



Banco de Portugal

EUROSYSTEM

EU-wide stress test: main results for the Portuguese banks

23 July 2010

This note summarises the main features and results of the EU-wide stress testing exercise coordinated by the Committee of European Banking Supervisors (CEBS), in cooperation with the European Central Bank, and conducted by Banco de Portugal in a top-down fashion. This EU-wide exercise aims at assessing the resilience of a representative set of EU individual banks to an extreme but plausible adverse scenario.

In the Portuguese case, the top-down stress test exercise was conducted for the four largest banking groups, involving also the banks' employees pension funds¹. These banking groups accounted for almost two thirds of total assets of the Portuguese banking system in 2009. Note that Banco Santander Totta, which accounts for 8.8 percent of banking system's total assets, was not included. Rather, it participated in the stress test exercise conducted by Banco de España as a subsidiary of Banco Santander, given that the EU-wide exercise entailed banking groups to be tested on the highest consolidated level. Therefore, overall, around 74 percent of the Portuguese banking system was covered in the exercise. The benchmark and adverse scenarios were developed by the CEBS in close cooperation with the ECB and the European Commission, and include a severe combination of credit and market shocks, including sovereign risks, calibrated for 2010 and 2011. The starting-point of the exercise in terms of accounting and prudential information was December 2009.

The main results of the stress test exercise for Portugal are the following: all four Portuguese banking groups revealed a high degree of resilience to the adverse scenario. All banking groups present Tier 1 ratios in excess of 6 per cent in both 2010 and 2011, in spite of a significant fall in profitability and solvency in the adverse scenario, vis-à-vis the benchmark. The exercise thus calls for no recapitalization measures in the case of Portuguese banks.

The remainder of this note is organized as follows. First, the benchmark and adverse scenarios underlying the top-down exercise are briefly presented. The most important methodological assumptions underlying the transmission of these scenarios to the financial statements of the four Portuguese banking groups involved in the exercise are then described. Finally, the main results of the

¹ Banks' employees pensions funds were also included in previous stress test exercises performed in Portugal, see [Financial Sector Assessment Programme Portugal: Banking System Stress-Testing](http://www.imf.org/external/pubs/ft/scr/2010/cr1018.pdf), Occasional Paper, no 1, Banco de Portugal, 2007, and the Portugal Staff Report for the 2009 Article IV Consultation, Annex II, available at <http://www.imf.org/external/pubs/ft/scr/2010/cr1018.pdf>.

stress test are presented, highlighting some common features across banking groups. Annex 1 presents all the individual outputs of the stress testing exercise for the Portuguese banks, as well as detailed sovereign exposures on a bank-by-bank basis.

The scenarios underlying the stress test

The stress test exercise is rooted in two alternative macroeconomic scenarios: a benchmark scenario and an adverse scenario (Table 1). The scenarios for the Portuguese economy were developed by CEBS in close cooperation with the ECB and the European Commission.

In the benchmark scenario, the Portuguese economy is projected to decelerate throughout the whole horizon, growing only sluggishly in both 2010 and 2011. In the context of the fiscal consolidation process, coupled with an unavoidable deleveraging dynamics of the private sector, internal demand should contribute negatively to GDP growth. In turn, exports should contribute positively to GDP growth, following closely the external demand for the Portuguese economy.

The adverse scenario incorporates a set of common shocks to all economies, as well as some idiosyncratic shocks aiming to capture specific structural features of each economy. The adverse scenario corresponds to a particularly severe combination of shocks facing the Portuguese economy. In fact, this scenario entails the deepest and most protracted recessive period on record – and by a large margin. The economy would contract every year in the period 2009-2011, with the cumulated decline in GDP amounting to 5.3 percentage points, representing a cumulated difference of 3.3 percentage points vis-à-vis the benchmark scenario. Under the adverse scenario, unemployment would also rise to historical highs, reaching almost 13 per cent of the labour force.

Several additional assumptions are also worth highlighting. First, the adverse scenario envisages a drop in equity prices of 20 per cent in both 2010 and 2011 (amounting to a cumulated drop of 36 per cent in the full horizon).² Second, the adverse scenario also entails a decrease in residential and commercial property prices of 5 per cent in both 2010 and 2011. The calibration of this risk-factor was country-specific. Even though all evidence points to the non-existence of a house price overvaluation in Portugal, the nominal decline assumed in the adverse scenario may be justified by the very negative cyclical conditions prevailing in this scenario.³

In the context of an escalation of the market perception of sovereign risk, an additional sovereign shock was introduced in the adverse scenario, corresponding to an EU-specific shock to the yield-curve, modelled via country-specific shocks to the government bond rate spreads. For each country, this latter

² These shocks were applied on equity instruments in available for sale and trading portfolios, as well as on employees' pension funds equity portfolios.

³ See "Box 6.1: Housing Prices in Portugal and Macroeconomic Fundamentals: Evidence of Quantile Regression", Financial Stability Report 2005, Banco de Portugal.

shock was calibrated by assuming that the country-specific spread would remain as high as seen after early-May 2010. The scenario does not envisage any sovereign default. The shocks are assumed to occur in 2010Q3 and persist over the projection horizon. Therefore, given the sharp upturn in 10-year interest rates throughout the horizon – corresponding to a rise of almost 3 p.p. in 2010 and a further 1.6 p.p. in 2011 – a conservative increase in the actuarial discount rate for the pension funds of banks’ employees was also incorporated, amounting to 50 b.p. in both 2010 and 2011.

Table 1 – Macroeconomic Scenarios^(*)

	Portugal	
	2010	2011
Benchmark Scenario		
GDP at constant prices (annual percent change (y-o-y))	0.5	0.2
Unemployment (as % of the labour force at year-end)	11.1	11.9
Short-term interest rate (3-month Euribor at year-end)	1.2	2.1
Long term interest rates (10-year Treasuries interest rates at year-end)	4.7	5.1
Commercial Property Prices (% change from previous year (y-o-y))	0.0	0.0
Residential Property Prices (% change from previous year (y-o-y))	0.0	0.0
Haircut on equity instruments in available for sale portfolios (%) ¹	10.0	10.0
Adverse Scenario		
GDP at constant prices (annual percent change (y-o-y))	-0.3	-2.3
Unemployment (as % of the labour force at year-end)	11.3	12.8
Short-term interest rate (3-month Euribor at year-end)	2.1	3.3
Long term interest rates (10-year Treasuries interest rates at year-end)	5.2	5.8
Commercial Property Prices (% change from previous year (y-o-y))	-5.0	-5.0
Residential Property Prices (% change from previous year (y-o-y))	-5.0	-5.0
Haircut on equity instruments in available for sale portfolios (%) ¹	20.0	20.0
Additional Sovereign shock on the Adverse Scenario		
Long term interest rates (5-year Treasuries interest rates at year-end) ²	5.8	7.4

Notes: y-o-y: year on year change. * The macroeconomic scenarios were developed by the CEBS in close cooperation with the ECB and the European Commission. (1) A shock of a similar magnitude was applied to equity trading portfolio and employees’ pension funds equity portfolios. (2) Including the widening of spreads relative to German government debt.

Main assumptions regarding the projection of the banking groups’ financial positions

The impact of the macroeconomic scenarios on the financial standing of each of the four banking groups covered in the exercise requires projecting the profit and loss accounts and solvency positions in each case. Several assumptions underlying this exercise are worth underlining.

First, the projection was anchored in December 2009 accounting and solvency data. The data refers to the consolidation perimeter considered for supervisory purposes.

Second, the probabilities of default (PD) and loss given default (LGD) parameters are consistent with the benchmark and adverse scenarios, within a common methodology agreed for the purpose of the EU-wide stress test exercise. As expected, the adverse scenario entails a significant rise in loan losses throughout the horizon for the private sector, in particular for firms, reflecting, on the one hand, the decline in economic activity and the increase in unemployment and, on the other hand, the increase in interest rates.

Third, balance sheet items are assumed to be constant throughout 2010 and 2011 in both the benchmark and adverse scenarios.

Fourth, translating the main sources of risk into the banks' financial statements required several additional assumptions:

- equity market risk was taken across the board in all banks' portfolios and fully recognised in the profit and loss account;
- interest rate risk was taken into account through valuation changes in the fixed income instruments in the trading portfolio;
- The financial position of bank employees' defined-benefit pension funds were impacted by several risk factors, namely interest rate risk, equity prices and real estate prices. Any short-fall exceeding the so-called "accounting corridor" (10 percent of the highest of assets and liabilities of the fund) was recognised directly against Tier-1;
- net interest income was projected taking into account the transmission of interest rates on interest bearing assets and liabilities, multiplied by their respective average stock in the balance sheet;
- real estate prices implied the booking of impairments in the portfolio of real estate held not for own use (e.g., those received as a result of foreclosure or debtors' default);
- sovereign risk, albeit ruling out the default of European Economic Area sovereigns, was taken into account through securities in the trading book applying haircuts on the basis of the highest spreads posted by each EU country government debt vis-à-vis Germany since the 7 of May 2010. The impact on sovereign risk through debt securities in the available for sale, in the held to maturity and in the loan portfolios were not considered given that, on the one hand, non-realised value changes in these portfolios do not impact on regulatory own funds. On the other hand, impairments in these exposures are booked only in case of default or near-default situations. Further, sovereign risk was also taken into account as sovereign spreads allowed stressing further private sector PDs and LGDs of each loan segment in each country on the basis of a model including, inter alia, long-term interest rates as an explanatory variable.

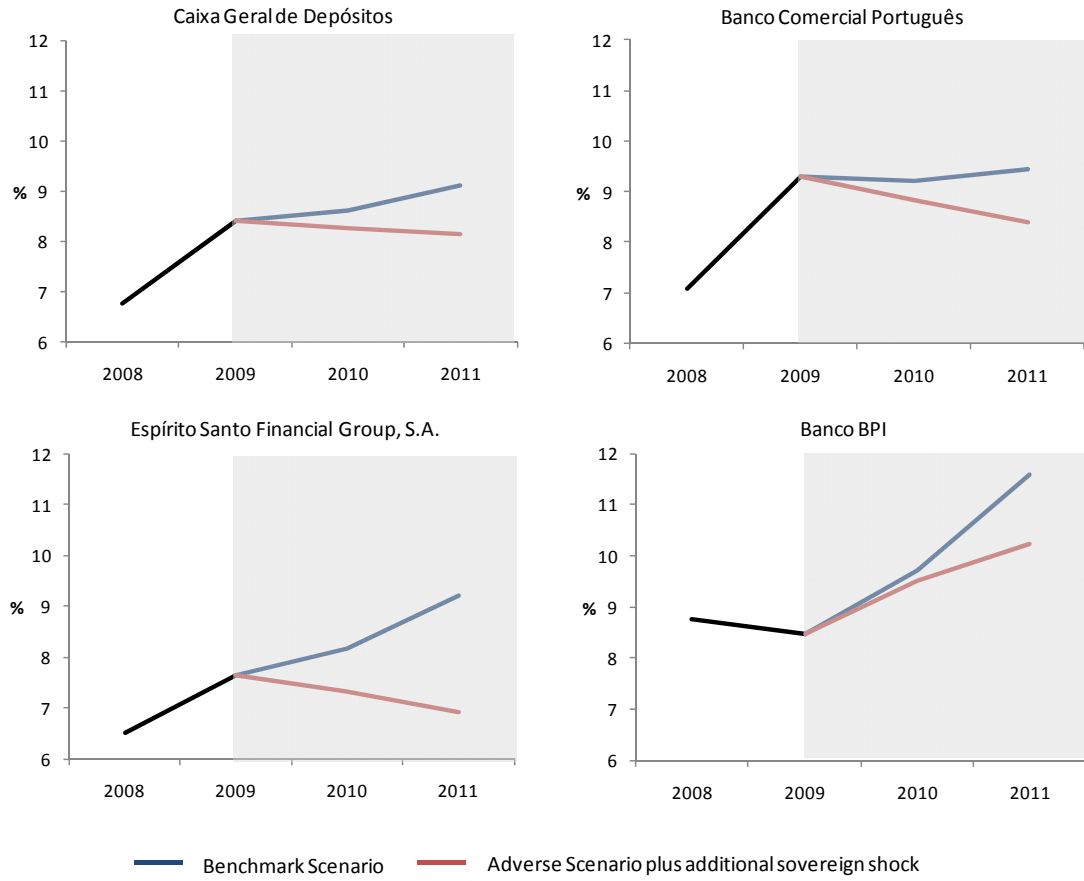
Stress test results and main conclusions

Chart 1 presents the Tier 1 ratios in both scenarios for each banking group. The Figure highlights that in the adverse scenario the solvency position of the banking groups would deteriorate significantly in 2010 and 2011 vis-à-vis the benchmark scenario. However, all Portuguese banking groups are able to withstand the particularly severe combination of economic and financial shocks embodied in the adverse scenario. In fact, albeit to different degrees, all banks continue to present Tier 1 ratios in excess of 6 per cent in both 2010 and 2011.

The deterioration of the solvency position in 2010 and 2011 vis-à-vis the benchmark can be traced back to the impact of the most important risk drivers of the exercise. First, in what concerns market risk, it should be mentioned that the Portuguese banking system is particularly sensitive to equity prices risk, in particular through the respective employees' pension funds. This latter factor implies that the exposure to equity risk is uneven across the banking groups under analysis. Note also that a mild rise in the actuarial discount rate, in line with the hike in long-term interest rates, implies a decrease in the value of pension funds' liabilities, partly offsetting the negative value changes of the pension funds' assets. Second, in what concerns credit risk, net impairments in the loan portfolio rise significantly due *inter alia* to the prevalence of higher interest rates in conjunction with a sharp decline in GDP and higher unemployment rates. This has a direct weighing on profitability and solvency, which is heterogeneous across banks due to differences in the initial value of loans portfolio and its composition. Third, the significant rise in short-term interest rates in 2010 and 2011 implies a sizeable increase in net interest income which impacts positively on net results of all banking groups. Net interest income of Portuguese banks is very sensitive to the level of short term money market rates due to the prevailing indexation of loans' interest rates to these rates, regardless of loan contracts' maturity. Further, deposit interest rates do not follow closely money market rates, due to the low remuneration and stickiness of demand deposit interest rates and the non-indexation of time deposit interest rates to Euribor rates. Finally, the exposure of the Portuguese banking system to sovereign risk is limited as the majority of sovereign debt is categorized in the banking book. The application of haircuts of similar magnitude to the ones considered in the trading book to sovereign exposures in the banking book would only impact own funds in the implausible event of full realization of latent losses. Anyway, even under that extreme hypothesis, the conclusion that the banking system would still withstand the shocks in the adverse scenario would remain valid.

Overall, these results confirm that all Portuguese banks included in the top-down exercise – and which represent the large majority of the system – are able to withstand a renewed severe materialization of risks at the global and national levels. Even under such a scenario these banks would continue to withhold adequate solvency levels, measured in particular by their Tier 1 ratios.

Chart 1 – Tier-1 capital ratios



Annex – Individual results

Caixa Geral de Depósitos

- Caixa Geral de Depósitos was subject to the 2010 EU-wide stress testing exercise coordinated by the Committee of European Banking Supervisors (CEBS), in cooperation with the European Central Bank, and Banco de Portugal.
- Caixa Geral de Depósitos acknowledges the outcomes of the EU-wide stress tests.
- This stress test complements the risk management procedures and regular stress testing programmes set up in Caixa Geral de Depósitos under the Pillar 2 framework of the Basel II and Capital Requirements Directive (CRD) requirements.⁴
- The exercise was conducted using the scenarios, methodology and key assumptions provided by CEBS (see the aggregate report published on the CEBS website⁵). As a result of the assumed shock under the adverse scenario, the estimated consolidated Tier 1 capital ratio would change to 8.4% in 2011 compared to 8.4% as of end of 2009. An additional sovereign risk scenario would have a further impact of -0.2 percentage points on the estimated Tier 1 capital ratio, bringing it to 8.2% at the end of 2011, compared with the CRD regulatory minimum of 4%.
- The results of the stress suggest a buffer of about 1530 mln EUR of the Tier 1 capital against the threshold of 6% of Tier 1 capital adequacy ratio for Caixa Geral de Depósitos agreed exclusively for the purposes of this exercise. This threshold should by no means be interpreted as a regulatory minimum (the regulatory minimum for the Tier 1 capital ratio is set to 4%), nor as a capital target reflecting the risk profile of the institution determined as a result of the supervisory review process in Pillar 2 of the CRD.
- Banco de Portugal has held rigorous discussions of the results of the stress test with Caixa Geral de Depósitos.
- Given that the stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet) the information on benchmark and adverse scenarios is provided only for comparison purposes and should in no way be construed as a forecast.

⁴ Directive EC/2006/48 – Capital Requirements Directive (CRD)

⁵ See: <http://www.c-eps.org>

- In the interpretation of the outcome of the exercise, it is imperative to differentiate between the results obtained under the different scenarios developed for the purposes of the EU-wide exercise. The results of the adverse scenario should not be considered as representative of the current situation or possible present capital needs. A stress testing exercise does not provide forecasts of expected outcomes since the adverse scenarios are designed as "what-if" scenarios including plausible but extreme assumptions, which are therefore not very likely to materialise. Different stresses may produce different outcomes depending on the circumstances of each institution.
- **Background**

The objective of the 2010 EU-wide stress test exercise conducted under the mandate from the EU Council of Ministers of Finance (ECOFIN) and coordinated by CEBS in cooperation with the ECB, national supervisory authorities and the EU Commission, is to assess the overall resilience of the EU banking sector and the banks' ability to absorb further possible shocks on credit and market risks, including sovereign risks.

The exercise has been conducted on a bank-by-bank basis for a sample of 91 EU banks from 20 EU Member States, covering at least 50% of the banking sector, in terms of total consolidated assets, in each of the 27 EU Member States, using commonly agreed macro-economic scenarios (benchmark and adverse) for 2010 and 2011, developed in close cooperation with the ECB and the European Commission.

More information on the scenarios, methodology, aggregate and detailed individual results is available from CEBS⁶. Information can also be obtained from the website of Banco de Portugal.

⁶ See: <http://www.c-eps.org/>

Caixa Geral de Depósitos

Actual results

At December 31, 2009 mln EUR

Total Tier 1 capital	5,983
Total regulatory capital	8,912
Total risk weighted assets	71,041
Pre-impairment income (including operating expenses)	983
Impairment losses on financial assets in the banking book	-598
1 yr Loss rate on Corporate exposures (%) ¹	1.12%
1 yr Loss rate on Retail exposures (%) ¹	0.30%
Tier 1 ratio (%)	8.4%

Outcomes of stress test scenarios

The stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet, uniform treatment of securitisation exposures). Therefore, the information relative to the benchmark scenarios is provided only for comparison purposes. Neither the benchmark scenario nor the adverse scenario should in any way be construed as a forecast.

Benchmark scenario at December 31, 2011² mln EUR

Total Tier 1 capital after the benchmark scenario	6,468
Total regulatory capital after the benchmark scenario	9,398
Total risk weighted assets after the benchmark scenario	71,041
Tier 1 ratio (%) after the benchmark scenario	9.1%

Adverse scenario at December 31, 2011² mln EUR

Total Tier 1 capital after the adverse scenario	5,942
Total regulatory capital after the adverse scenario	8,871
Total risk weighted assets after the adverse scenario	71,041
2 yr cumulative pre-impairment income after the adverse scenario (including operating expenses) ²	2,588
2 yr cumulative impairment losses on financial assets in the banking book after the adverse scenario ²	-2,146
2 yr cumulative losses on the trading book after the adverse scenario ²	-305
2 yr Loss rate on Corporate exposures (%) after the adverse scenario ^{1, 2}	4.1%
2 yr Loss rate on Retail exposures (%) after the adverse scenario ^{1, 2}	0.9%
Tier 1 ratio (%) after the adverse scenario	8.4%

Additional sovereign shock on the adverse scenario at December 31, 2011 mln EUR

Additional impairment losses on the banking book after the sovereign shock ²	-324
Additional losses on sovereign exposures in the trading book after the sovereign shock ²	-113
2 yr Loss rate on Corporate exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	4.9%
2 yr Loss rate on Retail exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	1.0%
Tier 1 ratio (%) after the adverse scenario and sovereign shock	8.2%

Additional capital needed to reach a 6 % Tier 1 ratio under the adverse scenario + additional sovereign shock, at the end of 2011

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¹: Impairment losses as a % of corporate/retail exposures in AFS, HTM, and loans and receivables portfolios

²: Cumulative for 2010 and 2011

³: On the basis of losses estimated under both the adverse scenario and the additional sovereign shock

Caixa Geral de Depósitos

Exposures to central and local governments in the European Economic Area

Banking group's exposure on a consolidated basis

Million EUR

Name of bank	Caixa Geral de Depósitos
Reporting date	31 March 2010

	Gross exposures	of which Banking book	of which Trading book	Net exposures
Austria	21	0	21	21
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Cyprus	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Estonia	0	0	0	0
Finland	0	0	0	0
France	1,068	1	1,067	1,068
Germany	26	0	26	26
Greece	56	55	1	56
Hungary	36	16	21	36
Iceland	0	0	0	0
Ireland	231	156	75	231
Italy	0	0	0	0
Latvia	0	0	0	0
Liechtenstein	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	232	232	0	232
Malta	0	0	0	0
Netherlands	42	0	42	42
Norway	0	0	0	0
Poland	0	0	0	0
Portugal	6,765	5,862	903	6,765
Romania	0	0	0	0
Slovakia	69	0	69	69
Slovenia	17	17	0	17
Spain	330	173	157	330
Sweden	0	0	0	0
United Kingdom	0	0	0	0

Banco Comercial Português

- Banco Comercial Português was subject to the 2010 EU-wide stress testing exercise coordinated by the Committee of European Banking Supervisors (CEBS), in cooperation with the European Central Bank, and Banco de Portugal.
- Banco Comercial Português acknowledges the outcomes of the EU-wide stress tests.
- This stress test complements the risk management procedures and regular stress testing programmes set up in Banco Comercial Português under the Pillar 2 framework of the Basel II and Capital Requirements Directive (CRD)⁷ requirements.
- The exercise was conducted using the scenarios, methodology and key assumptions provided by CEBS (see the aggregate report published on the CEBS website⁸). As a result of the assumed shock under the adverse scenario, the estimated consolidated Tier 1 capital ratio would change to 8.4% in 2011 compared to 9.3% as of end of 2009. An additional sovereign risk scenario would have a further impact of 0 percentage point on the estimated Tier 1 capital ratio, bringing it to 8.4% at the end of 2011, compared with the CRD regulatory minimum of 4%.
- The results of the stress suggest a buffer of about 1568 mln EUR of the Tier 1 capital against the threshold of 6% of Tier 1 capital adequacy ratio for Banco Comercial Português agreed exclusively for the purposes of this exercise. This threshold should by no means be interpreted as a regulatory minimum (the regulatory minimum for the Tier 1 capital ratio is set to 4%), nor as a capital target reflecting the risk profile of the institution determined as a result of the supervisory review process in Pillar 2 of the CRD.
- Banco de Portugal has held rigorous discussions of the results of the stress test with Banco Comercial Português.
- Given that the stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet) the information on benchmark and adverse scenarios is provided only for comparison purposes and should in no way be construed as a forecast.
- In the interpretation of the outcome of the exercise, it is imperative to differentiate between the results obtained under the different scenarios developed for the purposes of the EU-wide exercise. The results of the adverse scenario should not be considered as representative of the

⁷ Directive EC/2006/48 – Capital Requirements Directive (CRD)

⁸ See: <http://www.c-ebs.org/>

current situation or possible present capital needs. A stress testing exercise does not provide forecasts of expected outcomes since the adverse scenarios are designed as "what-if" scenarios including plausible but extreme assumptions, which are therefore not very likely to materialise. Different stresses may produce different outcomes depending on the circumstances of each institution.

- **Background**

The objective of the 2010 EU-wide stress test exercise conducted under the mandate from the EU Council of Ministers of Finance (ECOFIN) and coordinated by CEBS in cooperation with the ECB, national supervisory authorities and the EU Commission, is to assess the overall resilience of the EU banking sector and the banks' ability to absorb further possible shocks on credit and market risks, including sovereign risks.

The exercise has been conducted on a bank-by-bank basis for a sample of 91 EU banks from 20 EU Member States, covering at least 50% of the banking sector, in terms of total consolidated assets, in each of the 27 EU Member States, using commonly agreed macro-economic scenarios (benchmark and adverse) for 2010 and 2011, developed in close cooperation with the ECB and the European Commission.

More information on the scenarios, methodology, aggregate and detailed individual results is available from CEBS⁹. Information can also be obtained from the website of Banco de Portugal.

⁹ See: <http://www.c-ebs.org/>

Banco Comercial Português

Actual results

At December 31, 2009	mIn EUR
Total Tier 1 capital	6,102
Total regulatory capital	7,541
Total risk weighted assets	65,623
Pre-impairment income (including operating expenses)	907
Impairment losses on financial assets in the banking book	-600
1 yr Loss rate on Corporate exposures (%) ¹	0.95%
1 yr Loss rate on Retail exposures (%) ¹	0.48%
Tier 1 ratio (%)	9.3%

Outcomes of stress test scenarios

The stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet, uniform treatment of securitisation exposures). Therefore, the information relative to the benchmark scenarios is provided only for comparison purposes. Neither the benchmark scenario nor the adverse scenario should in any way be construed as a forecast.

Benchmark scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the benchmark scenario	6,196
Total regulatory capital after the benchmark scenario	7,634
Total risk weighted assets after the benchmark scenario	65,623
Tier 1 ratio (%) after the benchmark scenario	9.4%

Adverse scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the adverse scenario	5,515
Total regulatory capital after the adverse scenario	6,954
Total risk weighted assets after the adverse scenario	65,623
2 yr cumulative pre-impairment income after the adverse scenario (including operating expenses) ²	2,827
2 yr cumulative impairment losses on financial assets in the banking book after the adverse scenario ²	-2,113
2 yr cumulative losses on the trading book after the adverse scenario ²	-98
2 yr Loss rate on Corporate exposures (%) after the adverse scenario ^{1, 2}	3.6%
2 yr Loss rate on Retail exposures (%) after the adverse scenario ^{1, 2}	1.5%
Tier 1 ratio (%) after the adverse scenario	8.4%

Additional sovereign shock on the adverse scenario at December 31, 2011	mIn EUR
Additional impairment losses on the banking book after the sovereign shock ²	-449
Additional losses on sovereign exposures in the trading book after the sovereign shock ²	-41
2 yr Loss rate on Corporate exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	4.5%
2 yr Loss rate on Retail exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	1.8%
Tier 1 ratio (%) after the adverse scenario and sovereign shock	8.4%
Additional capital needed to reach a 6 % Tier 1 ratio under the adverse scenario + additional sovereign shock, at the end of 2011	-

¹. Impairment losses as a % of corporate/retail exposures in AFS, HTM, and loans and receivables portfolios

². Cumulative for 2010 and 2011

³. On the basis of losses estimated under both the adverse scenario and the additional sovereign shock

Banco Comercial Português

Exposures to central and local governments in the European Economic Area

Banking group's exposure on a consolidated basis
Million EUR

Name of bank	Banco Comercial Português
Reporting date	31 March 2010

	Gross exposures	of which Banking book	of which Trading book	Net exposures
Austria	10	0	10	10
Belgium	10	0	10	10
Bulgaria	0	0	0	0
Cyprus	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Estonia	0	0	0	0
Finland	0	0	0	0
France	0	0	0	0
Germany	0	0	0	0
Greece	718	713	5	718
Hungary	9	0	9	9
Iceland	0	0	0	0
Ireland	200	200	0	200
Italy	50	50	0	50
Latvia	0	0	0	0
Liechtenstein	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Malta	0	0	0	0
Netherlands	10	0	10	10
Norway	0	0	0	0
Poland	1,837	935	902	1,837
Portugal	953	596	357	953
Romania	121	121	0	121
Slovakia	0	0	0	0
Slovenia	0	0	0	0
Spain	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0

Espírito Santo Financial Group S.A. (ESFG)

- Espírito Santo Financial Group S.A. was subject to the 2010 EU-wide stress testing exercise coordinated by the Committee of European Banking Supervisors (CEBS), in cooperation with the European Central Bank, and Banco de Portugal.
- Espírito Santo Financial Group S.A. acknowledges the outcomes of the EU-wide stress tests.
- This stress test complements the risk management procedures and regular stress testing programmes set up in Espírito Santo Financial Group S.A. under the Pillar 2 framework of the Basel II and Capital Requirements Directive (CRD)¹⁰ requirements.
- The exercise was conducted using the scenarios, methodology and key assumptions provided by CEBS (see the aggregate report published on the CEBS website¹¹). As a result of the assumed shock under the adverse scenario, the estimated consolidated Tier 1 capital ratio would change to 7.4% in 2011 compared to 7.7% as of end of 2009. An additional sovereign risk scenario would have a further impact of -0.5 percentage point on the estimated Tier 1 capital ratio, bringing it to 6.9% at the end of 2011, compared with the CRD regulatory minimum of 4%.
- The results of the stress suggest a buffer of about 617 mln EUR of the Tier 1 capital against the threshold of 6% of Tier 1 capital adequacy ratio for Espírito Santo Financial Group S.A. agreed exclusively for the purposes of this exercise. This threshold should by no means be interpreted as a regulatory minimum (the regulatory minimum for the Tier 1 capital ratio is set to 4%), nor as a capital target reflecting the risk profile of the institution determined as a result of the supervisory review process in Pillar 2 of the CRD.
- Banco de Portugal has held rigorous discussions of the results of the stress test with Espírito Santo Financial Group S.A.
- Given that the stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet) the information on benchmark and adverse scenarios is provided only for comparison purposes and should in no way be construed as a forecast.
- In the interpretation of the outcome of the exercise, it is imperative to differentiate between the results obtained under the different scenarios developed for the purposes of the EU-wide exercise. The results of the adverse scenario should not be considered as representative of the

¹⁰ Directive EC/2006/48 – Capital Requirements Directive (CRD)

¹¹ See: <http://www.c-ebs.org/>

current situation or possible present capital needs. A stress testing exercise does not provide forecasts of expected outcomes since the adverse scenarios are designed as "what-if" scenarios including plausible but extreme assumptions, which are therefore not very likely to materialise. Different stresses may produce different outcomes depending on the circumstances of each institution.

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The exercise has been conducted on a bank-by-bank basis for a sample of 91 EU banks from 20 EU Member States, covering at least 50% of the banking sector, in terms of total consolidated assets, in each of the 27 EU Member States, using commonly agreed macro-economic scenarios (benchmark and adverse) for 2010 and 2011, developed in close cooperation with the ECB and the European Commission.

More information on the scenarios, methodology, aggregate and detailed individual results is available from CEBS¹². Information can also be obtained from the website of Banco de Portugal.

¹² See: <http://www.c-eps.org/>

Espírito Santo Financial Group S.A. (ESFG)

Actual results

At December 31, 2009	mIn EUR
Total Tier 1 capital	5,199
Total regulatory capital	7,292
Total risk weighted assets	67,899
Pre-impairment income (including operating expenses)	1,366
Impairment losses on financial assets in the banking book	-633
1 yr Loss rate on Corporate exposures (%) ¹	1.34%
1 yr Loss rate on Retail exposures (%) ¹	0.10%
Tier 1 ratio (%)	7.7%

Outcomes of stress test scenarios

The stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet, uniform treatment of securitisation exposures). Therefore, the information relative to the benchmark scenarios is provided only for comparison purposes. Neither the benchmark scenario nor the adverse scenario should in any way be construed as a forecast.

Benchmark scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the benchmark scenario	6,258
Total regulatory capital after the benchmark scenario	8,479
Total risk weighted assets after the benchmark scenario	67,899
Tier 1 ratio (%) after the benchmark scenario	9.2%

Adverse scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the adverse scenario	5,017
Total regulatory capital after the adverse scenario	7,257
Total risk weighted assets after the adverse scenario	67,899
2 yr cumulative pre-impairment income after the adverse scenario (including operating expenses) ²	2,811
2 yr cumulative impairment losses on financial assets in the banking book after the adverse scenario ²	-2,415
2 yr cumulative losses on the trading book after the adverse scenario ²	-453
2 yr Loss rate on Corporate exposures (%) after the adverse scenario ^{1, 2}	4.7%
2 yr Loss rate on Retail exposures (%) after the adverse scenario ^{1, 2}	0.3%
Tier 1 ratio (%) after the adverse scenario	7.4%

Additional sovereign shock on the adverse scenario at December 31, 2011	mIn EUR
Additional impairment losses on the banking book after the sovereign shock ²	-377
Additional losses on sovereign exposures in the trading book after the sovereign shock ²	-143
2 yr Loss rate on Corporate exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	5.6%
2 yr Loss rate on Retail exposures (%) after the adverse scenario and sovereign shock ^{1, 2, 3}	0.4%
Tier 1 ratio (%) after the adverse scenario and sovereign shock	6.9%
Additional capital needed to reach a 6 % Tier 1 ratio under the adverse scenario + additional sovereign shock, at the end of 2011	-

¹: Impairment losses as a % of corporate/retail exposures in AFS, HTM, and loans and receivables portfolios

²: Cumulative for 2010 and 2011

³: On the basis of losses estimated under both the adverse scenario and the additional sovereign shock

Espírito Santo Financial Group S.A. (ESFG)

Exposures to central and local governments in the European Economic Area

Banking group's exposure on a consolidated basis

Million EUR

Name of bank	Espírito Santo Financial Group S.A. (ESFG)
Reporting date	31 March 2010

	Gross exposures	of which Banking book	of which Trading book	Net exposures
Austria	0	0	0	0
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Cyprus	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Estonia	0	0	0	0
Finland	0	0	0	0
France	0	0	0	0
Germany	0	0	0	0
Greece	464	464	0	464
Hungary	0	0	0	0
Iceland	0	0	0	0
Ireland	0	0	0	0
Italy	0	0	0	0
Latvia	0	0	0	0
Liechtenstein	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Malta	0	0	0	0
Netherlands	0	0	0	0
Norway	0	0	0	0
Poland	3	0	3	3
Portugal	4,688	3,443	1,245	4,688
Romania	0	0	0	0
Slovakia	0	0	0	0
Slovenia	0	0	0	0
Spain	59	53	6	59
Sweden	0	0	0	0
United Kingdom	1	1	0	1

Banco BPI

- Banco BPI was subject to the 2010 EU-wide stress testing exercise coordinated by the Committee of European Banking Supervisors (CEBS), in cooperation with the European Central Bank, and Banco de Portugal.
- Banco BPI acknowledges the outcomes of the EU-wide stress tests.
- This stress test complements the risk management procedures and regular stress testing programmes set up in Banco BPI under the Pillar 2 framework of the Basel II and Capital Requirements Directive (CRD)¹³ requirements.
- The exercise was conducted using the scenarios, methodology and key assumptions provided by CEBS (see the aggregate report published on the CEBS website¹⁴). As a result of the assumed shock under the adverse scenario, the estimated consolidated Tier 1 capital ratio would change to 10.3% in 2011 compared to 8.5% as of end of 2009. An additional sovereign risk scenario would have a further impact of -0.1 percentage point on the estimated Tier 1 capital ratio, bringing it to 10.2% at the end of 2011, compared with the CRD regulatory minimum of 4%.
- The results of the stress suggest a buffer of about 1104 mln EUR of the Tier 1 capital against the threshold of 6% of Tier 1 capital adequacy ratio for Banco BPI agreed exclusively for the purposes of this exercise. This threshold should by no means be interpreted as a regulatory minimum (the regulatory minimum for the Tier 1 capital ratio is set to 4%), nor as a capital target reflecting the risk profile of the institution determined as a result of the supervisory review process in Pillar 2 of the CRD.
- Banco de Portugal has held rigorous discussions of the results of the stress test with Banco BPI.
- Given that the stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet) the information on benchmark and adverse scenarios is provided only for comparison purposes and should in no way be construed as a forecast.
- In the interpretation of the outcome of the exercise, it is imperative to differentiate between the results obtained under the different scenarios developed for the purposes of the EU-wide

¹³ Directive EC/2006/48 – Capital Requirements Directive (CRD)

¹⁴ See: <http://www.c-eps.org/>

exercise. The results of the adverse scenario should not be considered as representative of the current situation or possible present capital needs. A stress testing exercise does not provide forecasts of expected outcomes since the adverse scenarios are designed as "what-if" scenarios including plausible but extreme assumptions, which are therefore not very likely to materialise. Different stresses may produce different outcomes depending on the circumstances of each institution.

- **Background**

The objective of the 2010 EU-wide stress test exercise conducted under the mandate from the EU Council of Ministers of Finance (ECOFIN) and coordinated by CEBS in cooperation with the ECB, national supervisory authorities and the EU Commission, is to assess the overall resilience of the EU banking sector and the banks' ability to absorb further possible shocks on credit and market risks, including sovereign risks.

The exercise has been conducted on a bank-by-bank basis for a sample of 91 EU banks from 20 EU Member States, covering at least 50% of the banking sector, in terms of total consolidated assets, in each of the 27 EU Member States, using commonly agreed macro-economic scenarios (benchmark and adverse) for 2010 and 2011, developed in close cooperation with the ECB and the European Commission.

More information on the scenarios, methodology, aggregate and detailed individual results is available from CEBS¹⁵. Information can also be obtained from the website of Banco de Portugal.

¹⁵ See: <http://www.c-eps.org/>

Banco BPI

Actual results

At December 31, 2009	mIn EUR
Total Tier 1 capital	2,210
Total regulatory capital	2,800
Total risk weighted assets	26,060
Pre-impairment income (including operating expenses)	501
Impairment losses on financial assets in the banking book	-170
1 yr Loss rate on Corporate exposures (%) ¹	0.72%
1 yr Loss rate on Retail exposures (%) ¹	0.13%
Tier 1 ratio (%)	8.5%

Outcomes of stress test scenarios

The stress test was carried out under a number of key common simplifying assumptions (e.g. constant balance sheet, uniform treatment of securitisation exposures). Therefore, the information relative to the benchmark scenarios is provided only for comparison purposes. Neither the benchmark scenario nor the adverse scenario should in any way be construed as a forecast.

Benchmark scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the benchmark scenario	3,021
Total regulatory capital after the benchmark scenario	3,610
Total risk weighted assets after the benchmark scenario	26,060
Tier 1 ratio (%) after the benchmark scenario	11.6%

Adverse scenario at December 31, 2011 ²	mIn EUR
Total Tier 1 capital after the adverse scenario	2,687
Total regulatory capital after the adverse scenario	3,277
Total risk weighted assets after the adverse scenario	26,060
2 yr cumulative pre-impairment income after the adverse scenario (including operating expenses) ²	1,564
2 yr cumulative impairment losses on financial assets in the banking book after the adverse scenario ²	-485
2 yr cumulative losses on the trading book after the adverse scenario ²	-2
2 yr Loss rate on Corporate exposures (%) after the adverse scenario ^{1,2}	2.6%
2 yr Loss rate on Retail exposures (%) after the adverse scenario ^{1,2}	0.4%
Tier 1 ratio (%) after the adverse scenario	10.3%

Additional sovereign shock on the adverse scenario at December 31, 2011	mIn EUR
Additional impairment losses on the banking book after the sovereign shock ²	-99
Additional losses on sovereign exposures in the trading book after the sovereign shock ²	0
2 yr Loss rate on Corporate exposures (%) after the adverse scenario and sovereign shock ^{1,2,3}	3.2%
2 yr Loss rate on Retail exposures (%) after the adverse scenario and sovereign shock ^{1,2,3}	0.5%
Tier 1 ratio (%) after the adverse scenario and sovereign shock	10.2%
Additional capital needed to reach a 6 % Tier 1 ratio under the adverse scenario + additional sovereign shock, at the end of 2011	-

1. Impairment losses as a % of corporate/retail exposures in AFS, HTM, and loans and receivables portfolios

2. Cumulative for 2010 and 2011

3. On the basis of losses estimated under both the adverse scenario and the additional sovereign shock

Banco BPI

Exposures to central and local governments in the European Economic Area

Banking group's exposure on a consolidated basis

Million EUR

Name of bank	Banco BPI
Reporting date	31 March 2010

	Gross exposures	of which Banking book	of which Trading book	Net exposures
	Austria	0	0	0
Belgium	0	0	0	0
Bulgaria	0	0	0	0
Cyprus	0	0	0	0
Czech Republic	0	0	0	0
Denmark	0	0	0	0
Estonia	0	0	0	0
Finland	0	0	0	0
France	0	0	0	0
Germany	0	0	0	0
Greece	501	495	6	501
Hungary	0	0	0	0
Iceland	0	0	0	0
Ireland	408	403	5	408
Italy	1,129	1,127	3	1,129
Latvia	0	0	0	0
Liechtenstein	0	0	0	0
Lithuania	0	0	0	0
Luxembourg	0	0	0	0
Malta	0	0	0	0
Netherlands	0	0	0	0
Norway	0	0	0	0
Poland	0	0	0	0
Portugal	4,223	4,214	9	4,223
Romania	0	0	0	0
Slovakia	0	0	0	0
Slovenia	0	0	0	0
Spain	0	0	0	0
Sweden	0	0	0	0
United Kingdom	0	0	0	0