



**BANCA D'ITALIA**  
EUROSISTEMA

**TECHNICAL NOTE ON THE PROCEDURES FOR  
CONDUCTING THE COMPREHENSIVE ASSESSMENT**

Rome, 26 October 2014

The Comprehensive Assessment examined the current and prospective conditions of 130 banking groups in the euro area, of which 15 are Italian. Unprecedented in scale and complexity, it forms part of the preparations for the Single Supervisory Mechanism, which is due to be launched on 4 November 2014.

Designed by the ECB, the exercise was conducted in conjunction with national supervisory authorities and central banks and external auditors and consultants. Descriptions of the methodologies used have been published on the websites of the ECB<sup>1</sup> and the EBA.<sup>2</sup> The main features of the exercise are summarized here.

The Comprehensive Assessment comprised two pillars: an asset quality review (AQR) and stress tests. The AQR examined, including through on-site inspections, banks' balance sheets at 31 December 2013, concentrating on the riskiest portfolios. The stress tests measured banks' resilience under a baseline and an adverse scenario. The exercises were hypothetical and did not provide forecasts of the future trends of the main items of banks' balance sheets. Instead, they were designed to assess banks' capacity to withstand particularly unfavourable, extreme conditions.

**Capital thresholds.** Both the AQR and the stress tests set minimum capital thresholds for the purpose of the exercise, defined as the ratio between common equity tier 1 capital (CET1) and risk weighted assets. The thresholds were 8 per cent for the AQR and the stress tests under the baseline scenario, and 5.5 per cent for the stress tests under the adverse scenario, higher values than those currently envisaged in the Basel III prudential rules. Capital was calculated on the basis of the new rules set out in EU legislation in force since 1 January 2014, with account taken of national discretionary measures in their implementation. The only such measure that has been harmonized, in derogation of the provisions in force, concerns the treatment of the capital losses on government securities in the available-for-sale portfolio: the prudential filters for these assets were progressively eliminated, thereby exposing balance sheets to albeit gradual losses (20 per cent of the filter was removed in 2014, 40 per cent in 2015 and 60 per cent in 2016).

Any shortfalls revealed by the exercise are given by the maximum value revealed under the AQR and the baseline or adverse scenario of the stress test. This value does **not** indicate banks' actual capital requirements, which will be quantified taking account of capital increases and other capital strengthening measures adopted after 31 December 2013.

**The Asset Quality Review (AQR).** The examination regarded loan portfolios and a number of particularly opaque market assets (known as Level 3 assets), whose assessment is based on statistical models. The review assessed the accuracy of the classification of loans into performing and non-performing and the adequacy of provisions, based on a conservative assessment of collateral.

The AQR was primarily a prudential valuation rather than an accounting exercise. The methodology adopted was based on the application of very conservative evaluative criteria and the use of statistical methods. It was conducted with reference to harmonized definitions, including that for non-performing exposures (NPEs);<sup>3</sup> the latter is comparable to that already in force in Italy, which in addition to "bad

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<sup>1</sup> The manual describing the methodologies used in the AQR was published on 11 March 2014 (<https://www.ecb.europa.eu/pub/pdf/other/assetqualityreviewphase2manual201403en.pdf?e8cc41ce0e4ee40222cbe148574e4af7>); the manual for the stress tests was published by the ECB on 8 August 2014, and focuses on quality assurance for the outcomes of the stress test and the method for integrating the findings from the SQR in the stress test (joint-up) (<https://www.ecb.europa.eu/pub/pdf/other/castmanual201408en.pdf?39be7cde5292024e934c55ce02390ce8>).

<sup>2</sup> The EBA published the stress test methodology (also used by European countries not in the euro area) and the macroeconomic scenarios on 29 April 2014 (<https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2014>).

<sup>3</sup> See Section 2.4.4 of the AQR – Phase 2 Manual.

(<http://www.ecb.europa.eu/pub/pdf/other/assetqualityreviewphase2manual201403en.pdf?e8cc41ce0e4ee40222cbe148574e4af7>).

debts” includes non-performing loans with lower expected losses (for example, substandard and overdue loans).

The AQR was conducted in all countries also through on-site inspections of banks by national supervisors, with the support of consultants from external auditing firms.

If the additional provisions (due either to insufficient provisioning on positions already classified as non-performing or as a result of the transition from performing to non-performing positions) were to bring the CET1 ratio below the 8 per cent threshold, it could indicate the need for capital strengthening.

The AQR was carried out in two phases.

In the first, preliminary to the assessment, the national authorities and the ECB collected a broad range of data from the banks, so as to select the riskiest portfolios to analyze.

The second phase, the execution of the analysis, was divided into ten “blocks” of work: 1) review of the banks’ accounting practices and procedures; 2) creation of the analytical database of the loans, the starting point for the subsequent analyses and check on congruousness; 3) extraction of statistical samples to be examined analytically in inspections; 4) assessment and possible revision and reclassification of the individual positions included in the samples; 5) assessment of the collateral (mostly property) backing the exposures examined; 6) projection of the sample results across the complete portfolios selected; 7) analysis of the standard loan adjustments made to the performing portfolios and assessment of the adjustments made to some retail loan portfolios; 8) assessment of Level 3 assets and of the models for valuing derivatives portfolios selected in Phase 1; 9) adjustment of the CET1 capital ratio on the basis of the results of the earlier work phases, to be used as an input for the stress tests; 10) quality assurance process on the execution of the AQR, carried out continuously and in parallel with all the blocks of work.

The selection of the portfolios was based on their riskiness, so that the findings cannot be extended to the whole balance sheet. The results of the review and the reclassification of the credit positions assessed by inspectors have been extended to the whole reference sample, using statistical techniques aligned with current auditing standards (ISA 530). These projections, despite the mechanisms designed to limit the statistical errors, cannot be interpreted as accurate assessments of the need for further provisions in the balance sheet.

For the analyses of standard loan adjustments and for some retail loan portfolios (“block” 7), the examination was based on a quantitative model known as the challenger model, which is described in detail in the AQR Manual. The challenger model uses information referring mostly to 2013 and quantifies the “theoretical” provisions on the basis of estimates of the expected losses, which must then be compared with the provisions actually made by the banks. In the case of a significant discrepancy between the theoretical value and the actual value, a discussion was opened with the intermediary. The AQR Manual recognizes that the results of the challenger model may depend on exceptional circumstances, such as the acute recessionary phase of 2013 and the impact of measures already adopted by the national authorities (e.g. inspections carried out in 2013). These circumstances may result in the information on expected losses not being representative of the future outlook. In such cases, where documented, the ECB permitted partial limiting of the model’s automatism.

The organization of the project provided for a continuous updating and checking of the robustness of the analyses with the exercise’s central coordination structures at the ECB. In particular, in each jurisdiction second-level controls were put in place (entrusted to a national quality assurance structure), together with third-level controls (carried out directly by the ECB using teams assigned to follow groups of countries). The controls were carried out, on the one hand, to ensure the completeness and the formal and substantial quality of the work carried out by the head office units and the teams of

inspectors assigned to the banks and, on the other hand, to develop comparative analyses among intermediaries to investigate possible dubious cases and/or exceptional situations.

**The stress test** was carried out by the ECB together with the EBA, which drew up the common methodology, which also applies to banks in EU countries that do not participate in the Single Supervisory Mechanism (SSM). The baseline scenario is the forecast published by the European Commission in February 2014. The adverse scenario was drawn up by the ECB and the European Systemic Risk Board, (ESRB). The time horizon is three years, from 2014 to 2016, rather than two as in previous European exercises, which implies that losses will accumulate over the three years and the total will therefore be higher.

The scenarios describe the evolution of a series of key variables, including economic growth, inflation, long-term interest rates, and the trend in the prices of real and financial assets. These variables represent the external framework applied by the banks in their models to simulate the performance of the main business aggregates.

The robustness of the banks' balance sheets was assessed by referring to a vast set of losses deriving from investment risks (credit, sovereign, market) and from those connected with refinancing.

In the baseline scenario euro-area GDP grows at an average rate of about 1.6 per cent in real terms (see the table); in the adverse scenario it falls by 0.7 per cent in 2014, by 1.4 per cent in 2015, and is stationary in 2016. In cumulative terms, the negative shock to euro-area GDP in the adverse scenario over the three years is 6.6 percentage points in relation to the baseline scenario.

**Macroeconomic scenarios (per cent)**

	Baseline scenario			Adverse scenario			Cumulative deviation
	2014	2015	2016	2014	2015	2016	
<b>Real GDP growth rate</b>							
Euro area	1.2	1.8	1.7	-0.7	-1.4	0.0	-6.6
Italy	0.6	1.2	1.3	-0.9	-1.6	-0.7	-6.1
<b>Medium- and long-term interest rate</b>							
Euro area	2.8	3.1	3.2	4.3	4.2	4.3	1.2
Italy	3.9	4.1	4.3	5.9	5.6	5.8	1.7
<b>Rate of increase in house prices</b>							
Euro area	-0.2	2.1	3.8	-8.0	-5.7	-1.5	-19.2
Italy	-3.4	-0.7	2.0	-7.9	-4.7	-3.3	-13.4

The fall in GDP in relation to the baseline scenario is 6.1 percentage points in Italy, against 7.6 points in Germany and the United Kingdom, and around 6 points in Spain and France.

If the assessment of the severity of the scenario is not judged in terms of the deviation in relation to the baseline scenario but by looking instead at the performance of GDP in real terms under the adverse scenario, Italy's GDP will contract over the entire three-year period, compared with no change recorded for the area as a whole in the final year. This scenario implies that Italy will have an exceptionally long recession (5 years), in which its GDP will contract overall by 7.5 percentage points; in relation to the cyclical peak of 2007, the decline would be closer to 12 percentage points. A crash of this size was only seen in the wake of the second world war.

In addition to the very sharp decline in real GDP, what is important for Italy is the hypothesis of an

increase in medium- and long-term interest rates that not only leads to larger losses, but also determines higher funding costs; the increase in long-term interest rates on government securities is determined not only by the particularly adverse hypotheses on sovereign risks but also by the use of the February 2014 scenario as the baseline scenario, since it could not take account of the rapid fall in the yields of government securities that subsequently occurred. The adverse scenario assumed an increase in long-term interest rates in the United States that will reach a peak of 250 basis points, with a consequent loss in value of exposures in securities, including government securities. It assumed a complete transmission of the effects of the increase in long-term interest rates to the value of assets included in investment portfolios held for trading (HfT) or valued at fair value (Fair Value Option, FVO); for sovereign exposures in portfolios available for sale (AFS), the impact was partially sterilized (with a loss ratio of 20 per cent in the first year, 40 per cent in the second, and 60 per cent in the third). One of the risk factors taken into consideration, was a house price shock (assuming a negative shock on house prices), of 11 per cent in the euro-area as a whole and of 5 per cent in Italy.

Losses were estimated by assuming static balance sheets over the time horizon of the exercise, with the one exception of those banks following a restructuring plan approved by the European Commission (in Italy, Banca Monte dei Paschi di Siena), which, in any case, under the adverse scenario were subjected to more conservative hypotheses than those provided by the plan. The static balance sheet hypothesis increases the severity of the exercise since in this way it is assumed that banks may not undertake actions to mitigate risk, for example by shifting the balance sheet towards less risky assets, which absorb less capital. The conservative hypotheses requested for the banks with restructuring plans also increase the severity of the test.

**The join-up between the AQR and the stress tests.** The results of the AQR have been incorporated in the stress test: the main changes deriving from the outcomes of the AQR concerned the size of the initial stock of performing and non-performing loans, the risk parameters (probability of default, PD, loss given default, LGD), the capital available to the bank to cope with further expected losses in the time horizon of the stress tests. In particular, if the AQR showed a need for additional provisions, these reduce the initial value of the capital used in the stress test and increase the estimates of losses over the time horizon of the exercise (2014-16).

As for the AQR, the robustness of the results was assessed by means of a rigorous quality assurance process. Checks were made not only of the correct application of the methodology laid down by the EBA and the additional indications provided by the ECB but also of the degree of consistency between the results presented by the banks and the shocks hypothesized. To this end the comparison was made using benchmarks estimated by the ECB. For banks that diverged from the EBA methodology or the benchmarks established by the ECB, a comparative analysis was initiated that in several cases led to an increase in the severity of the results.