

Financial sector stress test 2013

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The Financial Supervisory Authority (FIN-FSA) in spring 2013 conducted a national stress test jointly with banks, insurance companies and financial conglomerates. The purpose of the stress test was to assess supervised entities' resilience to losses and the development of their capital positions in a highly adverse operating environment. Those participating in the stress test included the entire deposit banking sector and the largest companies in the insurance sector (10 life insurers, 11 non-life insurers and 7 pension providers) as well as four Finnish financial conglomerates.

On the basis of the stress test results, the supervised sectors as a whole withstood the impact of the scenario's highly adverse operating environment, but there was significant dispersion in stress test results among individual companies within each sector.

Stress scenario and methodology

The stress test was carried out so that each supervised entity would assess the impact of the projected scenario on its own results and capital position. The FIN-FSA provided guidance for the calculations. The FIN-FSA also measured the responses of the supervised entities against its own calculations (in case of the banks, prepared together with the Bank of Finland, particularly in respect of credit risk). The results from these calculations were generally in line with those reported by the supervised entities themselves.

The time span for the scenario ran over the years 2013 to 2015 and included a total of 14 key variables for the real economy as well as for asset and interest rate markets. The scenario depicts a considerably negative and unlikely, but still plausible, operating environment.

The scenario puts the Finnish economy in a situation reminiscent of a prolonged recession after market confidence has collapsed. Output in Finland contracts for three consecutive years and unemployment rises rapidly. Households prepare for lower incomes by cutting consumption and increasing savings. Asset values decline markedly, short-term interest rates remain at low levels and long-term interest rates rise sharply. The pace of increase in prices remains fast compared with the rest of the economy, as public finances need to be adjusted via simultaneous tax increases and spending cuts.

The responses from banks and financial conglomerates were provided for the entire stress test period, but the

stress test for insurance companies was calculated this time only on the basis of an instantaneous shock event. For the purpose of sensitivity analysis, the scenario for banks also included a calculation for credit risk concentration, where three large counterparties would be insolvent. The impact on capital positions was calculated for banks and insurance companies according to regulations currently in force.

In the stress tests conducted in recent years, the FIN-FSA has sought to ensure continuity so that the assumed weakening of the operating environment would be of proportional severity. This year's stress test covered a significant share, albeit not all, of the risks of supervised entities. For banks, the stress test focused on financial results and capital adequacy, while liquidity risks were excluded from the testing. The FIN-FSA employs other methods in its ongoing assessment of liquidity risks. As regards insurance companies, the test covered particularly investment risks and their impact on solvency.

In the responses to the stress test, it was not allowed, for example, to take into account potential cost adjustments, changes in investment portfolios or other management interventions as a reaction to the deteriorating operating environment assumed in the stress scenario. This restriction was imposed to ensure that the responses would be as closely comparable as possible.

The stress scenario would put a strain on bank profitability

In the stress scenario, the banks' aggregate impairment losses on loans would be more than threefold at their peak in 2014 compared with the materialised impairment losses in 2012. Cumulative impairment losses over the three years would amount to 1.5% of lending to the public and general government entities and would consist mostly of impairment losses on corporate loans. The assumption of a low interest rate level in the scenario means that households' loan-servicing costs would be fairly limited. Realisation of concentration risk in the stress test calculation would increase impairment losses to 2.0% of lending.

The comprehensive intra-Group guarantee that Nordea Bank Finland obtained from its parent bank at the end of 2012 to cover impairment losses on corporate loans significantly lowers the banking sector's impairment losses in the stress test. As a consequence of the guarantee, loan losses are assumed by the parent Group, rather than the Finnish subsidiary. Without the guarantee, impairment losses



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(excluding realisation of concentration risk) would cumulatively account for 2.4% of lending to the public and general government entities.

The banking sector's total income would decline cumulatively by nearly a quarter (23%) in the course of the stress test period. The bulk of this is composed of a fall in net fee income in a severe economic downturn. This figure also includes the guarantee commission paid by Nordea Bank Finland for the guarantee. The banking sector's most important income item, net interest income, would decrease cumulatively by a good 9% during the first stress test year, remaining subsequently stable, which reflects the banks' assumption of a contraction in lending in as severe an economic downturn as depicted in the scenario. Banks' net interest income is already at a significantly low level at the initial stage, because of falling interest rates.

On the backdrop of higher impairment losses and weaker income developments, bank profitability would weaken significantly compared to that recorded in 2012. The financial results of the banking sector as a whole would still be positive, but some banks would see their results turn negative during the stress scenario period.

The banking sector's total capital adequacy ratio would decline by about 2 percentage points in the first two stress test years, if the guarantee received by Nordea Bank Finland were not taken into account. The sector's core Tier 1 capital adequacy would remain strong at approximately 14%. There are differences in capital adequacy levels and their changes across banks. However, banks' capital adequacy would remain on average close to the sound level of 2012, thus also exceeding the minimum requirements of the upcoming capital regulation.

Insurance companies would need to adjust their investment operations

All insurance companies' investment income would turn clearly negative in the stress test scenario period. Equity risk is still the largest single investment risk, but in the current economic situation more risks than normal are also related to interest rate perceptions. Companies' investment allocations also reflect big differences in risk weights, and particularly in respect of interest rate risk, companies' perceptions differ more than previously, which significantly affects the stress test results.

In the stress test, life and non-life insurance companies registered a total loss of EUR 5.0 billion on investment, accounting for 59% of the sectors' total solvency margin at the initial stage. Taken as a whole, solvency would remain at a satisfactory level, but some of the companies would need to make even large adjustments in their investment operations in order to maintain adequate solvency. Pension insurance companies' losses on investment under the scenario would amount to EUR 13.2 billion, representing 72% of solvency capital at the initial stage. The total solvency position of pension insurance companies would also withstand the negative scenario of the stress test, but adjustment measures in investment operations could not be avoided.

Stress testing provides one tool for monitoring risks, capital adequacy and solvency

The FIN-FSA annually conducts a stress test of proportional severity in order to assess the supervised entities' risk resilience and capital adequacy in as diversified and uniform a manner as possible. The test is also a part of an ongoing analysis seeking to identify the Finnish financial system's capacity to withstand highly adverse, but plausible, developments in the operating environment.

The FIN-FSA has evaluated the responses together with the supervised entities. Additional clarifications and specifications to the responses have been received.

Individual stress test results will be used in the supervisory review process as one key measure of capital adequacy assessment. The stress test provides a commensurate benchmark for supervised entities' risk resilience and thus helps to identify any recapitalisation or other adjustment measures that might be needed. These will be discussed separately with each supervised entity. In connection with the supervisory review process, the FIN-FSA will also assess banks' and insurance companies' own stress tests to ensure that sound risk management and capital assessment procedures are in place.

On the basis of the stress test results, the FIN-FSA will also adopt new approaches to its supervisory work. The stress test may disclose weaknesses or increased risks in the financial sector and at supervised entities.

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| Stress test scenario | | | | |
|---|---------|-----------------|-----------------|-----------------|
| Variables | 2012 | 2013 | 2014 | 2015 |
| | Outcome | Stress scenario | Stress scenario | Stress scenario |
| 1. GDP, real, annual change | -0,2 % | -5,0 % | -5,0 % | -3,0 % |
| 2. Unemployment rate, annual average | 7,7 % | 10,0 % | 13,0 % | 15,0 % |
| 3. Consumer price index, annual change | 2,8 % | 2,5 % | 2,5% | 2,5% |
| 4. Private consumption, annual change | 0,7% | -6,0 % | -6,0 % | -3,0 % |
| 5. House prices, annual change | 1,7 % | -12,0 % | -13,0 % | -7,0 % |
| 6. Value of business premises, annual change | -0,6 % | -12,0 % | -13,0 % | -7,0 % |
| 7. Share index, OMX Helsinki Cap, annual change | 9,6 % | -35,0 % | -15,0 % | 0,0 % |
| 8. Share index, MSCI Europe, annual change | 11,8 % | -30,0 % | -15,0 % | 0,0 % |
| 9. Share index, S&P 500, annual change | 13,4 % | -30,0 % | -15,0 % | 0,0 % |
| 10. Share index, Topix, annual change | 18,0 % | -30,0 % | -15,0 % | 0,0 % |
| 11. 3-month Euribor, % as of 31 December | 0,2 % | 0,2 % | 0,2 % | 0,2 % |
| 12. Finnish government ten-year benchmark bond, % as of 31 December | 1,5 % | 5,5 % | 6,2 % | 6,1 % |
| 13. German government ten-year benchmark bond, % as of 31 December | 1,3 % | 3,0 % | 3,5 % | 4,0 % |
| 14. Corporate bond spread, A1-rated, basis points as of 31 December | 145,0 | 300,0 | 350,0 | 350,0 |

Source: Financial Supervisory Authority.

NOTE!

For variables 3, 5 and 6, annual change is annual average.

For variables 7-14, annual change from year-end to year-end or year-end values.

As regards insurance-company calculations, the assumption for the entire scenario of 2013 is an instantaneous shock event.



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| Impact of the stress test scenario, aggregate outcomes | | | | |
|--|---------|--------|----------------------|--------|
| | Outcome | | Stress test scenario | |
| | 2012 | 2013 | 2014 | 2015 |
| Banks, total | | | | |
| Total income, EUR m | 6 344 | 4 874 | 4 801 | 4 881 |
| of which net interest income, EUR m | 3 067 | 2 779 | 2 748 | 2 760 |
| Impairment losses on loans, EUR m | 331 | 819 | 1 013 | 791 |
| Operating profit before taxes, EUR m | 2 502 | 600 | 372 | 658 |
| Core Tier 1 capital adequacy ratio, % | 15,1 % | 14,0 % | 13,8 % | 14,2 % |
| Tier 1 capital adequacy ratio, % | 16,1 % | 14,8 % | 14,4 % | 14,9 % |
| Total capital adequacy ratio (Tier 1 + Tier 2), % | 17,0 % | 15,3 % | 14,9 % | 15,2 % |
| Financial conglomerates, total | | | | |
| Total regulatory capital / minimum amount of regulatory capital | 1,87 | 1,55 | 1,48 | 1,54 |

Source: Responses to FIN-FSA stress test scenario.

Banks' statutory minimum capital adequacy requirement with tier 1 funds is 4% and total capital adequacy 8%. The new capital adequacy framework raises the core tier 1 requirement to 4.5% (to 7% with the capital conservation buffer) from the current 2%.



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| Impact of the stress test scenario, aggregate outcomes | | |
|--|-----------------|-------------------------|
| | Outcome 2012 | Stress test scenario |
| Life insurance companies, total | | |
| Net income on investment at fair value, EUR m | 2 370 | -3 639 |
| Solvency position: solvency margin / minimum solvency margin | 5,4 | 2,0 |
| Solvency ratio (%): solvency capital / net technical provisions less the equalisation provision | 25 % | 10 % |
| Non-life insurance companies, total | | |
| Net income on investment at fair value, EUR m | 1 033 | -1 398 |
| Solvency position: solvency margin / minimum solvency margin | 4,2 | 2,1 |
| Solvency ratio (%): solvency capital / net technical provisions less the equalisation provision | 46 % | 30 % |
| Pension insurance companies, total | | |
| Net income on investment at fair value, EUR m | 6 855 | -13 232 |
| Solvency position: solvency capital / minimum capital requirement | 7,1 | 3,5 |
| Risk-based solvency position: solvency capital / solvency limit | 2,3 | 1,2 |
| Solvency ratio (%): solvency capital / technical provisions | 25 % | 11 % |

Source: Responses to FIN-FSA stress test scenario.

According to statutory requirements, all solvency positions must be at least 1.

