

## Preparation of the Macroeconomic Forecast – a look under the hood

The Ministry of Finance of the Czech Republic produces a thorough system of forecasts of all fields of macroeconomic developments. In the forecasting process, both the results of macroeconomic model and expert judgements are used.

### Statistical analysis

In the first phase of the forecast preparation, a thorough statistical analysis of past economic developments is conducted. Estimates from the last macroeconomic forecasts are compared with actual developments and the causes of eventual discrepancies are analysed.

For estimating past developments not yet covered by the Czech Statistical Office data, business cycle indicators are used. As for the near future, our opinion is guided by our own leading indicator and indicators of economic sentiment released by the Czech Statistical Office.

### The macroeconomic model

The results of the macroeconomic model are the key input to the prognostic process. The MoF uses a simple DSGE (dynamic stochastic general equilibrium) model of the Czech economy called HUBERT. The model describes the behaviour of four basic sectors in the economy: households, firms, the government and the external environment. Although HUBERT is rather a simple version of a standard DSGE model, it includes the basic features of new keynesian economics, such as imperfect competition, households' habit formation, nominal and real rigidities. The current version of the model is used for estimating the impact of economic policy measures, as well as for regular macroeconomic forecasts.

More detailed information about HUBERT can be found in the following working papers:

- Štork, Závacká, Vávra (2009) *HUBERT: a DSGE model of the Czech economy*. MoF Working paper 2/2009. (<http://www.mfcr.cz/assets/en/media/HUBERT-a-DSGE-model-of-the-Czech-Republic.pdf>)
- Štork, Závacká (2010) *Macroeconomic implications of fiscal policy measures in DSGE*. MoF Working paper 1/2010. (<http://www.mfcr.cz/assets/en/media/Macroeconomic-Implications-of-Fiscal-Policy-Measures-in-DSGE.pdf>)

### Expert judgement

In the next phase, the results of the model are judged in the context of both domestic and foreign economic and political developments. Potential output (specified using the Cobb-Douglas production function), position in the business cycle and expected developments in the economies of our main trading partners are all assessed on the basis of expert judgements. The impact of monetary and fiscal policy, structural reforms and other economic policies is also taken into account.

Forecasting can be viewed as a multiple-stage iteration process. Based on the expected GDP and forecasts relating to other aspects of macroeconomic developments (prices, labour market, balance of payments), the forecasts of other variables are derived using simple

regression equations. The stress is put on internal consistency of the macroeconomic forecast.

### **Verification of the results**

The macroeconomic forecast is regularly compared with the forecasts of other relevant domestic and foreign institutions. An important event is the so called Colloquium, which takes place twice a year and the results of which are published on the web of the MoF.

<http://www.mfcr.cz/en/statistics/macroeconomic-forecast>