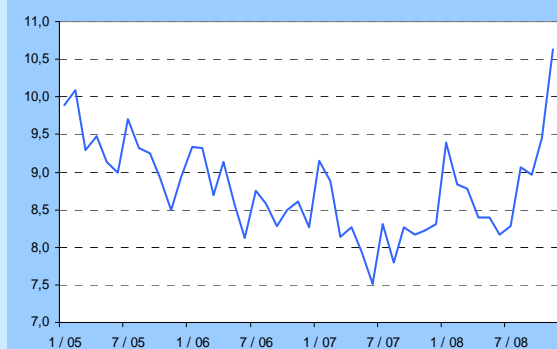
Graph C.2.2: **Spread between interest rate on new loans to firms and 2W repo rate**
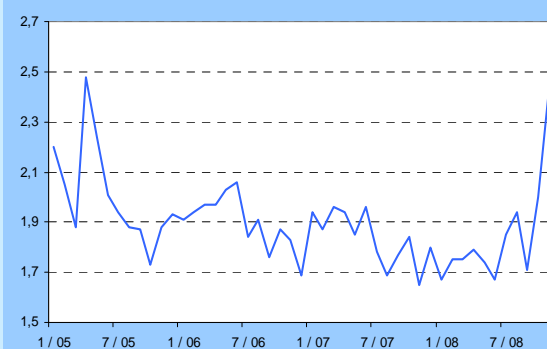
Source: CNB

New credits to firms show weakening dynamics of growth, which is not the case of new credits provided to households, whose volume fell in November in year-on-year terms. Positive year-on-year dynamics was kept by bank overdrafts (both for households and firms) although in case of firms their year-on-year rate of growth has also visible slowed since June.

Graph C.2.3: **New loans to households**
YoY changes, in %
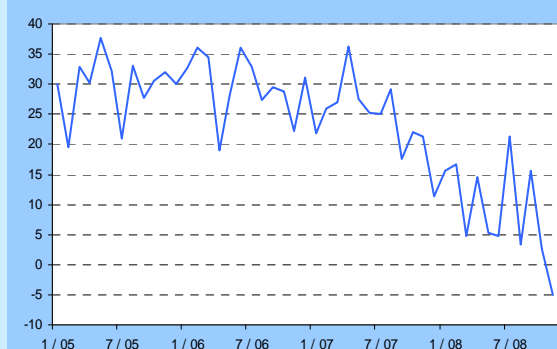
Graph C.2.4: **New loans to firms**
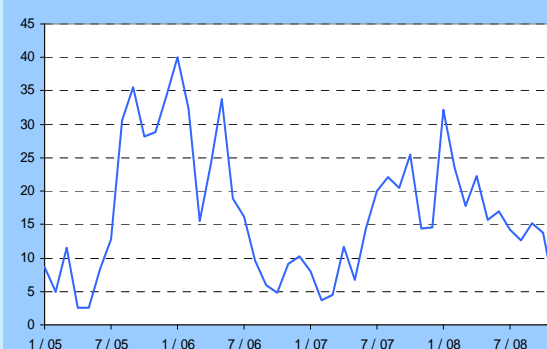
Source: CNB

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[5] *From unofficial data it can be also concluded that creditworthiness of clients is judged more strictly, higher claims on credit hedging are raised etc.*

[6] *CNB now lends money to banks at fixed rate, which is bound to 2W repo rate. Moreover, under normal circumstances spread between 2W repo rate and money-market rates is relatively stable.*

Taking into account that the CNB cut its rates in December too and there are no indications that banks would release conditions for granting new credits, further growth of preference of bank liquidity and risk premium is probable. Curves of year-on-year changes in new credits should thus keep to the downward trend. Should this development continue for a longer time, it would entail quite serious problems as regards future development of investments, operational financing of credit-dependent firms and partially also household consumption.

4. Wealth effect

Savings[7] of households are distinguished by stable and conservative structure. From Table C.2.1 it is obvious[8], that in the period July – November 2008 a decrease occurred in size of savings in the form of shares in mutual funds, direct investment in shares, bonds and construction savings. Drop related with first two instruments is caused mainly by fall in prices of assets, in which households and mutual funds invested.

Also sales of stocks and mutual funds shares played their role. On the basis of data of Association for the Czech capital market on net sales of fund shares it is assessed that from July to November households sold their shares for CZK 12.5bn, shifting them probably into less risky liquid assets (currency, demand deposits).

In November household savings in the form of stocks and mutual fund shares were lower by CZK 53.9bn than in June. Out of this, some CZK 40bn represented a net loss caused by capital market dropout and loss investment. This amount represents some 1.7 per cent of total household saving only and so the effect of size of given changes on household consumption is considered small.

Table C.2.1: **Savings of households**
bill. CZK

	30. 6. 2008	30. 9. 2008	30. 11. 2008	difference November−June
Currency	255,6	258,9	289,0	33,4
Non-time deposits	620,6	643,8	654,4	33,8
Time deposits	304,5	310,8	307,1	2,6
Building savings	385,6	383,0	383,7	-1,9
Foreign currency deposits	56,5	62,0	64,8	8,4
Other deposits	23,2	24,4	25,2	2,0
Life insurance	202,3	207,1	210,3	8,0
Pension funds	176,8	181,7	184,9	8,1
Securities	67,6	56,5	44,7	-22,9
– shares	53,7	44,1	31,7	-22,1
–other securities	13,9	12,4	13,0	-0,9
Mutual funds shares	196,2	191,8	165,2	-31,0
Total	2289,0	2320,0	2329,4	40,4

Sources: CCMA (Czech Capital Market Association), CNB, PSE, own calculation

Also a decrease in housing prices, not documented yet by official statistical data, should not influence considerably household consumption. In the Czech economy neither holding of flats motivated by speculation on price growth nor financing of consumption by mortgage credits is extended.

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[7] *Savings in this context include also money in circulation, which is money that is spent by households rather sooner than later and thus is not usually included. On the other hand, this reservation applies also to part of money on current accounts, which are ranked among savings quite commonly. Conversely, the analysis does not cover money „under the mattresses" i.e. banknotes and coins out of circulation.*

[8] *Data as of 30 June 2008 and 30 September 2008 stem from data released by the CNB in financial account statistics and bank statistics. Besides demand, time and foreign-exchange deposits and construction savings, the data as of 30 November 2008 represent our own estimates.*

C.1 Economic output

The Czech economy reached cyclical peak in the third quarter of 2007 proceeding then to the stage of slowdown of GDP growth.

In the fourth quarter of 2008 a breakthrough occurred and crisis symptoms from external environment started influencing the Czech economy. With regard to openness of the economy and due to uncertainties in external environment, the forecast is burdened with high uncertainty (see Box C.1).

Under recent CZSO data, year-on-year increase of **real GDP** reached 4.3 per cent[9] in the third quarter of 2008 *(compared with MoF estimate of 4.1 per cent from October 2008)*. Quarter-to-quarter growth of seasonally adjusted GDP slowed negligibly to 0.9 per cent *(unchanged)* in the third quarter of 2008 from revised 1.0 per cent in the previous two quarters.

Available monthly business cycle statistics indicate quarter-to-quarter decline in GDP by 0.2 per cent in the fourth quarter with slowdown in year-to-year growth to 2.8 per cent *(3.8 per cent)*. In 2009 growth should slow to 1.4 per cent *(3.7 per cent)*. In mid-2010 crisis phenomena should abate with growth of GDP for this year estimated at 2.1 per cent.

Risks of these estimates are unambiguously deviated downward. Results of the Forecast indicate that the Czech economy could avoid[10] recession but that the latter cannot be fully excluded.

Crisis development will reflect in **nominal terms,** too. Slowdown of nominal GDP dynamics is expected from 9.8 per cent *(10.4 per cent)* in 2007 to 5.4 per cent *(6.9 per cent)* in 2008 and to 3.2 per cent *(5.8 per cent)* in 2009. For 2010 an increase is expected at 3.9 per cent. Although trade unions are assumed to prefer jobs to wage growth, profitability of the business sphere will fall as regards income structure of GDP. Growth of gross operation surplus should slow from 10.0 per cent *(11.8 per cent)* in 2007 to mere 2.2 per cent in 2008 and 2009 *(3.1 per cent and 3.7 per cent, respectively)*. For 2010 an increase by 2.9 per cent is expected.

Impacts of changes in terms of trade are illustrated by means of **real gross domestic income (RGDI)** reflecting income situation of the Czech economy. After peaking at 8.1 per cent in the first quarter of 2007, its pace of growth slowed to mere 2.0 per cent *(2.9 per cent)* in the third quarter of 2008. In 2008 growth of RGDI should be at 1.9 per cent *(3.3 per cent)* and in 2009 and 2010 an increase by 2.0 per cent is expected *(3.5 per cent in 2009)*.

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[9] *Seasonally adjusted y-o-y growth of GDP was 4.2%.*
[10] *Recession is understood in usual statistical interpretation, i.e. as q-o-q decline in real GDP in two subsequent quarters. Recession is not identical with decline in yearly GDP, it can appear even when yearly GDP has grown. E.g. in Slovakia during recession GDP decreased by 4.2% in total during the first through fourth quarter of 1999. Nevertheless a minimum increase of GDP by 0.03% was recorded in 1999 compared with 1998.*

Expenditures on GDP

After considerable growth in previous years, household consumption has been losing its dynamics since beginning of 2008. Year-on-year growth of real **household expenditures on final consumption** slowed to 2.7 per cent *(3.5 per cent)* in the third quarter of 2008. However, household consumption should not be hit by crisis development in last quarter of 2008. For entire 2008, increase of household consumption is estimated at 2.9 per cent *(3.3 %)*.

Lowering of social security contributions and ensuing increase in household net incomes as well as falling rate of inflation could help to stable growth of household consumption.

On the other hand, household efforts to generate savings to cover risks stemming from future crisis developments could counteract growth of consumption. In longer time horizon also effect of increase in unemployment could be seen.

In 2009 household consumption should grow by 3.2 per cent *(3.9 per cent)*. It could then become a stabilizing segment of the economy. In 2010 growth by 3.0 per cent is expected.

Government expenditures on final consumption grew by 3.5 per cent *(2.0 per cent)* in the third quarter of 2008. In the following period, austerity behaviour of government institutions is expected with regard to government institutions employment as well as to purchase of goods and services. In 2008 government consumption is expected to grow by 1.5 per cent *(1.1 per cent)* and in 2009 by 0.5 per cent *(unchanged)*. In 2010 real government consumption is expected to stagnate.

The volume of **gross fixed capital formation** increased by 4.5 per cent y-o-y *(5.8 per cent)* in the third quarter of 2008. In the current uncertain situation it is necessary to allow for reassessment or postponement of many investment intentions in the private sector. Willingness of foreign investors to invest and reinvest profits from doing business in the Czech Republic will depend on their situation in domestic countries. At the same time decline in housing construction is expected. On the other hand, infrastructure investments with contributions from EU funds should keep their dynamics. Pace of growth of investment should reach 4.5 per cent *(5.1 per cent)* in 2008 and fall by 0.2 per cent *(growth by 4.5 per cent)* in 2009. For 2010 growth by 2.0 per cent is expected.

In 2008 positive contribution of **foreign trade** in goods and services to real GDP growth could reach as much as 2.9 p.p. *(2.2 p.p.)* despite very unfavourable external conditions and record-breaking exchange rate of the koruna. In 2009, however, this indicator will fully reflect impacts of global cooling – a negative contribution of –0.7 p.p. *(+0.4 p.p.)* is expected. In 2010 contribution should reach +0.2 p.p.

C.2 Prices of goods and services

Consumer prices

Average rate of inflation for 2008 reached 6.3 per cent (*6.4 per cent*).

Except for the last two months, 2008 was characterised by relatively high values of year-on-year growth of consumer prices. Year-on-year rate of inflation did not fall below 6.0 per cent up to October. November slowdown by 1.4 p.p. and the biggest month-to-month December decline since 1993, however, resulted in final value of 3.6 per cent y-o-y (*4.7 per cent*). At the same time, contribution of administrative effects was 4.4 p.p. (*4.0 p.p.*) while contribution of market price movement was –0.8 p.p. (*+0.7 p.p.*), which was the highest year-on-year negative contribution since April 2003.

From administrative measures, year-on-year inflation reflected an increase in reduced VAT rate from 5 to 9 per cent amounting to 1.1 p.p., growth of gas price 0.7 p.p., excise tax on cigarettes 0.6 p.p., electricity prices 0.4 p.p., prices of heat 0.4 p.p., introduction of charges for doctors' visits 0.4 p.p. and increase in price of regulated rents 0.4 p.p.

Leap growth of prices in the section of **food and soft drinks,** obvious especially at the turn of 2007 and 2008, gradually abated. In the end of the year prices of food were lower by 0.8 per cent y-o-y. **Transport** prices were lower in December by as much as 9.3 per cent. Record high prices of fuels from July 2008 shifted to unexpectedly low values in the last quarter. The biggest contribution of 2.6 p.p. thus was seen in section of **housing.**

After high inflation in 2008, **considerable disinflation should be seen in 2009.** Cost and demand pressures should weaken and besides also the so-called basic effect, i.e. high comparison basis from the previous period should have its impact.

Administrative effects having one-off impact on growth of consumer prices in early 2008 (change in reduced VAT rate, introduction of healthcare charges and environmental taxes) will no more influence the price level in 2009. It is estimated that contribution of administrative measures to total inflation will decrease in total to 1.9 p.p. in 2009, which would be 2.5 p.p. less than in 2008. The most important administrative measures will include growth of regulated rents (contribution of 0.6 p.p.), electricity (0.5 p.p.), heat prices (0.3 p.p.) and prices of water and sewage charges (0.1 p.p.) with most measures coming into effect in early 2009.

Over entire year negative contributions of market inflation can be expected. Market movements will be influenced especially by lower prices of food, oil and other raw materials and also by further decline in world demand. Also a shift to negative output gap, expected during the year, will have anti-inflationary effects. In the second half of the year gradual lessening of negative contributions of market inflation is expected especially due to prices of goods. Inflation in 2009 thus will be dictated mainly by cost factors - administrative measures.

It is therefore assumed that average rate of inflation will be 1.3 per cent (*2.9 per cent*) in 2009. December year-on-year growth of inflation is estimated at 1.1 per cent (*2.7 per cent*).

In 2010 average rate of inflation should be at some 2.1 per cent, i.e. close to CNB inflation target.

Deflators

Growth of **gross domestic expenditure deflator,** which is a comprehensive indicator of price increase in the economy, slowed to 3.9 per cent (*4.1 per cent*) in the third quarter of 2008 due to prices of household consumption and construction investment. For 2008 annual average should reach 4.0 per cent (*unchanged*). In 2009 its growth should slow with general slackening of inflationary pressures to 1.2 per cent (*2.3 per cent*) and in 2010 it should reach 2.0 per cent.

Growth of **implicit GDP deflator** reached 1.0 per cent (*2.4 per cent*) in the third quarter of 2008. Slower growth as against the gross domestic expenditure deflator is given by worsening of terms of trade by 2.8 per cent (*1.5 per cent*). This factor should act in the fourth quarter too and so for entire year 2008 growth of GDP by 1.3 per cent (*2.4 per cent*) is expected. In 2009 effect of considerable slowdown in wage dynamics will obviously prevail over improvement of terms of trade and so growth by mere 1.8 per cent (*2.1 per cent*) can be expected. The same growth by 1.8 per cent is expected also in 2010.

C.3 Labour market and households

Employers and employees are assumed to respond to difficult situation by compliance with consensus on preference to keep jobs by means of part-time work and at the expense of wage increase.

Employment
(Labour Force Survey definitions – LFS)

Growth of employment by 1.5 per cent (*1.6 per cent*) in the third quarter reflected still very good economic situation and start-up of new or extended production capacities in the car industry. Similarly as in the previous period, manufacturing and services in real estate, lease and business activities contributed most to this development.

Rate of employment kept growing on in year-on-year terms. From the age view, the highest share in its increase had mostly higher age categories by lengthening their work activities.

Labour force grew by 30 thousand people (increase of the employed by 73 thousand and loss of the unemployed by 43 thousand). Number of the economically non-active people increased, year-on-year, by 69 thousand (out of which some 65 per cent were represented by pensioners).

Lack of workers especially in places of concentrated industrial production resulted in an increase in the number of foreign employees as recently as in the third quarter 2008 but in the end-year a moderate chain decline in total number of registered foreign workers was seen.

Turnaround in the Czech economy's performance in the fourth quarter will reflect in employment by means of slowdown in year-on-year increase to 1.0 per cent (*1.3 per cent)*. For entire year 2008 growth of employment by 1.5 per cent (*1.7 per cent)* is expected.

For the next period efforts and cooperation of workers and businesses and employment agencies are expected to preserve maximum of possible jobs and to launch re-qualification programmes for the dismissed or people at risk. Activities of all labour market participants should inhibit fall in employment in 2009 unfolding especially from oversized manufacturing.

Therefore year-on-year decline in employment by 0.3 per cent (*growth by 0.7 per cent)* is expected. Following upon economic performance and terms of sales, decline by 0.8 per cent is expected in 2010.

Unemployment

A fall in unemployment rate was gradually slowing in the first half of 2008. Unemployment rate hit its minimum (on seasonally adjusted data) in August 2008. Since then number of the registered unemployed (especially due to an increase in the newly registered) has been growing. Nevertheless in the end of 2008 unemployment was still close below the level of end-year 2007.

Also vacancies fell sharply, which shows a visible-at-first-sight reduction of possibilities to create jobs. Neither change in approach of job seekers can be excluded as regards taking on jobs, once considered unsuitable or inadequate.

In the end of 2008 workers' dismissals started already when firms had run their business down and economic activities had finished. In such cases firms tried maximally to keep first-class and efficient workers and, when necessary, preferred the option not to employ superfluous persons cheaper from the view of redundancy payments or other benefits i.e. especially workers taken on probation, foreigners and pensioners.

In the following period unemployment will continue to grow. It may be partly inhibited by new legislation on unemployment benefits and intensive activities of employment agencies regarding active employment policy. Programmes will be financed as from domestic sources as thanks to participation of the European Social Fund.

Internationally comparable unemployment rate under LFS should increase to 5.2 per cent (*4.4 per cent)* in 2009 and to 5.9 per cent in 2010. Average rate of registered unemployment should

increase to 6.3 per cent (*5.4 per cent)* in 2009 and to 7.0 per cent in 2010, which would be less than in 2006.

Wages

Relatively strong growth of the wage bill slightly slowed to 8.0 per cent (*9.0 per cent)* in the third quarter of 2008. However, difference between growth of wages and productivity reflecting i.a. wage struggle for first-class workforce started in the period of high demand, turns to be a problem.

Adherence to austerity wage measures in the government-managed sphere contributed as to stabilization of wages as to accentuation of differentiation in level and growth of wages between government and businesses and to a year-on-year real fall of wages in the non-business sphere. It was therefore decided to increase wages in the government sector in 2009.

For the fourth quarter of 2008 further slowdown in growth of wages to 7.0 per cent (*9.0 per cent)* is expected. In 2009 however it is necessary to allow for dramatic slowdown in wage dynamics to 4.2 per cent (*8.3 per cent)*. In 2010 wage bill should grow by 5.3 per cent.

Average gross nominal monthly wage should increase by 7.9 per cent (*8.5 per cent)* in 2008, by 5.1 per cent (*7.7 per cent)* in 2009 and by 6.4 per cent in 2010.

Unit costs of labour should increase by 3.2 per cent (*4.6 per cent)* in 2008, by 2.4 per cent in 2009 and by 2.8 per cent in 2010.

Households

In the first three quarters of 2008 development of household sector account was characterized by high nominal dynamics of disposable income given especially by fast growth of wages supported by increasing employment. However, real consumption was limited by high inflation although saving formation decreased.

Compared with the first three quarters, a slower growth of compensations of employees is expected in the fourth quarter as initial austerity measures will reflect already as regards both number of employees and extent of working time and wage means. However real consumption is not expected to slow within this horizon with regard to inflation slowdown, still sufficient disposable sources and wide offer of discount actions started considerably sooner than in the previous years.

In 2009 and 2010 we expect a moderate growth of compensations to employees taking into account economic growth. Household disposable income in 2009 will be strongly positively influenced by 1.5 percent cut in social security contributions paid by employees. This adjustment will increase growth of disposable income by some 1.0 p.p. and besides vigorous disinflation it could help maintain

or possibly slightly accelerate real household consumption despite prudential behaviour and orientation rather on savings formation with regard to the labour market problems.

C.4 External relations
(Balance of payments definitions)

External imbalance, expressed by **ratio of current account (CA) deficit to GDP,** has been ranging within –1.5 per cent to –2.6 per cent since the beginning of 2006. Lowering of CA deficit in annual terms to –2.3 per cent of GDP in the third quarter of 2008 (-2.5 per cent in the second quarter) was given by improvement of balance of trade in goods and services.

In the third quarter favourable development of **trade balance** still continued with surplus increasing surprisingly from 3.6 per cent of GDP in the previous quarter to 3.8 per cent (*3.4 per cent)* despite extremely strong exchange rate and unfavourable situation in the external environment.

Since the fourth quarter, however, trade balance has reflected sharp slowdown in world economy's growth, which results in a decline of demand especially in countries with advanced market economy (AME). Problems with sales are deepened also by considerable slowdown in Asian countries, growing rapidly until recently, whose economies are incidentally strongly tied with AME countries. Because of the current world economy turmoil, prices of raw materials, especially of oil, fell sharply, which would improve the Czech trade balance at least partially. In will be seen in decreasing deficit of the fuel part of the balance (SITC 3) from –4.1 per cent of GDP in the third quarter of 2008 to some -2.4 per cent of GDP (*-4.8 per cent)* in 2009.

Growth of export markets[11] has been slowing from 12.0 per cent reached in 2006. With regard to gloomy perspectives of the world economy, export markets are estimated to fall by some 0.4 per cent (*growth by 3.1 per cent)* in 2009. Taking into account structure of exports (high share of motor vehicles), also worsening of export performance indicating share of Czech goods on export markets can be expected.

It is expected that surplus of non-fuel part of the balance still increased to CZK 243bn (*CZK 259bn)* over 2008 while trade balance surplus should reach (in BoP definitions) CZK 113bn (*CZK 130bn).* In 2009 global weakening of demand should reflect in reduction of surplus of non-fuel part of the balance to CZK 166bn (*CZK 289bn).* With the current fall in deficit of the fuel part of the balance trade balance

surplus (in balance of payments definitions) should reach CZK 105bn (*CZK 194bn).*

Balance of services surplus has been growing moderately since 2003, reaching 2.1 per cent of GDP in the third quarter of 2008 (in annual terms). Growth was related especially with improving results of the so-called other services. Contribution of transport remains stable while surplus of balance of tourism with lower revenue receipts and moderate growth of expenditure is decreasing. In crisis period it can be expected that intensity of both active and passive tourism will decrease similarly. Slow growth of balance of services surplus is expected also in the following period.

Balance of income deficit, including reinvested and repatriated profits of foreign investors, has been deepening permanently since mid-2006, reaching –7.9 per cent of GDP in the third quarter of 2008. Due to assumed reduction in investment inflow and lower economic activity of foreign firms, slowdown in profit outflow abroad is expected. Similarly outflow of compensations for work of foreigners employed in the CR should not increase.

Ratio of **current account** deficit to GDP is expected to reach –2.9 per cent (*-2.5 per cent)* in 2008. Forecast for 2009 is –1.9 per cent of GDP (*-2.3 per cent).* Paradoxical at first sight lowering of deficit forecast stems from the fact that impact of lower oil prices, slowdown in real imports (lower growth of domestic demand and high import intensity of exports), and lesser outflow of yields should prevail over export dropout.

C.5 Demographic trends[12]

Under end-2007 data, growth of the Czech population accelerated considerably to 0.9 per cent.

Total fertility[13] grew to 1.44 against the minimum of 1.13 in 1999. Although it is still very far from reference value of 2.04 ensuring long-term stability of the population, this development shows certain promise for the future. Natural rise of population by 10 thousand people was the highest since 1982. Average life expectancy approximated 80 years for women and 74 years for men. Positive balance of migration was 84 thousand of people, reaching the highest value since the World War II.

From economic view, the Czech population thus has a very favourable structure with high share and growing number of working-age population.

These tendencies continued in 2008 as well. However, in 2009 with lower demand for workforce

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[11] *Weighted average of growth of goods imports by seven most important trade partner countries (Germany, Slovakia, Poland, Austria, France, the United Kingdom and Italy).*

[12] *Results of the CZSO demographic projection from late 2003 differ distinctly from the current data on population development. Therefore the projection is based on data from late 2007 and on own calculations proceeding on high variant of demographic projection.*

[13] *Number of life-born children per one woman, should her fertility remain the same for her entire reproduction period as in the given year.*

lower immigration can be expected and thus also slight worsening of demographic structure.

Nevertheless it is still true that the CR is at the beginning of **population ageing process.** For the first time in Czech history, number of people younger than 20 years was lower in 2007 than number of population in the age category 60+. The number and share of seniors in the population will grow due to demographic structure and further lengthening of average life expectancy. Demography thus represents economic risk in the medium and long run.

C.6   Interest rates

In the last quarter of 2008 the **CNB** cut the policy rate for 2W repo operations by 1.25 p.p. The first decrease was in November when interest rate was cut from 3.50 per cent to 2.75 per cent. In December further cut by 0.50 p.p. to the present 2.25 per cent followed. Monetary policy easing, which will probably continue in 2009 as well, corresponds with of lower expected inflation, slower expected growth and global trend of key interest rates reduction. Extent of changes in 2W repo rate can be lesser, should the koruna depreciate against the euro more than assumed by the CNB forecast.

When the CNB bank board takes decisions on policy rates setting, context of **ECB** monetary policy plays an important role. ECB cut policy rates by 1.75 p.p. in total during the fourth quarter of 2008. By the end-year, its main refinancing rate was at 2.50 per cent. With regard to expected disinflation and recession in the EMU, its further cut looks very probable. Interest spread between the CR and the euro area was negative by the end of December, amounting to 0.25 p.p.

US **Fed,** as another important institution affecting the world economy, cut in December main interest rate for refinancing operations to 0.25 per cent. Thus possibilities to use interest rates as a tool against the US economic slump were exhausted and Fed was forced to use quantitative easing, i.e. increasing the sum of money in the economy.

Short-term yield curve of CR inter-bank rates shifted downward in December 2008 compared with January 2008 for shorter maturities as a response to three cuts in 2W repo rate. The level has not changed for longer maturities, which is obviously caused by growth of risk premium on inter-bank market. Average **PRIBOR** 3M rate reached 4.11 per cent in the fourth quarter of 2008 and 4.04 per cent (*unchanged)* for entire 2008. Following upon expected fall of key interest rate in 2009 and gradual decrease in risk premium, yearly average of PRIBOR 3M is forecast at 2.2 per cent (*3.8 per cent).* In 2010 2.3 per cent is expected thanks to 2W repo rate set at slightly increased inflationary. However, growth of three-month inter-bank rate will be compensated by further cut in risk premium.

Yield to maturity of 10-year government bonds for convergence purposes[14] fell in December in comparison with November 2008 by 0.23 p.p. to 4.09 per cent, reaching average value of 4.55 per cent (*4.7 per cent)* over entire 2008. In 2009 demand for government bonds is expected to prevail over investment in shares, which could lead together with falling policy rate to further fall of yields. For 2009 thus average level of yield of 10-year government bonds is estimated at 3.8 per cent (*4.4 per cent)* and for 2010 at 3.7 per cent under assumption of stagnation and following moderate growth of yields in the end-year.

Average interest rates from deposits of households and non-profit institutions serving to households reached 1.58 per cent in the third quarter of 2008. After moderate October increase interest rates fell to 1.56 per cent in November. In 2009 they could be at 1.4 per cent *(unchanged)* and in 2010 at some 1.2 per cent under assumption of the above mentioned development of 2W repo rate, falling risk premium and trend development of household deposit structure (falling tendency of deposits with agreed maturity and growth of one-day deposits and time deposits).

Average interest rates from credits to non-financial businesses were 5.6 per cent in the third quarter 2008. In October and November they remained the same. For 2009 interest rates are expected at some 4.7 per cent (*5.4 per cent)* and at 4.3 per cent in 2010. Even such moderate nominal fall in rates in 2009 would mean tightening of credit conditions for the business sphere. With regard to vigorous disinflation, real rates (deflated by final use deflator) would increase from 1.7 per cent in 2008 to 3.4 per cent in 2009. Besides, functioning of financial intermediation will be also limited by dynamics of credit granting. The latter will depend, besides demand for credits, on severity of the bank assessment of the clients' credibility, requirements for credit hedging and other non-price factors.

C.7   General government

For **2008** general government **deficit** should reach CZK 45.6bn, which is 1.2 per cent of GDP. Compared with October estimate for 2008 (CZK 47.3bn) thus results are reassessed only slightly by CZK 1.7bn.

In comparison with October estimates, slight worsening by approx. CZK 5bn is expected for the state budget. Tax receipts developed in accordance with October assumptions. However, expectations regarding social contributions were rather too optimistic as limits of contributions had a more noticeable impact than initially expected.

Compared with October estimate, saving is expected on the expenditure side of the budget,

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[14] *This indicator corresponds to the Maastricht criterion for interest rates.*

especially due to lower drawing of European money (which in itself has no impact on the balance) and related lower co-financing from budgetary sources.

Nevertheless higher deficit of the state budget is fully compensated by more favourable results of the former National Property Fund, especially due to lower costs on removal of environmental damage. Estimate of other entities of central government institutions' sub-sector changed only slightly.

Local governments are expected to have performed better by CZK 3.3bn as against initial estimates while social security funds will probably show result worse by CZK 2.7bn. Especially higher effect of security contributions ceilings for healthcare insurance is demonstrated here.

That means that October 2008 estimate was built on realistic foundations and the current reassessment of forecast for 2008 is only moderate.

For **2009** general government deficit is estimated at CZK 112.9bn, which corresponds to 3.0 per cent of GDP.

Compared with the previous CZK 62.4bn deficit forecast thus noticeable worsening is expected, corresponding with lower assumed pace of the economic growth. Expected decline in tax and social security revenues will have dominant share in higher deficit. Growth of expenditures related especially with increase in unemployment will be of less importance. The structure of projection risk is dominated by uncertainties surrounding revenue from corporate income tax as the most volatile component of tax receipts. Under current conditions, its size is very difficult to forecast. Other tax receipts and expected size of expenditures take considerably lesser part in forecast risk. When adopted, planned cuts in the state budget spending should act in favour of deficit and debt improvement.

By the end of 2008 **debt** is expected to have reached CZK 1093.3bn, i.e. 29.4 per cent of GDP. It thus stayed quite stable in relative terms.

The size of the debt for 2009 is estimated at CZK 1166bn, i.e. 30.4 per cent of GDP. It will be influenced by planned sale of the Prague Airport.

C.8 World economy

With financial market crisis affecting the real economy, the world economy is obviously heading for recession at the turn of 2008 and 2009. The US economy declined for the first time in the third quarter of 2008 while euro area suffered already from recession at that time. With regard to global character of recession and world trade downturn it cannot be assumed that Asia's economies would be able to balance this decline. Since summer inflation has been falling in many countries and oil prices have fallen dramatically.

The US economy gives a grim picture at present. It slowed sharply from high growth in the second quarter of 2008 (0.7 per cent in q-o-q terms) to –0.1 per cent in the third quarter and all appearances are that the decline will continue. Rate of unemployment grew from February 4.8 per cent to 6.7 per cent in November and further increase is signalled. Also sharp slowdown in consumption points to recession. For the first time since the fourth quarter of 1991 household consumption, on which US growth depends, fell (by 1 per cent against the second quarter). Inflation is also falling from the July 5.6 per cent to 1.1 per cent in November. Immediately afterwards record inflation in 17 years, deflation is thus threatening.

The future will be influenced especially by continuation of crisis, which broke out on US financial and stock markets in mid-September. Since 15 September both Fed and government have been trying to prevent deepening of financial system crisis: Fed cut key interest rate up to 0.25 per cent and pours money into the economy also by means of buying the so-called toxic assets from banks, guarantee takeovers etc. The government prepares a bailout package for large car producers endangered by collapse. Real estate prices continue falling, which increasingly hinders private consumption. Many expectations are connected with new president assuming an office. For the time being it seems that the new administration will prefer tax incentives to public expenditures at the outset.

Expected growth in the US is reduced for 2008 to 1.2 per cent (*1.6 per cent)* while in 2009 decline is expected by –1.2 per cent (*growth by 0.7 per cent)* and in 2010 decline by –0.5 per cent.

After the strong first quarter (quarter-to-quarter growth of GDP by 0.7 per cent), **euro area (EA12)** was hit by recession with two identical downturns by 0.2 per cent both in the second and third quarters. Germany is in similar situation (declines in GDP by 0.4 per cent and 0.5 per cent, respectively). Of large economies, Italy and France are on the brink of recession. Exports, on which many economies depend, are impaired by general conditions of sales and appreciation of the euro. The economy is thus slowing due to unfavourable external conditions, stricter credit conditions and property market slump. Household consumption has been stagnating or falling since February, which reflects also fall in consumer and business confidence. Industrial production has been falling in EA12 (and EU27 as well) since September. In November it was 1.6 per cent as against October, in Germany 3.3 per cent.

After peaking at 4.0 per cent in July, high inflation in EA12 started slowing up to the current 1.6 per cent in December. The ECB cut interest rate in January 2009 to 2.0 per cent. So far low unemployment, which was at 7.1 per cent from January to April (the lowest value in more than 20 years) and rose to 7.8 per cent in November, has favourable impact. The main risks are seen in

impacts of US and world economy slowdown on exports and continuation or even deepening of financial market crisis.

For 2008 GDP growth in EA12 is estimated at 0.9 per cent (*1.4 per cent*) while in 2009 fall by 1.0 per cent (*growth by 0.7 per cent*) and in 2010 further decline by 0.7 per cent is expected.

Central European economies have in the long run been growing and keep growing faster than Western Europe except for Hungary, which started going down in the third quarter. However, high share of industrial production and dependence on exports indicate also here strong slowdown.

Slovak economy grew by 10.4 per cent in 2007, which was the best performance within the EU. In 2008 it continued in high pace (in the first three quarters 1.1%, 1.2%, 1.5% q-o-q). With regard to high share of exports, however, deceleration needs to be expected. It is indicated already by m-o-m slowdown in industrial production by 7.1 per cent in November. Slovakia joined the euro area on 1 January 2009.

Deceleration of GDP growth is expected. For 2008 GDP is expected to grow by 7.4 per cent (*7.6 per cent*), in 2009 by 3.4 per cent (*6.3 per cent*) and in 2010 by 3.2 per cent.

In **Poland** the economy grew in 2007 by 6.6 per cent. Also in the first three quarters of 2008 it grew dynamically by 1.2 – 1.3% q-o-q. Similarly as in Slovakia, growth was pulled by foreign investment inflow and household consumption. It is obvious that also here external development will hinder growth (in case of Poland developments in Russia and Ukraine are significant).

For 2008 GDP is expected to grow by 5.2 per cent (*5.4 per cent*), in 2009 by 2.5 per cent (*4.6 per cent*) and in 2010 by 2.3 per cent.

In six months, **price of oil** dropped from values close to USD 150 to some USD 40 in January 2009. With absence of major fall in global demand it indicates considerable effect of speculation driving prices to July extremes. Any estimate of prices is very difficult due to many conflicting factors. It is true that global slump will lead to fall in demand but inability is seen on the side of production to increase oil production to a major extent when necessary. It was for the first time when IEA publicly admitted in 2008 that oil production has probably come close to its maximum. Price of oil is influenced by OPEC regulation too. On the other hand it is possible that efforts to substitute oil partially will strengthen, which is also among the priorities of the new US administration. Potential success of these efforts could lead to subsequent fall in prices in the long horizon.

In our forecast slight growth above the current level at some USD 40 is expected in short-term. For 2009 price at USD 55 (*USD 113*) per barrel of Brent oil is expected and for 2010 at USD 69.

C.9   International comparisons[15]

Comparisons of economic output of individual countries are made in PPS[16]. PPS is an artificial currency unit expressing quantity of goods that can be bought on average for one euro on the EU27 territory after exchange rate conversion for countries that use other currency than the euro.[17]

When adjusted by current **purchasing power parity,** process of Czech economic convergence toward EA12 average shows stable tendency similarly as in other Central European economies. With regard to synchronization of economic problems, this tendency should not be disrupted even by the current situation. Average „pace of convergence" after 2002 reaches 2 p.p. a year.

In 2008 Czech Republic's GDP p.c. reached approx. PPS 21 200, which corresponds to 75 per cent of EA12 economic output. In 2010 Czech economy's performance should approximate some four fifths of euro area economic level.

Alternative way of calculation by means of the current **exchange rate** takes into account a market assessment of the currency as a result of economic competitiveness and ensuing differences in price levels. GDP p.c. then reached some EUR 14 400, which corresponds to exactly half the level of EA12.

Comparative price level of GDP in the CR was some 66 per cent of EA12 average in 2008. Between 2003 and 2008 the Czech price level has approximated to EA12 level by some 3 p.p. a year on average.

However, year 2008 was not standard from this point of view. A leap in comparative price levels by some 6 p.p. was seen in the CR, Poland and Slovakia. Strengthening of exchange rates stemmed from the fact that these countries were perceived by financial markets as area suitable for investment in the first stage of global financial crisis.

In 2009 year-on-year lowering of comparative price levels can be expected in the CR and Poland. This depreciation of the exchange rate could help increase price competitiveness and make overcoming of difficult situation easier.

Slovakia, on the contrary, will face further increase of comparative price level and strengthening of the real exchange rate after adopting the euro and with expected positive inflationary differential against the EA12.

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[15]*Comparisons for the period to 2007 are based on Eurostat and OECD statistics. Since 2008, our own calculations are used based on real exchange rates.*
[16]*PPS is abbreviation for Purchasing Power Standard.*
[17]*E.g. PPP CZK 17.13/PPS in 2007 expressed the fact that for given sum of Czech korunas the same set of representative goods could be bought as for 1 euro within EU27.*

D Monitoring of other institutions' forecasts

The Czech Ministry of Finance organizes twice a year a meeting of institutions, engaged in analysing and forecasting macroeconomic developments of the CR – the so-called Colloquium. Fourteen institutions including the MoF took part in the last, 26th Colloquium, held on 24 November 2008.

The Colloquium's aim was to get the idea of views on expected development of our economy and assess together the main tendencies in years 2008 to 2011 while years 2010 and 2011 were seen as indicative outlook. At the same time, current economic issues were discussed.

Forecasts for 2009 to 2010 are summed up in the following table.

Table D.1: **Consensus Forecast**

		2009				2010			
		November 2008			*January 2009*	*November 2008*			*January 2009*
		min.	*max.*	*consensus*	*MoF CR*	*min.*	*max.*	*consensus*	*MoF CR*
Gross domestic product	*increase in %, const.pr.*	2,0	4,5	3,0	1,4	2,9	4,4	3,6	2,1
Consumption of households	*increase in %, const.pr.*	2,0	4,1	3,1	3,2	3,0	4,2	3,7	3,0
Consumption of government	*increase in %, const.pr.*	0,0	1,5	0,7	0,5	0,0	2,0	0,8	0,0
Fixed capital formation	*increase in %, const.pr.*	1,0	4,5	2,6	-0,2	3,5	6,2	4,7	2,0
GDP deflator	*increase in %, const.pr.*	1,6	4,1	2,5	1,8	0,7	3,3	2,2	1,8
Inflation rate	*per cent*	2,0	6,1	2,8	1,3	2,1	3,0	2,4	2,1
Employment	*increase in per cent*	-1,8	1,0	0,1	-0,3	-1,5	0,4	-0,3	-0,8
Unemployment rate	*average in per cent*	4,5	6,3	5,2	5,2	4,8	7,0	5,6	5,9
Current account / GDP	*per cent*	-4,7	0,0	-2,5	-1,8	-4,0	0,5	-1,8	-1,7
Exchange rate CZK / EUR		24,0	25,9	25,0	25,6	24,2	25,0	24,5	24,7
Crude oil Brent	*USD / barrel*	60	120	77	55	70	115	88	69

Results of the Colloquium reflect rate of knowledge of Czech economy problems from the second half of November 2008. Most institutions confirmed the following key tendencies of economic development, which have today (January 2009) rather historic value and document extreme uncertainties:

- Slowdown in GDP growth dynamics to 3.0 per cent in 2009 and its gradual increase up to (presumed) level of 2008 i.e. 4.4 %,
- Considerable slowdown in household consumption growth from 5.9 % in 2007 to 3.0 per cent in 2008 and 3.1 % in 2009; slow growth of dynamics in 2010-11,
- Stable dynamics of government consumption growth at some 1 % in 2008-11,
- Slowdown in growth of fixed capital formation to 2.6 % in 2009 and growth by 4.7 per cent in 2010-11,

- One-off increase in average rate of inflation in 2008, gradual slowdown to 2.3 % in 2009-11,
- Nearly stable GDP deflator, values within 2.2-2.6 % expected in 2008-11,
- Gradual growth of rate of unemployment from 4.7 % in 2008 to 5.6 per cent in 2010,
- Fall in dynamics of growth of employment, fall by 0.3 % in 2010,
- Stable current account deficit to GDP at some 2.5 % in 2008-2009, for 2010-11 improvement expected approx. at the level of 2007,
- Moderate strengthening of the koruna against the euro up to CZK 23.90/EUR in 2011,
- Average price of Brent oil at USD 77 a barrel, gradual increase to USD 98 a barrel in 2010-11.

Box D.1: **Respondents**

Outcome of the autumn 26th Colloquium was set up based on background papers received from the institutions mentioned below. We use this occasion to thank them for cooperation. Also forecasts of the IMF and European Commission were included.

Atlantik FT
CERGE – EI
Česká spořitelna
ČSOB
Czech National Bank
ING
Komerční banka

Liberal Institute
Ministry of Industry and Trade
Ministry of Labour and Social Affairs
Patria Finance
Raiffeisen Bank
UniCredit Bank