

Box 3

**STRESS TESTS CONDUCTED IN EU MEMBER STATES IN CENTRAL AND EASTERN EUROPE**

Many non-euro area EU Member States in central and eastern Europe have experienced a significant worsening of macroeconomic conditions since the start of the current financial turmoil. From a financial stability perspective, it is crucial to assess whether the financial systems in these countries would be capable of weathering plausible but severe shocks, over and above the central scenario of macroeconomic correction. There is a broad consensus that macro stress tests are a useful tool for making such assessments and, accordingly, the authorities in almost all euro area and non-euro area EU Member States in central and eastern Europe have carried out such exercises in the course of 2009. The nature of the stress tests conducted differed across countries, reflecting variations in business cycle developments, as well as differences in specific sources

of risk and vulnerability. Nevertheless, the exercises in many countries assessed the sensitivity of non-performing loan rates and capital adequacy ratios to a worsening of economic conditions that was more severe than projected. This box, which draws upon findings published by the national central banks of the EU Member States in this region, summarises the key conclusions of these exercises (see the table below).

All in all, the outcomes of the macro stress tests conducted by authorities in countries of central and eastern Europe point to resilience under severe but plausible macroeconomic scenarios. While there are considerable differences in the range of shocks applied to GDP and the sensitivity of

#### Outcomes of macro stress tests involving severe macroeconomic scenarios in central and eastern European countries

| Country (cut-off date of data used) | Main assumptions of the scenario with respect to the baseline (decline in GDP growth) | Increase in non-performing loan rates                              | Average decrease in capital adequacy ratios | Overall assessment  |
|-------------------------------------|---|--|---|---|
| Bulgaria (July 2009)                | 13.3 percentage points in 2009 with respect to the average growth during 2004-2008    | around 10 percentage points of all compromised assets              | 3.6 percentage points                       | The stress tests show the high level of resilience of the Bulgarian banking system with a post-shock capital adequacy ratio being far above regulatory minimum of 12%.                                    |
| Czech Republic (May 2009)           | 1.4 percentage points in 2009 and 1.9 percentage points in 2010                       | from 5.4 percentage points to 8.9 percentage points across sectors | around 0.7 percentage points                | The stressed capital adequacy ratio is far above the regulatory minimum even in a protracted period of recession.   |
| Estonia (June 2009)                 | 7.8 percentage points in 2009 and 4.1 percentage points in 2010                       | up to 10.5 percentage points                                       | 2.8 percentage points                       | The Estonian banking sector will meet the capital adequacy requirement on an aggregate basis in 2009.   |
| Hungary (August 2009)               | 1.2 percentage points in 2009 and 3.8 percentage points in 2010                       | loan-loss rates up by around 2 percentage points (see note)        | around 4 percentage points                  | The banking sector's average capital adequacy ratio stays above the regulatory minimum in the stress scenario; recapitalisation needs remain manageable.  |
| Latvia (June 2009)                  | 2 percentage points in 2009   | over 90 days past due loans rate up by 9.1 percentage points       | 5.5 percentage points                       | Recent capital injections have increased loss-absorption capacity for potential future losses. In addition, several banks are in the process of increasing share of capital or issuing subordinated debt. |
| Lithuania (December 2008)           | Fall of 30% in housing prices; increase in interest rates                             | Not available  | around 6 percentage points                  | Increased capital buffers of the banking system have improved the capacity of banks to absorb credit risk losses.   |
| Poland (June 2009)                  | 2 percentage points in 2009 and 4.3 percentage points in 2010                         | impairment charges up by 3 percentage points (see note)            | around 4 percentage points                  | Even in the case of the adverse scenario, the recapitalisation needs remain relatively low.   |
| Romania (June 2009)                 | 1.5 percentage points in 2009 and 2.5 percentage points in 2010                       | from 2 percentage points up to 18 percentage points across sectors | around 4.5 percentage points                | The capital adequacy ratios of banks remain above the regulatory minimum; some capital is needed to achieve the targeted capital buffers.   |
| Slovakia (June 2009)                | 2.5 percentage points in 2009 and 1.6 percentage points in 2010                       | from 3 percentage points to 15 percentage points across sectors    | around 4 percentage points                  | Compared with the results of December 2008, the banks' ability to absorb even extreme shocks improved in the first half of 2009.  |

Sources: Financial stability reports and press releases of national central banks.

Notes: Results for other countries in central and eastern Europe were not available. The loan-loss rates used for Hungary were a product of the probability of default and losses given default. In the underlying scenarios, other macroeconomic variables worsened as well, such as unemployment, inflation and, in some cases, interest rates and exchange rates.

non-performing loan rates and capital adequacy ratios to these scenarios, the diversity should be mostly seen as a reflection of differences in macroeconomic circumstances and of the composition of balance sheets within banking sectors. Hence, any direct comparison across countries should be avoided. That said, results from macro stress tests can also be sensitive to both the modelling approaches followed and the assumptions used. This potential source of differences may be especially relevant in the case of countries in central and eastern Europe, where sufficiently long data histories of key stress-test inputs (such as probabilities of default and loss-given-default rates) are often missing, requiring assumptions to be made. In this vein, sensitivity-testing of key assumptions can complement the core findings of stress-test exercises. More generally, from a public communication perspective, greater efforts could be made by authorities to disclose more details of the models used and the assumptions adopted in stress tests.