

Issues for discussion regarding the stress-testing on corporate and household sector

A. Companies stress-testing

We developed a model with the following characteristics:

a) Data availability at the firm level:

- *Accounting data:* Balance Sheet, P&L, and other qualitative information (e.g.: number of employees)
- *Credit register data:* debt service information (e.g.: granted loans, overdue payments, number of days past due)
- *Trade register data:* firms' state (e.g.: active, bankrupt, merged etc.), age

b) Methodology overview

Based on these information we developed a model that quantifies the probability of technical default at firm level (we are currently testing a model for effective default as well). We used a cross-sectional logistic regression with explanatory variables being financial ratios (such as profitability ratios, interest cover ratios, liquidity ratios, gearing ratios). Using the probability of default implied from the model we have determined the total debt at risk for the banking sector.

The input parameters for our stress-testing methodology are the exchange rate and the domestic interest rate. We (i) *test the firms' resilience to potential shocks* on these two variables (by introducing the shocks in the B/S and P&L data) and (ii) *investigate whether there is any contagion effect* on the banking system (by introducing the shocks in the PD model).

Issues for discussion:

1. Stress-testing models suitable for the Romanian corporate sector (by taking into consideration the available information)
 - a. Input parameters (initial shocks) for the stress-testing methodology
 - b. Methods/models to quantify the impact of the initial shocks on firms' profitability, solvability, liquidity (models that incorporate the shocks in the B/S and P&L (non)-linearly).
 - c. Contagion effects on the banking and household sector.
2. Stress-testing the household and corporate sector in an integrated framework.

B. Household stress-testing

Data availability at the household level

- Individual data on bank loans granted to households, past-due loans, debtor's age.
- For a small part of debtors might be available information on marital status, ownership status, range of income, profession, number of children (data might be supplied by the private credit bureau).

Issues for discussion:

1. Other experiences in building up a model for the probability of default in case of households for the scope of a macro stress-testing
2. Types of shocks used for stress testing households
3. Identifying best solution for stress testing the Romanian households