How relevant are the new elements in the 2016 stress test design?

External author: Andrea Resti

Provided at the request of the Economic and Monetary Affairs Committee

June 2016
IN-DEPTH ANALYSIS

How relevant are the new elements in the 2016 stress test design?

External author: Andrea Resti

Provided in advance of the public hearing
of the Chair of the Single Supervisory Mechanism
in ECON
on 13 June 2016

Abstract

This note focuses on the elements of novelty that characterise the 2016 stress test, based on the methodological notes released by the European Banking Authority, and discusses in closer detail the following key aspects:

• the request for specific forecasts concerning “conduct risk”;
• the greater attention towards risks originated by foreign exchange exposures;
• the lack of a “pass/fail” threshold that partitions tested banks into “safe” and “unsafe” ones;
• and the change in the sample size of banks required to take the test.
This paper was requested by the European Parliament's Economic and Monetary Affairs Committee.

AUTHOR

Andrea Resti

RESPONSIBLE ADMINISTRATOR

Marcel Magnus
Economic Governance Support Unit
Directorate for Economic and Scientific Policies
Directorate-General for the Internal Policies of the Union
European Parliament
B-1047 Brussels
Belgium

LANGUAGE VERSION

Original: EN

ABOUT THE EDITOR

Economic Governance Support Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in playing an effective role within the European Union framework for coordination and surveillance of economic and fiscal policies.
E-mail: egov@ep.europa.eu

This document is also available on Economic and Monetary Affairs Committee homepage at:

Manuscript completed in June 2016
© European Union, 2016

DISCLAIMER

The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the publisher is given prior notice and sent a copy.
CONTENTS

List of abbreviations........................................................................................................4
List of tables..................................................................................................................4
Executive Summary ......................................................................................................5
1. The economic Rationale underlying Bank Stress Tests.................................................6
2. The Key Elements in the European Stress Test Exercises.............................................7
3. The new Features in the 2016 Stress Test .....................................................................8
4. Conduct Risk.............................................................................................................9
5. Foreign Currency Exposures........................................................................................11
6. The Removal of the “pass/fail” Approach ....................................................................12
7. The smaller Sample and the potential Lack of Comparability with past Exercises........13
8. Final Remarks ..........................................................................................................15
References ....................................................................................................................16
LIST OF ABBREVIATIONS

BRRD       Bank Recovery and Resolution Directive
CA         Competent Authority
CEE        Central and Eastern Europe
COREP      Common Reporting Framework
CRD4       Directive 2013/36/EU (Capital Requirements Directive #4)
EBA        European Banking Authority
ESRB       European Systemic Risk Board
FINREP     Financial Reporting Framework
NCA        National Competent Authorities
QLA        Qualitative Approach to conduct risk estimation
QTA        Quantitative Approach to conduct risk estimation
SREP       Supervisory Review and Evaluation Process
SSM        Single Supervisory Mechanism
TSCP       Total SREP Capital Decision

LIST OF TABLES

Table 1: Top 20 fines and settlements paid to US regulators since the 2007 financial crisis (European banks in bold).................................................................................................................................................................................................................................9
Table 2: Main characteristics of past European stress test exercises........................................................................................................................................................................................................................................13
EXECUTIVE SUMMARY

Relative to non-financial companies, banks suffer from a stronger degree of opaqueness (e.g. regarding the quality of their loan portfolio). Such opacity tends to increase in times of crisis: this has led US-based and European supervisors, since 2009, to include stress tests in their standard toolkit. By disclosing information on each bank’s strengths and vulnerabilities, stress tests aim at reducing market uncertainty, stabilising stock prices and preventing panic. The idea is that investors, when presented with the results of a simulation exercise that is comparable across banks and somewhat “certified” by supervisors, will consider banks less opaque and require a lower risk premium.

In the European Union, the European Banking Authority (EBA) bears responsibility for the overall stress test design (including the choice of the sample and simulation horizon), while macroeconomic scenarios are provided by the European Commission (“base-case” scenario) and the European Systemic Risk Board (adverse scenario). The EBA is also responsible for designing the stress test methodology and ensuring, together with competent authorities, that it is applied consistently on the basis of good-quality data. The EBA also provides for the dissemination of results, releasing several thousands of data points for each lender; this marks a major difference compared to the US, where only a few figures are released for individual banks.

The main elements of novelty in the 2016 EU-wide stress test are the following:
- the request for specific forecasts concerning “conduct risk” (also known as financial misconduct risk), broadly defined by the EBA as “the current or prospective risk of losses to an institution arising from an inappropriate supply of financial services, including cases of wilful or negligent misconduct”;
- a greater attention towards risks originated by foreign exchange (“FX”) exposures, including the risk that the bank’s obligors may struggle to repay foreign currency-denominated loans following a sharp devaluation in their home currency;
- the lack of a “pass/fail” threshold that would partition tested banks into “safe” and “unsafe” ones, as was the case in all previous EU stress tests;
- the change in the sample of banks that are required to take the test (which may impact the comparability of the 2016 results with past exercises).

The first two items cover areas that were already included, at least in principle, in the previous stress test exercises. By dictating ad hoc methodologies to address them, the 2016 stress test may help enhance the accuracy and reliability of the results, stepping up pressure on banks (and local supervisors) on issues that are increasingly sensitive for the European banking industry. However, such refinements are unlikely to address the traditional weaknesses of stress tests (which in turn mirror the weaknesses of the bank supervision in Europe): the lack of a unified supervisory culture, differences across legal and fiscal frameworks, ambiguity about the political will to rescue weak institutions and uncertainty on how “burden sharing” is to be achieved in practice.

The reduction in the EBA sample is a welcome development, in that it may help ease the workload faced by supervisors, improving the quality of the (highly labor-intensive) process of “challenging” the bank’s assumptions and simulations. However, as the EU-wide stress test is being paralleled by similar exercises carried out by competent authorities, sometimes on the basis of different scenarios and methodologies, there is a risk that the whole process may end up generating additional opacity, rather than restoring transparency and market confidence. In the short term, ways should be sought to enhance public information flows, at least for historical data at the reference date (e.g. by reinforcing EBA’s mandate on data disclosures). In the medium term, the European Parliament and its co-legislators may want to strengthen uniformity in stress test exercises (and disclosure rules) across jurisdictions, in the entire EU.
The decision to move away from a binary outcome (which could provide a false sense of security for “pass banks” or cast stigma on “fail” ones) looks wise and farsighted. Investors wishing to look at the stress test results will now be forced to get familiar with the technicalities behind them, gaining a better awareness of the simplifying (and sometimes unrealistic) assumptions that are used to simulate stressed capital levels. The link between stress tests and SREP, however, should be further clarified before the 2016 results are released and used to set individual capital targets as part of the supervisory reviews due in the second half of the year. The process used to connect stress test results and subsequent supervisory constraints should be made transparent and applied consistently across banks and jurisdictions, to help preserve the relevance of the stress test exercise.

1. THE ECONOMIC RATIONALE UNDERLYING BANK STRESS TESTS

Relative to non-financial companies, banks have a higher share of assets suffering from a strong degree of opaqueness: loans are hard to evaluate for outsiders, while liquid assets can easily be sold (which makes financial statements quickly obsolete). As a result, banks may be harder to assess, for outsiders, than other firms.

Several supervisory tools are put in place, including deposit insurance and risk-based capital requirements, to prevent lenders and depositors from being scared away by bank opacity. As opacity tends to increase in times of crisis (Flannery, Kwan, and Nimalendran 2010), additional mechanisms are needed to reassure the market during a financial turmoil.

This was possibly the main motivation behind the supervisory stress tests carried out in the European Union (2009, 2010, 2011 and 2014) and the US (2009, 2012, 2013, 2014 and 2015) since the beginning of the 2007 Great Financial Crisis. By disclosing information on each bank’s strengths and vulnerabilities, supervisors aimed at reducing market uncertainty, stabilising stock prices and preventing panic. The idea was that investors, when presented with a signal of each bank’s reliability (based on an exercise that is comparable across banks and somewhat “certified” by the supervisors’ intervention) would consider banks less opaque, and therefore better differentiate among them when setting individual risk premiums.

1 Although the views expressed in this report are only mine, some portions rely on academic work carried out in the past with Giovanni Petrella, Catholic University, to whom I wish to express my gratitude. Helpful discussions with Marcel Magnus (Europarl), Alienor Margerit (Europarl) and Mario Quagliariello (EBA) are also gratefully acknowledged.

2 A proof of bank opacity is the fact that market prices react to supervisory announcements and inspections (Berger and Davies 1998; Flannery and Houston 1999; Jordan 2000), meaning that investors were not able to anticipate all relevant information. Also, split ratings (i.e., credit ratings where different agencies issue different grades) tend to occur more often for banks than for non-bank companies (Morgan 2002; Iannotta 2006), suggesting that the former are harder to assess, due to stronger opaqueness. Regressions of bank stock returns on market indices show higher R-squares (Haggard and Howe 2007); this means that firm-specific information plays a less significant role for bank stock prices because it is harder to extract than for non-banks.

3 This report refers to “supervisory stress tests”, i.e., stress test exercises run by banks on the basis of a macroeconomic scenario and a homogeneous methodology dictated by supervisors. This is different from “company-run stress tests” whereby individual institutions independently assess their resilience vis-à-vis unfavourable economic conditions, as part of their internal capital planning process.

4 (Committee of European Banking Supervisors 2009; Committee of European Banking Supervisors 2010; European Banking Authority 2011; European Banking Authority 2014a).

5 (Federal Reserve 2009b; Federal Reserve 2011; Federal Reserve 2012; Federal Reserve 2013; Federal Reserve 2014; Federal Reserve 2015). A stress test exercise was carried out by the FED also in 2011, but results were not publicly disclosed (see Footnote 7).

6 To quote the Federal Reserve report where the 2009 stress test results were released, “the decision to depart from the standard practice of keeping examination information confidential stemmed from the belief that greater clarity […] will make the exercise more effective at reducing uncertainty and restoring confidence in our financial institutions” (Federal Reserve 2009a).

7 Bank opacity does not only affect investors: indeed supervisors may themselves suffer from increased informational gaps in times of financial turmoil. In this sense, stress test exercises may prove useful even if results are not disclosed, as...
When supervisors run a stress test exercise, they aim at convincing investors that the stability of the covered institutions is better than expected, thereby restoring market confidence and putting back stock prices onto an ascending trend. Still, even a stress test round leading to worse-than-expected results may prove beneficial for long-run financial stability. This is due to several reasons.

First, transparency reduces the costs associated to uncertainty. In fact, the value assigned by investors to a bank depends on two key variables: expected future cash flows associated with net earnings, and the discount rate at which the present value of those earnings is computed. Worse-than-expected results may induce investors to cut their forecasts for future cash flows, but the certification provided by supervisors, by dissipating uncertainty, may lead to a drop in the discount rate which more than offsets the lower expected earnings.

Second, as shown by (Spargoli 2012), there may be cases when releasing results for weaker banks is socially optimal, either because supervisors can force them to raise new capital (Shapiro and Skeie 2012) or because the social costs of a downsizing are lower than those of a default.

Third, the disclosure of worse-than-expected results may also be used by supervisors as a reputation-building tool (Kreps and Wilson 1982), to signal their independence and willingness to quickly address weak institutions⁸, although in the short term they may choose to withhold such information to prevent contagion (Shapiro and Skeie 2012; White and Morrison 2010).

2. THE KEY ELEMENTS IN THE EUROPEAN STRESS TEST EXERCISES

A stress test exercise involves the definition of the following elements:
- the sample of banks subjected to the test; this, in turn, requires to define one or more criteria to identify participating banks, e.g., related to size (“banks with total assets above €30 billion”) or significance for the national banking systems (e.g. “at least three banks for every participating jurisdiction”, “banks covering at least 90% of each country’s total assets”, etc.). While such criteria identify banks that must take part in the exercise on a compulsory basis, additional institutions may enter the sample⁹, e.g. at the competent authorities’ request¹⁰;
- a starting date (usually, the date of the latest full financial statement available when the stress test is launched) and a simulation horizon (e.g., two or three years following the starting date);
- a base-case (or “baseline”) scenario, describing the evolution of a set of key macroeconomic variables over the simulation horizon (this should be seen as a forecast of the most likely economic conditions faced by banks over the simulation horizon);
- an adverse (or “stressed”) scenario, describing how key macroeconomic variables would evolve over the simulation horizon if some unfavorable developments were to materialize in the real economy (e.g., GDP or unemployment) and in the financial markets (e.g., yield curve, stock prices or credit spreads);
- a methodology that banks must follow when using their own internal models to simulate the effect that the above-mentioned scenarios would have on their balance sheet and P&L account. Such a methodology may involve some unrealistic assumptions, like the so-called “static balance

---
⁸ Additionally, as argued by (D’Cruz and Crippa 2012), releasing bad results helps focus industry attention on the need for better stress testing tools and principles, thereby improving the quality of future bank management.
⁹ The ECB has announced that it will also stress-test another 60 banks that fall under the Single Supervisory Mechanism. Their results shall, however, not be published (see §0 below for more details).
¹⁰ Competent authorities (CAs) include national bank supervisors (NCAs) and the Single Supervisory Mechanism (SSM). The latter is an ad hoc division of the European Central Bank that is tasked with the direct supervision of the Eurozone’s most significant banking groups (approximately 120) and the coordination of the operating practices followed by Eurozone NCAs in the supervision of less significant institutions (Wiggins, Wedow, and Metrick 2014; Baglioni 2016).
“sheet rule”, whereby the size and composition of the balance sheet remains roughly unchanged throughout the simulation horizon and no extraordinary steps are taken by banks to offset the adverse macroeconomic developments. However, such simplifications help ensuring that individual banks will generate results that are roughly consistent and comparable to one another, and make it easier for supervisors to check the reported outcomes and spot outliers.

In the European Union, the European Banking Authority (EBA) bears responsibility for the overall stress test design (including the choice of the sample and simulation horizon), while macroeconomic scenarios are provided by the European Commission (base-case) and the European Systemic Risk Board (adverse). The EBA is also responsible for designing the stress test methodology and ensuring, together with competent authorities, that it is applied consistently on the basis of good-quality data (e.g. by spotting and cross-checking outliers). Finally, the EBA is tasked with the dissemination of stress test results: this is usually done through a set of templates whose structure is published in advance (so that market participants can quickly digest results when they are disclosed). Such templates usually include a high number of data points (several thousands for each lender): this marks a major difference compared to the US, where only a few figures are released for individual banks.

3. THE NEW FEATURES IN THE 2016 STRESS TEST

As requested by the European Parliament’s Services, this note focuses on the elements of novelty that characterise the 2016 stress test, based on the methodological notes released by the EBA (European Banking Authority 2016). The next paragraphs will discuss in closer detail the following key aspects:

- the request for specific forecasts concerning “conduct risk” (also known as financial misconduct risk), broadly defined by the EBA as “the current or prospective risk of losses to an institution arising from an inappropriate supply of financial services, including cases of wilful or negligent misconduct”;
- a greater attention towards risks originated by foreign exchange (“FX”) exposures, including the risk that the bank’s obligors may struggle to repay foreign currency-denominated loans following a sharp devaluation in their home currency;
- the lack of a “pass/fail” threshold that would partition tested banks into “safe” and “unsafe” ones, as was the case in all previous EU stress tests;
- the change in the sample of banks that are required to take the test, and the impact that such change may have onto the comparability of the 2016 results with past exercises.
4. CONDUCT RISK

Fines and legal settlements originating from improper sales and other incorrect/manipulative behaviour have become a major source of concern for bank shareholders and supervisors. Several European institutions have been facing misconduct charges since the financial crisis (see Table 1, based on Financial Times data, which is limited to US regulators\(^\text{11}\)), and the sum paid to terminate a single case has sometimes reached several billion USD. Accordingly, such fines and settlement payments have become a serious threat for the Europe’s banking industry, prompting supervisors to explicitly including them in the new stress test.

Table 1: Top 20 fines and settlements paid to US regulators since the 2007 financial crisis

<table>
<thead>
<tr>
<th>Date</th>
<th>Bank</th>
<th>Regulator (US only)</th>
<th>Reason</th>
<th>Value (USD billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/08/2014</td>
<td>Bank of America</td>
<td>Department of Justice</td>
<td>Mortgage Backed Securities</td>
<td>16.65</td>
</tr>
<tr>
<td>09/02/2012</td>
<td>Bank of America</td>
<td>Department of Housing and Urban Development</td>
<td>Foreclosures</td>
<td>11.82</td>
</tr>
<tr>
<td>07/01/2013</td>
<td>Bank of America</td>
<td>Fannie Mae</td>
<td>Mortgage Repurchases</td>
<td>11.6</td>
</tr>
<tr>
<td>26/03/2014</td>
<td>Bank of America</td>
<td>Federal Housing Finance Agency</td>
<td>Mortgage Backed Securities</td>
<td>9.33</td>
</tr>
<tr>
<td>30/06/2014</td>
<td>BNP Paribas</td>
<td>Department of Justice</td>
<td>Sanctions/Money Laundering/Tax Evasion</td>
<td>8.9</td>
</tr>
<tr>
<td>14/07/2014</td>
<td>Citigroup</td>
<td>Department of Justice</td>
<td>Mortgage Backed Securities</td>
<td>7</td>
</tr>
<tr>
<td>01/10/2013</td>
<td>JPMorgan Chase</td>
<td>Department of Justice</td>
<td>Mortgage Backed Securities</td>
<td>6</td>
</tr>
<tr>
<td>09/02/2012</td>
<td>Wells Fargo</td>
<td>Department of Housing and Urban Development</td>
<td>Foreclosures</td>
<td>5.35</td>
</tr>
<tr>
<td>09/02/2012</td>
<td>JPMorgan Chase</td>
<td>Department of Housing and Urban Development</td>
<td>Foreclosures</td>
<td>5.29</td>
</tr>
<tr>
<td>01/10/2013</td>
<td>JPMorgan Chase</td>
<td>Federal Housing Finance Agency</td>
<td>Mortgage Backed Securities</td>
<td>4</td>
</tr>
<tr>
<td>25/10/2013</td>
<td>JPMorgan Chase</td>
<td>Federal Housing Finance Agency</td>
<td>Mortgage Backed Securities</td>
<td>4</td>
</tr>
<tr>
<td>07/01/2013</td>
<td>Bank of America</td>
<td>Office of the Comptroller of the Currency</td>
<td>Foreclosures</td>
<td>2.886</td>
</tr>
<tr>
<td>09/02/2012</td>
<td>Citigroup</td>
<td>Department of Housing and Urban Development</td>
<td>Foreclosures</td>
<td>2.205</td>
</tr>
<tr>
<td>07/01/2013</td>
<td>Wells Fargo</td>
<td>Office of the Comptroller of the Currency</td>
<td>Foreclosures</td>
<td>1.991</td>
</tr>
<tr>
<td>07/01/2013</td>
<td>JPMorgan Chase</td>
<td>Office of the Comptroller of the Currency</td>
<td>Foreclosures</td>
<td>1.958</td>
</tr>
<tr>
<td>20/12/2013</td>
<td>Deutsche Bank</td>
<td>Federal Housing Finance Agency</td>
<td>Mortgage Backed Securities</td>
<td>1.925</td>
</tr>
<tr>
<td>19/05/2014</td>
<td>Credit Suisse</td>
<td>Department of Justice</td>
<td>Sanctions/Money Laundering/Tax Evasion</td>
<td>1.8</td>
</tr>
<tr>
<td>07/01/2014</td>
<td>JPMorgan Chase</td>
<td>Department of Justice</td>
<td>Sanctions/Money Laundering/Tax Evasion</td>
<td>1.7</td>
</tr>
<tr>
<td>03/01/2011</td>
<td>Bank of America</td>
<td>Fannie Mae</td>
<td>Mortgage Repurchases</td>
<td>1.52</td>
</tr>
<tr>
<td>12/03/2015</td>
<td>Commerzbank</td>
<td>New York Department of Financial Services</td>
<td>Sanctions/Money Laundering/Tax Evasion</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Conduct risk represents a type of legal risk, which in turn falls into the definition of operational risk provided by the CRR (Capital Requirements Regulation). As such, it has always been covered – at least in principle – by bank stress tests. In fact, whenever banks anticipate that they might suffer losses due to fines, litigations and other legal liabilities, they should always include such events in their forecasts of the base-case and adverse scenarios. Additionally, the amount of regulatory capital

---

\(^{11}\) According to (European Systemic Risk Board 2015), in 2009-2014 fines, settlements and redress costs imposed onto banks by US Authorities amount to €124 billion (out of which, €16 billion to EU banks), while the same aggregate for EU Authorities equals €31 billion (almost entirely borne by EU lenders). Further details on individual institutions can be found in (CCP Research Foundation 2016).
required against operational risks should also include the effect of legal risks due to financial misconduct.

Conduct risk, however, may be ignored or understated by lenders in their simulations. This is mainly due to the following:
- conduct risk losses are heterogeneous in nature and can hardly be quantified by means of standard statistical models; as banks have to resort to expert judgment, this increases the scope for omissions and wishful thinking in their forecasts;
- conduct risk may originate from actions carried out by individuals, which are still not known to the bank’s head office and compliance department (hence, hardly foreseeable);
- if a bank were to disclose that it anticipates losses due to improper selling practices and litigation, this could trigger a self-fulfilling prophecy, as an increasing number of outsiders may feel motivated to start new legal actions and supervisors may feel under increasing pressure to address misbehaviours;
- by signalling that it feels vulnerable to fines and settlement payments for financial misconduct, a bank may suffer stigma, as investors rush to sell its shares before they are hit by such losses.

To deal with (some of) the above-mentioned issues and following a call from the European Systemic Risk Board\(^{12}\), the EBA has decided that, since 2016, conduct risk losses have to be separately reported by stress test participants (as well as capital requirements due to such risk). In doing so, banks must follow an *ad hoc* methodology that – while based mostly on qualitative judgment – involves a structured process, and should induce them to provide more information than they did in the past.

The EBA methodology requires that all banks report conduct risk losses experienced in 2011-2015 (subject to a materiality threshold of €10,000). Lenders having suffered at least one “material conduct risk event”\(^{13}\), or expecting to experience such an event over the stress test horizon, are then requested to use a more sophisticated approach to conduct risk reporting, known as the *qualitative approach* (QLA). Other institutions, instead, are allowed to use a simpler procedure, known as the *quantitative approach* (QTA).

Under the QLA, banks must identify past material conduct risk events, providing an estimate of losses that may still arise from them during the stress test horizon (in excess of accounting provisions booked by the reference date). Additionally, banks must report a projection of losses that may arise, by end 2018, from new material conduct risk events. Finally, they must also produce an estimate of losses stemming from non-material events.

All those estimates are to be determined by evaluating a range of settlement outcomes and their respective probabilities (with worst outcomes receiving higher probabilities under the adverse scenario, compared to the baseline). In the case of conduct risk events that are already known to the bank, the supervisors expect such estimates to exceed the amount of provisions already available.

Given that conduct risk events strongly entail subjective appraisals, competent authorities will play a key role in ensuring that the data provided meet adequate quality standards, and include an appropriate degree of conservativism. E.g., lenders may be asked by competent authorities to provide evidence regarding issues that are widespread in the industry and have resulted in losses for other institutions. When assessing bank projections, supervisors will take into account comparisons to a peer group of institutions facing similar vulnerabilities to conduct risk.

---

\(^{12}\) “The European Banking Authority (EBA) should, in cooperation with the European Systemic Risk Board (ESRB), devise a minimum methodology for banks to apply when calculating the potential cost of misconduct under stress situations.” (European Systemic Risk Board 2015).

\(^{13}\) A “material conduct risk event” is an event triggering losses for more than 10 basis points of the bank’s consolidated CET1 (“Common Equity Tier 1”) capital, measured at end-2015.
Under the QTA, banks will be allowed to report loss projections using their own internal methods. However, both the QLA and the QTA will include floors for non-material losses, based on the institutions’ track record in the last five years.

To prevent stigma and self-fulfilling prophecies, the stress test results, as disclosed to the public, will not include details on conduct risk for individual institutions. It should be borne in mind, however, that the banks’ overall profits and losses will be disclosed, as well as most profitability drivers other than conduct risk. This means that the impact of the latter could in principle be worked out by market participants by “reverse engineering” the stress test results. Such a concern could lead competent authorities to accept a lower degree of conservativeness in the banks’ estimates (e.g. to protect “national champions” against possible market pressures).

5. FOREIGN CURRENCY EXPOSURES

The 2016 stress test methodology mentions two channels through which simulated losses may be affected by changes in the exchange rate for non-domestic currencies: increased credit risk on foreign currency lending (due to the impact on borrowers of a depreciation of their local currency) and trading losses due to fair value changes in foreign currency-denominated exposures (e.g. losses on long positions, as the local currency appreciates).

Generally speaking, both such effects (if material) should have already been taken into account by banks in the previous stress test exercises. However, the former may have proved hard to assess, above all for countries where foreign currency-denominated loans represent a somewhat recent phenomenon, so that the banks’ credit scoring models are still unable to capture changes in the borrowers’ creditworthiness following from adverse FX movements. However, as highlighted by the European Systemic Risk Board and the EBA14, FX lending may pose a material threat to systemic stability, e.g. in some CEE (Central and Eastern Europe) countries where euro-denominated mortgages can provide customers with lower rates in the short term, while exposing them to significant devaluation risks. Accordingly, the EBA has now dictated a set of minimum requirements, to ensure that such vulnerabilities are properly assessed.

In short, banks with significant exposures to foreign currency-denominated loans (e.g., exposures accounting for more than 5% of a given supervisory asset class, like retail loans or interbank exposures) are requested to evaluate the impact on credit risk of a drop in the value of their local currency. Such a drop may not only affect the obligor’s PD (probability of default), but also the loan’s LGD (loss given default), as the LTV (“loan to value”) ratio may increase in the case of collateralised exposures.

The adverse scenario includes forecasts for FX rates of the main CEE (Central and Eastern Europe) currencies; relative to the baseline, Polish zloty and Hungarian forint are hit by the sharpest drops (above 20%), while Czech koruna, Croatian kuna and Romanian leu are expected to fall by about 10%. As concerns the euro, a devaluation of more than 20% is forecast relative to the Swiss franc. On the basis of such forecasts, banks will have to estimate PD and LGD changes and report related additional credit losses and capital requirements.

---

14 (European Systemic Risk Board 2011; European Systemic Risk Board 2013; European Banking Authority 2013).
6. THE REMOVAL OF THE “PASS/FAIL” APPROACH

Unlike previous stress tests\(^\text{15}\), the 2016 exercise will not compare the banks’ capital levels (generated under the baseline or adverse scenario) with any minimum “safe threshold”. Accordingly, it will be impossible to sort banks into “healthy” and “unsafe” ones, according to a purely binary logic.

The removal of the “pass/fail” approach has sometimes been criticised, on the grounds that European supervisors will no longer disclose bank vulnerabilities to investors through a simple, easily understandable code. Such a critique, however, seems to ignore the following considerations:

- as the new rules on bail-in are placing an unprecedented level of pressure onto bank debt investors (including retail ones\(^\text{16}\)), the release of a flat negative assessment may have triggered unwanted consequences for the weak banks’ financial stability (especially if the media had presented “fail banks” – as some did in the past – as “banks that will not survive beyond the next three years” or the like);
- informed investors will still be able to learn about each bank’s prospective capital and profitability levels, but will have to read the small print and become familiar with the methodology used to generate the stress test results (including those portions that, while being required to ensure comparability, are based on unrealistic assumptions such as the “static balance sheet” rule);
- no bank will get a “clean bill of health” from supervisors, which would have encouraged investors to relax monitoring and market discipline.

The lack of a pass/fail status is not to say that stress test results will be irrelevant for supervisory purposes. On the contrary, in the second half of 2016 the capital shortages highlighted by the stress test exercise should directly affect the competent authorities’ “SREP decisions”, that is, the target capital levels that individual lenders will have to meet following their annual Supervisory Review and Evaluation Process (SREP).

This is consistent with §364 (and Figure 4) in the EBA SREP Guidelines\(^\text{17}\), which states that competent authorities should require banks to submit a credible capital plan, ensuring that the total SREP Capital Ratio (“TSCR”) be met under system-wide stress tests. It is worth noting, however, that §364 does not require banks to raise new capital, but rather to draw a capital plan, which can include a whole array of remedial actions (e.g. asset sales), possibly not compatible with the “static balance sheet rule”.

This leaves the door open to some degree of ambiguity, suggesting that stress test results will be important for SREP decisions, but not binding. Accordingly, the link between the two should be carefully assessed before the former are disclosed, in order to dispel uncertainty and ensure adequate disclosure. On one hand, if investors were to expect that stress test results will directly translate into a higher SREP capital target (which, for weaker banks, is likely to lead to a capital increase in the following months), a negative stress test outcome is bound to have a strong negative effect onto the stock price, triggering sales and reducing market access. On the other hand, if competent authorities were to ignore stress test results in the SREP (or to use them intermittently, without adequately motivating their choice), the relevance of the whole exercise would be jeopardised, and the lack of transparency surrounding the supervisory process may end up denting its credibility in the eyes of market participants. Accordingly, competent authorities should agree on how stress test results will enter the SREP, and such common practices should be timely disclosed; the EBA should play a role in the process, consistent with its statutory task of ensuring EU-wide supervisory convergence.

---
\(^\text{15}\) E.g., the 2011 exercise would require banks to have a Core Tier 1 capital ratio of at least 5% under the adverse scenario; the threshold was raised to 5.5% in the 2014 stress test.
\(^\text{16}\) (Resti 2016).
\(^\text{17}\) (European Banking Authority 2014b).
7. THE SMALLER SAMPLE AND THE POTENTIAL LACK OF COMPARABILITY WITH PAST EXERCISES

The 2016 stress test will be carried out on a sample of banks covering broadly 70% of each EU country (with the Eurozone counting as a single jurisdiction) and Norway, based on end-2014 consolidated assets. Since bank data will be reported at the highest level of consolidation, lower thresholds could be accepted for countries with a significant presence of non-domestic EU institutions. Only banks with at least €30 bn in assets will be included in the sample, consistent with the criteria for participation in EBA’s supervisory reporting and with the SSM definition of “significant institution”.

Based on the above criteria, the stress test sample will comprise 51 banks from 15 European countries; this marks a significant decrease relative to the 2010, 2011 and 2014 exercises (see Table 2). However, competent authorities will be allowed to include additional institutions, as long as they meet a minimum threshold of €100 bn in total consolidated assets. As concerns the Eurozone, the SSM will include all significant institutions that are not part of the EBA sample, running a de facto parallel stress test; results for these additional banks, however, will not be disclosed. Thus, the reduction in the main EBA sample will not be offset by the SSM’s additional test, at least as far as public information flows are concerned.

Table 2: Main characteristics of past European stress test exercises

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Announcement date</th>
<th>Results release date</th>
<th>Banks covered</th>
<th># of data items per bank</th>
<th>Minimum capital target(s)</th>
<th>Capital shortfalls found</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 EU Stress Testing</td>
<td>May 12, 2009</td>
<td>October 1, 2009</td>
<td>22 cross border banks, covering 60% of the assets in the EU banking system</td>
<td>N/A</td>
<td>No explicit capital target</td>
<td>No explicit shortfall measure</td>
</tr>
<tr>
<td>Exercise by the Committee of European Banking Supervisors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010 EU Stress Testing</td>
<td>December 2, 2009</td>
<td>July 23, 2010</td>
<td>91 banks, covering 65% of the assets in the EU banking system and at least 50% for each country</td>
<td>27</td>
<td>Tier 1 at 6%</td>
<td>7 banks (+17 “near fail”), €3.5 bn.</td>
</tr>
<tr>
<td>Exercise by the Committee of European Banking Supervisors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011 EU Stress Test by the European Banking Authority</td>
<td>January 12, 2011</td>
<td>July 15, 2011</td>
<td>90 banks, covering 65% of the assets in the EU banking system and at least 50% for each country</td>
<td>3,456</td>
<td>Core Tier 1 at 5%</td>
<td>8 banks (+20 “near fail”), €2.5 bn.</td>
</tr>
<tr>
<td>2014 EU Stress Test by the European Banking Authority</td>
<td>October 2013</td>
<td>October 26, 2014</td>
<td>123 banks, covering 70% of the assets in the EU banking system and at least 50% for each country</td>
<td>About 12,000</td>
<td>Core Tier 1 at 5.5%</td>
<td>14 banks (+24 “near fail”), €9.5 bn.</td>
</tr>
<tr>
<td>2016 EU Stress Test by the European Banking Authority</td>
<td>November 2015</td>
<td>Early third quarter 2016</td>
<td>53 banking groups, covering approximately 70% of the assets in the EU banking system</td>
<td>Broadly similar to 2014</td>
<td>None</td>
<td>No pass/fail outcome</td>
</tr>
</tbody>
</table>

Source: Petrella and Resti 2016

Such a reduction may prove welcome, as it will (partially) close the gap between the amount of resources deployed by banks and by supervisors. While the former can be expected to put in place large and highly skilled task forces (also with a view to applying the EBA methodology in a way that provides a favorable picture of their financial soundness), the latter still suffer from constrained...
budgets and headcount (especially the EBA, which bears the overall responsibility for stress tests). In this sense, a decrease in the number of reporting institutions can only improve the balance between supervisors and supervised entities. It should be noted, however, that banks taking part in the parallel tests launched by their own competent authorities will be allowed to use the EBA’s help desk and Q&A facility. Hence, those institutions, while not contributing to the transparency of the results, will still place a considerable burden on the European Banking Authority.

Notwithstanding this potential benefit in terms of reduced workload, the decrease in the number of publicly-reported results poses some challenges to the effectiveness of the 2016 exercise:

- first, as mentioned in §0, stress tests have traditionally been performed to send signals to investors about the stability of participating institutions, in an attempt to restore market confidence by showing that – at least for many of them – results were better than uninformed third parties may expect. Empirical evidence on past European exercises (Petrella and Resti 2013) has shown that, although stress tests cannot, by themselves, address the basic weaknesses of the participating banks, still their outcome affects market prices in the days after its release (meaning that it is deemed informative by investors). On the contrary, with several tens of banks leaving the publicly-disclosed sample, investors may wonder whether supervisors have reservations about their financial shape: e.g., excluding all Portuguese banks from the publicly disclosed results may trigger concerns about their current resilience levels;

- indeed, the fact that some Eurozone countries will not be subject to any form of disclosure may prove at odds with the fact that, while bank supervision and resolution are becoming increasingly integrated processes, dealing with weak institutions still involves a number of political implications that are mainly national in nature;

- finally, stress test results do not only carry new information about possible future developments, but also provide detailed, validated data on the banks’ recent performance, which is not usually available in their financial statements. A case in point is the bank/sovereign link, where EBA has always released detailed data on government bonds held by individual banks, providing market participants with a full breakdown by country and duration. Indeed, for years like 2013 or 2015, when no stress tests took place, the EBA has been reporting such historical, detailed data via ad hoc data flows, known as “transparency exercises”. These detailed data represent the main source of information on European banks that is currently provided by supervisors through a consistent, unified, Europe-wide template. To offset the informational damage caused by the reduction in the 2016 stress test sample, the European Banking Authority should consider deploying a new “transparency exercise” to provide detailed historical data – as of the reference date – for institutions not participating in the stress test, but covered by the EBA supervisory reporting flows (known as “COREP” and “FINREP”). This would be a very welcome step, also to allow comparability with past exercises.
8. FINAL REMARKS

The new features in the 2016 stress test can be divided into two broad categories:
- on one hand, some areas that were already covered, in principle, by former exercises are now addressed in greater detail, sometimes by means of ad hoc methodologies. This is the case for conduct risk, credit risk on foreign-denominated loans and other items that were not explicitly discussed in this note, such as net interest income;
- on the other hand, some aspects mark a break with past practices, such as the reduction in the sample of tested banks and the decision to avoid setting an explicit threshold between “healthy” and “unsafe” banks.

The first category represents a welcome development, and may help enhance the accuracy and reliability of the 2016 exercise by stepping up pressure on banks (and local supervisors) on issues that are becoming increasingly sensitive for the European banking industry. However, they are unlikely to address in depth the traditional weaknesses of stress tests (which in turn mirror the weaknesses of the bank supervision in Europe): the lack of a unified supervisory culture, differences across legal and fiscal frameworks, ambiguity about the political will to rescue weak institutions and uncertainty on how “burden sharing” is to be achieved in practice.

As concerns the latter, the reduction in the EBA sample is a welcome development, in that it may help ease the workload faced by supervisors, thereby improving the quality of the (highly labor-intensive) process of “challenging” the bank’s assumptions and simulations. However, as the EU-wide stress test is being paralleled by similar exercises carried out by competent authorities, sometimes on the basis of different scenarios and methodologies, there is a risk that the whole process may end up generating additional opacity, rather than restoring transparency and market confidence.

In the short term, as argued above, ways should be sought to enhance public information flows, at least for historical data at the reference date. In the medium term, the European Parliament and its co-legislators may want to strengthen uniformity in stress test exercises (and disclosure rules) across jurisdictions, both within and outside the Eurozone. This could e.g. include a mandate to EBA to periodically disclose a subsample of the supervisory flows currently reported by individual banks (“COREP” and “FINREP”), with no additional burden for the involved institutions.

The decision to move away from a binary outcome (which could provide a false sense of security for “pass banks” or cast stigma on “fail” ones) looks wise and farsighted. Investors wishing to look at the stress results will now be forced to get familiar with the technicalities behind them, gaining a better awareness of the simplifying (and sometimes unrealistic) assumptions that are used to simulate stressed capital levels.

The link between stress tests and SREP, however, should be further clarified before the 2016 results are released and used to set individual capital targets as part of the supervisory reviews due in the second half of the year. Namely, supervisors should agree on how capital shortages highlighted in the adverse scenario will feed into SREP capital decisions and affect the banks’ “maximum distributable amount” (as defined by Article 141 of CRD4). Needless to say, such a link cannot be governed by a mechanistic rule (also in light of the fact that the “static balance sheet” rule may prove overly conservative, as it prevents banks from reacting to adverse market conditions). Still, the process followed to connect stress test results and subsequent supervisory constraints should be made transparent and applied consistently across banks and jurisdictions, to help preserve the relevance of the stress test exercise.

---

18 Besides the SSM, other CAs are expected to run “their own” stress tests, besides participating in the EBA exercise (e.g. the U.K. and Sweden). The methodology used in such “national” tests will differ from the one used at EU-wide level.

19 On the other hand, the 2016 stress test ignores the impact on EU banks of the expected changes in accounting rules (e.g., IFRS 9, which may materially affect profits and capital via an increase in write-downs on performing loans) as well as of any regulatory changes that have not already been formally approved by regulators (e.g., new floors on risk-weighted assets or on internal models for market risk). Under the adverse scenario, such reforms might actually result in outcomes that are significantly worse than those forecasted on the basis of the current rules. In this respect, the stress test may prove overly optimistic, as it leads to understating the importance of appropriately phasing in the pipeline of regulatory reforms.
REFERENCES


- 2010. ‘Aggregate Outcome of the 2010 EU Wide Stress Test Exercise Coordinated by CEBS in Cooperation with the ECB’. Committee of European Banking Supervisors.


- 2016. ‘EU-Wide Stress Test: Methodological Note’. European Banking Authority.


Resti, Andrea. 2016. ‘Should the Marketing of Subordinated Bonds Be Restricted/different in One Way or the Other? What to Do in the Case of Mis-Selling?’ In-Depth Analysis PE 497.754. Brussels: European Parliament.


