BANKA SLOVENIJE

EVROSISTEM

Full report on the comprehensive review of the banking system

Table of Contents

1. Executive summary

This Report contains the conclusions from the comprehensive review of the Slovenian banking sector undertaken by the Bank of Slovenia in cooperation with the Slovenian Ministry of Finance over the period June to December 2013. This Asset Quality Review and Stress Test is a cornerstone in the broader initiative to restore the health in the Slovenian banking sector.

The specific objectives of this Asset Quality Review and Stress Test was to assess the ability of the Slovenian banking system to withstand a three year stress scenario of deteriorating macroeconomic and market conditions, and to estimate the capital that each participating institution would require in such a case. The results of this assessment will build the basis for subsequent stability measures, specifically the asset transfer to the Bank Asset Management Company as well as recapitalization operations.

The Asset Quality Review and Stress Test were closely monitored by the international organisations (IOs), constituted of the European Commission, the European Central Bank, and the European Banking Authority. These institutions ensured international standards were met and supported the design of the macroeconomic scenarios. The scenarios forecasted key macroeconomic variables for the period 2013-2015 in a base and a stress case, with the stress case implying a 9.8% cumulative GDP drop, unemployment reaching 14% and residential house prices declining by up to 12.2% in a single year.

The participating institutions were chosen by the Bank of Slovenia in conjunction with the IOs based on market share, quality of their respective portfolios and capital adequacy. Eight financial institutions were selected, representing approximately 70% of the total Slovenian banking sector, in terms of EOY2012 assets: NLB, NKBM, Abanka, UniCredit Banka, Banka Celje, Hypo Alpe Adria Bank, Gorenjska Banka and Raiffeisen Banka. The scope of assets covered included loans to the domestic private sector, which were split into five distinct segments: Small and Micro Enterprises, Large Corporates, Real Estate Developers, Retail Mortgages and Retail Other. Additionally, Treasury Assets were taken into consideration and considered as a separate segment.

The bottom-up stress testing exercise quantified the capital shortfall / surplus for the participating institutions in each macroeconomic scenario to ensure a minimum Core Tier 1 (CT 1) ratio of 9% in the base case, and of 6% in the stress case.

Granular information on the EOY2012 individual positions in each bank's balance sheet was used as the basis to perform the bottom-up stress testing exercise. This implied a dedicated effort by all involved parties and at the same time built an important foundation for this rigorous test. The execution of the stress testing exercise was supported by independent international accounting firms, appraisal firms and consulting firms. An Asset Quality Review process preceded the core stress testing activities and focused specifically on reviewing the risk characteristics of assets, the performing status of obligors and the real economic value of collateral as e.g. real estate assets. All data and information gathered and quality assured herein by the Asset Quality Review providers were then used to perform the stress testing exercise and assess the potential capital shortfall of participating institutions under each scenario.

To ensure outstanding quality of the results, a top-down challenge process took place in addition and was performed by the top-down challenge consultant. An independent view on the stress test results was formed and critical challenging discussions were held – not with the

aim of aligning all results, but rather to test all important aspects driving the bottom-up results. The challenging process confirmed that the bottom-up stress test results were comprehensible and robust, and could be replicated in independent models. The independent top-down estimations of capital shortfalls came out lower than the bottom-up results. This difference was fully explained through the different input data used which was granular in nature for the bottom-up stress testing exercise and scrutinized by the AQR providers and less granular for the top-down challenge.

The following primary sources were used to generate as robust as possible forecasts of participating institutions' capital shortfall in each scenario: granular loan and collateral data provided by the participating institutions (~2 million loans; ~14,000 collateral assets); historical loss performance information; financial information on obligors; information on performance status, restructuring and misclassification as supplied by AQR providers as result of their review activities (samples of more than 4,200 loans). Specialist real estate appraisal firms conducted ~14,600 real estate asset valuations to update collateral values to current market prices.

Furthermore, structural analysis of individual participating institutions' balance sheets, P&Ls and business plans were performec, and volumes and key parameters adjusted to align with the Bank of Slovenia system-level assumptions and to model the business plans against the backdrop of the base and adverse cases.

Assuming that no new deferred tax assets can be built, the bottom-up stress testing exercise resulted in a forecasted cumulative 3-year (2013-2015) capital shortfall of approximately 4,046 € MM in the base case and 4,778 € MM in the stress case for the eight participating institutions in aggregate.

Allowing new pro-forma deferred tax assets resulted in a cumulative forecasted capital shortfall of approximately 3,589 € MM in the base case and 4,177 € MM in the stress case. summarises the results for participating institutions in the base and stress case.

Exhibit 1: Overview of projected capital shortfalls at bank level

	EOY 2012 Core Tier 1 capital	Forecasted capital shortfall[1]					
		Base case			Stress case		
in € MM		Excluding new pro-forma DTA effects	Including new pro-forma DTA effects	Capital shortfall[2] / EOY 2012 total assets	Excluding new pro-forma DTA effects	Including new pro-forma DTA effects	Capital shortfall[2] / EOY 2012 total assets
NLB	969	1,643	1,464	11%	1,904	1,668	13%
NKBM	327	887	795	17%	1,055	936	20%
Abanka	154	646	585	18%	756	675	21%
UniCredit Banka	236	23	13	1%	14	(2)	0.4%
Banka Celje	151	327	289	14%	388	339	17%
Hypo Alpe Adria Bank	148	189	164	10%	221	189	12%
Gorenjska Banka	266	249	207	14%	328	274	18%
Raiffeisen Banka	62	83	72	6%	113	97	8%
Total[3]	N/A	4,046	3,589	12%	4,779	4,177	14%

1. Capital shortfalls in the respective case, considering 9% (base) / 6% (stress) ST base capital requirement on RWAs
2. Excluding new DTA effects
3. 2 € MM capital surplus of UniCredit Banka in stress case including new pro-forma DTA not reflected
Notes: AQR = Asset Quality Review; DTAs = Deferred Tax Assets; RWAs = Risk Weighted Assets
Sources: AQR provider data, participating institutions, Banka Slovenije

The emerging capital shortfall is driven by two key components: The forecasted economic losses and the loss absorption capacity (including existing loan loss provisions and impairments, the evolution of the profit generation capacity and the capital buffer).

It is important to note, that losses were forecasted with an economic perspective and not with an accounting view.

Emerging economic losses can be absorbed by three main components of the loss absorption capacity: EOY2012 in force provision levels attributable to the perimeter of the stress test; any capital buffer available over and beyond defined regulatory minima; profit before provisions generated throughout the stress test horizon, e.g. through net interest income or fee income.

Forecasted aggregate loss absorption capacity for the eight participating institutions amounted to 4,843 € MM in the base case (excluding new pro-forma deferred tax assets; 5,300 € MM including new pro-forma deferred tax assets). In the stress case, the loss absorption capacity amounted to 5,586 € MM (excluding new pro-forma deferred tax assets; 6,187 € MM including new pro-forma deferred tax assets).

The following two tables show how the capital shortfall is driven by the forecasted economic losses and the loss absorption capacity both excluding and including the accumulation of new pro-forma deferred tax assets over the forecast horizon.

Exhibit 2: Overview of projected capital shortfalls at bank level – *excluding* new pro-forma DTA effects

	Forecasted capital shortfall – excluding new pro-forma DTA effects[1]					
	Base case			Stress case		
in € MM	Expected Losses	Forecasted use of Loss Absorption Capacity	Forecasted capital shortfall	Expected Losses	Forecasted use of Loss Absorption Capacity	Forecasted capital shortfall
NLB	4,225	2,582	1,643	4,808	2,904	1,904
NKBM	1,665	779	887	1,947	892	1,055
Abanka	1,045	399	646	1,234	478	756
UniCredit Banka	313	290	23	386	372	14
Banka Celje	567	240	327	683	295	388
Hypo Alpe Adria Bank	318	130	189	393	172	221
Gorenjska Banka	578	329	249	688	361	328
Raiffeisen Banka	178	95	83	225	112	113
Total	8,889	4,843	4,046	10,364	5,586	4,778

1. Capital shortfalls in the respective case, considering 9% (base) / 6% (stress) ST base capital requirement on RWAs
Notes: AQR = Asset Quality Review; DTAs = Deferred Tax Assets; RWAs = Risk Weighted Assets
Sources: AQR provider data, participating institutions, Banka Slovenije

Exhibit 3: Overview of projected capital shortfalls at bank level – *including* new pro-forma DTA effects

in € MM	Forecasted capital shortfall – including new pro-forma DTA effects[1]					
	Base case			Stress case		
	Expected Losses	Forecasted use of Loss Absorption Capacity	Forecasted capital shortfall	Expected Losses	Forecasted use of Loss Absorption Capacity	Forecasted capital shortfall
NLB	4,225	2,761	1,464	4,808	3,140	1,668
NKBM	1,665	870	795	1,947	1,012	936
Abanka	1,045	460	585	1,234	559	675
UniCredit Banka	313	300	13	386	386	(2)
Banka Celje	567	278	289	683	344	339
Hypo Alpe Adria Bank	318	154	164	393	204	189
Gorenjska Banka	578	371	207	688	415	274
Raiffeisen Banka	178	105	72	225	127	97
Total[2]	8,889	5,300	3,589	10,364	6,187	4,177

1. Capital shortfalls in the respective case, considering 9% (base) / 6% (stress) ST base capital requirement on RWAs
2. 2 € MM capital surplus of UniCredit Banka in stress case not reflected
Notes: AQR = Asset Quality Review; DTAs = Deferred Tax Assets; RWAs = Risk Weighted Assets
Sources: AQR provider data, participating institutions, Banka Slovenije

The expected economic losses displayed above are driven out of the various segments of the banks' balance sheet: Small and Micro Enterprises (SMEs), Large Corporates, Real Estate Developers (REDs), Retail Mortgages, Retail Other, as well as Treasury Assets.

The loan tape supplied by the banks for the stress testing exercise contained the banks' implementation of the segments. As mentioned, this segmentation was scrutinized by the AQR providers, which triggered corrections both for large exposures as well as for smaller exposures. The main pattern emerging from the corrections was the need to re-assign exposures from SME and Large Corporate segments into the Real Estate Developers (RED) segment. The AQR's segment reclassification information for large loans (with exposure bigger than EUR 10 MM) was corrected in the loan-level information if necessary. However, for smaller exposures only a random sample had been subjected to AQR scrutiny and hence the conclusions from the random sample review were extrapolated to the remaining portfolio. As a result, RED exposures were left in the SME and Large Corporate segments when exposures were summed up, and the mis-segmentation was instead controlled for by adjusting the loss parameters for the two segments to ensure that expected economic losses are not impacted by mis-segmentation. In terms of reporting, however, losses attributed to SME and Large Corporate segments appear high as they include the more risky RED exposures that could not be identified individually at loan-levelExhibit 4: Overview of expected economic losses 2013-2015 by segment for participating institutions in each scenarioExhibit 4 provides an overview of expected economic losses by segment according to this reporting view.

Exhibit 4: Overview of expected economic losses 2013-2015 by segment for participating institutions in each scenario

		Expected Losses 2013–2015			
		In € MM		In % of EOY 2012 balance	
	EOY 2012 Balance	Base Case	Stress Case	Base Case	Stress Case
SME	7,455	3,684	4,054	49.4%	54.4%
Large Corporates	9,503	3,124	3,627	32.9%	38.2%
Real Estate Developers	1,862	1,043	1,177	56.0%	63.2%
Retail Mortgages	3,317	148	255	4.5%	7.7%
Retail Others	3,533	450	539	12.7%	15.3%
Total credit portfolio	**25,669**	**8,448**	**9,654**	**32.9%**	**37.6%**
Financial/ Treasury Assets	**3,984**[1]	**249**	**503**	**6.3%**	**12.6%**
Total assets	**29,653**	**8,697**	**10,157**	**29.3%**	**34.3%**

1 Given that HtM Sovereign bonds did not receive a haircut, they were excluded from the EOY 2012 balance shown
Note: New book losses of 190 € MM base case and 210 € MM stress case are not included

2. Introduction

2.1. Macroeconomic situation in Slovenia

Before the start of the economic downturn in mid-2008, economic growth in Slovenia was among the highest in the euro area. However from the outbreak of the crisis GDP has declined by more than 10%. The high indebtedness of corporate sector and the constraints on financing meant that investment recorded the largest decline, at 50%. Household consumption also declined as the situation on the labour market deteriorated and fiscal consolidation measures were implemented. The sharp decline in domestic demand and the simultaneous growth in exports helped to create a current account surplus, which reached 7% of GDP in the second half of 2013. In the last year Slovenia has adopted several major reforms that will allow faster growth in economic potential in the future. Meanwhile in mid-2013 the majority of indicators were suggesting a stabilisation in the economic situation. The unemployment rate has been falling since the beginning of the year, and stood at 9.4% (ILO rate) in the third quarter.

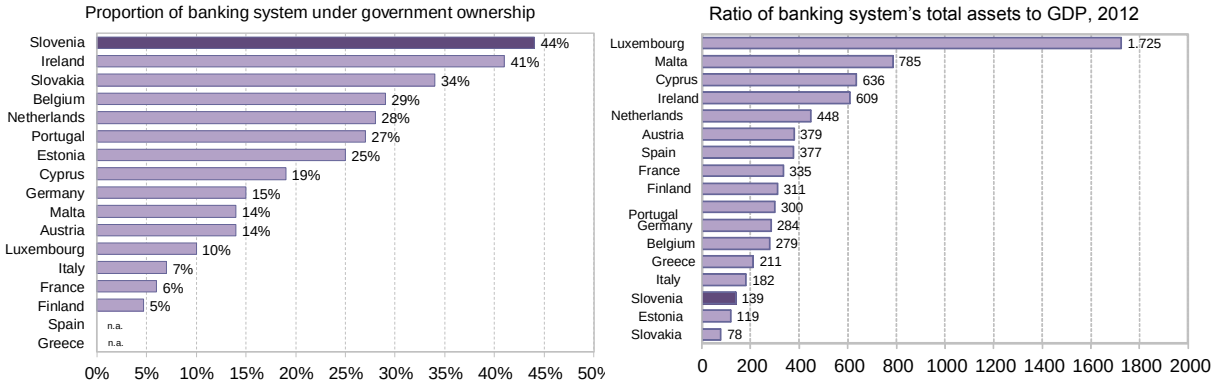
Table: Comparison of forecasts for Slovenia

growth (real), %, unless stated otherwise	realisation	Bank of Slovenia October 2013			European Commission November 2013		
	Q3 2013	2013	2014	2015	2013	2014	2015
GDP	-0.6	-2.6	-0.7	1.4	-2.7	-1.0	0.7
Private consumption	-3.0	-3.8	-3.3	-0.6	-3.5	-2.6	-1.2
Gross fixed capital formation	-4.4	-3.3	-2.7	0.8	-2.4	-1.2	0.8
Net trade (percentage points)	1.9	1.8	2.0	2.0	1.1	1.4	1.4
Employment	-1.7	-2.6	-2.4	-0.4	-2.4	-1.3	-0.5
HICP (year-on-year growth, %)	2.2	2.2	1.7	1.5	2.1	1.9	1.5
Current account (% GDP)	6.8	6.1	6.8	7.7	5.0	6.0	6.5

Sources: Bank of Slovenia, European Commission

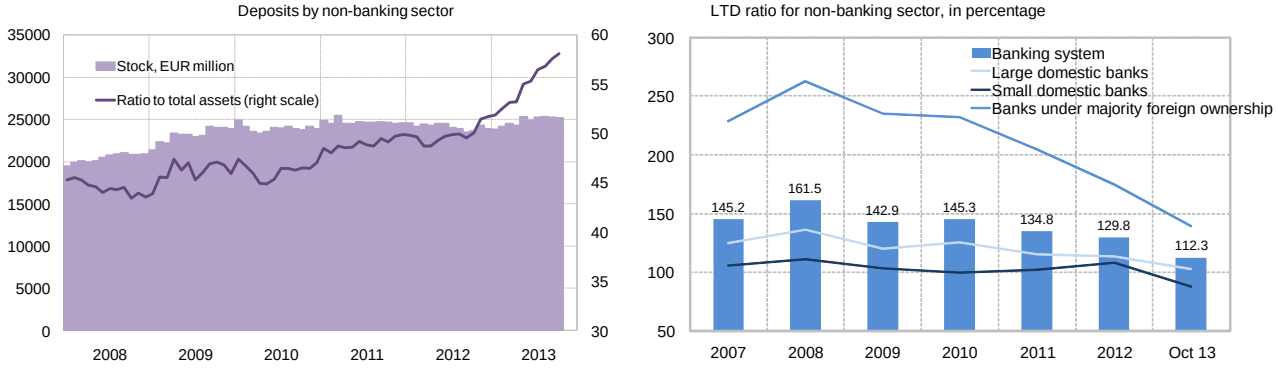
2.2. A perspective on the banking system and the history of stress testing in Slovenia / Macroeconomic outlook

The Slovenian banking system is one of the smallest in the euro area. Total assets amounted to EUR 46 billion at the end of 2012, equivalent to 139% of GDP, the third lowest figure in the euro area. The banking system comprises 17 banks, three branches of foreign banks and three savings banks. Slovenia has the highest proportion of government ownership of the banking system in the euro area, at 44%.



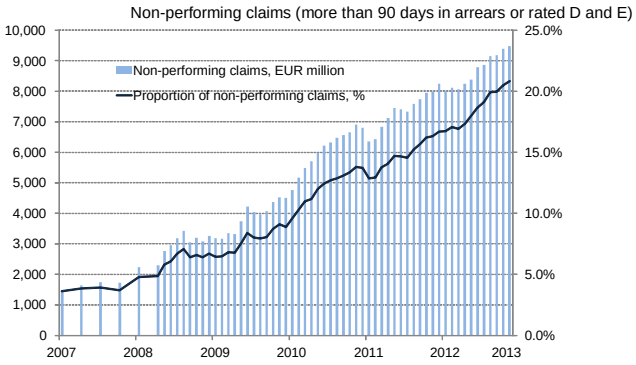
Source: ECB (CBD database)

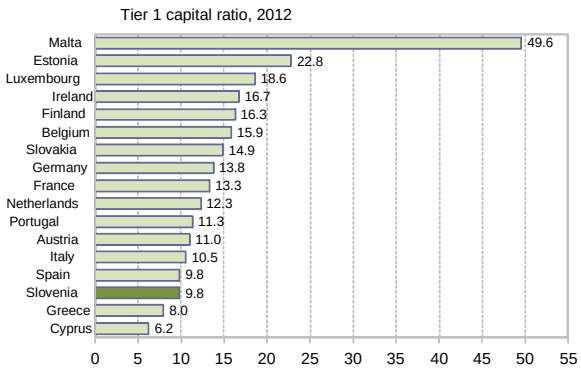
The financial crisis ended a period of high growth in bank lending, which was largely based on heavy borrowing from foreign banks. Bank funding has declined sharply since 2010 as a result of the uncertain situation on the international financial markets, and the downgrading of Slovenia's sovereign debt and Slovenian banks. The proportion of the banks' total liabilities accounted for by wholesale funding halved between 2007 and October 2013. By contrast, deposits have remained very stable throughout the economic recession.



Source: Bank of Slovenia

The economic recession revealed deficiencies in the banks' risk management during the period of high economic growth. As corporate revenues declined and losses increased, the amount of non-performing claims began to increase. The proportion of non-performing claims more than 90 days in arrears or rated in the lowest categories (D and E) had reached 20.9% by October 2013, equivalent to EUR 9.5 billion. Claims against corporates account for the largest proportion of non-performing claims. The most notable are corporates in the construction and holding company sectors, which saw an extremely sharp increase in relative indebtedness during the time of plentiful credit. As the recession persisted, the difficulties with the repayment of bank loans spread to other sectors, and in recent times have in particular spread to corporates whose performance is based on domestic demand. Risk related to households sector remain among the lowest, as their non-performing claims accounting for just 3.2% of the banks' total non-performing portfolio.





Sources: Bank of Slovenia, ECB (SDW)

Given the deterioration in the quality of their credit portfolios, the banks have increased provisioning. Impairments and provisions amounted to EUR 5.1 billion at the end of October, or 11.2% of the banks' total classified claims. Increased provisions and impairments were the decisive factor in the banking system's operating loss. This year is the fourth consecutive year that the banks have operated at a loss. The operating losses have had an adverse impact on capital adequacy. Insufficient capital increases, particularly at the banks under majority state ownership, resulted in maintaining the capital adequacy ratios solely by reducing capital requirements, reducing lending activity and reallocate their portfolios to less risky investments. Although this has ensured a stable level of capital, despite the high requisite impairments, the capital adequacy ratios remain below the average of comparable banks across the EU.

3. Purpose of the comprehensive review

Due to the deteriorating situation in the banking sector caused by several years of economic recession, and with the aim of ensuring financial stability the National Assembly adopted the Government Measures to Strengthen the Stability of Banks Act (ZUKSB) at the end of 2012, which set out possible measures that the government could take to strengthen the banks: capital increases, the purchase of claims and the transfer of claims to Bank Asset Management Company (BAMC), and guarantees by the Republic of Slovenia for liabilities of BAMC and special purpose vehicle (SPV) and a guarantee for requisite liquidity to banks as the last resort.

On the basis of the Council Recommendation from June 2013 on Slovenia's 2013 National Reform Programme and delivering a Council opinion on Slovenia's Stability Programme for 2012-2016, the European Commission requested the execution of an independent asset quality review (AQR) and stress tests (bottom-up and top-down) for a representative portion of the banking system as a prerequisite for the transfer of claims to the BAMC and the approval of state aid. The Bank of Slovenia and the Slovenian government therefore decided to conduct a comprehensive review of the banking sector with the aim of ensuring the implementation of measures to ensure financial stability. The Bank of Slovenia thus embarked on the aforementioned review in July 2013, in conjunction with the Ministry of Finance.

To ensure the complete independence and credibility of the review, the Bank of Slovenia engaged experienced international consultants and real estate appraisers, who conducted their reviews on the basis of tested methods and international standards used in comparable reviews that they were previously conducted within the EU.

4. Implementation of the comprehensive review

4.1. Objective and scope

The objective of the comprehensive review was to assess the ability of the Slovenian banking system to withstand a sharp deterioration in macroeconomic and market conditions as projected for the future three-year period (2013 to 2015 inclusive) under the adverse scenario, and to determine the capital deficit that could potentially be disclosed for individual banks and thus for the system in the event of the realisation of a very conservative, very unlikely but still plausible scenario.

The reason for using such an extreme scenario is to assess the robustness of the Slovenian banking system even in a situation of the most adverse (hypothetical) stress developments. The results of the stress tests cannot in any sense be equated to the actual performance of the banks in the future.

Ten banks and banking groups were involved in the comprehensive review, which together constitute a representative sample of approximately 70% of the Slovenian banking system. Alongside the three systemically important banks and/or banking groups, NLB, NKBM and Abanka, also Gorenjska banka, Banka Celje, UniCredit Banka Slovenija, Hypo AlpeAdria-Bank, Raiffeisen banka, Probanka and Factor banka were included in the review on the basis of the predetermined criteria (e.g. size, the amount of NPLs, capital adequacy, risk profile and ownership structure). The last two were subsequently excluded from the stress test part of exercise as a result of the initiation of an orderly wind-down process in early September.

The comprehensive review of the banking system includes an asset quality review, and stress tests (bottom-up and top-down).

4.1.1. *Asset quality review*

The purpose of the **asset quality review** was the verification of data completeness and integrity, a review of individual loans and their rating classifications, a collateral valuation and the identification of shortfalls in impairments and provisioning.

4.1.2. *Bottom up stress tests*

The objective of the **bottom-up stress test** was to determine the capital deficit/surplus of individual banks and the banking system under the conditions of the baseline and adverse macroeconomic scenarios for the three-year projection period (2013-2015), while the starting points were the balance sheet figures for the end of 2012.

The bottom-up stress test focused on the assessment of credit risk from performing, non-performing and restructured claims, and risks (credit risk and market risk) from investments in securities.

The credit portfolios assessed in the bottom-up stress tests include lending to the domestic private sector other than government loans and claims from off-balance-sheet liabilities to these sectors (itemised into exposures to SMEs, exposures to large enterprises, exposures to the construction sector, household exposures secured by residential real estate, other household exposures). The observed securities portfolio included securities classed as financial assets held for trading, financial assets available-for-sale and financial assets held to maturity (government bonds classed as financial assets held to maturity are not the subject of stress testing).

The bottom-up stress tests include three main elements of assessment as follows:

- **Estimate of expected losses encompasses**:
  - Losses from performing and non-performing claims and from restructured claims in various portfolios subject to observation;
  - Losses from investments in securities (treasury assets / financial assets)
- **Estimate of a bank's loss absorption capacity encompasses**:
  - The stock of impairments and provisions for the observed portfolio as at the end of 2012
  - The bank's ability to generate a profit before the creation of impairments and provisions
  - A capital surplus over the minimum requirement for Core Tier 1 capital of 9% or 6% (under the baseline scenario and adverse scenario)
- **Estimate of expected capital shortfall/surpluss under the baseline and adverse scenarios which results from** the surplus/shortfall of expected losses above expected available loss absorption capacity

4.1.3. *Top down stress tests*

The objective of the **top-down stress test** was to provide a check against the results of the bottom up stress testing exercise but on less granular data. The underlying assuption was that independently forecasting expected losses top down using the same macroeconomic assumptions and the same starting point (EOY 2012, portfolios in scope etc.) as the bottom up stress testing exercise can help to explain the bottom up results via analysing and explaining the deviation between the two.

4.2. Organisation and parties involved

The scope, conditions and contractors for the AQR and stress tests were determined by an inter-institutional committee (appointed by the government and composed of representatives of the Bank of Slovenia, the Ministry of Finance, the Ministry of Economic Development and Technology and the Office of the Prime Minister) after consultations with the European Commission (EC) and the European Central Bank (ECB).

The firms selected to conduct the stress tests were an independent consulting firm (bottom-up) and Roland Berger Strategy Consultants (top-down). Deloitte and Ernst & Young were selected to conduct the asset quality review, while several independent real estate appraisers conducted the real estate valuations.

Terms of reference (TORs) setting out the scope and working method of individual parts were coordinated and agreed for all the areas included in the exercise (AQR, bottom-up stress tests, top-down stress tests, real estate valuation). The TORs are also an integral part of the contracts with the individual consultants.

The contracting authority for the asset quality review for seven banks and the stress tests for all the banks included in the review was the Bank of Slovenia, which also covered the costs. The banks included in measures under the ZUKSB (three banks) covered the costs of the asset quality review themselves.

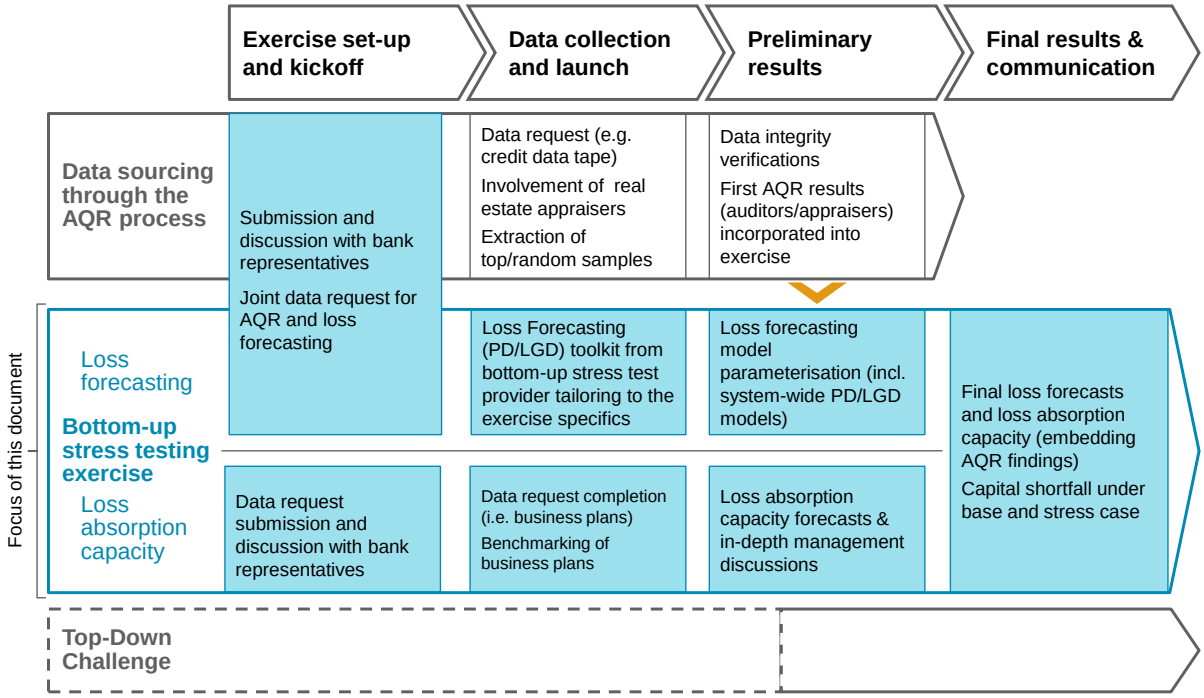
The comprehensive review was coordinated and supervised by a Steering Committee comprising the Bank of Slovenia, the Ministry of Finance, and observers from the European Commission, the ECB and the European Banking Authority (EBA). The review was conducted in accordance with the methodology, procedures and assumptions set out and approved by the aforementioned Steering Committee, thus ensuring consistency and the uniform application of the methodology to all the banks and bank groups included in the review.

The aim of the asset quality review was to assess the adequacy of the YE2012 loan loss provisions. It was performed by asset quality review providers consisting of international auditing firms and expert third party Real Estate appraisal firms.

The aim of the stress test was to estimate the capital shortfall of each individual bank as well as in aggregate. The forecasts were performed both in a base and a stress scenario, taking EOY2012 balance sheets as the starting point together with the necessary adjustments identified by the asset quality review. Exhibit 5 provides a process overview of the stress testing exercise, which consisted of three components. First, AQR providers collected input data from the participating institutions, made necessary adjustments and made it available for the bottom-up stress test. This was intended to make the loan level data and collateral

information provided by the participating institutions suitably granular and more complete for the stress testing exercise. The bottom-up stress test process then forecasted expected losses under the aforementioned macroeconomic scenarios over a three year horizon. Independently, a top-down challenge was performed by a third party firm of management consultants.. The top-down challenge expected economic losses and capital needs using a top-down approach.

Exhibit 5: Process overview of the stress test



4.3. Macroeconomic scenarios (base case and stress case)

The bottom-up stress test and the top-down challenge are based on a number of assumptions about the economic situation in Slovenia. For this purpose, the following two macroeconomic scenarios – a probable base case and a less likely stress case, were used as agreed by the SteerCo:

Exhibit 6 details the key variables used both in the base and in the stress cases.

Exhibit 6: Macroeconomic scenarios

Macroeconomics scenarios	Actual	Base Case			Adverse Case		
Change y-o-y (%), unless otherwise	2012	2013	2014	2015	2013	2014	2015
Private Consumption	(2.9)	(4.8)	(3.5)	(1.2)	(5.3)	(7.7)	(6.5)
GFCF	(9.3)	(6.0)	(2.7)	1.0	(8.1)	(13.1)	(3.6)
Net exports contribution to GDP growth	3.3	2.6	1.4	1.0	2.9	1.1	1.3
GDP	**(2.3)**	**(2.7)**	**(1.5)**	**0.1**	**(3.1)**	**(3.8)**	**(2.9)**
HICP	2.8	1.9	1.4	1.5	1.8	1.5	1.9
Residential house prices	(6.9)	(9.6)	(4.3)	(2.4)	(11.0)	(12.2)	(7.1)
Current Account balance (levels as % of GDP)	3.3	5.0	5.4	6.0	5.3	7.2	6.1
Employment	(1.3)	(2.6)	(1.4)	(0.3)	(2.7)	(2.5)	(1.8)
Unemployment rate (as % of labour force)	8.9	11.3	11.5	11.5	11.4	12.6	14.0
General government gross debt (level as % of GDP)	54.1	64.1	66.2	69.6	64.7	71.5	84.4
EURIBOR (3m, in bps)	57	25	50	79	58	156	222
10 year government bond yields (in bps)	581	602	682	702	638	820	845

Sources: Steering Committee
Notes: GFCF = Gross Fixed Capital Formation, GDP = Gross Domestic Product, HICP = Harmonised Index of Consumer Prices, EURIBOR = European Interbank Overnight Rate

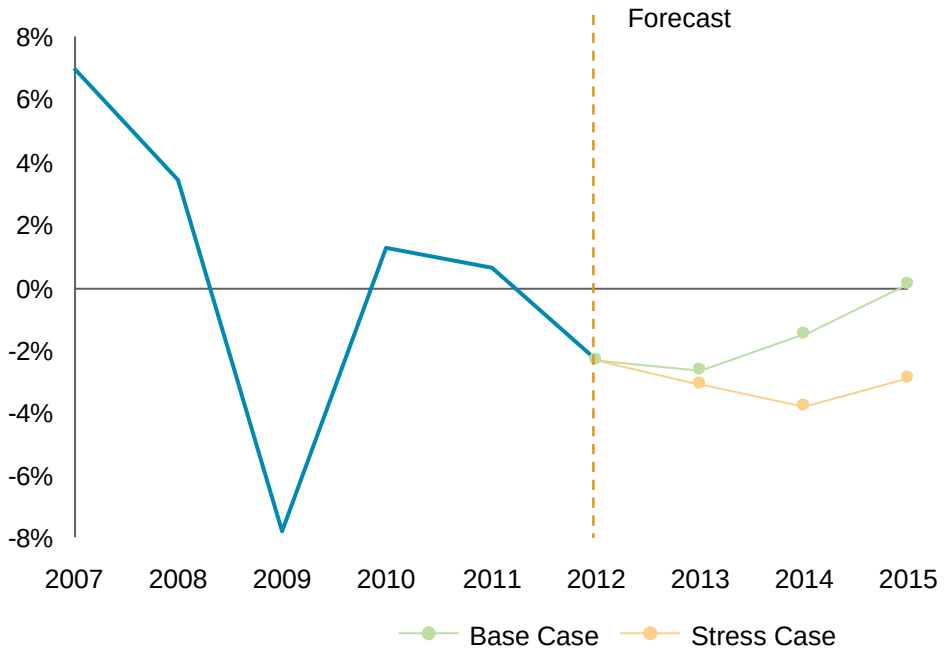
Real GDP growth, unemployment, interest rates and house price index are the main variables used in the macroeconomic models and that, together with the other assumptions (e.g. equity stock prices) and methodological choices formulated by the SteerCo, directly impact the final results of the exercise.

The cut-off date for producing the scenarios was July 31st 2013, which allowed incorporation of national accounts data only for the first quarter of 2013. Furthermore, the base year for the scenarios (2012) reflects historical data before revisions by the Statistical office of Slovenia were introduced in September 2013. Both cases are based on the assumption of full compliance with the fiscal adjustment path recommended by the Council in June 2013 under the Excessive Deficit Procedure (EDP), and take account of the negative impact of such adjustment on domestic demand.

The assumptions for short-term and long-term rates are based on the methodology used for the European Commission services forecast. The methodology is exclusively based on technical assumptions, reflecting the slope of the EUR swap curve at the time. This approach is also used for the EBA stress tests, hence preserving consistency.

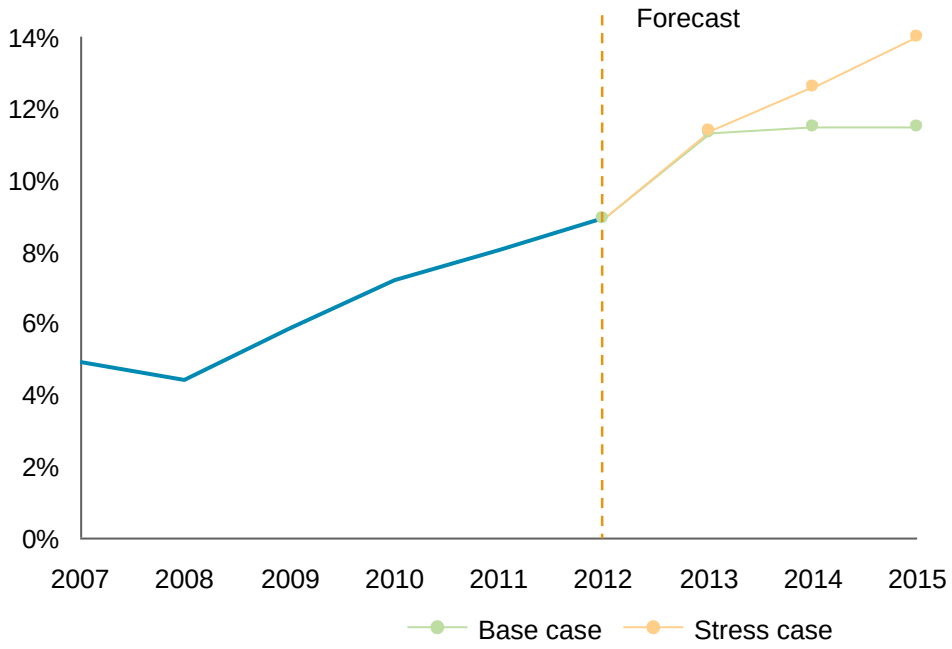
The following charts show GDP and unemployment developments since the start of the crisis in Slovenia, both in the base and the stress case. In the base case, the double dip recession is set to bottom out in 2013 with unemployment peaking with a lag of one in 2014, and thereafter Slovenia is expected to slowly start recovering from the crisis. While in the stress case, the recession is forecasted to deepen further for a year longer into 2014 with recovery starting only in 2015.

Exhibit 7: Forecasted GDP growth rate in the base and stress case in y-o-y % change



Source: European Commission

Exhibit 8: Forecasted unemployment rate in the base and stress case in y-o-y % change



Source: European Commission

4.3.1.1. The Base Case[1]

The base case was based on the following observations and underlying story.

A base scenario for Slovenia 2015

After a sizeable real GDP contraction in 2012 (reported at -2.3% at the time and later revised downwards to -2.5%) and in the first quarter of this year (reported at -4.8% y-o-y at the time), the base scenario depicts further deterioration of the economic situation in Slovenia in 2013 and 2014, with only a slight recovery expected in 2015. Taking into account a large increase in unemployment for the first quarter of this year, the unemployment rate is set to increase significantly in 2013 and remains relatively flat thereafter at a historically high level. The inflation outlook is relatively benign, with core inflation expected to remain subdued throughout the forecast horizon, and the house price index set to continue declining, resulting in a peak-to-through price drop of -34% (2008-2015), out of which -18% has already materialised (2008-2012).

4.3.1.2. The Stress Case[2]

The stress case, which started in Q3 of 2013, was derived by employing the multi-country framework used in the earlier CEBS/EBA stress-test exercises. The stress case was based on the following, underlying story.

A stress scenario for Slovenia 2015

Under the adverse scenario, the Slovenian financial system undergoes three years of severe economic recession. The drop in economic activity is reinforced by structural weaknesses in EU Member States, in particular the need to reduce sectoral and fiscal imbalances and to implement structural reforms.

Against this backdrop, in Slovenia, as in other EU countries, investors start to demand higher risk premium for holding government bonds than under the base scenario. A fall in the value of European government bonds trigger a more general re-assessment of the risk premium on other assets which, in the case of Slovenia, is reflected inter alia in a drop in stock prices by 25% and a drop in residential house prices by almost 27% over the three years horizon. Fragile foreign and domestic demand and enhanced uncertainty about fiscal policy are the drivers underlying the expected reduction in corporate investments. Moreover, the need for higher taxes, possible reductions in social transfers, and a marked deterioration in labour market conditions, reduce private consumption of households.

With other EU countries being also strongly adversely affected by a drop in confidence, in the adverse scenario Slovenia faces a period of low foreign demand. The decline in foreign demand is reinforced by the deterioration of economic conditions outside the EU (including the US and CEE countries).

œ

[1] Based on the explanations provided to the Steering Committee by the European Central Bank

[2] Based on the explanations provided to the Steering Committee by the European Central Bank

4.3.1.3. Comparison to long-term averages

The stress case was deemed to be conservative relative to the long term Slovenian average by the SteerCo. Exhibit 9 provides a comparison of the key macroeconomic variables in the stress and base case with historical averages of the same parameters. It includes a measure of 'distance from the mean' in form of the number of standard deviations off each variable's long-term average.

Exhibit 9: Comparison of historical economic performance vs. SteerCo scenarios

	Historical		Base Case			Stress Case		
	Average	Stan. Dev. σ	2013	2014	2015	2013	2014	2015
Real GDP growth	2.8%	3.4%	-2.7%	-1.5%	0.1%	-3.1%	-3.8%	-2.9%
(# Stan. Dev.)			(-1.6 σ)	(-1.3 σ)	(-0.8 σ)	(-1.7 σ)	(-1.9 σ)	(-1.7 σ)
Unemployment rate			11.3%	11.5%	11.5%	11.4%	12.6%	14%
Change in unemployment rate	3.5%	16.4%	27%	1.8%	0%	28.1%	10.5%	11.1%
(# Stan. Dev.)			(1.4 σ)	(-0.1 σ)	(-0.2σ)	(1.5 σ)	(0.4 σ)	(0.5σ)
Short term IR	2.7%	1.4%	0.3%	0.5%	0.8%	0.6%	1.6%	2.2%
(# Stan. Dev.)			(-1.6 σ)	(-1.5 σ)	(-1.3 σ)	(-1.4 σ)	(-0.7 σ)	(-0.3 σ)
House price change	4.6%	9.9%	-9.6%	-4.3%	-2.4%	-11.0%	-12.2%	-7.1%
(# Stan. Dev.)			(-1.4 σ)	(-0.9 σ)	(-0.7 σ)	(-1.6 σ)	(-1.7 σ)	(-1.2 σ)

1< σ ≤2 from average ≤1 σ from average

Sources: Steering Committee, ECB data warehouse
Notes: GDP = Gross Domestic Product, IR = Interest rate, Stan. Dev. = Standard Deviation

In the stress case, the real GDP growth and house price change provided by the SteerCo deviated by more than 1 standard deviation from the historical average on a single year basis. Actual economic development in 2013 to date lies well in the range of the forecast cases.

The historical averages and standard deviations were calculated from the longest available time series of the ECB's data warehouse. Data for GDP growth dates back to 1990, for housing price changes to 2003. For short term interest rates the 3 month EURIBOR was taken as historical reference with data points back to 2001.

4.3.1.4. The Bank of Slovenia's credit and deposits volumes projections[3]

Bank specific variables projection was prepared by the Bank of Slovenia based on externally provided macro scenario.

œ

[3] Based on the explanations provided to the Steering Committee by the European Central Bank

Bank of Slovenia forecasts	Actual	Baseline scenario			Adverse scenario		
Change YOY (%)	2012A	2013	2014	2015	2013	2014	2015
Credit volume (private non-banking sector, YoY growth rates)	-5,1	-7,2	-3,8	-1,9	-7,5	-6,5	-5,4
Deposits volume (private non-banking sector, YoY growth rates)	-1,3	1,0	0,8	0,8	0,6	-0,5	-0,6

Source: Bank of Slovenia

Due to both falling demand and supply side restrictions credit to private non-banking sector declines throughout the forecast horizon. With corporate sector perceived as riskier, banks limit the supply of credit more strongly, which together with negative investment growth contributes to a decline in lending to non-financial corporations. Within the corporate sector, the share of lending to small and micro sized enterprises increases. Small businesses aside, banks also focus on lending to households, especially through housing loans, which banks prefer due to longer maturities, lower default rates and lower associated capital requirements. Under the adverse scenario demand and supply side restrictions intensify, most severely for retail lending, due to sharp and persistent decreases in private consumption and increasing unemployment.

Private sector deposits are expected to show a relatively stable growth of around 1% throughout the forecasting period, the main driving factors being the GDP growth rate and the interest rates. Banks deleveraging prevent companies to get sufficient debt funds from banks therefore the companies are gathering liquidity on bank accounts to finance their operating activities. Households' deposits will not show any particular growth. There will be a positive effect of rising interest rates and of a substantial fall in consumption but the households deposit growth rate will be held back by falling wages and rising unemployment expectations. Under the adverse scenario, the positive effect of an increasing interest rate is weighed down by a decline in the income of both corporate and household depositors.

4.4. Basic assumption of the stress test

The banks' consolidated figures for the end of 2012 form the basis for the stress test calculations.

The stress tests cover a time horizon of three years (2013 to 2015 inclusive). The longer time horizon allows for a lengthier economic recession, which increases the banks' potential losses and their assessed capital requirements, and consequently provides for more accurate and more credible analysis.

The stress tests are based on current capital regulations, and do not yet take account of the CRD IV / CRR requirements. The sole exception is the treatment of deferred tax assets (DTAs), for which a phase-in approach has been taken for capital deductions in accordance with the CRR.

For the purposes of the stress tests the banks have to meet a Core Tier 1 capital ratio (as defined by the EBA) of 9% under the baseline scenario and 6% under the adverse scenario.

All mitigating measures planned by the management board (capital increases, transfer of credit risk from banks) for covering the potential capital deficit after the cut-off date (30 September 2013) are excluded from the calculation of the stress test results.

The overall calculation of stress test results is based on the Bank of Slovenia's definition of non-performing claims, which follows the EBA definition for the banking systems of EU Member States. Under this definition, all classified claims against customers rated D and E and classified claims against individual customers with a better rating whose repayments are being made more than 90 days in arrears are classed as non-performing claims. The number of days in arrears is counted from the first day that the amount in arrears exceeds 2% of the disbursed exposure (or contractual sums) to the debtor or EUR 50,000, provided that it is no lower than EUR 200.

Over the stress test period the aforementioned definition increases the estimated losses of a bank, and simultaneously reduces the bank's loss absorption capacity, as only claims against D-rated customers less than 90 days in arrears are included as interest-bearing.

Other major assumptions that had an impact on the estimate of a bank's loss absorption capacity are given below:

- the banks can first use liquid assets (investments in securities) up to the amount of 15% of total assets to cover the deficit in funding deriving from the residual maturity of liabilities until the end of 2015, and only then seek new borrowing on the financial markets,

after repaying the LTRO liabilities to the ECB in late 2014 or early 2015, the banks will continue to maintain debt at the ECB in the amount of no more than 3% of total assets (in line with their indebtedness with Eursystem before the disbursement of the LTROs).

4.5. Applied approach

4.6. Approach and purpose of the bottom-up stress test methodology

A bottom-up stress testing exercise was conducted by an independent consulting firm. The aim of the stress testing exercise was to estimate the capital shortfall of each individual bank as well as in aggregate. The forecasts were performed both in a base and a stress case, taking EOY2012 balance sheets as the starting point together with the necessary adjustments identified by the asset quality review. The process for the stress testing exercise consisted of three components. First, AQR providers collected input data from the participating institutions and made it available to the stress test consultants. This was intended to make the loan level data and collateral information provided by the participating institutions suitably granular and more complete for the stress testing exercise. The bottom-up stress test process then forecasted expected losses under the aforementioned macroeconomic scenarios over a three year horizon.

4.7. Approach and purpose of the top-down stress test challenge

A top-down challenge of the bottom-up stress testing exercise was conducted by another independent consulting firm Roland Berger SC (the top-down stress test provider), supported by international observers.

The aim of the top-down challenge was to provide a check against the results of the bottom-up stress testing exercise by challenging and validating the preliminary bottom-up stress test results. The underlying assumption was that independently forecasting expected losses top-down using the same starting point (EOY2012, portfolios in-scope etc.) as the bottom-up

stress testing exercise can help to explain the bottom-up results via analysing and explaining the deviations between the two. Deviations between the independent computations is to be expected given the different input data and methodology applied. Importantly, the top-down challenge used portfolio level data on a top-down approach, while the bottom-up used much more granular, loan-level data on a refined bottom-up approach.

The Bank of Slovenia coordinated and moderated all interaction between the top-down and bottom-up stress test providers, which comprised operational committee meetings, steering committee meetings with international observers, input data sharing documents, stress test results sharing documents, Q&A challenge process, and any ad-hoc meetings scheduled as required.

The top-down challenge commenced on November 25th 2013 when preliminary bottom-up stress test results were available, and was an iterative process during which drivers for deviations of top-down stress test results from bottom-up stress test results were identified. The ability to explain the deviations by identifying the root causes in different data, approaches and assumptions assures the quality and consistency of the exercise and excludes any room for calculation errors.

5. Input generated by the AQR providers and RE appraisers

AQR providers were responsible to lead the gathering and processing of the data from the institutions participating tin the stress test exercise and to assess the quality (Data Integrity Verification – DIV) and the level of completeness of the data provided, also ensuring proper reconciliation of the data to the published financial statements.

In addition to that, AQR providers performed an Individual File Review (IFR) with the aim to make an assessment of the key caracteristics of the credit portfolio of each bank participating in the stress test exercise and were responsible to coordinate the activities performed by the Real Estate appraisers.

5.1. Data collection

AQR providers collected the following datatapes for the purposes of the stress testing exercise:

- Loan Tape: individual loan-level data as at 31 December 2012 and 31 December 2011 related to the private sector customer loan book (Large corporates, Small and Micro Enterprises, Retail Mortgages, Retail Other and Real Estate Developers). Data included detailed information on the individual contracts, collaterals, counterparties (e.g. financials) and guarantors;
- Historical Performance: historical time series at contract level in the scope of monthly (or at least quarterly) data for both performing and non performing exposures from 31 Jan 2007 to 30 Jun 2013. The data formed the basis for the LGD estimation;
- Treasury Asset Data: information on bonds and equities classified as held to maturity (HtM), available for sale (AfS), held for trading (HfT) as of 31 Dec 2012;
- RE Collateral: information delivered by the banks participating in the stress testing exercise for the use of real estate appraisers

AQR providers were also responsible for assessing the quality of the data through the following activities:

- Data Completeness, where data tapes provided by the banks were reviewed as at the reference date (31. 12. 2012) and checks to verify the validity and the number of records available were performed in order to unsure a satisfactory level of completeness of the field types included in the data request;
- Data Integrity Verification ("DIV"), where tests on a sample basis were conducted to identify instances where data field entries could not be verified back to source documentation and to report on those circumstances. The sampling for the purposes of the DIV exercise was based on a 95%/5% objective, i.e. to seek a 95% confidence level that there are less than 5% of errors in the entire population;
- Data Reconciliation: where loan tape data and treasury asset data were reconciled to the published financial statements.

5.2. Individual file review

The aim of the individual file review performed by the AQR providers was to assess the following features of the credit portfolio through the assessment of a sample of loans:

- Correct classification of performance status according to the regulatory default definition;
- Restructured contract composition and misclassification;
- Proper classification of loans in the Real Estate Development segment according to the purpose of the loan.

The samples were selected using a two-stage approach; all loans with an exposure above 10 million EUR were automatically selected (the 'Top Loans') and, a "random sample", defined to reflect the portfolio characteristics for loans below 10 million EUR, was drawn from both the non-performing and performing portfolios for each segment. The samples were required to cover a minimum of 60% of the entire gross exposure by segment (except Small and Micro Enterprises, for which the coverage ratio was 25% and retail for which no coverage ratio was required) all in combination with an additional requirement of a minimum number of individual loans (both criteria had to be met; i.e. exposure coverage and minimum number of loans).
The random samples were tested in order to verify their representativeness of the banks' underlying portfolios in terms of geographic, loan size and industry (only for Large Corporates and Small and Micro Enterprises) distribution.
The outcomes of these analyses were embedded in the stress testing exercise to incorporate information not factored in the historical data. In particular:

- The stock of NPLs and the estimation of the Probabilities of Default (PDs) were adjusted to reflect the percentage of loans mis-classified as performing
- PDs for restructured loans were adjusted to reflect the higher level of risk associated to these exposures

Segmentation and model parameters were adjusted to consider the percentage of Real Estate Developers loans mis-classified in other segments

5.3. RE collateral appraisals

An independent valuation reports on an agreed sample of real estate collaterals (corporate and residential) were commissioned to international real estate appraisers and one of the AQR providers was appointed as "Real Estate Co-ordinator" with responsibility for managing the process for the appointment of external appraisers, managing the capacity of appointed appraisers to undertake the work, co-ordinating the overall delivery timetable and ensuring that all appraisers perform to a sufficient and consistent standard.

Assets evaluation performed by the RE appraisers on the selected sample of RE collateral were used in the stress testing exercise to adjust real estate property values in banks' collateral tapes.

In particular, the difference between the appraisal value and the bank's book value indexed to year end 2012 corrected for differences between banks' records and independent valuation.

The data from appraisals was cleaned for outliers and then used to derive at appraisal haircuts by asset type (residential, commercial, land, under development)

6. Stress testing results

6.1. Results of the bottom-up stress test

6.1.1. *Scope of the bottom-up stress testing exercise and data*

The goal of the bottom-up stress testing exercise was to estimate the capital shortfall of the Slovenian banking system. This was approximated using the eight institutions in scope of the stress testing exercise in a base and a stress case. To this end, the bottom-up analysis required both, a forecast of economic losses as well as a forecast of the loss absorption capacity for each institution, while embedding the results from the concurrent asset quality review.

6.1.1.1. Key building blocks of the bottom-up stress testing exercise

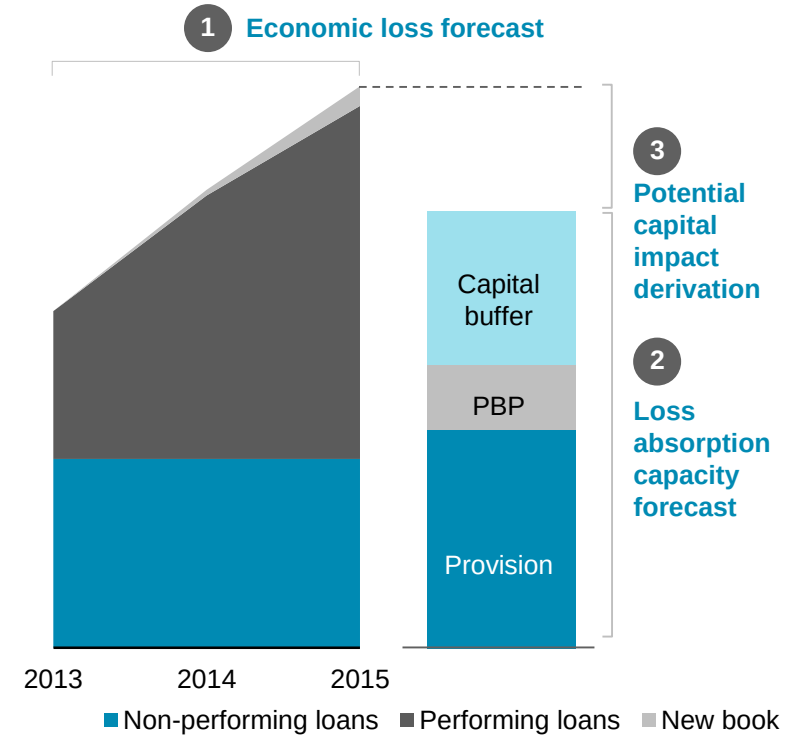
The bottom-up stress test exercise consisted of three key steps:

1. **Economic loss forecast:** The economic loss forecasts in the base and stress case consisted of
   - *Bottom-up, loan level forecast of the default probability* (PD) for performing loans based on historically observed default rates and macroeconomic cases provided by the SteerCo
   - *Granular assessment of forecasted cure rates* for non-performing loans (i.e. the rate at which non-performing loans return to performing) based on historic data collected from the participating institutions.
   - *Independent review of Real Estate collateral valuations* based on loan samples evaluated by real estate appraisers and forecast based on real estate price indexes
   - *Evaluation of financial collateral applying specific haircuts by collateral type* and forecast based on financial markets information
2. **Loss absorption capacity forecast:** The loss absorption capacity forecasts for the individual participating institutions consisted of
   - *In force stock of loan loss provisions as of YE2012*, specifically taking into account the provisions related to the in-scope credit portfolio for which expected losses were forecasted (specific provisions on non-performing loans, specific/ collective provisions on performing loans)
   - *Forecasted future profit generation capacity* of the participating institutions – pre-provision pre-tax profit for Slovenian and non-domestic businesses
   - *In-going capital levels* for those participating institutions with capital volumes in excess of the minimum post-stress testing exercise requirements (9% in the base case and 6% in the stress case using the standard Core Tier 1 (CT1) measure)
   - *Deferred Tax Assets* (DTAs) on the balance sheets of the participating institutions, assessed in accordance with the banks' forecasted profit-generating ability, and in accordance with current legislation and the CRR/CRDIV phase-in Since banks may not enjoy sufficient future profits to take advantage of the DTAs accumulated over the forecast horizon, final results are presented with and without the effect of new DTAs

3. **Potential capital impact derivation:** The capital shortfall or surplus in the base and stress case was finally calculated by combining the economic loss forecasts and the loss absorption forecasts

The bottom-up stress testing exercise excluded any planned management actions to cover potential capital shortfalls. However, two versions of the capital shortfall of participating institutions were assessed, one including and one excluding the plans to transfer bad assets to a Bank Asset Management Company in the future. The diagram below illustrates the three main components of the bottom-up stress testing analysis.

Exhibit 10: Bottom-up stress testing framework



Notes: PBP = Profit before provisions

6.1.1.2. Scope of the stress testing exercise

The bottom-up stress testing exercise was performed with the following scope:

- Bank coverage – The banks that participated in the stress testing exercise were chosen by the Bank of Slovenia in conjunction with the international organizations based on market share, quality of their respective portfolios and capital adequacy. The financial institutions selected represented approximately 70% of the total Slovenian banking assets. The participating institutions are listed in Exhibit 11 below.

Exhibit 11: Market share of financial institutions in scope

Participating institutions	Market share (in % of Slovenian banking assets)
NLB	26%
NKBM	10%
Abanka	8%
UniCredit Banka	6%
Banka Celje	5%
Hypo Alpe Adria Bank	4%
Gorenjska Banka	4%
Raiffeisen Banka	3%

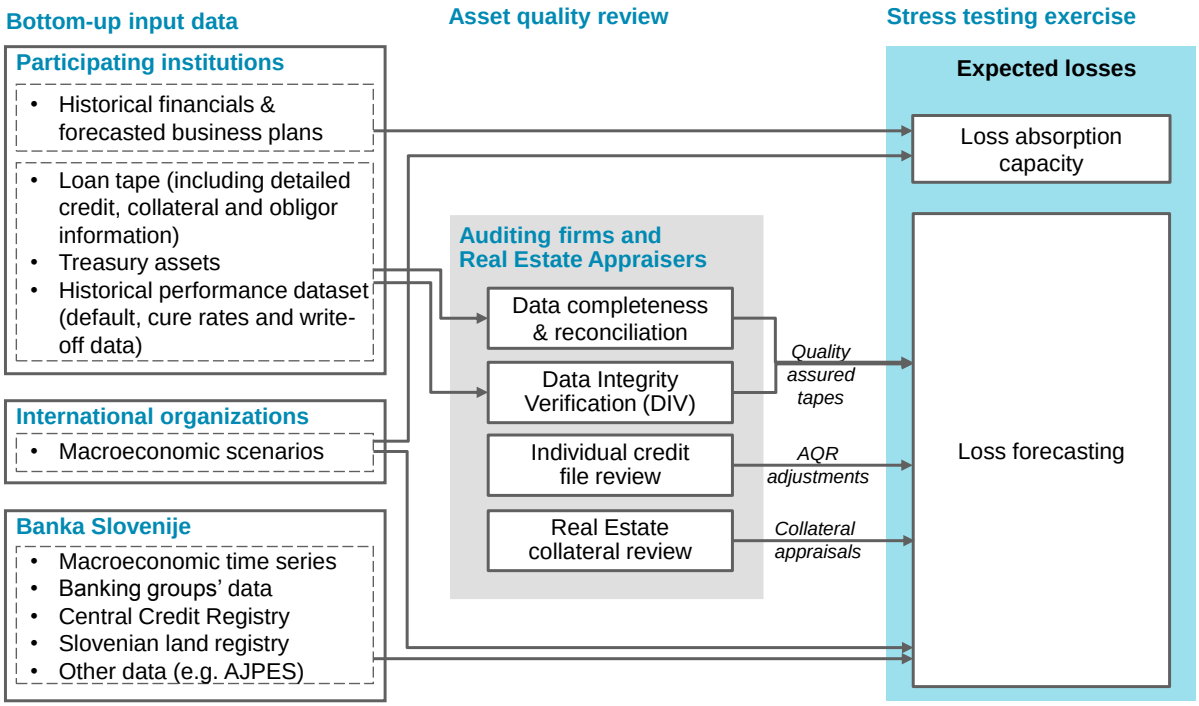
Sources: Annual Reports EOY 2012

- **Risk coverage** – the stress testing exercise evaluated credit risk in the performing, and non-performing assets on the banks' balance sheets, as well as the market risk associated with Treasury Assets. The stress testing exercise excluded any other specific risks such as liquidity risk, asset-liability management (ALM), other market and counterparty credit risk
- **Portfolio coverage** – the portfolios analysed comprised credits to the domestic private sector only (i.e. Small and Micro Enterprises (SME), Large Corporates, Real Estate Developers (RED), Retail Mortgages, Retail Other) as well as Treasury Assets. Credits to the State and Local Authorities were excluded.
- **Time coverage** – the time horizon covered three years (2013-2015). The as-of date for banks' balance sheets was YE2012

6.1.1.3. Data process and sources

Multiple sources of data were used to conduct this stress testing exercise. This stress testing exercise incorporated data directly from the participating institutions, information processed as part of the AQR exercise and data from multiple other sources. The major providers, sources and usage of data are outlined in Exhibit 12 below.

Exhibit 12: High-level overview of data flow



6.1.1.3.1. AQR process and data adjustments

As outlined in Exhibit 12, the AQR process was an integral step in producing the necessary data for the stress testing exercise. It was conducted jointly by the AQR providers and real estate appraisers. The AQR providers were tasked primarily with processing the asset-level information and ensuring that data of sufficient quality was produced. This involved close collaboration with the participating institutions, in order to ensure the definitions of the exercise were adhered to. In order to safeguard the independence of the exercise, we understand that the banks were assessed by different firms than their ordinary auditors.

The AQR providers were responsible to lead the gathering and processing of the data from the participating institutions and to produce the following datasets:

- Loan tape – individual loan level data as of 31 December 2011 and 31 of December 2012 including loan, collateral and obligor information (e.g. financials)
- Historical performance – historical time series at contract-level in the scope of monthly (or at least quarterly) data for both performing and non-performing exposures, for each year from January 2007 to 30 June 2013 inclusive
- Treasury Assets – securities (including bonds and equities) included in the Held to Maturity, Available for Sale and Held for Trading portfolios as at 31 December 2012
- RE appraisers collateral – data required by the RE appraisers for their evaluation of RE assets

As certification of the data quality for the loan tape and treasury asset data, the AQR providers were asked to perform data completeness & reconciliation, data integrity verification and a loan file review.

6.1.1.3.2. Data completeness & reconciliation

The AQR providers undertook the required activities to make available suitably granular data for the stress testing exercise. The completeness checks required that key fields of the data request were at least 90% complete with valid entries. The AQR providers were responsible for raising any exceptions to this threshold, and remediating with the participating institutions where appropriate. The reconciliation exercise was aimed at ensuring that the stress testing perimeter could be matched with the 2012 financial statements. Furthermore, the participating institutions were requested to reconcile historical data submitted with previous submissions to Slovenia's Central Credit Register.

6.1.1.3.3. Data Integrity Verification (DIV)

The DIV analysis was performed to check cases where key stress testing exercise fields could not be verified back to source documentation. This process has been conducted on a statistically determined sample that was considered sufficient large to assess the data quality for the entire loan tape.

The AQR providers were requested to undertake the DIV reports once critical data issues had been remediated, and data collection and cleaning activities were completed.

6.1.1.3.4. Loan file review

The loan file review was conducted by the AQR providers to help ensure that the data used in the stress testing exercise reliably reflected the underlying contract aspects. In particular, as part of the loan file review, the AQR providers covered the following areas:

- Performance status review – analysed whether the performance status reported by the participating institutions was in line with the Bank of Slovenia default definition and, if not, provided the reason for the reclassification. In particular, for the bottom-up stress testing exercise status reclassifications were incorporated only when based on objective factual criteria (e.g. 90dpd, bankruptcy, restructuring)
- Materiality and quality of restructured loans – assessed whether the loans reviewed were to be flagged as restructured and, if yes, the aspects of the restructuring
- Loan business purpose / segment – based on the analysis of the purpose of the loans, AQR providers indicated whether the contract had a real estate development-specific purpose of the loan and therefore had to be reclassified to the Real Estate Developers segments

Corrections of misclassifications of performance status indicated that, on average per segment, an additional ~4% to 13% of segment gross exposure should have been classified as non-performing for non-retail segments). The issue for retail segments was less prevalent, with an average of ~1% to 2% requiring reclassification.

Regarding the extent of restructuring for performing loans, the analysis showed that restructuring is more prevalent in the non-retail segments, with an average of ~12% for the best and 23% for the worst segment respectively of segment gross exposure classified as performing restructured, against ~5% to 6% for retail segments.

Finally, issues of mis-segmentation were more acute for non-retail segments. For example, on average ~4% of Corporate and ~35% of SME gross exposure required reclassification into Real Estate Developers (RED).

The results from the loan file review have shown that material data adjustments were necessary for the data to reflect the aspects of the underlying contracts. The re-classified, re-segmented data was the input for the bottom-up stress testing exercise.

6.1.1.3.5. Data sources

As outlined in Exhibit 12, data from four major providers was used in the stress testing exercise.

6.1.1.3.6. Data of participating institutions

The starting point for the loss absorption capacity work was P&L and balance sheet information provided by the participating institutions (YE2012). This combined historical performance information and forward-looking business plans. The requested information decomposed key P&L and balance sheet components (loan and deposit volumes and spreads, maturities profiles, planned management actions, etc.).

To capture loss drivers not directly observable in balance sheets and/or in past performance data, additional data sources were also used. This included information provided by management, AQR providers and RE appraisers and the Bank of Slovenia.

6.1.1.3.7. AQR providers and real estate appraisers

As described in section 6.1.1.3.1, data from the AQR process was used as input for the bottom-up stress testing exercise. The AQR providers were responsible for quality-assuring the data submitted by participating institutions in a standardised request. Responding to these data requests, the following data was provided:

6.1.1.3.8. Loan tape data

Loan tape datasets represented the key input for estimating losses for credit portfolios. The loan tape contained granular information about the participating institutions' credit portfolios as of YE2012 and YE2011, including loan data (exposure, maturity, origination date, performance status), collateral and guarantee data (collateral type, collateral value, and the latest appraisal date), obligor data (legal form, incorporation year, financial ratios) etc.

Data extracted from the loan tape was combined with information obtained from other sources (such as "AJPES"[4] and the Bank of Slovenia bank data). The resulting dataset provided information on exposure, performance status, segmentation criteria, original loan-to-value ratios (LTVs), collateral, etc. for ~2.1 million individual loans.

Although the loan tape underwent the data quality process described in 2.3.1, a number of data issues had to be addressed as for example:

- Mis-classification of performance status

œ

[4] Agencija Republike Slovenije za javnopravne, please see section 6.1.1.3.12.2 for an explanation.

- Key behavioural information missing
- High proportion of missing and/or mismatched collateral valuations
- Missing collateral information, notably the valuation date
- High share of missing financial statements

6.1.1.3.9. Treasury Assets data

The Treasury Asset data collected covered individual securities in all bond and equity portfolios as of YE2012. This covered the trading book (held-for-trading), held-to-maturity and available-for-sale portfolios.

The dataset lists each participating entity's treasury / financial asset instruments on a security (i.e. ISIN) level. The dataset contains ca. 1200 different instruments which are categorised by aspects such as asset type, portfolio or accounting practice, issuer, maturity, nominal interest rate, external rating and asset value. Key aspects needed to describe the instruments were available for practically all instruments in the data set (>99%) and other key information was also available for the vast majority, such as external rating (>75%).

6.1.1.3.10. Historical performance datasets (default, cure rates and write-off data)

Historical Performance datasets contain monthly/quarterly historical data (depending on bank) of participating institutions' credit portfolios, covering a period within 2007-June 2013 (varying across banks). The dataset includes contract level information such as entity (e.g., ID, tax code), obligor (e.g., segment, industry, legal nature), exposure (e.g. drawn/undrawn amount, principal undue/overdue), collateral (e.g., loan-to-value ratio by type of collateral), performance status & credit quality (performance status, time in default, credit rating, days in arrears), write-off (e.g., write-off amount, write-off date), other contract specific information (e.g., open/closed, maturity).

Several data issues were found in the Historical performance datasets, diverging in type and magnitude across participating institutions. The main ones – which were not necessarily present for each participating institution - were:

- Missing/poor quality observations in key data fields, such as Rating, Days Past Due, Overdue Amount and Obligor ID
- Missing/unreliable restructuring flag
- Non comprehensive mapping of write off data to contracts
- Unreliable closure flag

6.1.1.3.11. Individual loan file review

As outlined in section 6.1.1.3.1, the loan file review was used to make data adjustments reflecting differences in the contracts, underlying aspects and the information available from the bank's databases.

The individual file review was performed by AQR providers across the 8 participating institutions, covering ~4.253 loans and 6.8 € BN of assets, across the five segments defined for the stress testing exercise as shown in Exhibit 13. Both performing and non-performing loans were covered. AQR providers were required to review a sample of files for each

participating institution. All the loans over 10 € MM belonging to the in-scope assets of the participating institutions were assessed, plus a pre-defined random sample of smaller loans. Minimum size of the random sample depending on the dimension of the participating institutions was defined. Loan data and all the related aspects were assessed as of 31 December 2012.

For each contract reviewed, more than 60 different aspects were provided by the AQR providers, including:

- Loan general information (e.g. contract ID, segment, purpose)
- Restructured loan aspects (e.g. restructuring date, presence of a grace period, new maturity)
- Loan performance history (e.g. rating, days in arrears, amount over 90 days in past due)
- Real Estate classification (e.g. RE nature of the business of the obligor, RE nature of purpose of financing)
- Exit from doubtful loans (e.g. date of cure, date of foreclosure)

All the data received were checked for consistency both within the bank and across the different banks. During the exercise, more than 300 queries were raised with the AQR providers in order to improve the data quality of the outputs received. In particular, the data quality review was focused on the performance status review and ad-hoc meetings were held with the Bank of Slovenia and AQR providers where the reclassifications were discussed.

All the random samples had to satisfy minimum requirements in terms of representativeness compared to the underlying portfolio. However, for several cases the representativeness of the selected samples could not be immediately proved from a statistical point of view. In order to confirm that no bias was embedded in the results, for those cases affected by representativeness issues, a new representative sample was extracted and it was verified that the results were not statistically different from the original sample used in the analysis.

Exhibit 13: AQR provider's credit portfolio sample size per segment

Segment	Credit count
SME	972
Large Corporate	1038
Real Estate Developers	823
Retail Mortgages	855
Retail Other	565
Total	**4,253**

Source: AQR provider data

6.1.1.3.12. Real estate collateral review

Four specialised international and local real estate companies (CBRE, Jones Lang LaSalle, Cushman & Wakefield and Colliers) were selected to perform the real estate appraisals[5].

The real estate appraisals were provided to the Real Estate Coordinator[6], who had the responsibility of liaising with the real estate appraisers to agree a common methodology and monitoring that the methodology was adhered to. The output was used in the stress testing exercise to update and adjust real estate asset valuations for collateral. This is further described in section 6.1.2.1.2.1.

In total, the values of 15,358 real estate properties were assessed using a variety of valuation mechanisms, including on-site appraisals and automated analysis which reflected the importance of the asset in the participating institution's portfolio and thus enabled coverage of a broad sample of assets.

The sample of appraised properties was split between residential and commercial real estate. Both of these were further split to drive-by valuations that cover both top collaterals (by value) and randomly chosen high value collaterals above 1 € MM, and desktop valuations of properties below 1 € MM.

The size of the sample was selected to partially reflect the size of the bank. The commercial sample included about 3,000 properties covering finished commercial properties, properties under development and land. The original residential sample included a high number of automated desktop valuations for low-value residential properties varying from 10,000 to 1,500 by the bank's size. However several banks were not able to provide the needed data required from these low-value residential properties for automated valuation process. Therefore, for four banks the high number of automated valuations for low value residential

œ

[5] The real estate appraisers were selected through a competitive bidding process with an agreed Request for Proposal. The process was led by the Real Estate coordinator, who was subject to decisions of the Steering Committee.

[6] Deloitte

properties was replaced by a low number of drive-by inspections varying from 200 to 100. The resulting residential sample included about 15,000 properties.

Appraisal results of four banks could not be directly compared with their respective collateral tapes since in some cases the appraised properties represented only a part of the corresponding entry in the collateral tape. In these cases the appraised property values were scaled by the ratio of how much the appraised entries correspond the overall value of the corresponding entry in the collateral tape.

In total, the values of about 15,000 commercial or residential real estate properties were assessed using drive-by or desktop valuation methods. Of these, about 11,000 were residential properties assessed with an automated method, and since these exhibited a different and less conservative pattern compared to all other valuation results they were excluded from the final results. Of the remaining appraised samples, about 10% could not be matched to the collateral tape and thus were discarded, and about 10% had either appraisal or book value of zero or a missing original appraisal date and were likewise discarded to not distort the results.

For the remaining data points the corresponding appraisal haircuts[7] were calculated. As final filtering, outlier appraisal haircuts exceeding +/- 95% were removed from the data set as well as property values exceeding 5 € MM. This final filtering discarded about 20% of remaining data in order to avoid that outliers and single large properties skew the calculated weighted average results. The resulting data set was used to calculate average appraisal haircuts that were extrapolated to the all loans based on key collateral aspects, except for top collaterals where values from appraisals were used directly.

6.1.1.3.12.1. International Organizations

The International Organizations (ECB, EC and EBA) involved in the bottom-up stress testing exercise designed the macroeconomic cases that were used throughout the bottom-up stress testing exercise in cooperation with the Bank of Slovenia. The cases are described in more detail in the section on Macroeconomic scenarios.

6.1.1.3.12.2. The Bank of Slovenia data

6.1.1.3.13. Macroeconomic time series

Macroeconomic time series were provided by the Bank of Slovenia containing data such as the gross domestic product, employment rate, interest rates and inflation rate. These data were used to develop the macroeconomic models which were used to predict the default probability in the base and stress case.

6.1.1.3.14. Data on participating institutions

The Bank of Slovenia provided data on the banks such as new loan and deposit volumes, maturity profiles of the current loan books, wholesale funding mix, split between performing and non-performing loans, default rates, capital positions and segment definitions. Moreover

œ

[7] The relative difference of appraisal value and book value indexed to end 2012.

the Bank of Slovenia provided the balance sheets and profit and loss statements (both EOY2011/2012) for individual banks within the scope of the stress testing exercise.

6.1.1.3.15. Central Credit Registry

The Central Credit Registry is a registry containing all credits issued by national banks in Slovenia and is maintained by the Bank of Slovenia. It was used as an additional source to inform the development of the PD and LGD models.

6.1.1.3.16. Slovenian land registry

The Bank of Slovenia provided access to Register nepremičnin (REN). REN is the Slovenian land registry database maintained by The Surveying and Mapping Authority of the Republic of Slovenia. Information was drawn from the database to supplement the banks' own data and to enable the appraisers to undertake their exercise. This additional information provided data for both the residential and commercial valuations.

This data was used to index collateral values to the value today and provide an estimate for the sales time in the base and stress economic case.

6.1.1.3.17. Other data

Access to three other sources was facilitated by the Bank of Slovenia. Agencija Republike Slovenije za javnopravne evidence in storitve (AJPES), is the Agency of the Republic of Slovenia for Public Legal Records and Related Services. Data from AJPES was used to supplement financial obligor information of the loan tapes. The Bank of Slovenia also facilitated access to the database of judicial procedures in Slovenia. Data obtained from this source informed which counterparties were in default. Lastly, the Bank of Slovenia's statistical department provided data on real estate transaction prices 2008-2012, which was used to inform a granular model of real estate price developments in different geographic regions within Slovenia in the last years.

6.1.2. *Loss forecast*

6.1.2.1. Methodology overview

The methodology includes a loan-level economic loss forecast of key assets and portfolios using detailed bottom-up input data from the participating institutions, real estate appraisers, AQR providers, the Bank of Slovenia and international organizations. The framework is made up of three modules explained below:

4. Performing loan book economic loss forecasts
5. Non-performing loan book economic loss forecasts
6. Treasury Asset economic loss forecasts

1. **For the performing loan book**, loan loss estimates were split into three driver components:
   B. Default Probability (PDs) – composed of:
      i. The bottom-up rating models developed to assess the loan book and that account for the distinctive loss drivers of each portfolio as well as banks' past default performance

         In this regard, for each of the five defined segments (Small and Micro Enterprises, Large Corporates, Real Estate Developers, Retail Mortgages, Retail Other), a rating model was developed which was applied to measure the default probability of every assessed entity using the bottom-up loan tape provided by the banks and verified by the data integrity verification process (2MM+ individual loans)

      ii. PD adjustments, based on the individual file review performed by the AQR providers, were undertaken to incorporate other key risk drivers where current bank books and/or historical information might not be representative (e.g. restructured/refinanced loans, NPL misclassifications)

      iii. Finally, a macroeconomic overlay was applied to the input segment PDs based on the two previous steps in order to anchor results to the proposed 2013-15 base and stress macroeconomic cases

   C. Loss Given Default (LGD) – composed of:
      i. LGD for secured loans was modeled by decomposing it into two parameters: cure rates (i.e. percentage of loans that are fully repaid and therefore with no losses) and LGL (i.e. Loss Given Loss, which reflects losses in the rest of cases). In the case of loans collateralised by Real Estate and Treasury Assets or of loans guaranteed by the State the modeling of the latter parameters was structural, in particular
         a. Real estate collateral liquidation values were forecasted based on bank specific collateral-level valuation haircuts by property type, location and last appraisal date, assuming that real estate already in default will be sold through 2014/15 (i.e. within the stress testing horizon) and real estate defaulting after YE2012 will not be sold until YE2015 (i.e. beyond the stress testing horizon), in order

to fully capture the real estate price decline in the case and to try to encapsulate all losses generated during the period will be included into the loss forecasts, with independence of their realisation values

b. Similar to real estate collateral, financial collateral liquidation values were forecasted based on collateral-level valuation haircuts by the type of asset. For cash collateral this haircut was set to zero. Equity and bond values were indexed to a future liquidation price assuming that the collateral will be sold at YE2015

c. In case of loans with a state guarantee, the haircut was set to zero assuming the recovery of the whole guaranteed amount

ii. LGD modeling for unsecured loans was similarly based on its decomposition on cure rate and LGL. In difference to secured loans, both parameters were forecasted based on historical data and then following a PD/LGD correlation approach to stress LGD factors and anchor them both to the base and the stress cases

D. Exposure at Default (EAD) estimates considered asset-level amortisation and prepayment profiles, as well as natural credit renewals of performing loans, write-offs of non-performing loans and new originations. Finally,, the expected utilisation of undrawn exposures and off balance guarantees was considered.

2. **For the non-performing loan book**, loan loss estimates used the non-performing loan LGD framework adjusted to consider the natural lower value of non-performing loans as time since default passes. In this regard, a statistical analysis over cure rates was undertaken, which allow to statistically estimate the decrease of forecasted cures over time as function of the time in default).

3. **For the Treasury Asset portfolio**, the expected losses were calculated depending on the asset type

A. For bonds[8], the expected losses depend on the nature of the implied risks inherent to each portfolio component, naturally reflected on its accounting treatment; Held to Maturity (HtM) assets are subject to PD-LGD treatment risk only whereas Available for Sale (AfS) and Held for Trading (HfT) assets are subject to losses due to market price fluctuation in the forecasted cases

B. For equity, the expected losses depend on whether the security is listed or not and on the equity market performance in the forecasted cases.

6.1.2.1.1. Default Probability (PDs) methodology

The starting point for the bottom-up stress testing exercise was the estimation of loan-level Default probability (PD) derived from historical information through the development of specific rating models for each of the five segments.

Estimation of the rating models proceeded along the following main steps:

- Perimeter definition and data elaboration: Rating tools were developed for the three largest participating institutions and then extended to the rest of the five participating

œ

[8] Government bonds in the Held to Maturity portfolio were not considered to be in scope of the stress testing exercise

institutions, tailoring them to the default rate experience of those banks. Additionally, Central Credit Registry (CCR) system-level data was sourced from the Bank of Slovenia to supplement loan tape information where necessary

- Random sample definition and representativeness: Rating models were developed using random samples extracted for each of the five segments to provide sufficient representativeness over the full population
- Risk-driver definition and single-factor analysis: A selection of prospective risk drivers and a detailed analysis of their link to default rates was undertaken
- Multi-factor analysis: A subset of factors was chosen to test alternate model specifications, trading off statistical discriminatory power against economic intuitiveness. The estimation consisted of binary logistic regressions
- Anchor point estimation and calibration: Exposure-weighted Observed Default Rates (ODR) were estimated for each of the participating institutions and segments and used as PD anchor points in model calibration to convert loan assessment scores into PDs.
- Validation: The models were validated based on the out-of-sample dataset

The five segment-specific models were applied at the loan-level across all of the eight banks.

The results from the AQR loan file review were then embedded into the loss forecasts. As described in section 6.1.1.3.1, the loan file review covered all top exposures, as well as a random sample for each segment. This enabled direct contract-level adjustments to be made for large exposures. For the remaining exposures, results were extrapolated from the random sample. Using the loan file review results, the following adjustments were made:

- Adjustment of the stock of NPLs and PD anchor points: Adjustments for misclassified performance status (i.e. from performing to non-performing) were made using the input from the loan file review. The initial NPL level was restated upwards by up to 20% of gross exposure. Direct adjustments to each segment PD anchor point were then made, to account for the actual riskiness of the loan book
- Adjustment of PD for restructured loans: PDs were adjusted for performing restructured loans based on the restructuring aspects. A revised PD was assigned based on the aspects of the restructuring, such as write-offs, interest and principal grace periods, interest-only grace periods and so forth
- Adjustment for reclassification into RED: Reclassification from a certain segment into RED was performed based on the AQR providers' analysis of the loan purpose. Regarding the top exposures included in the individual file review, wherever the loan was for RED related purposes but not classified as such, these loans were re-classified to the RED segment and subjected to RED specific risk parameters. For the rest of the portfolio, the riskiness of each segment was adjusted on the basis of the percentage of loans reclassified to RED in the random sample used for the individual file review

6.1.2.1.2. Loss Given Default (LGD) methodology

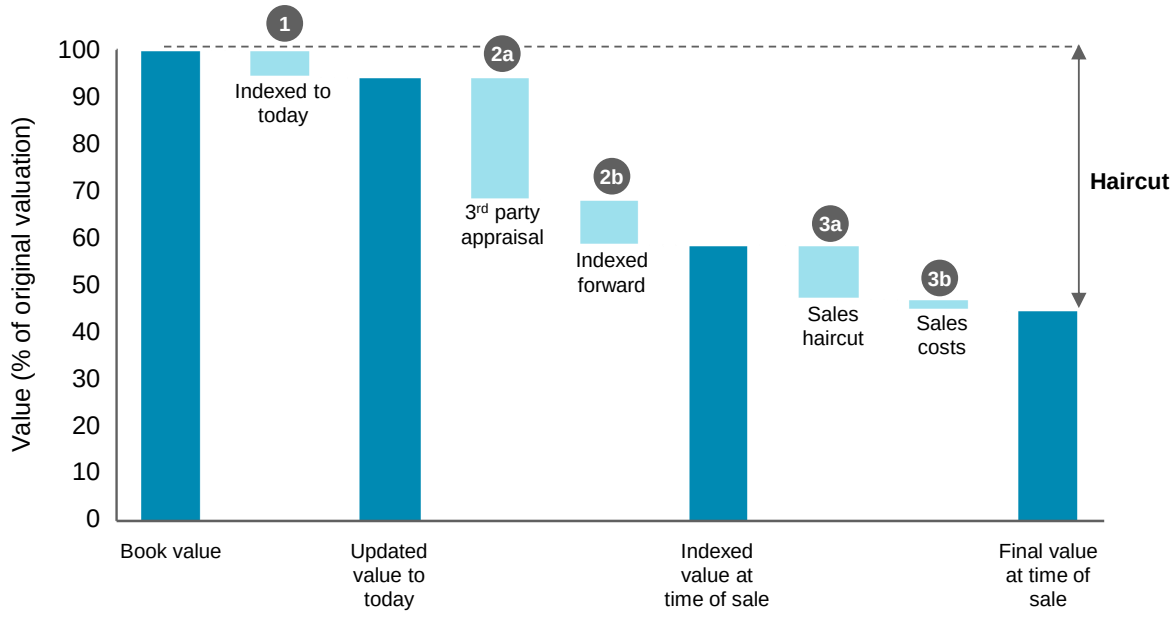
Loss Given Default (LGD) was decomposed[9] into two parameters that are explained in this subsection, Loss Given Loss (LGL) and Cure rate. LGL was calculated using two approaches depending on how the loan was collateralised:

- **For secured loans** LGL was calculated with a structural approach that forecasted the gap between the forecasted liquidation value of the collateral and the forecasted Exposure at Default. This approach was applied to loans secured by real estate, financial collateral and state guarantees
- **For unsecured loans** LGL was calculated based on historical data and stressed with a PD-LGD correlation approach

6.1.2.1.2.1. Haircuts for real estate collateral

Real estate is one of the most important collateral type used for secured loans. The liquidation value of real estate collateral was calculated for each individual collateral asset in a series of steps as illustrated in Exhibit 14.

Exhibit 14: Illustrative results from real estate collateral adjustments



1 – Collateral values updated from the date of appraisal to reference date based on market indices
2a – Estimation of the difference between bank valuation and independent appraiser valuation
2b – Collateral values forecasted to ST horizon based on forecasted market indices
3a – Application of a haircut on the collateral value based on sales-price volatility and RE appraiser input
3b – Application of a haircut on the collateral value based on costs of collateral disposal (informed by RE appraiser input)

First, (Step 1 in the above chart) the asset values were indexed to YE2012 from its latest valuation date as provided by the participating institutions. The historical indices used for this purpose were specific for type of asset and geographic region.

œ

[9] LGD = LGL x (1 - Cure rate)

In the next step (Step 2a), the indexed asset value was corrected to their estimated current market value. This correction was derived from a model that used the real estate appraisal data provided by the independent appraiser companies. The appraisal haircuts were then extrapolated for all assets dependent on their aspects.

The market value as of YE2012 was further reduced according to the case forecasts for real estate prices (Step 2b) depending on the asset type and case (base case vs. stress case). At the end of this step, market values were indexed to the time of sales which is YE2015 for all loans estimated to default during the case and 2014/15 for loans already in default at YE2012.

In order to arrive at final expected liquidation proceedings, it was necessary to consider the difference between the forecasted appraisal value at the time of liquidation and the actual revenue from the liquidation itself (Step 3a) which in Slovenia is most often conducted as a court auction. Finally, the bank has to pay for recovery costs (Step 3b), i.e. maintenance of the real estate property and potential fees from proceedings. These haircuts were derived from historic court auction data provided by the banks, differentiating between residential and other types of real estate.

The overall haircut on a specific bank's real estate collateral book is ultimately depended on a number of factors, such as the mix of property types (residential real estate being affected less than other types), the regional focus of the bank's lending activities, the bank's collateral valuation methods and frequency of value updates.

6.1.2.1.2.2. Haircuts for financial collateral and state guarantees

Financial collateral and state guarantees were also treated in a structural approach where the liquidation value was calculated for each individual collateral asset in a series of steps depending on asset type.

For equity and bonds, two asset valuation steps were undertaken. In the first step the asset value was indexed to YE2012 from a potential historical valuation date provided by the participating institution using historic market indices. In the second step the market value as of YE2012 was further reduced according to the case forecasts for equity and bond prices in Slovenia. In this step, market values were indexed to YE2015 for all financial collateral.

For cash and state guarantees, no haircuts on collateral value were assumed.

6.1.2.1.2.3. LGL for unsecured loans

Forecasted LGDs for unsecured loans were modelled as a function of historical LGL rates and LGD stress factors linked to credit quality indicators. The 2012 LGL was estimated on an historical basis and benchmark figures. The 2012 LGD was then calculated using the calculated 2012 LGL and estimated cure rates.

Based on a PD-LGD correlation model, LGDs were forecasted for each year from 2013 to 2015 by applying LGD factors linked to credit quality indicators to the 2012 LGD.

The applied LGD factors were differentiated between base and stress case and across each year in 2013-2015.

6.1.2.1.2.4. Loss rates (cure rates)

Loss rate is defined as one minus the cure rate. Cure rates were calculated at the obligor level and captured the probability that the obligor returns to performing without any write-off on any of its contracts. The same cure definition applies across all banks and segments. Cure rates are forecasted bottom-up by bank based on 2009-Jun 2013 historical data.

6.1.2.1.3. Treasury Asset expected loss methodology

Exhibit 15 provides an overview of the methodology applied to different Treasury Assets. There are four different approaches taken depending on the asset type and accounting treatment.

Exhibit 15: Stress test methodology for Treasury Assets

Sub-segment	Accounting treatment	Asset type	Domestic business	Non-domestic business
Bonds	Held to maturity (HtM)	Sovereign	No haircut	
		Non-sovereign	1 PD/LGD approach	5 Correlation approach
	Mark to market (MtM)	Sovereign	2 Price-yield mechanism	Correlation approach
		Non-sovereign	3 Corporate spread surplus	Corporate spread surplus
Equity	Mark to market (MtM)		4 SteerCo forecast	Correlation approach

Bonds issued by sovereigns and classified as Hold to Maturity (HtM) were not considered in scope of the stress testing exercise. The haircuts on the remaining Treasury Assets were determined according to their portfolio and accounting treatment (amortised cost vs. mark to market), asset type (fixed income vs. equities), geography (Slovenia vs. rest of the world) and the type of issuer (sovereign vs. non-sovereign) and based on the case.

4. Held to Maturity (HtM) Non-sovereign bonds
   - More than two thirds of the HtM non-sovereign bonds were Slovenian corporate bonds

- Haircuts for HtM non-sovereign bonds were determined by stressing the through the cycle default probability values derived from bond ratings and corresponding LGD
- Default probability for Slovenian exposures within 2013-15 was forecasted using the forecasted credit quality indicators for Large Corporates forecasted with the macroeconomic model. Loss Given Default was forecasted with European benchmarks for corporate bonds, adjusted to reflect the Slovenian market specifics as well as the stressed conditions under the given macroeconomic scenarios
- The credit quality indicator for rest of the world assets was calculated by estimating the correlation between Slovenian and rest of the world assets and applying it to the Slovenian Large Corporate credit quality indicator

5. Mark to Market (MtM) Sovereign bonds
   - The majority of MtM sovereign bonds had external ratings of investment grade. Two-thirds of the MtM sovereign bonds were domestic with an average of 3.5 years maturity, the rest from other European countries
   - Haircuts for MtM Slovenian sovereign bonds were based on the Slovenian government bond yield forecasts provided by the SteerCo
   - Haircuts for MtM rest of the world sovereign bonds were based on the forecasted yield of a benchmark bond which corresponded to the average rating of the portfolio
   - The haircuts were calibrated to match the maturity of the portfolio
6. Mark to Market Non-sovereign bonds
   - About two-thirds of the MtM non-sovereign bonds were domestic. Average maturity of MtM non-sovereign bonds was 2.8 years
   - Haircuts for MtM non-sovereign bonds were calculated by estimating a risk premium factor between sovereign (Slovenian or rest of the world) and non-sovereign to reflect their higher riskiness.
7. Equities
   - The vast majority of equities were listed domestic shares with only 10% non-listed equities
   - Haircuts for equities were derived from the Slovenian equity index shocks forecasted by the SteerCo
   - An additional haircut of 20% was applied for non-listed shares to reflect their higher riskiness
   - Rest of the world haircuts were calculated using the correlation of the Slovenian and representative rest of the world equity indices
8. Rest of the world Treasury Assets
   - Rest of the world assets are issued by non-Slovenian issuers and they accounted for about one third of all stressed Treasury Assets
   - Rest of the world haircuts were inferred from the correlation among the Slovenian and rest of the world risk drivers, being the specific approach tailored to the specifics of each the instrument type

- Overall the methodology provides modest diversification benefits as the rest of the world assets have somewhat smaller haircuts compared to Slovenia

The impact of possible hedges against market movements of MtM bonds was taken into account on a case to case basis.

6.1.2.2. Aggregate credit loss results for participating institutions

As of YE2012, total in-scope credit assets amounted to 25,669 € MM. The credit assets were classified into five segments: Small and Micro Enterprises (SME), Large Corporates, Real Estate Developers, Retail Mortgages and Retail Other. Of these, the first three were referred to as commercial segments, the latter two as retail segments. Additionally, Treasury Assets were taken into consideration and treated as a separate segment. The following exhibit provides an overview of the in-scope assets:

Exhibit 16: Segment breakdown of in-scope assets[10]

Segment	Exposure (in € MM)[1]	% of total exposure[1]	NPL ratio[1]	Coverage ratio[1]
Small and Medium Enterprises	7,455	25.1%	45.9%	26%
Large Corporates	9,503	32.0%	22.7%	13%
Real Estate Developers	1,862	6.3%	50.7%	24%
Retail Mortgages	3,317	11.2%	4.8%	3%
Retail Others	3,533	11.9%	5.7%	5%
Total loans	**25,669**	**86.6%**	27.0%	15%
Treasury assets	3,984	13.4%	N/A	N/A
Total portfolio in scope of Stess Test	**29,653**	**100%**	N/A	N/A

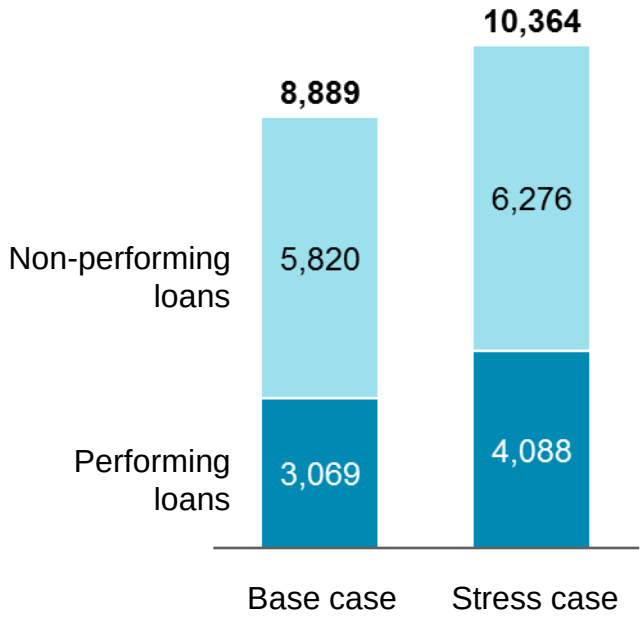
1. Exposures, NPL and coverage ratio pre adjustments from AQR loan file review
Notes: AQR = Asset Quality Review; NPLs = non-performing loans; LLPs = loan loss provisions; coverage ratio = total CLPs / total gross credits

On the basis of these exposures, the losses for the 8 participating institutions were forecasted in the macroeconomic scenarios defined by the SteerCo. This was performed through the described bottom-up framework which evaluates loan losses at a loan-by-loan, asset-by-asset level. The cumulative expected losses for the credit portfolio as of YE2012 in the period 2013-2015 amounted to approximately 8,889 € MM in the base case and approximately 10,364 € MM in the stress case. Exhibit 17 provides an overview of the losses for the participating institutions.

œ

[10] Coverage ratio defined as the sum of specific provisions over total performing and non-performing balances

Exhibit 17: Total expected losses 2013-2015 under base and stress case in € MM



It is noteworthy that the bulk of the losses in both cases come from loans that are already non-performing, namely 65.5% in the base and 60.6% in the stress case.

In the base case the expected losses consisted of

- 3,069 € MM stemming from performing loans (13.8%)
- 5,820 € MM stemming from non-performing loans (66.5%)

In the stress case the expected losses consisted of

- 4,088 € MM stemming from performing loans (18.6%)
- 6,276 € MM stemming from non-performing loans (71.7%)

6.1.2.3. Segment-specific loss results

6.1.2.3.1. Overview

Exhibit 18 provides a break-down of the expected losses into segments. At the individual segment level, SME was the segment with the highest absolute amount of expected losses: 3,684 € MM in the base case (49.4% of 2012 exposures) and 4,054 € MM in the stress case (54.4% of 2012 exposures), followed by Large Corporates with 3,124 € MM expected losses in the base case and 3,627 € MM in the stress case. The Real Estate Developers segment was the segment with the highest percentage of expected losses with respectively 63.2% of 2012 exposure in the stress case and 56.0% of 2012 exposures in the base case.

Exhibit 18: Forecasted cumulative economic losses 2013-2015 – Drill-down by segment

		Expected Losses 2013–2015			
		In € MM		In % of EOY 2012 balance	
	EOY 2012 Balance	Base Case	Stress Case	Base Case	Stress Case
SME	7,455	3,684	4,054	49.4%	54.4%
Large Corporates	9,503	3,124	3,627	32.9%	38.2%
Real Estate Developers	1,862	1,043	1,177	56.0%	63.2%
Retail Mortgages	3,317	148	255	4.5%	7.7%
Retail Others	3,533	450	539	12.7%	15.3%
Total credit portfolio	**25,669**	**8,448**	**9,654**	**32.9%**	**37.6%**
Treasury Assets	**3,984[1]**	**249**	**503**	**6.3%**	**12.6%**
Total assets	**29,653**	**8,697**	**10,157**	**29.3%**	**34.3%**

1 Given that HtM Sovereign bonds did not receive a haircut, they were excluded from the EOY 2012 balance shown
Note: New book losses of 190 € MM base case and 210 € MM stress case are not included

6.1.2.3.2. Small and Micro Enterprises

6.1.2.3.2.1. Key segment aspects and main inherent risks

SME was one of the largest segments with more than a quarter of total loan exposure.

As a result of the bottom-up analysis of participating institutions' balance sheets the following conclusions were drawn:

- As of 2012, the SME segment shows a lower NPL ratio (~45%) than Real Estate Developers (~69%), but higher than Large Corporates (~38%)[11]
- The degree of collateralisation for the SME portfolio varies widely by entity: ~52% of the SME exposures are secured, (ranging from 37% to 68% across entities)
- AQR provider analysis found that ~62% of SME exposures were restructured; in particular, ~17% of SME exposures were restructured, but not in default (ranging from 0% to 41% across participating institutions). Misclassification of defaulted loans as performing was ~4% (ranging from 0% to 13%). Finally, AQR providers' findings show that ~35% of SME loans were to reclassify to REDs (with a range of 0% to 51% across participating institutions)

œ
[11] Post AQR adjustments

6.1.2.3.2.2. Results

The expected losses for the SME segment are summarised in Exhibit 19. The total expected losses were 3,684 € MM and 4,054 € MM in base and stress case, respectively.

Exhibit 19: Forecasted economic losses 2013–2015 – SME

		Expected Loss 2013–2015 (in € MM)		Expected Loss 2013–2015 (% of EOY 2012 Balance)		Forecasted PD 2013–2015 (% of EOY 2012 Perf. Balance)		Forecasted LGD 2015 (% Performing)		Forecasted LGD 2015 (% Non-Perf.)	
EOY 2012 Balance		**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**
Secured	4,094	1,086	1,361	26.5%	33.3%	64.4%	69.6%	23.1%	29.7%	47.3%	56.3%
Unsecured	3,362	2,598	2,693	77.3%	80.1%	66.1%	71.5%	79.5%	83.7%	96.9%	99.4%
Total	**7,455**	**3,684**	**4,054**	**49.4%**	**54.4%**	**65.1%**	**70.4%**	**47.1%**	**52.8%**	**73.8%**	**79.4%**

Note: New book losses are not included

Forecasted losses for the SME segment are mainly driven by unsecured exposures which have significantly higher LGDs than secured loans.

The SME segment shows lower losses than the Real Estate Developers segment (56% and 63% respectively in base and stress case), but higher than Large Corporates (33% and 38% respectively in base and stress case). At the entity-level, forecasted losses for the SME segment range from 24% to 66% in the base case and 29% to 70% in the stress case.

Overall, entity-level results show cumulative PDs in 2013-2015 under the stress case ranging from 59% to 89%, compared to an average of 70%. LGD on the performing balance ranges between 43% and 65% for the best and worst entity, in the stress case. Non-performing LGDs in the stress case range from 61% to 84%.

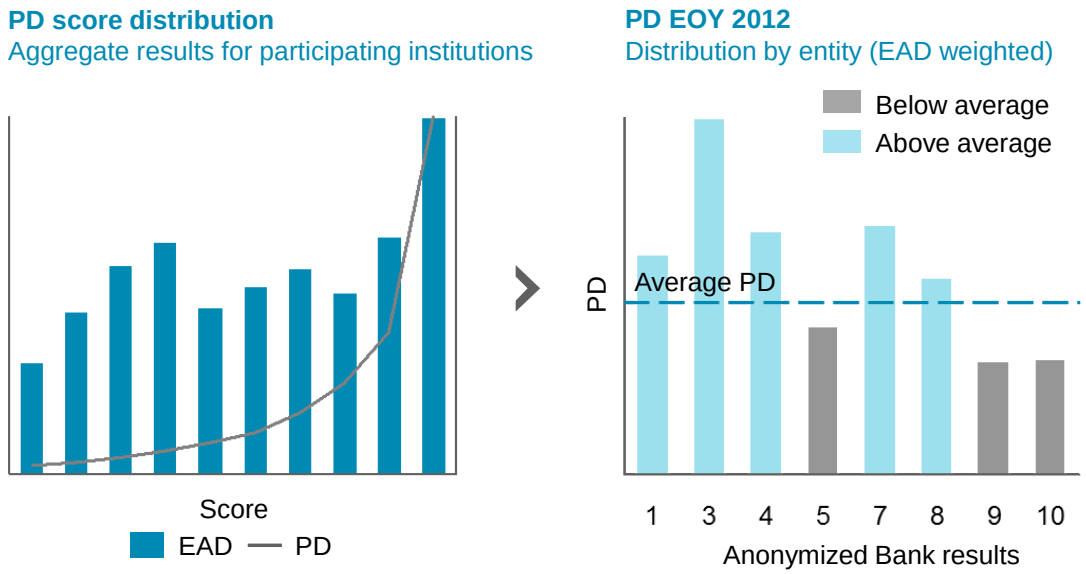
6.1.2.3.2.3. Aspects of the rating model

The PD rating model developed for the SME segment included the following information:

- Loan and obligor behavioural, namely payment arrears flag and credit utilisation
- Financial information such as leverage, profitability, debt coverage
- Other obligor specific information, such as industry and founding year

Exhibit 20 shows participating institutions' EAD distribution and EAD-weighted PD by model score (left) with the resulting differentiation of EAD-weighted PDs across participating institutions (right).

Exhibit 20: 2012 PD distribution – SME[12]



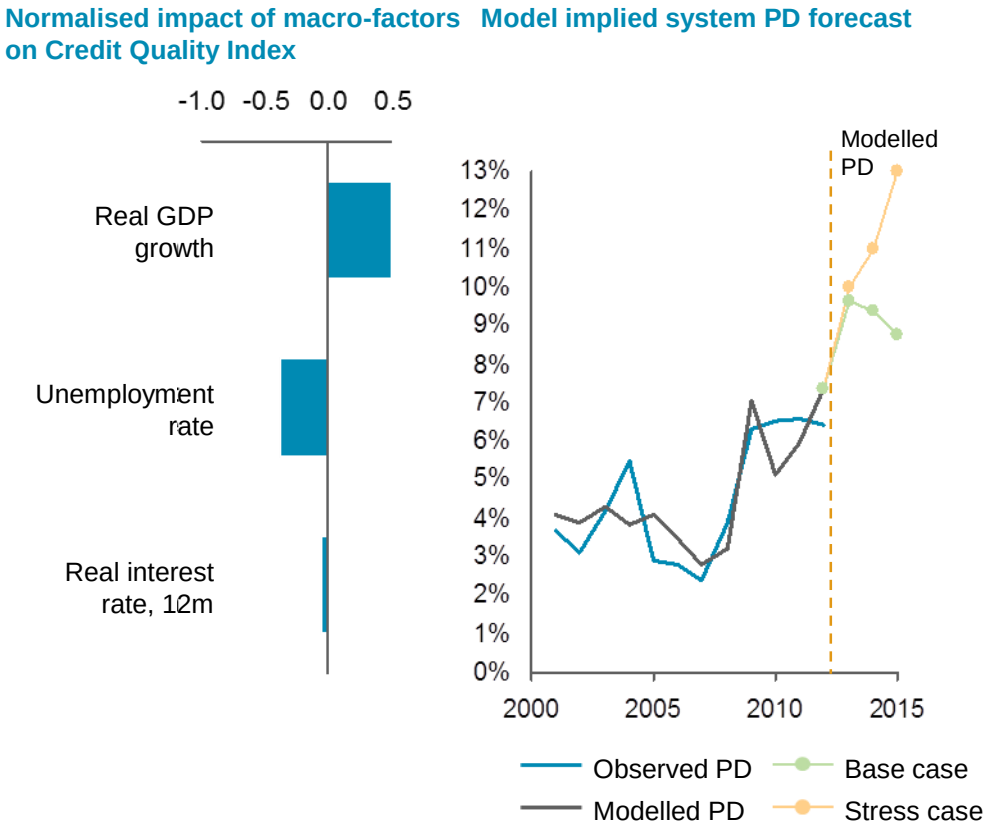
After the calibration of the bottom-up PD rating tool, a macroeconomic overlay was applied to the PDs based on the previous steps. The aim was to project the development of PDs given different macroeconomic scenarios. This led to an increase in PDs relative to 2012 in the stress case as illustrated in

Exhibit 21.

œ

[12] The bank numbering in this figure was assigned randomly, it is not sequential.

Exhibit 21: Macroeconomic credit quality model – SME



As expected, an increase in GDP results in an improvement in credit quality (and thus a decrease in PD). An increase in unemployment is detrimental to credit quality, and a rise in the real interest rate has a modest negative impact on credit quality.

6.1.2.3.3. Large Corporates

6.1.2.3.3.1. Key segment aspects and main inherent risks

Large Corporates was the largest segment with ~40% of total credit exposures. The main risk to Large Corporates is an economic recession in general impacting corporate profitability and cash flow and thus in turn the ability to service the debt. Collateral plays an important part from the banks' perspective since corporate lending LGDs are largely driven by the availability, quality and value of available collateral.

As a result of the bottom-up analysis of participating institutions' balance sheets the following conclusions were drawn:

- The Large Corporates segment shows a lower NPL ratio as of 2012 (~38%) compared to SME (~45%) or Real Estate Developers (~69%)[13]
- Degree of collateralisation of the Large Corporates portfolio varies widely by entity: ~52% of the Large Corporates exposures are secured (ranging from 34% to 60% across entities). Typically unsecured Large Corporates exposures have lower PDs than secured Large Corporates, where higher collateralisation levels are usually required of the more risky clients
- AQR provider analysis found that ~44% of Large Corporates exposures were restructured; in particular, ~12% of Large Corporates exposures were restructured, but not in default (ranging from 2% to 38% across entities). Misclassification of defaulted loans as performing was ~13% (ranging from 0% to 21%). Finally, AQR providers' findings have shown that ~4% of Large Corporates loans were to reclassify to REDs (ranging from 0% to 19%)

6.1.2.3.3.2. Results

The expected losses for the Large Corporates segment are summarised in Exhibit 22. The total expected losses are 3,124 € MM and 3,627 € MM in base and stress case, respectively.

Exhibit 22: Forecasted economic losses 2013–2015 – Large Corporates

		Expected Loss 2013–2015 (in € MM)		Expected Loss 2013–2015 (% of EOY 2012 Balance)		Forecasted PD 2013–2015 (% of EOY 2012 Perf. Balance)		Forecasted LGD 2015 (% Performing)		Forecasted LGD 2015 (% Non-Perf.)	
EOY 2012 Balance		**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**
Secured	5,505	1,142	1,469	20.8%	26.7%	44.4%	54.2%	22.1%	27.6%	45.7%	54.9%
Unsecured	3,998	1,982	2,159	49.6%	54.0%	39.8%	49.5%	63.3%	66.6%	85.1%	89.2%
Total	**9,503**	**3,124**	**3,627**	**32.9%**	**38.2%**	**42.4%**	**52.2%**	**38.6%**	**43.5%**	**65.0%**	**71.7%**

Note: New book losses are not included

œ

[13] Post AQR adjustments

Forecasted losses for the Large Corporates segment are mainly driven by the unsecured exposures, which have significantly higher LGDs than secured loans.

The Large Corporates segment shows lower losses than the Real Estate Developers segment (56% and 63% respectively in base and stress case) and the SME segment (49% and 54% respectively in base and stress case). At the entity-level, forecasted losses for the Large Corporates segment range from 12% to 45% in the base case and 15% to 52% in the stress case.

Overall, entity-level results show cumulative PDs in 2013-2015 under the stress case ranging from 9% to 79%, compared to an average of 52%. LGD on the performing balance ranges from 34% to 60% for the best and worst entity, in the stress case. Non-performing LGDs in the stress case range from 68% to 80%.

The forecasted losses are driven by the development of forecasted PDs and LGDs.

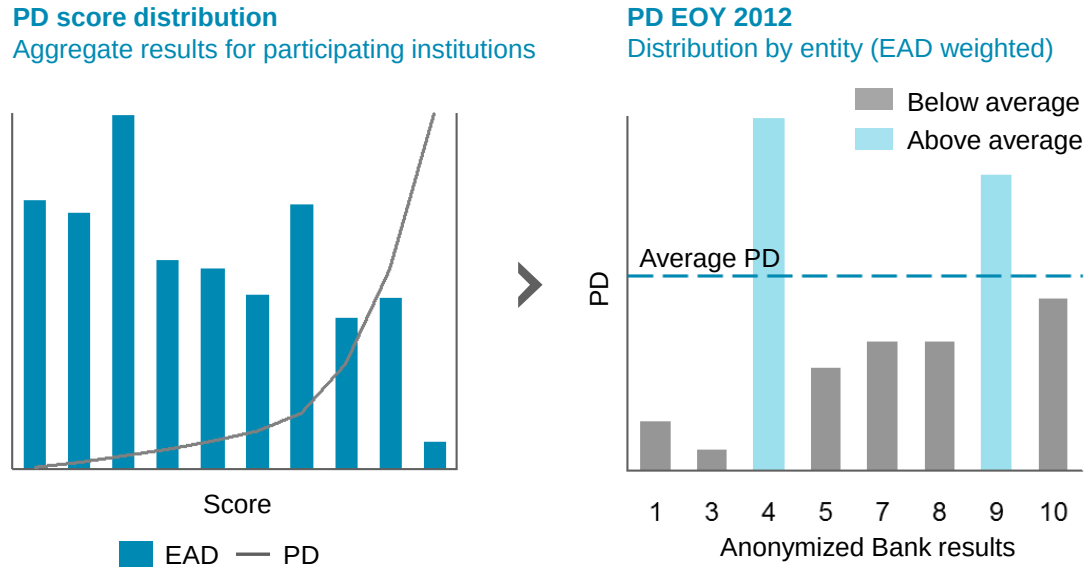
6.1.2.3.3.3. Aspects of the rating model

The PD rating model developed for the Large Corporate segment included the following information:

- Loan and obligor behaviour, namely payment arrears flag
- Financial information such as leverage, profitability, debt coverage
- Other obligor specific information, such as industry and geographic location

Exhibit 23 shows the participating institutions' EAD distribution and EAD-weighted PD by model score (left) with the resulting differentiation of EAD-weighted PDs across participating institutions (right).

Exhibit 23: 2012 PD Distributions – Large Corporates[14]



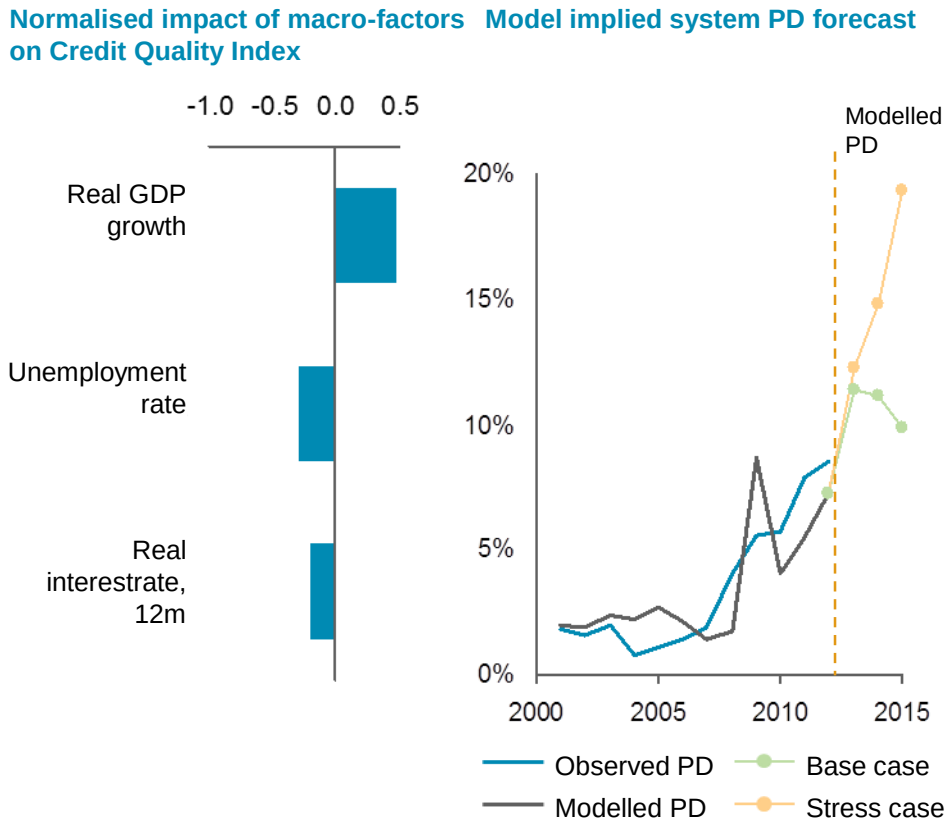
After the calibration of the bottom-up PD rating tool, a macroeconomic overlay was applied to the PDs based on the previous steps. The aim was to project the development of PDs given

œ

[14] The bank numbering in this figure was assigned randomly, it is not sequential.

different macroeconomic scenarios. This led to an increase in PDs relative to 2012 in the stress case as illustrated in Exhibit 24.

Exhibit 24: Macroeconomic credit quality model – Large Corporates



As expected, an increase in GDP results in an improvement in credit quality (and thus a decrease in PD). An increase in unemployment is detrimental to credit quality, and a rise in the real interest rate has a modest negative impact on credit quality.

6.1.2.3.4. Real Estate Developers

6.1.2.3.4.1. Key segment aspects and main inherent risks

Real Estate Developers segment accounted for less than 10% of the total credit portfolio. However, it had the highest relative expected losses. Moreover, this segment was subject to several misclassifications. That meant loans belonging to this segment were previously incorrectly classified to another segment.

As a result of the bottom-up analysis of participating institutions' balance sheets the following conclusions were drawn:

- As of 2012, the Real Estate Developers segment shows higher NPL ratio (~69%) than both SME (~45%) and Large Corporates (~38%)[15]
- Average LTVs, based on entities' latest appraisal date were ~146% (ranging from 55% to 180%). Forecasted LTVs in 2015, when updating and reviewing collateral valuations under base and stress cases, rose to 240% and 260% respectively
- AQR provider analysis found that ~56% of Real Estate Developers exposures were restructured; in particular, ~23% of Real Estate Developers exposures were restructured, but not in default (ranging from 10% to 54% across entities). Misclassification of defaulted loans as performing was ~10% (ranging from 0% to 19%)

6.1.2.3.4.2. Results

The expected losses for the Real Estate Developers segment are summarised in Exhibit 25. The total expected losses are 1,043 € MM and 1,177 € MM in base and stress case, respectively.

Exhibit 25: Forecasted economic losses 2013–2015 – Real Estate Developers

		Expected Loss 2013–2015 (in € MM)		Expected Loss 2013–2015 (% of EOY 2012 Balance)		Forecasted PD 2013–2015 (% of EOY 2012 Perf. Balance)		Forecasted LGD 2015 (% Performing)		Forecasted LGD 2015 (% Non-Perf.)	
	EOY 2012 Balance	Base	Stress	Base	Stress	Base	Stress	Base	Stress	Base	Stress
Finalised	961	482	561	50.1%	58.4%	95.4%	97.0%	42.4%	50.9%	57.8%	65.9%
In progress	278	152	173	54.6%	62.2%	88.8%	91.8%	43.4%	52.6%	58.7%	66.5%
Land	403	245	272	60.7%	67.4%	97.7%	98.7%	44.2%	52.9%	67.4%	73.5%
Other assets	58	16	18	27.9%	30.7%	90.8%	94.0%	27.2%	27.9%	46.2%	55.7%
Unsecured	162	149	154	91.9%	95.0%	81.7%	86.5%	82.3%	85.7%	96.5%	98.6%
Total	**1,862**	**1,043**	**1,177**	**56.0%**	**63.2%**	**93.9%**	**96.0%**	**46.2%**	**53.9%**	**63.0%**	**70.1%**

Note: New book losses are not included

œ

[15] Post AQR adjustments

Forecasted losses for the Real Estate Developers segment are mainly driven by the exposures backed by Finalised RE collaterals, which have a significantly higher YE2012 balance.

The Real Estate Developers segment shows higher losses than the SME segment (49% and 54% respectively in base and stress case) and the Large Corporates segment (33% and 38% respectively in base and stress case). At the entity-level, forecasted losses for the Real Estate Developers segment range from 44% to 65% in the base case and 53% to 76% in the stress case.

Overall, entity-level results show cumulative PDs in 2013-2015 under the stress case ranging from 63% to 99%, compared to a system average of 96%. LGD on the performing balance ranges from 31% to 74% for the best and worst entity, in the stress case. Non-performing LGDs in the stress case range from 56% to 75%.

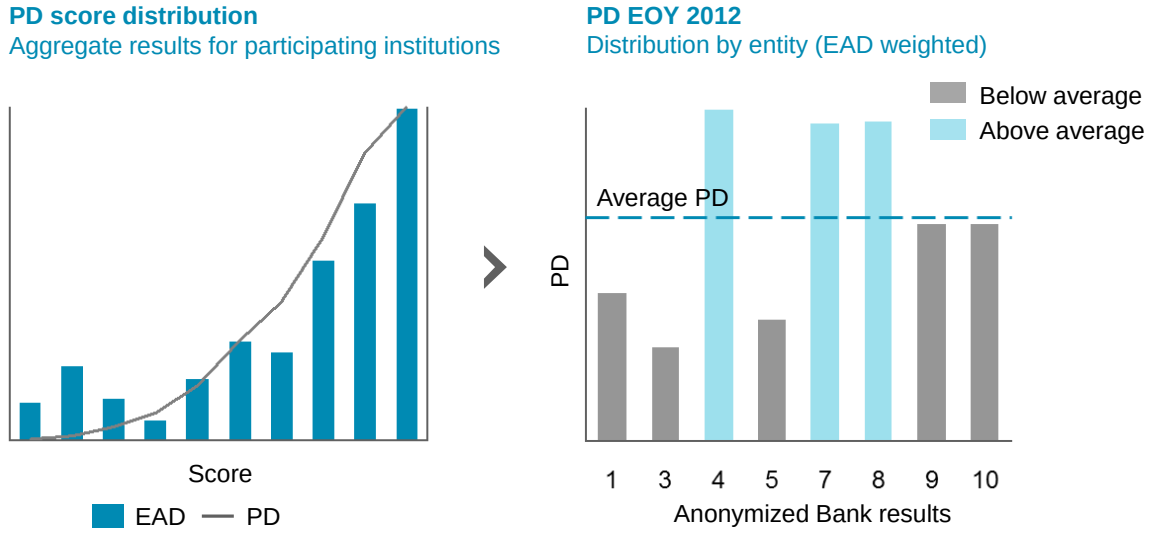
6.1.2.3.4.3. Aspects of the rating model

The PD rating model developed for the Real Estate Developers segment included the following information:

- Loan and obligor behaviour, namely payment arrears flag
- Financial information such as leverage, profitability, debt coverage
- Other product specific information, such as the loan to value

Exhibit 26 shows the participating institutions' EAD distribution and EAD-weighted PD by model score (left) with the resulting differentiation of EAD-weighted PDs across participating institutions (right).

Exhibit 26: 2012 PD distribution – Real Estate Developers[16]



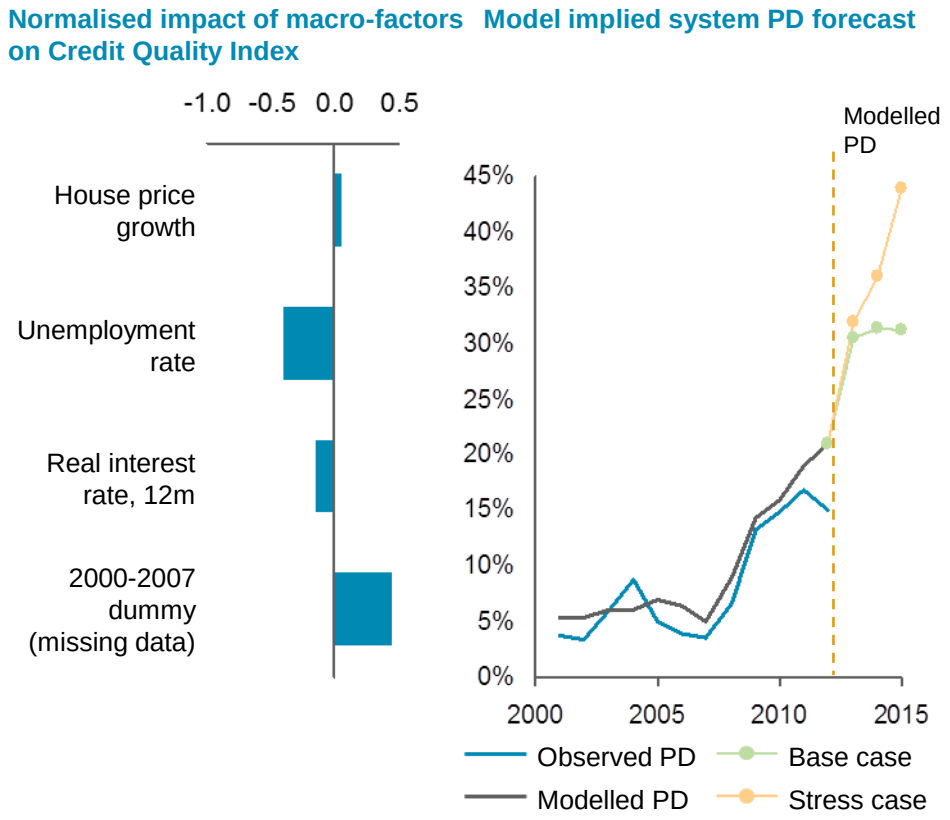
After the calibration of the bottom-up PD rating tool, a macroeconomic overlay was applied to the PDs based on the previous steps. The aim was to project the development of PDs given

œ

[16] The bank numbering in this figure was assigned randomly, it is not sequential.

different macroeconomic scenarios. This led to an increase in PDs relative to 2012 in the stress case as illustrated in Exhibit 27.

Exhibit 27: Macroeconomic credit quality model – Real Estate Developers



Increases in house prices have a modest positive impact on the credit quality of real estate developers. Conversely, an increase in unemployment is detrimental to credit quality (and thus an increases PDs), and a rise in the real interest rate has a modest negative impact on credit quality.

Exhibit 28 and Exhibit 29 show average Real Estate haircuts by collateral type in the base and stress case. Land and commercial real estate assets were forecasted to experience the highest decrease of price in case of liquidation, being respectively 61% and 55% in the base case and 69% and 65% in the stress case.

Exhibit 28: Average real estate haircuts broken down by asset type, base scenario

Haircut components	All assets	Residential	Commercial	Under development	Land
Total Haircut	**54.5%**	**41.7%**	**59.8%**	**46.6%**	**65.7%**
Indexing to EOY 2012	8.6%	12.2%	8.2%	6.0%	2.9%
Appraisal haircut	27.1%	7.9%	33.7%	15.8%	48.3%
Forecast	13.9%	13.9%	14.6%	12.3%	10.9%
Recovery cost	4.8%	7.3%	3.7%	3.7%	3.7%
Sales discount	16.1%	8.9%	19.3%	19.3%	19.3%
% asset value in collateral tape	100%	28%	56%	7%	9%

Note: Real Estate haircuts are calculated as arithmetic averages across all eight participating banks

Exhibit 29: Average real estate haircuts broken down by asset type, adverse scenario

Haircut components	All assets	Residential	Commercial	Under development	Land
Total Haircut	**64.3%**	**54.1%**	**68.8%**	**57.6%**	**72.5%**
Indexing to EOY 2012	8.6%	12.2%	8.2%	6.0%	2.9%
Appraisal haircut	27.1%	7.9%	33.7%	15.8%	48.3%
Forecast	22.8%	23.0%	23.7%	20.0%	17.8%
Recovery cost	4.8%	7.3%	3.7%	3.7%	3.7%
Sales discount	26.1%	18.9%	29.3%	29.3%	29.3%
% asset value in collateral tape	100%	28%	56%	7%	9%

Note: Real Estate haircuts are calculated as arithmetic averages across all eight participating banks

6.1.2.3.5. Retail Mortgages

6.1.2.3.5.1. Key segment aspects and main inherent risks

Retail Mortgages accounted for more than 13% of the total credit exposure. This segment had historically experienced low default and loss rates in Slovenia.

Key conclusions regarding these market concerns were the following:

- As of 2012, the Retail Mortgages segment shows an NPL ratio of ~7%[17] in line with the level of non-performing loans in the Retail Other segment
- Average LTVs, based on entities' latest appraisal date were ~89% (ranging from 50% to 118%). Forecasted LTVs in 2015, when updating and reviewing collateral valuations under base and stress cases, rose to 125% and 137% respectively
- AQR provider analysis found that ~16% of Retail Mortgages exposures were restructured; in particular, ~6% of Retail Mortgages exposures were restructured, but not in default (ranging from 0% to 41% across entities). Misclassification of defaulted loans as performing was ~2% (ranging from 0% to 5%)

6.1.2.3.5.2. Results

The expected losses for the Retail Mortgages segment are summarised in Exhibit 30. The total expected losses are 148 € MM and 255 € MM in base and stress case, respectively.

Exhibit 30: Forecasted economic losses 2013–2015 – Retail Mortgages

		Expected Loss 2013–2015 (in € MM)		Expected Loss 2013–2015 (% of EOY 2012 Balance)		Forecasted PD 2013–2015 (% of EOY 2012 Perf. Balance)		Forecasted LGD 2015 (% Performing)		Forecasted LGD 2015 (% Non-Perf.)	
EOY 2012 Balance		**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**
Residential	2,688	112	199	4.2%	7.4%	23.2%	28.9%	10.5%	18.5%	37.3%	46.0%
Other assets	628	35	57	5.6%	9.0%	23.5%	29.5%	13.3%	21.1%	45.9%	54.5%
Total	**3,317**	**148**	**255**	**4.5%**	**7.7%**	**23.2%**	**29.0%**	**11.0%**	**19.0%**	**39.2%**	**47.9%**

Note: New book losses are not included

Forecasted losses for the Retail Mortgages segment are mainly driven by the residential exposures, which have a significantly higher YE2012 balance.

The Retail Mortgages segment shows lower losses than the Retail Other segment (13% and 15% respectively in base and stress case). At entity-level, forecasted losses for the Retail Mortgages segment range between <1% and 7% in the base case and <1% and 12% in the stress case.

Overall, entity-level results show cumulative PDs in 2013-2015 under the stress case ranging from 3% to 70%, compared to a system average of 29%. LGD on the performing balance ranges from 10% to 24% for the best and worst entity, in the stress case. Non-performing LGDs in the stress case range from 5% to 54%.

œ

[17] Post AQR adjustments

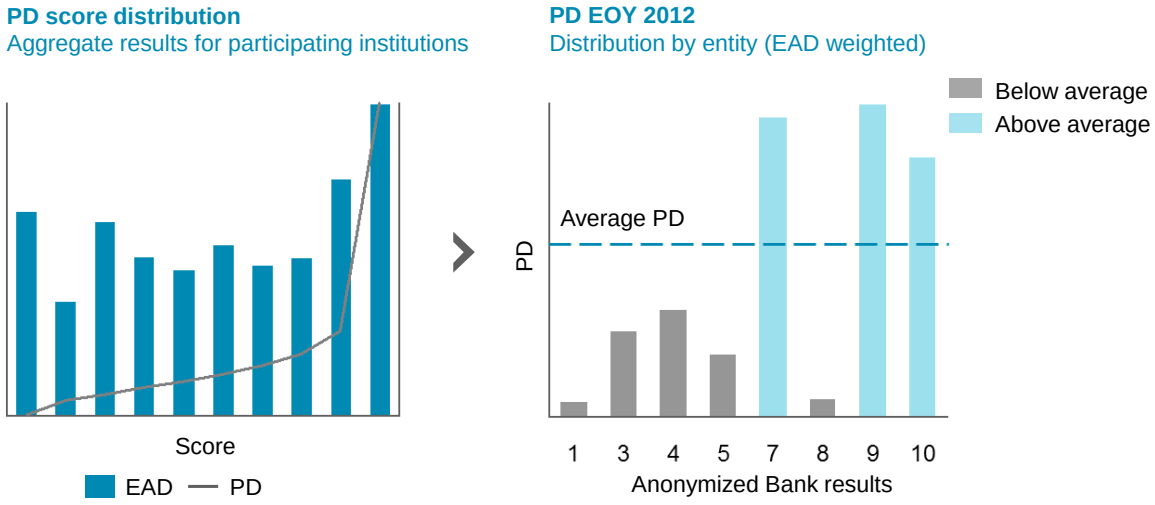
6.1.2.3.5.3. Aspects of the rating model

The PD rating model developed for the Retail Mortgages segment included the following information:

- Loan and obligor behaviour, namely payment arrears flag
- Other obligor specific information, such as the employment status
- Other product specific information such as time since origination and loan to value

Exhibit 31 shows the participating institutions' EAD distribution and EAD-weighted PD by model score (left) with the resulting differentiation of EAD-weighted PDs across participating institutions (right).

Exhibit 31: 2012 PD Distribution – Retail Mortgages[18]

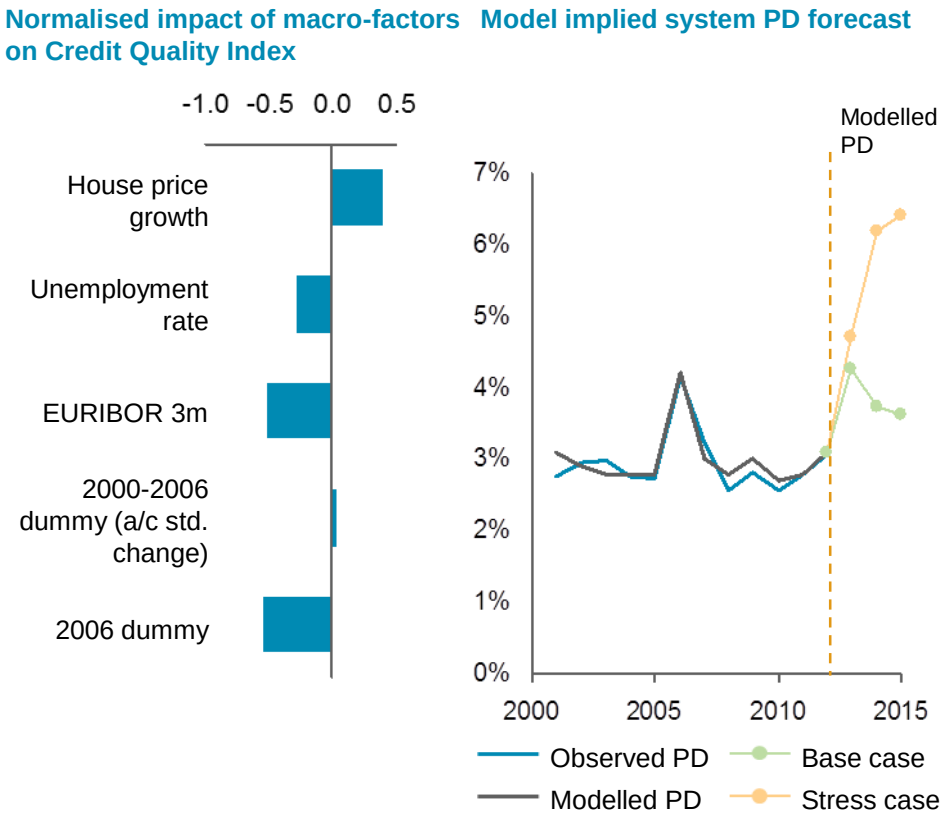


After the calibration of the bottom-up PD rating tool, a macroeconomic overlay was applied to the PDs based on the previous steps. The aim was to project the development of PDs given different macroeconomic scenarios. This led to an increase in PDs relative to 2012 in the stress case as illustrated in Exhibit 32. For the retail segments Retail Mortgages and Retail Other a joint credit quality indicator model was used.

œ

[18] The bank numbering in this figure was assigned randomly, it is not sequential.

Exhibit 32: Macroeconomic credit quality model – Retail (Mortgages and Other)



Increases in house prices have a positive impact on the credit quality of retail borrowers. Conversely, an increase in unemployment is detrimental to credit quality (and thus a increases PDs), and a rise in the real interest rate has a modest negative impact on credit quality. Two dummy variables are used to retain statistical significance, one to explain data abnormalities and one to account for standard change.

6.1.2.3.6. Retail Other

6.1.2.3.6.1. Key segment aspects and main inherent risks

The Retail Other segment accounted for close to 14% of the total credit exposure, a little more than the Retail Mortgages segment. Most of this lending (>95%) was unsecured, but the short-term nature of unsecured lending offsets the risk to some extent.

Within the bottom-up analysis of participating institutions' balance sheets the following key conclusions were derived:

- As of 2012, the Retail Other segment shows an NPL ratio of ~7%[19] in line with the level of non-performing loans in the Retail Mortgage segment
- The degree of collateralisation for the Retail Other portfolio was consistently low across the entities: only ~2% of the Retail Other exposures are secured (ranging from 0% to 2% across entities).
- AQR provider analysis found that ~8% of Retail Other exposures were restructured; in particular, ~5% of Retail Other exposures were restructured, but not in default (ranging from 0% to 16% across entities). Misclassification of defaulted loans as performing was ~1% (ranging from 0% to 2%)

6.1.2.3.6.2. Results

The expected losses for the SME segment are summarised in Exhibit 33. The total expected losses are 450 € MM and 539 € MM in base and stress case, respectively.

Exhibit 33: Forecasted economic losses 2013–2015 – Retail Other

		Expected Loss 2013–2015 (in € MM)		Expected Loss 2013–2015 (% of EOY 2012 Balance)		Forecasted PD 2013–2015 (% of EOY 2012 Perf. Balance)		Forecasted LGD 2015 (% Performing)		Forecasted LGD 2015 (% Non-Perf.)	
EOY 2012 Balance		**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**	**Base**	**Stress**
Secured	71	1	1	0.8%	1.0%	9.4%	13.2%	5.4%	5.5%	31.1%	34.8%
Unsecured	3,462	450	539	13.0%	15.6%	15.6%	20.8%	46.3%	49.0%	90.2%	96.1%
Total	**3,533**	**450**	**539**	**12.7%**	**15.3%**	**15.5%**	**20.7%**	**45.8%**	**48.4%**	**90.1%**	**95.9%**

Note: New book losses are not included

Forecasted losses for the Retail Other segment are mainly driven by the unsecured exposures, which have significantly higher LGDs than secured loans.

The Retail Other segment shows higher losses than the Retail Mortgages segment (4% and 8% respectively in base and stress case). At entity-level, forecasted losses for the Retail Other segment range from 2% to 23% in the base case and 2% to 26% in the stress case.

Overall, entity-level results show cumulative PDs in 2013-2015 under the stress case ranging from 2% to 29%, compared to a system average of 21%. LGD on the performing balance

œ

[19] Post AQR adjustments

ranges from 42% to 64% for the best and worst entity, in the stress case. Non-performing LGDs in the stress case range from 88% to 98%.

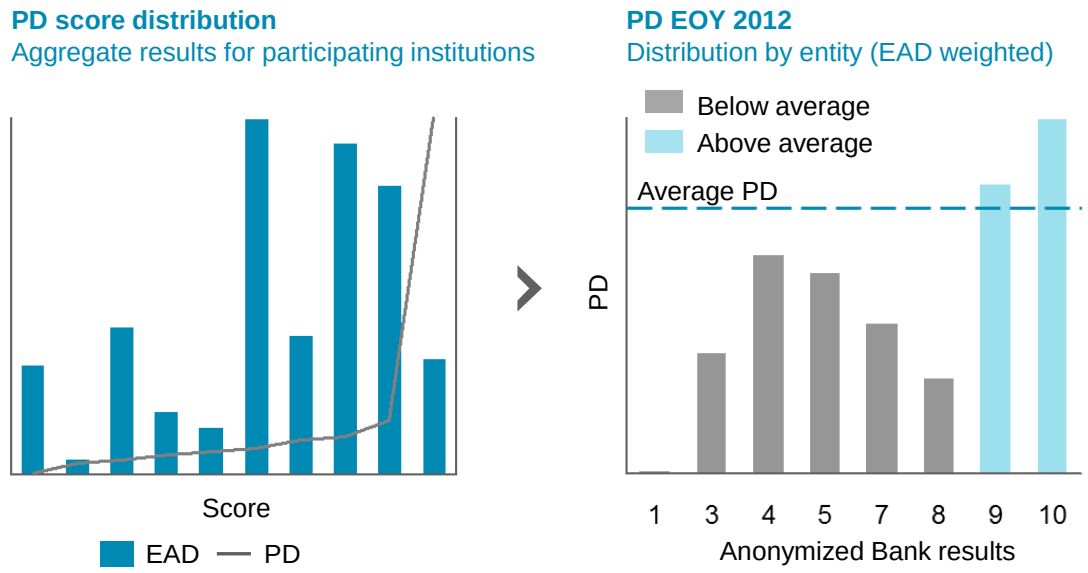
6.1.2.3.6.3. Aspects of the rating model

The PD rating model developed for the Retail Other segment included the following information:

- Loan and obligor behaviour, namely payment arrears flag and credit utilisation
- Other obligor specific information, such the employment status

Exhibit 34 shows the participating institutions' distribution and EAD-weighted PD by model score (left) with the resulting differentiation of EAD-weighted PDs across participating institutions (right).

Exhibit 34: 2012 PD Distribution – Retail Other[20]



After the calibration of the bottom-up PD rating tool, a macroeconomic overlay was applied to the PDs based on the previous steps. The aim was to project the development of PDs given different macroeconomic scenarios. This led to an increase in PDs relative to 2012 in the stress case as illustrated in Exhibit 32. For the retail segments Retail Mortgages and Retail Other a joint credit quality indicator model was used.

6.1.2.3.7. Treasury Assets

6.1.2.3.7.1. Key segment aspects and main inherent risks

The total portfolio of treasury asset accounted for ~18% of all assets in scope. The loss estimation focused on the market risk and default risk of the treasury asset portfolio of the participating institutions.

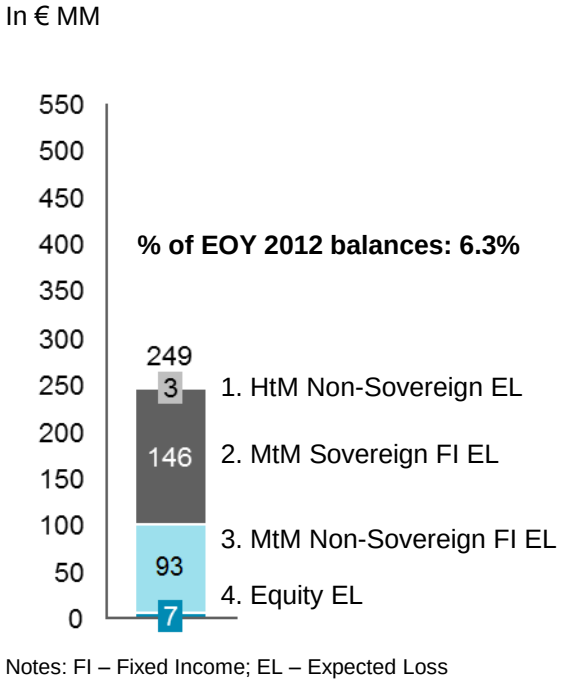
œ

[20] The bank numbering in this figure was assigned randomly, it is not sequential.

6.1.2.3.7.2. Results

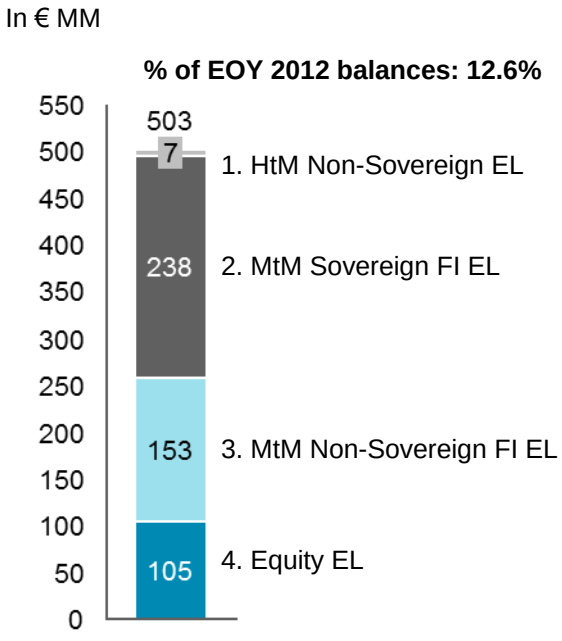
Overall losses on the treasury portfolio amounted to around 249 € MM in the base case and 503 € MM in the stress case. The haircut was thus approximately 6.3% of the YE2012 balance of the assets in the base case and 12.6% of the YE2012 balance of the stressed assets in the stress case.

Exhibit 35: Base case total expected losses on Treasury Assets



Notes: FI – Fixed Income; EL – Expected Loss

Exhibit 36: Stress case total expected losses on Treasury Assets



Notes: FI – Fixed Income; EL – Expected Loss

Exhibit 37 provides average haircuts by Treasury Asset (domestic and international) in the base and stress case. The haircuts for HtM non-sovereign bonds are lower than the MtM non-sovereign bond haircuts since they do not include the forecasted market value decrease of the instruments. Compared to bonds, equity haircut is lower in the base case which reflects the fact that the Slovenian stock market index is flat in the base case[21].

Exhibit 37: Average expected losses 2013–2015 – Treasury Assets (% of stressed volume across eight participating institutions)

	Domestic business		Non-domestic business	
	Base	**Stress**	**Base**	**Stress**
HtM non-sovereign bonds	1.9%	5.0%	1.0%	2.6%
MtM sovereign bonds	6.1%	9.9%	6.0%	9.9%
MtM Non-sovereign bonds	9.4%	15.2%	9.6%	15.9%
Equity	1.5%	25.1%	2.9%	24.6%

6.1.3. *Loss absorption capacity*

The solvency position of each bank was forecasted based on the amount of expected losses on loans and Treasury Assets the bank can withstand under different scenarios, while still complying with capital requirements at the end of the stress test period. In order to estimate the resilience of the individual banks, the expected losses were compared with the future loss absorption capacity of each institution.

The three main components of banks loss absorption capacity that were considered for the purpose of this stress testing exercise:

i. Existing stock of loan loss provisions and impairments EOY2012

ii. Projected future profit generation capacity

iii. Capital buffers (EOY2012) in excess of minimum capital adequacy requirements on projected 2013 – 2015 RWAs

The EOY2012 data used for i. and iii. was provided by the Bank of Slovenia and confirmed by participating institutions.

Participating institutions' business plans were the basis for ii. These were normalised to the base and stress macroeconomic scenarios and adjusted to take account of expected losses on the loan book and Treasury Assets.

Furthermore, the pro-forma effect of taxes, including the pro-forma creation of new deferred tax assets (DTAs) on the banks' balance sheets were taken into account.

œ

[21] The Slovenian equity index has not rallied since the crisis in 2008 and so the starting level already reflects the distress.

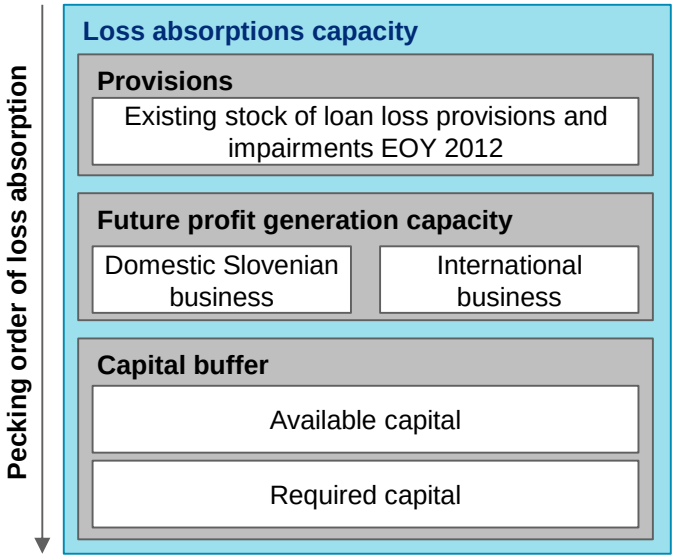
Any planned management actions beyond business as usual (i.e. measures to cover potential capital shortfall proposed by banks) were excluded from the analysis. Only those actions that had already been executed prior to end of September 2013 were considered. Examples of management actions that were excluded are planned recapitalisations, asset sales, disposals of subsidiaries and liability management exercises.

Three participating institutions (NLB, NKBM and Abanka) submitted detailed information on planned asset transfers to the recently established Bank Asset Management Company (BAMC). Together, these three institutions plan to transfer a total of 4.4 € BN of gross assets as per EOY2012, the majority of these being non-performing loans, to the BAMC at EOY2013. For these three banks, capital shortfalls were also forecasted assuming that the planned asset transfers to BAMC take place (see section 6.1.4.2).

Hypo Alpe Adria Bank completed the transfer of a portfolio of 320 € MM of gross loans to the work-out unit of the Hypo Alpe Adria Group at end of October 2013 ("Brush III" transaction). The capital shortfall for Hypo Alpe Adria Bank was also forecasted taking into account this sale (see section 6.1.4.3).

The three components of provisions, future profit generating capacity and starting capital position make up banks' loss absorption capacity, which is assumed to absorb losses in a certain sequence captured by Exhibit 38. For instance, provisions would be depleted before losses could start eroding existing capital.

Exhibit 38: Components of a bank's loss absorption capacity



6.1.3.1.1. In force loan loss provisions and impairments

Slovenian regulation requires banks to keep funds available for future losses as credit quality deteriorates:

- Specific provisions and impairments, which are applied over assets entering into default
- Additionally, for some banks, specific provisioning and impairments may reflect extra-provisioning above regulatory requirements in anticipation of future expected losses even for performing assets

For the purpose of the bottom-up stress testing exercise, existing loan loss provisions and impairments against Slovenian exposures were only considered as loss absorbing for losses on domestic Slovenian exposures. Accordingly loan loss provisions and impairments for exposures in foreign legal entities (non-domestic business) were only recognised as loss absorbing for losses on foreign exposures. For one bank, this resulted in only part of the existing foreign loan loss provisions being used for the absorption of expected losses on the underlying exposures in the foreign legal entities.

The loan loss provisions and impairments as of EOY2012 described above constitute the first source of Slovenian banks' loss absorption capacity.

6.1.3.1.2. Projected future profit generation capacity

The second source of loss absorption capacity considered in the stress testing exercise was the profit before provisions generated over the three-year forecast horizon. In accordance with the purpose of the stress testing exercise, the profit generation capacity was differentiated by geography:

- Domestic Slovenian business
- International business (non-domestic business) residing in foreign subsidiaries, which was only material for NLB and NKBM

6.1.3.1.2.1. Domestic Slovenian business

The domestic business accounted for approximately 89% of participating institutions' total in-scope loans at EOY2012. Therefore, the focus of the stress testing exercise and also the forecast of profit generation capacity were on the Slovenian business of the eight banks.

The participating institutions' forecasted profit before provisions consists of three main components: (i) net interest income (NII), (ii) net fee and commission income, and (iii) operating expenses. Additionally, banks' projections for (iv) other income items were reviewed[22].

- Projected net interest income was mainly driven by the evolution of banks' interest earning assets and interest costing liabilities as well as the forecasted applicable interest rates and margins.
  - Interest income was mainly driven by the banks' existing loan book maturity profile, and the impact that stressed macroeconomic conditions had on performing balances – reducing these significantly. Interest income was only considered on the non-performing loan book if it met either of the following conditions:
    - A non-performing balance cured (returned to performing status) based on the conservatively projected cure rates from the loss forecasting work
    - A non-performing balance was forecasted to be fewer than 90 days past due as per guidance received from the Bank of Slovenia

    In this regard, the increasing proportion of the performing book migrating into the non-performing book over the stress testing horizon for most of the banks contributed significantly to the severe decrease in interest income, as most NPL were naturally non-interest bearing.

œ

[22] Please see section 6.1.3.1.4 for a summary of tax treatment.

Additionally, a small portion of the new lending business was considered in-line with the macroeconomic and system-level assumptions.The split between loans currently priced at fixed vs. floating rates as well as margin changes were also taken into account.

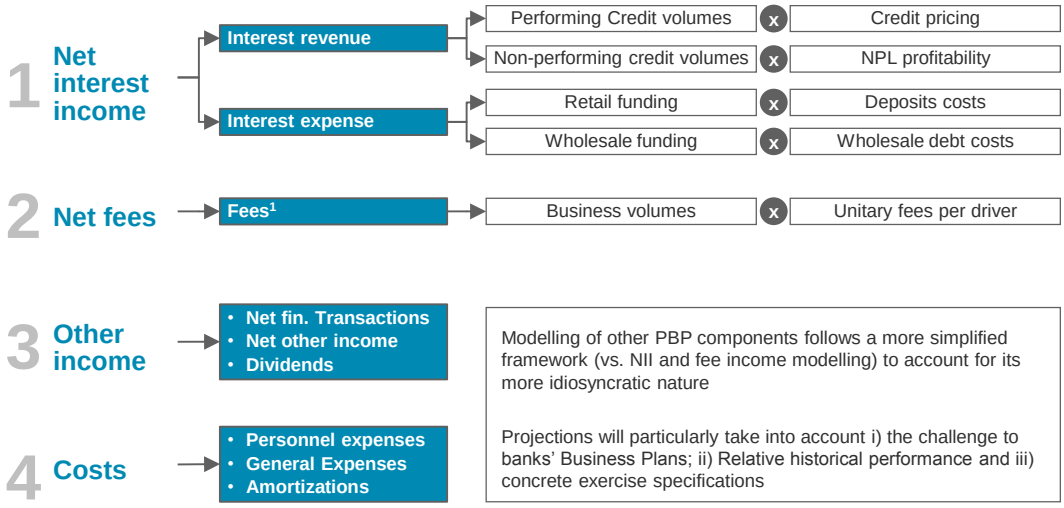
- Interest expense across participating institutions differed depending on their current customer deposit base and their access to wholesale funding markets. Banks with a large, loyal customer deposit base and a strong track record in gathering deposits may benefit from a "flight-to-quality", i.e. more stable deposit balances in stressed market conditions. Indeed, deposit outflow from some banks to others was expected to be further amplified in the stress case, for which total deposit volumes were forecasted to decrease. Also, banks which were perceived as being more stable by wholesale funding market participants or as receiving support from a strong parent may access wholesale funding at cheaper rates.

  Any funding gap resulting from adjustments made to banks' projected assets and liabilities was assumed to be closed in one of two ways: As long as banks retain Treasury Assets in line with historical levels, banks were assumed to sell Treasury Assets. If the level of Treasury Assets was below historical benchmarks, funding gaps were closed with wholesale funds, which were assumed to be made available in such a situation. The cost of these wholesale funds was determined by bank-specific spreads plus the 1Y Slovenian Sovereign Bond spread given by the macroeconomic scenarios.

  Both scenarios used in this stress testing exercise considered "interest rate curves" that may have differed from those used in business plans and therefore may have had an impact on a particular bank's P&L depending on the duration of its balance sheet

- Fee and commission income was linked to selected balance sheet items and no productivity increases in generating fee and commission income were allowed compared to actually realised levels. Decreases in balance sheet size had a negative impact on this P&L component.
- Costs estimates considered banks' historical track record in managing costs, and any potential cost reduction arising from restructuring activities.

Exhibit 39: Main components of the participating institutions' accumulated pre-tax profit before provisions and relevant drivers



1. Includes: card fees, account fees, insurance fees and contingent risk fees

The banks' ability to generate pre-tax profit before provisions was assessed based on the business plans submitted by the participating institutions, which were normalised in four ways regarding banks' assumptions on volumes and margins/interest rates:

i. Outlier banks were identified as being more than one standard deviation from the mean of the projected system-level volume and/or margin/interest rate evolution at segment level and adjusted subject also to iv (below)

ii. Volume adjustments were made, in particular corporate lending deleverage was adjusted at system-level to align with the gross credit volume evolution forecasted by the Bank of Slovenia

iii. Interest rate and margin adjustments were made, to align to the Bank of Slovenia's system-level interest rate and margin forecasts

iv. A qualitative review took place to

→ Incorporate elements not directly captured through hard data, such as the combination of historical performance, future perspectives, strategy as well as competitive and market position for each bank

→ Adjust inconsistencies regarding banks' projections on inter-related parameters (e.g. simultaneous increase in deposit volumes and decrease in interest rates paid on deposits)

In determining the magnitude of adjustments to banks' business plans, the following was taken into account:

- Adjusted outliers half-way to the system average, or in cases where the cause of the misalignment was erroneous sub-segment volume allocation, half of the growth / deleveraging for the segment was allocated to the underlying sub-segments

- The need for expected credit / deposit volume growth / deleverage defined by the Bank of Slovenia's system level scenarios to be achieved
- The need for change in credit and deposit pricing defined by the Bank of Slovenia's system level scenarios to be achieved for the participating institutions
- The need of volume growth / deleverage and interest rates / margin changes to be jointly consistent with observed and expected economic intuition
- Restricted LTRO23 funding past early 2014, and MRO24 funding was capped at 3% of total assets
- Capped fee and commission income by category at (i) the absolute levels of 2012 or (ii) the observed productivity in relation to the underlying drivers
- Restricted projected other income categories to be not larger than the average of the 3 years preceding the forecast horizon after removing past one-off extraordinary items

6.1.3.1.2.2. International business (non-domestic business)

The participating institutions' international business (non-domestic business) accounted for 11% of total in-scope loans at EOY2012. Only two participating institutions have material international business (non-domestic business). Thus, a simplified approach was employed to estimate the profit generation from banks' international business (non-domestic business). This simplified approach was based on business plans provided by entities. Adjustments to the business plans were based on, for instance, no-growth conditions of specific segments.

6.1.3.1.3. Capital buffer

The capital buffer was the full Core Tier 1 capital available as of EOY2012. Any amount of this Core Tier 1 capital in excess of the minimum capital requirements set by the SteerCo was considered fully loss absorbing for the three-year forecast horizon. The requirements were set at 9% and 6% of Risk Weighted Assets (RWA) in the base and stress case, respectively.

The specific loss absorption contribution of the capital buffer was determined by comparing the capital buffer with the capital requirement arising from projected RWA in 2015. RWA in 2015 were forecasted based on (i) average segment level RWA weights at EOY2012 and (ii) forecasted 2015 credit balances as well as Treasury Asset and other Credit Risk weighted balance sheet items. Credit deleverage as planned by participating institutions and adjusted due to the business plan normalisation (see section 6.1.3.1.2) had the effect of reducing a bank's total RWA and subsequently, capital requirements. RWA for Operational Risk for the forecast horizon were linked to the banks' gross income based on the Basic Indicator Approach as applicable regulation in Slovenia.

6.1.3.1.4. Tax impact and CRR phase-in requirements for DTAs

Tax effects and the potential generation of deferred tax assets (DTAs) were taken into account. DTAs could be used to reduce any subsequent period's pro-forma income tax expense and thereby reduce total capital shortfall.

œ

[23] LTRO = Long-term refinancing operation

[24] MRO = Main refinancing operation

In addition, CRR phase-in deduction requirements of DTAs from Core Tier 1 capital by 2015 were taken into consideration for all participating institutions. Hence, 40% of DTAs due to losses were deducted from capital, and 10% of DTAs related to temporary differences in excess of 10% of capital.

In the results section, the impact on the loss absorption capacity and capital shortfall of the accumulation of new pro-forma DTAs over the forecast horizon is presented separately as no judgement could be made if these will be recoverable and therefore contributing to CT1 capital via recognised capitalisation beyond the forecast horizon.

6.1.3.2. Result overview

Total loss absorption capacity for the eight participating institutions was 4,843 € MM in the base case and 5,586 € MM in the stress case, respectively. Please note that the higher amount of loss absorption capacity for the stress case is mainly driven by lower post-stress minimum capital requirements in the stress case. In the stress case minimum capital requirements of 6% are required vs. 9% in the base case, yielding an extra 3%pt of loss absorption capacity in the stress case. Of the three components of loss absorption capacity, the existing loan loss provisions and impairments EOY2012 constituted the most significant part, followed by the cumulative profit before provisions and the contribution of capital buffer being above required minima.

The existing loan loss provisions and impairments contributed in aggregate for the participating institutions 3,864 € MM of loss absorption capacity and absorbed 3,855 € MM of losses in the base case and 3,863 € MM of losses in the stress case.

The pre-tax, profit before provisions generated over the forecast horizon provided additional aggregate 556 € MM of loss absorption capacity in the base case and 604 € MM in the stress case which was fully used. The slightly higher profit before provisions in the stress case was caused by the higher interest rate environment as defined in this case, leading to an increase in banks' net interest income despite a pass-through limitation to 50% of the margin and IBOR rate increases in the stress case.

The capital buffer provided loss absorption capacity of 423 € MM in the base case and 1,114 € MM in the stress case. The higher capital buffer in the stress case was driven by a lower minimum Core Tier 1 capital requirement.

The contribution of each of these components to the total forecasted loss absorption capacity used by the participating institutions can be seen below in Exhibit 40 for the base case and in Exhibit 41 for the stress case.

Exhibit 40: Total forecasted loss absorption capacity used by the participating institutions, base case in € MM

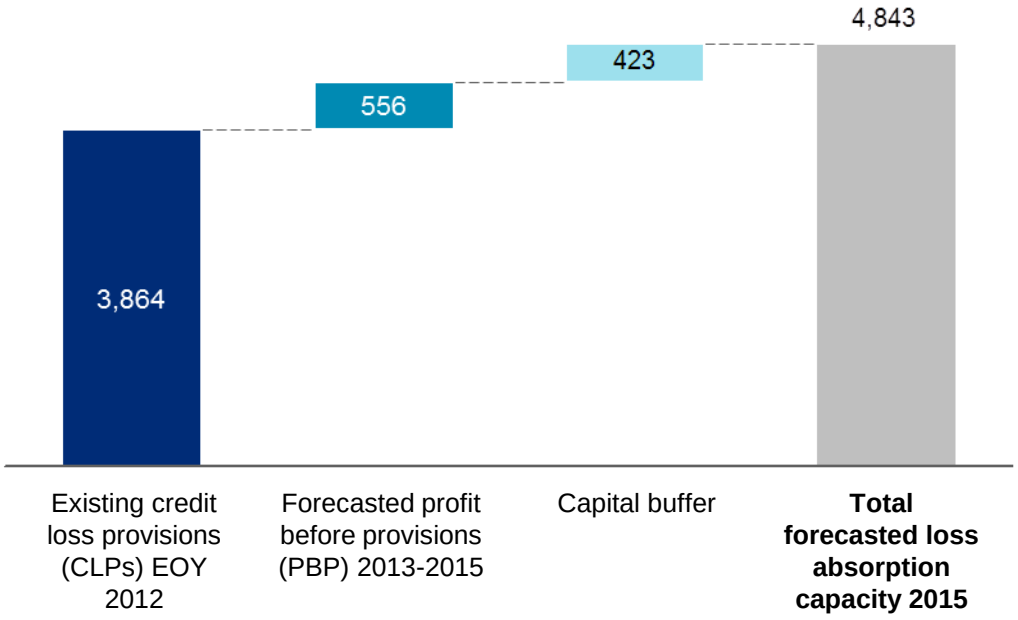
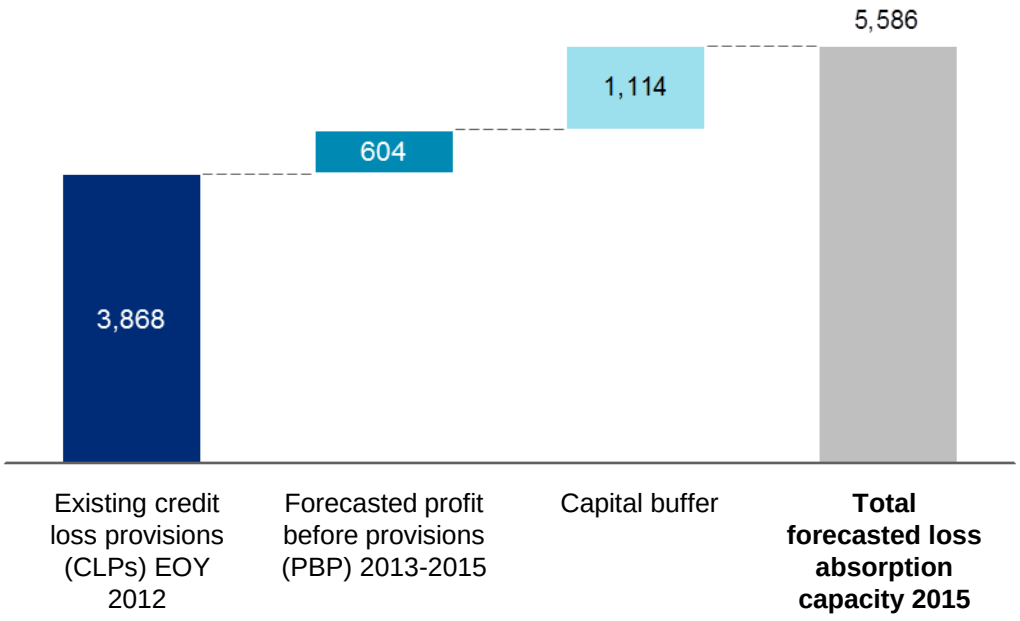


Exhibit 41: Total forecasted loss absorption capacity used by the participating institutions, stress case in € MM



The original business plans were reviewed in order to anchor them to the cases (as defined by the SteerCo), to adjust for outliers and to establish volume and interest rate consistency across the participating institutions. As a result, the forecasted profit before provisions for 2013-2015 deviated from the banks' original business plans. With these adjustments, the cumulative profit before provisions generated over the forecast horizon was forecasted to be:

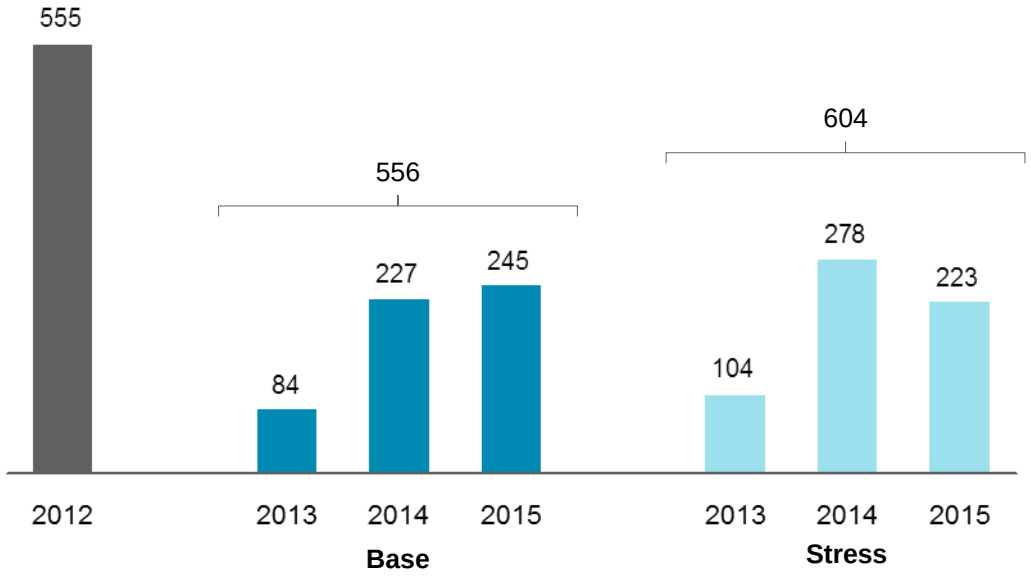
- Base case: 556 € MM

- Stress case: 604 € MM

The aggregate forecasted profit before provisions 2013-2015 in both cases was low in comparison to the historical profitability of the participating institutions. This was caused primarily by four drivers:

- Lower interest income from the loan book due to deleveraging planned by the banks
- Lower interest income from the loan book because of higher shares of non-performing loans after incorporating the findings of the Asset Quality Review and the loss forecasting work
- Limitation of interest income of the non-performing loan book since the rules of the exercise limited the interest income earned on NPLs (see section 6.1.3.1.2)
- Exercise-defined limit on available customer deposit funding and subsequently sale of Treasury assets and / or issuance of wholesale debt to close the resulting funding gap

Exhibit 42: Base and stress case profit before provisions forecast 2013-2015, in € MM



Banks' cumulative profit before provisions was higher in the stress than in the base case. This net positive effect was the sum of several adjustments in the stress case:

- The higher interest rate and margin environment in the stress case had a positive effect on banks' net interest income in the stress case despite a pass-through limitation to 50% of the margin and variable interest rate increase in the stress case. The improvement in net interest income came from the majority of assets being floating rate whereas most liabilities were slower re-pricing fixed rate
- Higher expected losses and therefore PDs had a negative impact on banks' Net interest income in the stress case as they increased the share of non-performing loans
- Higher loan book de-leveraging in the stress case had a negative impact on gross interest income
- Lower volumes and higher cost of customer deposits resulted in on average higher interest expenses

6.1.4. *Forecasted capital shortfall for participating institutions*

The combined capital shortfall of the eight participating institutions was calculated as the difference between total expected losses and the actually used loss absorption capacity. Only two of the participating institutions had marginally lower total expected losses than the total available loss absorption capacity.

Out of the eight participating institutions, seven had a capital shortfall in both cases. One bank, Unicredit, had a capital shortfall in the base case and a minimal surplus in the stress case only after the consideration of new pro-forma DTAs accumulated over the stress test horizon. The total capital shortfall presented below was the total of all participating institutions with capital shortfalls. The minimal surplus of Unicredit under the stress case considering the accumulation of new pro-forma DTAs was not included in the total capital shortfall including new DTA effects.

Capital shortfalls were forecasted both without considering as well as considering the planned transfer of loans to the Bank Asset Management Company. Results presented in section 0 assume that no transfer of assets to the BAMC took place.

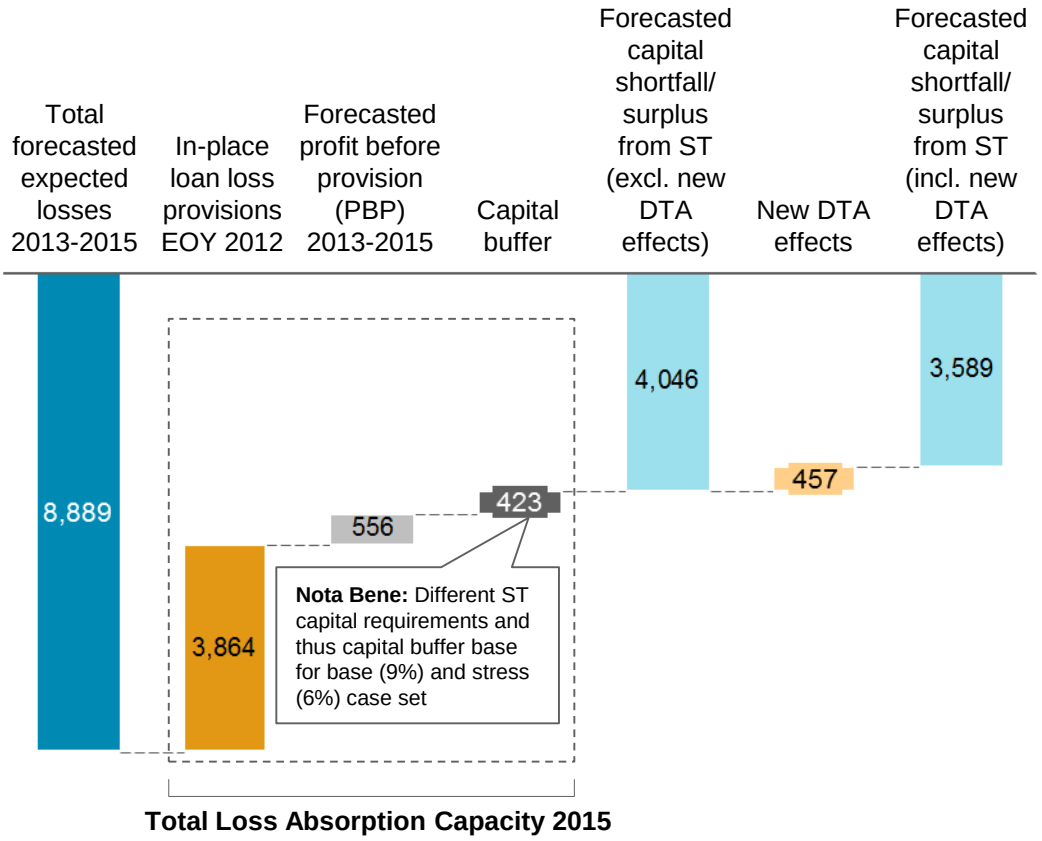
Results in section 6.1.4.2 show forecasted capital shortfalls if the asset transfer to BAMC takes place at EOY2013. This only had an impact on the three banks (NLB, NKBM and Abanka), which plan to transfer assets to the BAMC.

In addition, the capital shortfall for Hypo Alpe Adria Bank was also forecasted taking into account the transfer of loans to the work-out unit of Hypo Alpe Adria Group. This transfer took place over October/November 2013. Results in section 6.1.4.3 show the forecasted capital shortfall following this transaction. No other management actions were considered.

6.1.4.1. Results without asset transfers to the Bank Asset Management Company

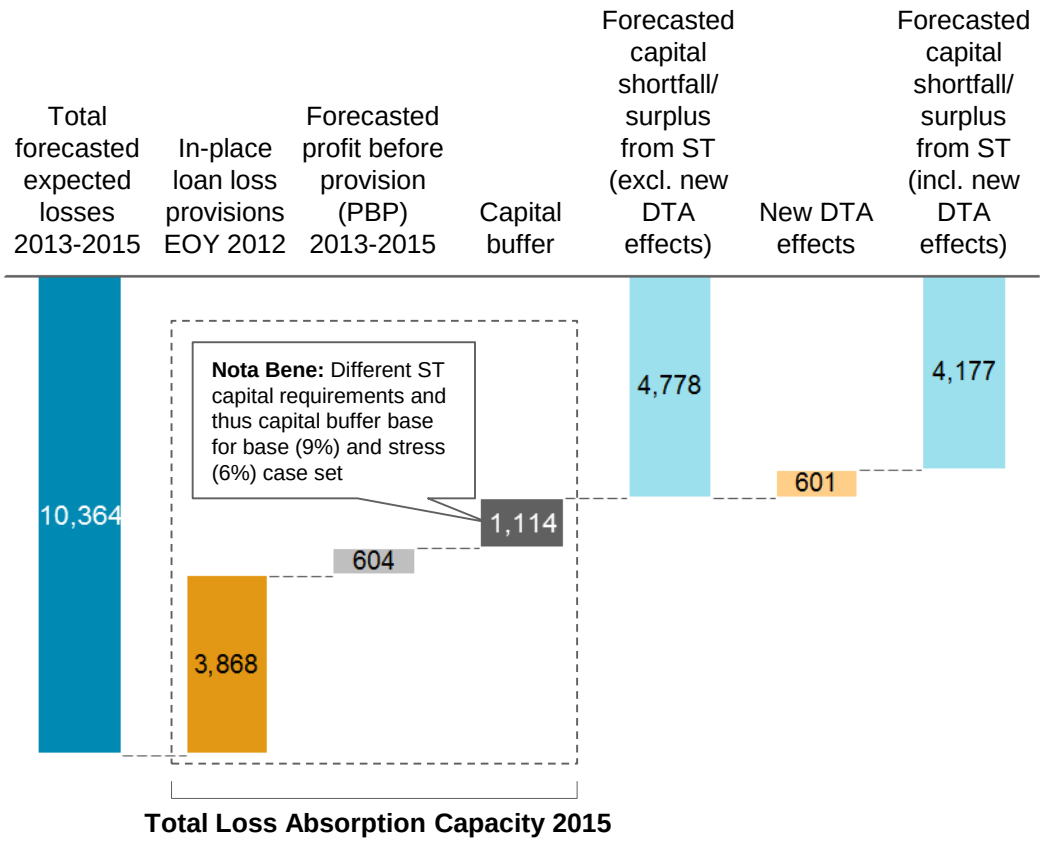
The total forecasted capital shortfall for all 8 banks participating in the stress testing exercise was 4.0 € BN in the base and 4.8 € BN in the stress case – both prior to the potential consideration of new pro-forma DTAs generated over the stress test horizon.

Exhibit 43: Projected aggregate capital shortfall for the eight participating institutions in the base case in € MM



The forecasted capital shortfall (excluding new pro-forma DTA effects) of 4.0 € BN in the base case was the difference between 8.9 € BN of expected losses and 4.9 € BN loss absorption capacity. The most important component of loss absorption capacity was 3.9 € BN of existing loan loss provisions. Cumulative profits before provisions over 2013–2015 was 0.6 € BN and the capital buffer, relative to the 9% required on RWAs under the base case, was 0.4 € BN.

Exhibit 44: Projected aggregate capital shortfall for the eight participating institutions in the stress case in € MM



The total forecasted capital shortfall (excluding new pro-forma DTA effects) in the stress case was 4.8 € BN, composed of 10.4 € BN expected losses minus 5.6 € BN of loss absorption capacity. Also in the stress case, loan loss provisions of 3.9 € BN were the most significant resource for absorbing losses. Cumulative profits before provisions over 2013–2015 was 0.6 € BN and the capital buffer, relative to the 6% required on RWAs under the stress case, was 1.1 € BN.

The cumulative profit before provisions was slightly higher in the stress than in the base case. The reason is outlined in section 6.1.3.2.

An additional 10 € MM (5 € MM) of available loss absorption capacity was not used to cover expected losses under the base (stress) case. This was due to two effects: First, for one bank loan loss provisions in the foreign business (non-domestic business) exceeded expected losses in the foreign business. The resulting surplus of provisions was however not assumed to be eligible to cover domestic losses. Secondly, for the one bank with a capital surplus (including new pro-forma DTA effects) under the stress case, not the entire available capital buffer resulting from new pro-forma DTA generated over the stress test horizon was depleted to cover expected losses.

After considering tax impacts, (allowing for the generation of new pro-forma DTAs over the stress test horizon) as well as Basel III phase-in requirements regarding the deduction of

DTAs from capital, the total capital shortfall forecasted decreased to 3.6 € BN under the base case and 4.2 € BN under the stress case for a decrease of 0.5 € BN and 0.6 € BN respectively.

6.1.4.2. Results assuming asset transfers to Bank Asset Management Company take place

NLB, NKBM and Abanka submitted detailed information on plans to transfer a total of 4.3 € BN (as of EOY2012) of gross loans to the BAMC.

Together, these transactions would reduce the total gross loan book in scope of the stress test of the eight participating institutions by 17%. Given the impact of the asset transfers on the aggregate loan book, capital shortfalls were also forecasted under the assumption that the planned transactions are executed based on the gross loan as of EOY2012.

The transfer of assets to the BAMC had five effects on capital shortfalls:

i. Expected losses from the transferred assets over 2013-2015 were removed from total expected losses

ii. Existing attributable loan loss provisions on assets transferred to the BAMC were transferred with the assets, thereby reducing the available loss absorption capacity remaining in the three banks

iii. A loss triggered by the transfer of the BAMC assets was included as an immediate P&L impact at the time of transfer. This arose from the transfer value being set significantly lower than the EOY2012 net carrying value of the assets transferred reflecting the insufficient provisioning of losses on these assets as of EOY2012

iv. For 2014 and 2015, the interest income on the assets transferred to the BAMC was removed from the P&L. Instead, the equivalent of the transfer value of the assets was replaced with a Slovenian sovereign bond yielding 4.5%. This had an immaterial impact on the banks' profit before provisions due to the significant reduction of the banks' interest earning assets as a result of the transfer.

v. The replacement of the assets transferred to the BAMC with a Slovenian sovereign bond reduced RWAs due to the zero risk weighting of the bond. This significantly reduced the pro-forma capital requirement and thereby increased the free capital buffer for loss absorption.

The detailed terms and conditions of the asset transfer to the BAMC were not yet finalised at the time of writing this results and methodology document. The parameters used in the results presented below therefore represented the best available information at the time of finalising the bottom-up stress testing exercise. In particular, the following key assumptions were used to estimate the impact of the BAMC transfer on capital shortfalls:

- Assets would be transferred at EOY2013
- The perimeter of transferred assets would be the one indicated by the three banks as of mid-November 2013 and based on EOY2012 data – both regarding gross loan amounts and existing loan loss provisions and impairments

- The transfer price of the loans would be in line with the loans' Real Economic Value projected by the European Commission's DG for Competition

The impact of the BAMC transfer on capital shortfalls at the three banks was case dependent. In the base case, aggregate capital shortfalls of the three banks were reduced by approximately (0.1 € BN or 3%)after taking into account the asset transfer to the BAMC. In the stress case, aggregate capital shortfalls of the three banks decreased by approximately (0.3 € BN or 7%) – both excluding new pro-forma DTA effects. The case dependency was caused by different amounts of expected losses being removed from the banks in the two cases and the resulting 2nd order effects on the loss absorption capacity.

Potential capital needs arising at the BAMC from the excess of expected losses over the discount implied by the transfer price were not considered separately.

6.1.4.3. Results including asset transfer to Hypo Alpe Adria Group

Hypo Alpe Adria Bank submitted detailed information on an executed transfer of 320 € MM gross loans to the work-out unit of Hypo Alpe Adria Group, the so-called "Brush III" transaction. This was executed as of 31 October 2013 and concluded during November 2013.

This transaction reduced the loan book of Hypo Alpe Adria Bank by approximately 20% as per EOY2012. Against this backdrop, the forecasted capital shortfall for Hypo Alpe Adria Bank was also assessed taking into account the impact of this transaction.

The impact of the Brush III transfer on the bank's capital shortfall is case dependent due to the difference in expected losses and profit before provisions, which also arise when executing the Brush III transfer. In the base case, the forecasted capital shortfall of Hypo Alpe Adria (excluding the consideration of new pro-forma DTAs) decreased from approximately 190 € MM to approximately 110 € MM after taking into account the Brush III asset transfer at the agreed transfer value. In the stress case, the forecasted capital shortfall of the bank decreased by approximately 50% to approximately 120 € MM.

6.1.5. *Results by participating institutions*

The following pages include a detailed overview of capital shortfalls and other key metrics for the banks within the scope of the bottom-up stress test.

6.1.5.1. NLB

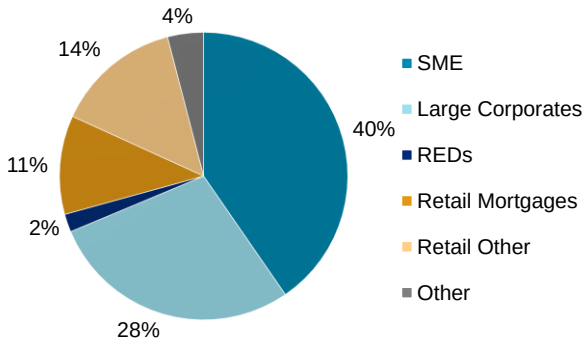
6.1.5.1.1. Profile NLB

Key data NLB EOY 2012

Total assets (in € MM)	14,335
Market share (in % of Slovenian assets)	26%
Net loan book (in € MM)	10,017
Tier 1 capital (in € MM)	1,011
Core tier 1 ratio (in % of RWA)	8.8%

Sources: NLB Annual Report EOY 2012

NLB loan book EOY 2012



Source: Segmentation provided by NLB
Note: Segmentation pre-AQR adjustment

NLB, with a market share of 26%, is the largest bank operating on the Slovenian market in terms of total assets.[25] NLB Group is formed by NLB and subsidiaries including leasing companies, factoring and forfaiting companies, insurance companies, and an asset management company. The bank was incorporated in 1994 as a joint stock company. The Republic of Slovenia, with a stake of 76.91%, is currently the bank's largest shareholder.[26]

NLB Group operates in over 13 countries and is headquartered in Ljubljana, Slovenia. The Group covers six business segments: corporate banking, retail banking, financial markets, strategic foreign markets, non-strategic markets and activities, and other activities, with a customer focus on small businesses and large corporates. Loans to small businesses and large corporates respectively account for around 40% and 28% of NLB Group's loan book at YE2012.[27]

The deepening crisis in the real sector was reflected in a continuing deterioration in the quality of NLB's credit portfolio. The balance of non-performing loans has increased despite an overall decline in the credit portfolio. The balance of NPLs stood at EUR 3.7 billion at YE2012, an increase of EUR 0.7 billion to year end of the previous year, while the share of NPLs was up 6.9 percentage points to stand at 28%.[28] Despite the rise in non-performing loans, NLB managed to raise its core tier 1 ratio between 2010 and 2012.[29]

œ

[25] Calculation based on Annual Reports.
[26] As of March 2013, NLB Annual Report 2012.
[27] Segmentation provided by NLB.
[28] NLB Group Annual Report EOY2012.
[29] NLB Group Annual Report EOY2012.

6.1.5.1.2. Results NLB

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	2 206	15%
Profit before provisions (EOY 2012)	318	2%
Risk Weighted Assets (EOY 2012)	11 055	77%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	969	9%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	4 059	36%	4 552	40%
SME	2 145	50%	2 343	55%
Large Corporates	1 236	36%	1 400	40%
Real Estate Developers	364	62%	405	69%
Retail Mortgages	70	5%	113	9%
Retail Others	245	15%	290	18%
New credit book 2013 – 2015	76	n.a	83	n.a
Treasury assets	89	6%	173	12%
Total losses 2013 – 2015	**4 225**	**n.a**	**4 808**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	2 206	2 206
Profit before provisions 2013 – 2015	226	249
Capital buffer[30] (EOY 2015)	150	449
Total loss absorption capacity (EOY 2015) [31]	**2 582**	**2 904**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	1 464	10%	1 668	12%
Capital shortfall excl. generation of new pro-forma DTAs	1 643	11%	1 904	13%

œ

[30] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[31] Excluding pro-forma DTAs

6.1.5.2. NKBM

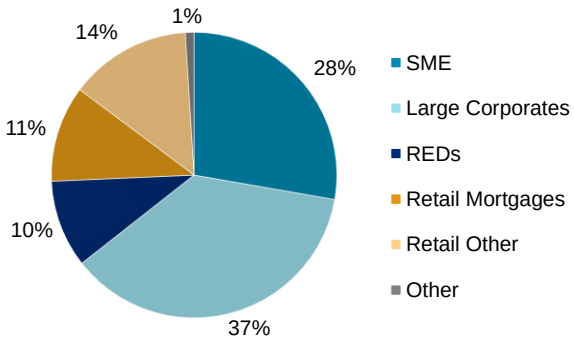
6.1.5.2.1. Profile NKBM

Key data NKBM EOY 2012

Total assets (in € MM)	5,322
Market share (in % of Slovenian assets)	10%
Net loan book (in € MM)	3,560
Tier 1 capital (in € MM)	N/A
Core tier 1 ratio (in % of RWA)	7.6%

Sources: NKBM Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

NKBM loan book EOY 2012



Source: Segmentation provided by NKBM
Note: Segmentation pre-AQR adjustment

NKBM, with a market share of 10%, is the second largest bank operating in Slovenia in terms of total assets.[32] The bank is established as a joint-stock company of which the Republic of Slovenia currently holds a stake of 91.24%.[33] NKBM is the parent company of the NKBM Group, which comprises 13 other entities.

NKBM mainly operates in Slovenia with further business activities in Austria, Croatia and Serbia. The bank is headquartered in Maribor, Slovenia.

The Group covers five segments: banking, fund management, leasing, real estate activity and other, with a customer focus on large corporates and small businesses. Loans to large corporates and small businesses respectively account for around 37% and 28% of NKBM Group's loan book at YE2012.[34]

The current economic and financial crisis significantly affected NKBM's credit portfolio. The NPL ratio as a percentage of the total gross loan portfolio increased from 15% in 2011 to 22% in 2012. Loans to construction companies have shown the highest share of NPLs of 57%.[35]

In the last two years NKBM went through capital raising, balance sheet contraction, divestment of assets, partial buyback of hybrid instruments (2012) and conversion of Contingent Convertible Bonds (2013). However, these measures to improve the banks' capital position were offset by deteriorating asset quality and relatively high impairment costs.[36] Accordingly, the Core Tier 1 ratio decreased to 7.6% in 2012 from 8.1% in 2011.[37]

œ

[32] Calculation based on Annual Reports.
[33] As of 30 September 2013. NKBM website.
[34] Segmentation provided by NKBM.
[35] NKBM Annual Report EOY2012.
[36] Alta Invest, analyst report, 30 August 2013.
[37] NKBM Annual Report YE2012.

6.1.5.2.2. Results NKBM

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	675	13%
Profit before provisions (EOY 2012)	70	1%
Risk Weighted Assets (EOY 2012)	4 324	81%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	327	8%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	1 570	39%	1 793	44%
SME	563	56%	615	61%
Large Corporates	628	45%	731	52%
Real Estate Developers	268	64%	294	70%
Retail Mortgages	21	5%	37	8%
Retail Others	91	12%	116	15%
New credit book 2013 – 2015	51	n.a	54	n.a
Treasury assets	45	7%	100	15%
Total losses 2013 – 2015	**1 665**	**n.a**	**1 947**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	675 (666)	675 (671)
Profit before provisions 2013 – 2015	93 (93)	92 (92)
Capital buffer[38] (EOY 2015)	19 (19)	129 (129)
Total loss absorption capacity (EOY 2015) [39]	**787 (778)**	**896 (892)**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	795	15%	936	18%
Capital shortfall excl. generation of new pro-forma DTAs	887	17%	1 055	20%

œ

[38] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[39] Excluding pro-forma DTAs

6.1.5.3. Abanka

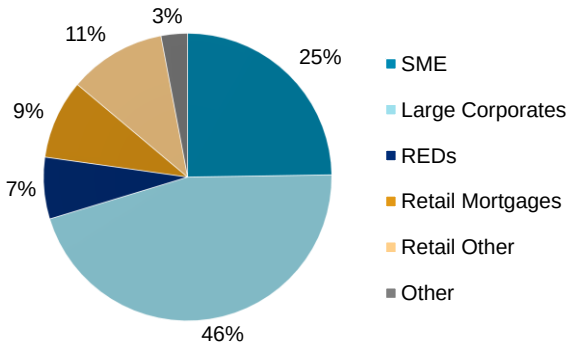
6.1.5.3.1. Profile Abanka

Key data Abanka EOY 2012

Total assets (in € MM)	3,614
Market share (in % of Slovenian assets)	8%
Net loan book (in € MM)	2,598
Tier 1 capital (in € MM)	182
Core tier 1 ratio (in % of RWA)	N/A

Sources: Abanka Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

Abanka loan book EOY 2012



Source: Segmentation provided by Abanka
Note: Segmentation pre-AQR adjustment

Abanka, with a market share of 8%, is the third largest bank operating in Slovenia.[40] It is listed as a joint stock company since 2008 and is headquartered in Ljubljana, Slovenia. The bank operates through a network of 41 branches across Slovenia and is present in Serbia, Croatia and Bosnia, primarily through factoring and leasing.

The bank covers three business segments: Retail banking, corporate banking, and financial markets. The customer focus is the large corporates segment. The total volume of large corporate loans accounts for almost 50% of Abanka Group's loan book at YE2012.[41]

Abanka's share of non-performing loans has increased from 15% in 2011 to 25% 2012.[42] Losses have led to a deterioration of Abanka's capital base between 2011 and 2012. Abanka's Tier 1 capital ratio fell to 6.2% in 2012 from 7.6% in 2011.[43] In accordance to the shareholders' meeting in April 2013, Abanka is seeking to increase its capital by EUR 90MM through a new share issue by the end of the year 2013 in order to improve its capital base.[44]

œ
[40] Calculation based on Annual Reports.
[41] Segmentation provided by Abanka.
[42] Abanka Annual Report EOY2012.
[43] Abanka Annual Report EOY2012.
[44] Abanka Annual Report EOY2012.

6.1.5.3.2. Results Abanka

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	410	11%
Profit before provisions (EOY 2012)	44	1%
Risk Weighted Assets (EOY 2012)	2 920	81%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	154	5%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	985	34%	1 140	39%
SME	243	40%	279	46%
Large Corporates	596	39%	684	44%
Real Estate Developers	106	51%	115	56%
Retail Mortgages	13	5%	28	11%
Retail Others	27	9%	34	11%
New credit book 2013 – 2015	17	n.a	17	n.a
Treasury assets	43	8%	77	15%
Total losses 2013 – 2015	**1 045**	**n.a**	**1 234**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	410	410
Profit before provisions 2013 – 2015	55	55
Capital buffer[45] (EOY 2015)	-66	13
Total loss absorption capacity (EOY 2015) [46]	**399**	**478**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	585	16%	675	19%
Capital shortfall excl. generation of new pro-forma DTAs	646	18%	756	21%

œ

[45] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[46] Excluding pro-forma DTAs

6.1.5.4. UniCredit Banka

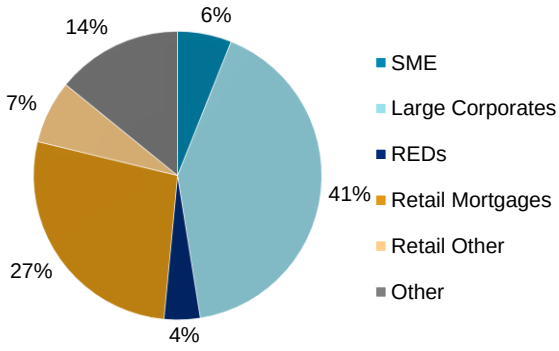
6.1.5.4.1. Profile Unicredit Banka

Key data UniCredit Banka EOY 2012

Total assets (in € MM)	2,815
Market share (in % of Slovenian assets)	6%
Net loan book (in € MM)	2,365
Tier 1 capital (in € MM)	N/A
Core tier 1 ratio (in % of RWA)	N/A

Sources: UniCredit Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

UniCredit Banka loan book EOY 2012



Source: Segmentation provided by UniCredit Banka
Note: Segmentation pre-AQR adjustment

UniCredit Banka is part of the UniCredit Group, which is a leading European commercial bank with operations in 20 countries. UniCredit Banka has 29 branches in Slovenia and is headquartered in Ljubljana. In terms of total Slovenian assets the bank holds a 6% market share.[47]

The bank covers two main business segments: retail & small business banking and corporate & investment banking. The bank's client focus is with large corporates and retail clients. Retail mortgages and loans to large corporates together account for 68% of the bank's gross loan volume at YE2012.[48]

Between 2011 and 2012, UniCredit Banka managed to increase its capital position from a Tier 1 capital ratio of 10.2% in 2011 to 12.2% in 2012.[49]

œ
[47] Calculation based on Annual Reports.
[48] Segmentation provided by UniCredit Banka.
[49] UniCredit Annual Report EOY2012.

6.1.5.4.2. Results Unicredit Banka

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	126	4%
Profit before provisions (EOY 2012)	40	1%
Risk Weighted Assets (EOY 2012)	1 933	69%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	236	12%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	305	15%	369	18%
SME	92	55%	101	61%
Large Corporates	120	12%	145	15%
Real Estate Developers	39	49%	47	59%
Retail Mortgages	25	4%	43	7%
Retail Others	30	17%	33	18%
New credit book 2013 – 2015	7	n.a	7	n.a
Treasury assets	1	0.2%	10	3%
Total losses 2013 – 2015	**313**	**n.a**	**386**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	126	126
Profit before provisions 2013 – 2015	88	111
Capital buffer[50] (EOY 2015)	75	135
Total loss absorption capacity (EOY 2015) [51]	**290**	**372**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	13	0.4%	-2	-0.1%
Capital shortfall excl. generation of new pro-forma DTAs	23	1%	14	0.4%

œ

[50] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[51] Excluding pro-forma DTAs

6.1.5.5. Banka Celje

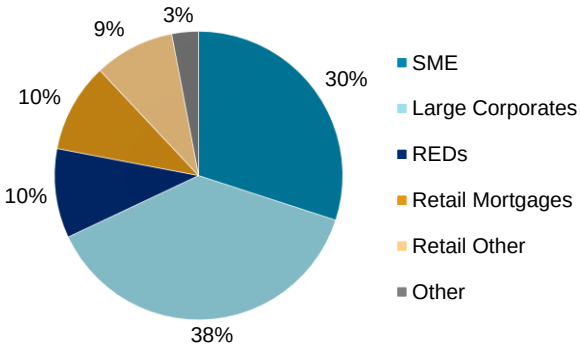
6.1.5.5.1. Profile Banka Celje

Key data Banka Celje EOY 2012

Total assets (in € MM)	2,271
Market share (in % of Slovenian assets)	5%
Net loan book (in € MM)	1,589
Tier 1 capital (in € MM)	166
Core tier 1 ratio (in % of RWA)	N/A

Sources: Banka Celje Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

Banka Celje loan book EOY 2012



Source: Segmentation provided by Banka Celje
Note: Segmentation pre-AQR adjustment

Banka Celje is a Slovenian universal bank performing banking operations for corporate clients, sole traders and individual clients. The bank's market share in terms of total Slovenian banking assets amounts to 5%.[52] The bank is established as a joint-stock company, in which NLB holds a 40.99% share.[53]

The bank is based in Celje and has 32 domestic branches. Its customer focus is with large corporates and small businesses. Loans to these clients respectively account for circa 38% and 30% of Banka Celje's loan book at YE2012.[54]

œ

[52] Calculation based on Annual Reports.
[53] Banka Celje Annual Report, September 2013.
[54] Segmentation provided by Banka Celje.

6.1.5.5.2. Results Banka Celje

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	176	8%
Profit before provisions (EOY 2012)	36	2%
Risk Weighted Assets (EOY 2012)	1 773	78%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	150	8%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	537	31%	636	37%
SME	236	44%	267	50%
Large Corporates	199	28%	242	35%
Real Estate Developers	75	47%	87	55%
Retail Mortgages	11	7%	21	12%
Retail Others	16	9%	19	11%
New credit book 2013 – 2015	12	n.a	14	n.a
Treasury assets	17	7%	33	14%
Total losses 2013 – 2015	567	**n.a**	683	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	176	176
Profit before provisions 2013 – 2015	28	40
Capital buffer[55] (EOY 2015)	36	79
Total loss absorption capacity (EOY 2015) [56]	**240**	**295**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	289	13%	339	15%
Capital shortfall excl. generation of new pro-forma DTAs	327	14%	388	17%

œ

[55] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[56] Excluding pro-forma DTAs

6.1.5.6. Hypo Alpe Adria Bank

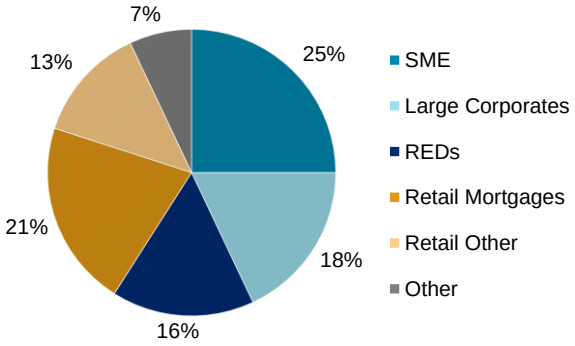
6.1.5.6.1. Profile Hypo Alpe Adria Bank

Key data Hypo Alpe Adria Bank EOY 2012

Total assets (in € MM)	1,901
Market share (in % of Slovenian assets)	4%
Net loan book (in € MM)	1,685
Tier 1 capital (in € MM)	148
Core tier 1 ratio (in % of RWA)	N/A

Sources: Hypo Alpe Adria Bank Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

Hypo Alpe Adria Bank loan book EOY 2012



Source: Segmentation provided Hypo Alpe Adria Bank
Note: Segmentation pre-AQR adjustment

Hypo Alpe Adria Bank operates as a subsidiary of Hypo Alpe Adria Bank International AG, which is headquartered in Klagenfurt, Austria. The bank offers commercial and personal banking services in Slovenia. In terms of Slovenian banking assets, Hypo Alpe Adria Bank holds a 4% market share.[57] The bank was founded in 1999 and is based in Ljubljana.

Hypo Alpe Adria Bank's loan portfolio at YE2012 is broadly spread among the different loan segments.[58] During the period from 2011 to 2012, Hypo Alpe Adria Bank's Tier 1 capital decreased from EUR 158 MM in 2011 to EUR 148 MM in 2012.[59]

œ

[57] Calculation based on Annual Reports.
[58] Segmentation provided by Hypo Alpe Adria Bank.
[59] Hypo Alpe Adria Bank Annual Report EOY2012.

6.1.5.6.2. Results Hypo Alpe Adria Bank

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	67	4%
Profit before provisions (EOY 2012)	14	1%
Risk Weighted Assets (EOY 2012)	1 547	81%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	148	10%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	309	20%	374	24%
SME	134	33%	157	38%
Large Corporates	46	15%	62	20%
Real Estate Developers	121	44%	144	53%
Retail Mortgages	4	1%	6	2%
Retail Others	4	2%	5	2%
New credit book 2013 – 2015	8	n.a	9	n.a
Treasury assets	3	5%	9	17%
Total losses 2013 – 2015	**319**	**n.a**	**393**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	67	67
Profit before provisions 2013 – 2015	23	25
Capital buffer[60] (EOY 2015)	40	80
Total loss absorption capacity (EOY 2015) [61]	**130**	**172**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	164	9%	189	10%
Capital shortfall excl. generation of new pro-forma DTAs	189	10%	221	12%

œ

[60] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[61] Excluding pro-forma DTAs

6.1.5.7. Gorenjska Banka

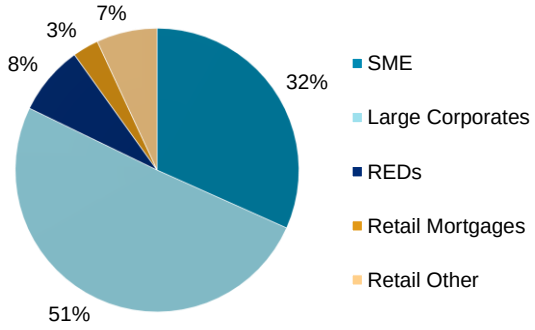
6.1.5.7.1. Profile Gorenjska Banka

Key data Gorenjska Banka EOY 2012

Total assets (in € MM)	1,790
Market share (in % of Slovenian assets)	4%
Net loan book (in € MM)	1,187
Tier 1 capital (in € MM)	221
Core tier 1 ratio (in % of RWA)	N/A

Sources: Gorenjska Banka Annual Report EOY 2012
N/A = Data not available in the bank's Annual Report EOY 2012

Gorenjska Banka loan book EOY 2012



Source: Segmentation provided by Gorenjska Banka
Note: Segmentation pre-AQR adjustment

Gorenjska Banka provides banking services for legal entities, individuals, and sole proprietors primarily in Gorenjska, Slovenia. Its market share in terms of Slovenian banking assets amounts to 4%.[62] It was founded in 1955 and is based in Kranj, Slovenia.

Gorenjska's client focus is with institutional clients. More than half of the bank's loan book at YE2012 consists of large corporate loans and another 32% of small business loans.[63]

As a consequence of deteriorating asset quality, Gorenjska Banka's capital adequacy ratio has fallen between 2011 and 2012.Tthe bank's capital ratio was equal to 14% in 2012.[64]

œ
[62] Calculation based on Annual Reports.
[63] Segmentation provided by Gorenjska Banka.
[64] Gorenjska Banka Annual Report EOY2012.

6.1.5.7.2. Results Gorenjska Banka

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	157	9%
Profit before provisions (EOY 2012)	24	1%
Risk Weighted Assets (EOY 2012)	1 497	84%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	266	18%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	523	**40%**	592	**45%**
SME	253	66%	268	70%
Large Corporates	209	31%	250	37%
Real Estate Developers	58	48%	69	57%
Retail Mortgages	0	0.1%	0	0.3%
Retail Others	4	4%	5	5%
New credit book 2013 – 2015	16	n.a	18	n.a
Treasury assets	38	7%	79	15%
Total losses 2013 – 2015	**578**	**n.a**	**688**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	157	157
Profit before provisions 2013 – 2015	22	11
Capital buffer[65] (EOY 2015)	151	193
Total loss absorption capacity (EOY 2015) [66]	**329**	**361**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	207	12%	274	15%
Capital shortfall excl. generation of new pro-forma DTAs	249	14%	328	18%

œ

[65] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

[66] Excluding pro-forma DTAs

6.1.5.8. Raiffeisen Banka

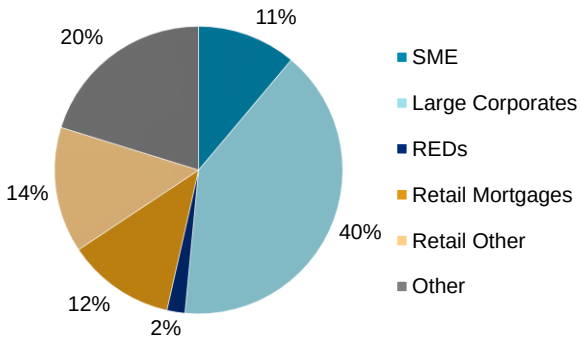
6.1.5.8.1. Profile Raiffeisen Banka

Key data Raiffeisen Banka EOY 2012

Total assets (in € MM)	1,420
Market share (in % of Slovenian assets)	3%
Net loan book (in € MM)	1,035
Tier 1 capital (in € MM)	62
Core tier 1 ratio (in % of RWA)	9.0%

Sources: Raiffeisen Banka Annual Report EOY 2012

Raiffeisen Banka loan book EOY 2012



Source: Segmentation provided by Raiffeisen Banka
Note: Segmentation pre-AQR adjustment

Raiffeisen Banka is a subsidiary of Raiffeisen Bank International AG which operates as a universal bank through a network of subsidiary banks, leasing companies and numerous specialised financial services providers in 17 markets, while regarding Central and Eastern Europe as its home market. Raiffeisen Banka has 15 branches within Slovenia and is headquartered in Maribor. The bank holds a 3% market share in Slovenia in terms of total banking assets.[67]

The bank covers three business segments: Retail banking, corporate banking, and investment banking, with a customer focus on large corporates. Large corporate loans account for 40% of Raiffeisen's loan portfolio at YE2012.[68]

Between 2011 and 2012 Raiffeisen Banka kept its core tier 1 capital ratio stable at 9.0%.[69]

œ

[67] Calculation based on Annual Reports.
[68] Segmentation provided by Raiffeisen Banka.
[69] Raiffeisen Banka Annual Report EOY2012.

6.1.5.8.2. Results Raiffeisen Banka

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	56	4%
Profit before provisions (EOY 2012)	9	1%
Risk Weighted Assets (EOY 2012)	694	49%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	63	9%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope**	**€ MM**	**% of 2012 assets in scope**
Current credit book (EOY 2012)	160	20%	197	25%
SME	19	24%	23	29%
Large Corporates	90	21%	113	27%
Real Estate Developers	13	65%	15	76%
Retail Mortgages	4	3%	7	6%
Retail Others	34	23%	38	26%
New credit book 2013 – 2015	4	n.a	6	n.a
Treasury assets	14	9%	22	14%
Total losses 2013 – 2015	**178**	**n.a**	**225**	**n.a**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments (EOY 2012)	56	56
Profit before provisions 2013 – 2015	22	22
Capital buffer[70] (EOY 2015)	18	34
Total loss absorption capacity (EOY 2015) [71]	**95**	**112**

	Base Case		**Adverse Case**	
Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets**	**€ MM**	**% of total 2012 assets**
Capital shortfall incl. generation of new pro-forma DTAs	72	5%	97	7%
Capital shortfall excl. generation of new pro-forma DTAs	83	6%	113	8%

œ

[70] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs

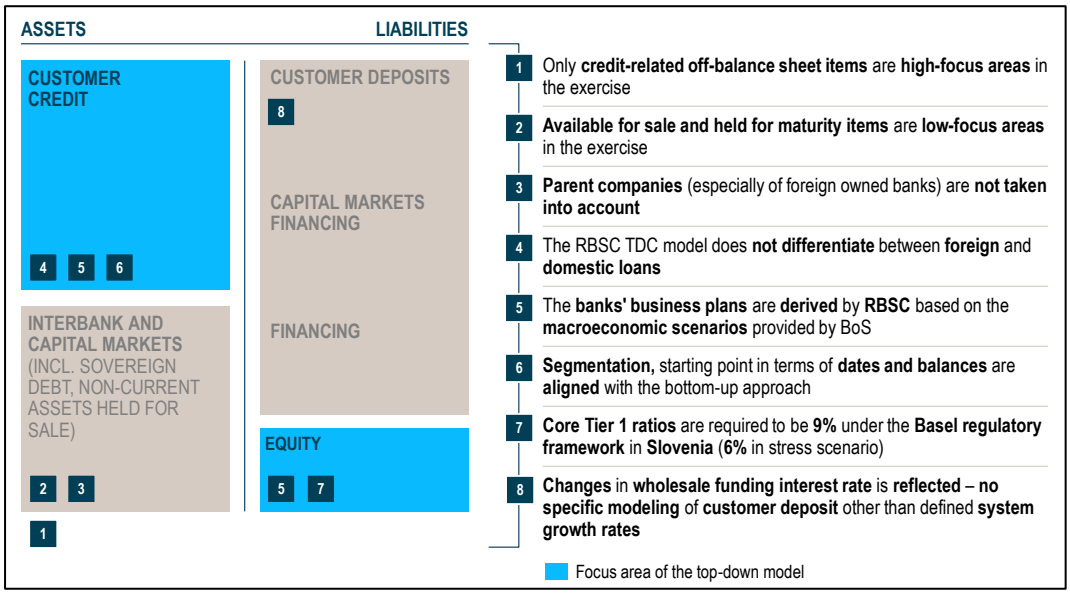
[71] Excluding pro-forma DTAs

6.2. The top-down challenge perspective

6.2.1. *Purpose and scope of the top-down challenge (TDC)*

The top-down stress test provider was mandated by the Bank of Slovenia to perform an independent top-down stress test of the country's banking system. The results were used to challenge the capital shortfall projections of the bottom-up stress test. All key components of the banks' on- and off-balance sheet positions and profit & loss accounts were taken as a basis to build a predictive model for expected losses on credit exposure and loss absorption capacity. Since the top-down stress test provider did not have access to the banks' specific business plans, it based its work on high-level planning assumptions provided by the Bank of Slovenia. The top-down approach is focused on the specific risk patterns of the Slovenian banking market and is tailored to the respective situation regarding data availability. Since no local bank is operating advanced regulatory capital measurement approaches, specific restrictions regarding availability and quality of credit data were incorporated in the top-down model. By their nature, top-down and bottom-up approaches differ significantly from each other and are comparable only to a certain extent. Figure 601 sets the scene for the scope of the top-down challenge in more detail.

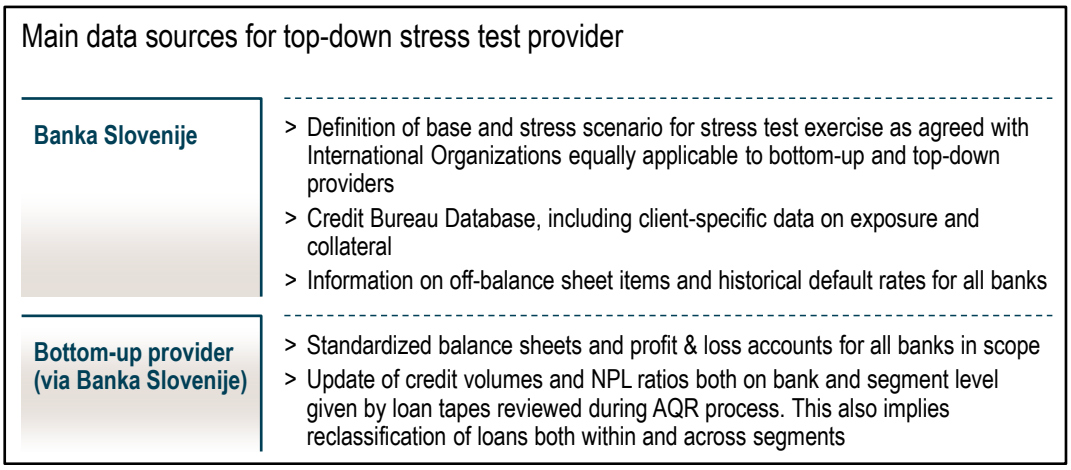
Figure 601: Scope of the top-down challenge exercise



6.2.2. *Data sources*

The top-down stress test provider has built its model mostly on data received from the Bank of Slovenia and in consolidated format (mostly segment level) from the bottom-up stress test and AQR providers. To define the anchor points for key model parameters and assumptions, the top-down stress test provider also used relevant data from both comparable markets and market constellations. For an overview of data provided by the parties please refer to figure 602 below.

Figure 602: Data sources of the top-down stress test provider



Quality and quantity of data on historical default rates that could be provided by the Bank of Slovenia (especially in the retail segment) was too limited to be used as a direct model input. Regarding quality of data it needs to be specifically considered that downturn effects cannot be observed in historical PD data, as Slovenia never passed through a full economic cycle since its independence in 1991.

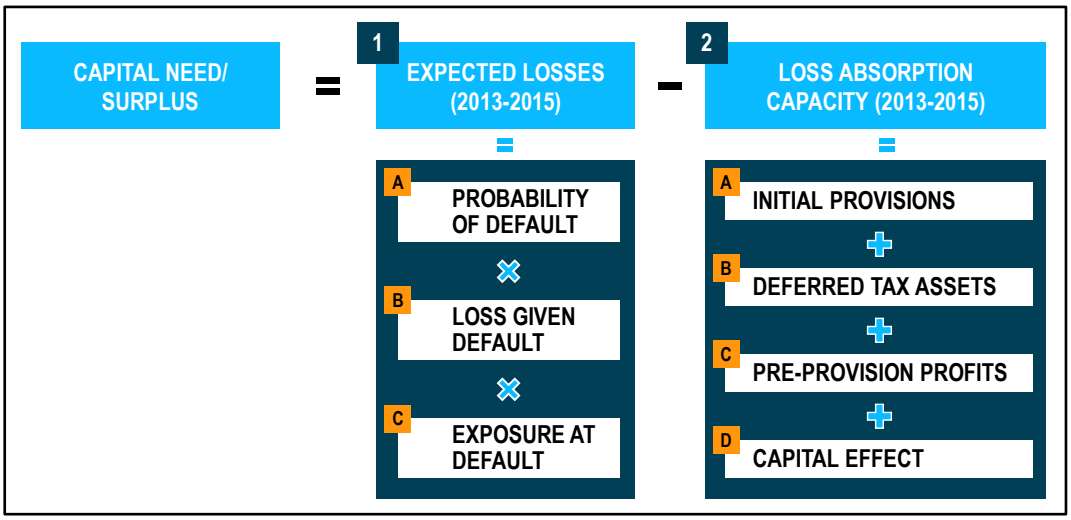
Even though neither historical nor derived LGDs were available, the data set provided by the Bank of Slovenia was sufficient to forecast LGDs for 2013-2015 with adequate accuracy. The Bank of Slovenia 's Credit Bureau Database served as a valuable source as it contains comprehensive and exhaustive client-specific data on exposure and collateral.

Bottom-up and top-down stress test provider aligned the starting point of their stress testing exercises – this holds especially true for exposure at default on segment level.

6.2.3. *Calculation methodology applied*

The top-down stress test provider has tailored its proven framework (see figure 603) to the specific situation in Slovenia to calculate the total expected capital need of the Slovenian banking system on individual bank level:

Figure 603: The top-down stress test framework for calculating capital need/surplus



Capital need/surplus results as a difference between expected losses and loss absorption capacity for the period 2013-2015.

1. Expected losses

A) *Probabilities of default* modeling was based on the relationship of historic default rates, NPL stock, the PD-NPL relationship and macroeconomic development. For each bank in scope, the top-down stress test provider conducted a segment-level modeling exercise. To reflect the outcome of the AQR process, an adjustment to the starting point (end 2012 default rates) was made. Furthermore, the downturn market correlation of PD and NPL as well as PD sensitivity factors were considered. Based on these factors, together with macroeconomic scenarios, the top-down stress test provider established its PD forecast for the period 2013-2015.

B) *Loss given default* modeling was built on existing the Bank of Slovenia 's Credit Bureau data that contains detailed loan exposure and collateral information aggregated on the client level. Exposure was split into (i) secured and (ii) unsecured components. For (i) secured exposure, specific haircuts were applied for each type of collateral. Haircut development was modeled based on macroeconomic indicators – GDP and housing price index. Given the low liquidity of the real estate market, the top-down stress test provider used conservative initial haircuts for commercial and residential property (e.g. ~80% for non-performing commercial real estate property). The top-down stress test provider calculated (ii) unsecured exposure by deducting secured exposure from total gross exposure. It then applied a reference loss for the resulting unsecured exposure. The resulting LGDs were aggregated for each bank individually on the segment level taking into consideration each bank's collateralization volume and structure in the Credit Bureau Database. To refine and fine-tune LGDs for Slovenian banks, the top-down stress test provider used its experience from other stress tests, historic market figures and inputs from individual banks as anchor points.

C) *Exposure at default* was modeled independently for every segment and bank. The starting point was the loan tape volume at the end of 2012 with distinctive performing and non-performing portfolio shares as identified by the AQR providers. Gross credit growth was modeled according to the macroeconomic scenarios. Non-curable 2012 NPL stock was written off in 2013. This implies that the cured part of the portfolio starts performing in the same year, which increases exposure in subsequent years. This is a rather conservative assumption as recovery rates are almost negligible. The top-down stress test provider incorporated off-balance sheet credit exposure in the top-down model via credit conversion factors based on benchmarks mainly from commercial banks.

2. Loss absorption capacity

A) *Initial provisions* were provided by the Bank of Slovenia and were assumed to be fully loss absorbing. From a top-down perspective, no country-level differentiation was carried out. The top-down stress test provider did not incorporate any minimum requirement of loan loss provisions by the end of 2015.

B) To calculate *deferred tax assets* (DTAs), a flat corporate tax rate of 17% was assumed. DTAs from losses were initially assumed to be fully loss absorbing; DTAs arising from temporary differences that were in aggregate equal to or less than 10% of relevant core tier 1 equity were not. The Basel III approach was used to phase in accrued DTAs in 2015. In accordance with the Bank of Slovenia, deferred tax assets were calculated but excluded from final top-down figures.

C) Differentiated forecasts for key components of the profit & loss account were used to derive *pre-provision profits* on the bank level assuming that earnings were fully retained:

i) To establish net interest income, the top-down stress test provider modeled interest income and interest expenses separately. This was done by taking both the Bank of Slovenia 's macroeconomic scenarios as well as expected losses from top-down model and their effects on volumes and interest rates into account.

ii) Other operating income (namely net fee and commission income) was estimated for 2013-2015 based on linear regressions using macroeconomic variables.

iii) Other income was estimated by taking a historic average of the respective components on the bank level, adjusting them for known one-off effects.

iv) Given that most of the banks in scope had already undertaken significant measures to improve efficiency in the previous years, the outlook for the next few years was rather conservative. Total non-interest expenses were expected to remain on 2012 levels in 2013-2015.

D) To calculate the *capital effect*, the Core Tier 1 Capital at the end of 2012 was taken as a starting point and both loss absorption capacity and expected losses for 2013-2015 were taken into account. Risk-weighted assets were modeled as the total of credit, operational and market risk-weighted assets on an annual level. Credit risk-weighted assets were calculated using the Standardized Approach of Basel II capital adequacy rules – volume changes resulting from expected losses were anticipated. Operational risk-weighted assets

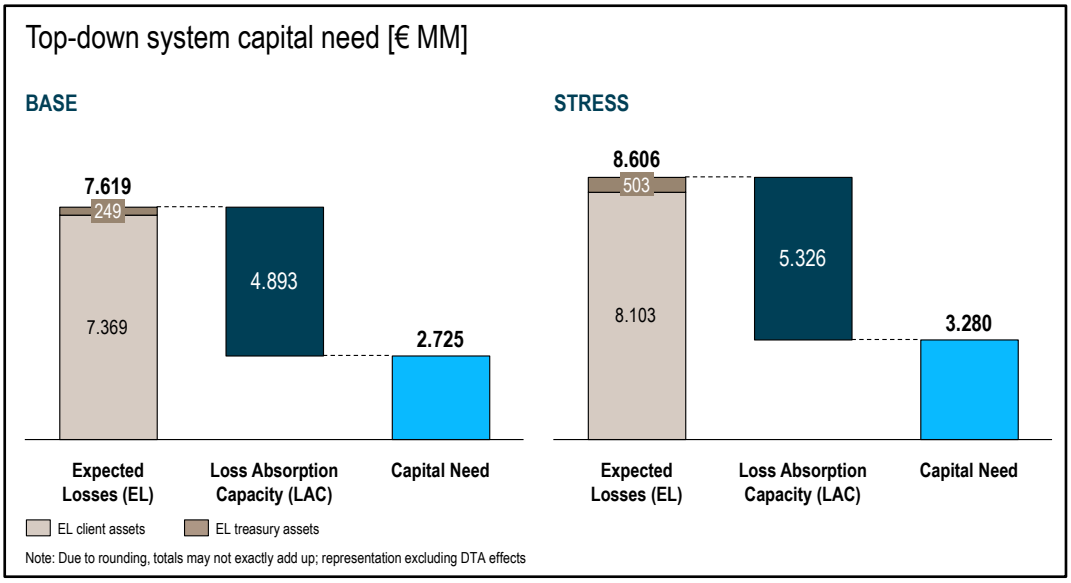
were calculated using the Basel II Basic Indicator Approach (BIA). Market risk-weighted assets were estimated to account for a constant share of total risk-weighted assets. A required Core Tier 1 Capital ratio of 9% in the base and 6% in the stress case was applied. The capital effect was stated as the difference between realized and required Core Tier 1 Capital in 2015.

6.2.4. *Results from a TDC perspective*

All results presented below exclude deferred tax assets. Loan loss provisions for 2012 are fully loss absorbing. Minimum loan loss provisions by the end of 2015 are excluded from every representation. Losses from treasury assets were not in the top-down stress test provider's scope of work. Therefore, bottom-up treasury asset losses were added to credit losses calculated by the top-down stress test provider to make top-down figures comparable with the bottom-up stress test results. Segmentation was adjusted for misclassifications to show accurate segments.

As shown in Figure 604, total system capital need is 2,7 € BN in the base case and 3,3 € BN in the stress case.

Figure 604: System-wide results



For the three largest banks – Nova Ljubljanska Banka, Nova Kreditna Banka Maribor and Abanka – the capital need is 1,5, 0,4 and 0,4 € BN in the base case and 1,8, 0,5 and 0,5 € BN in the stress case, respectively (see Figure 605). Total capital need for the remaining 5 banks in scope is 0,5 € BN in the base case and 0,6 € BN in the stress case.

Figure 605: Results for the system as a whole, the top 3 banks and the remaining 5 banks

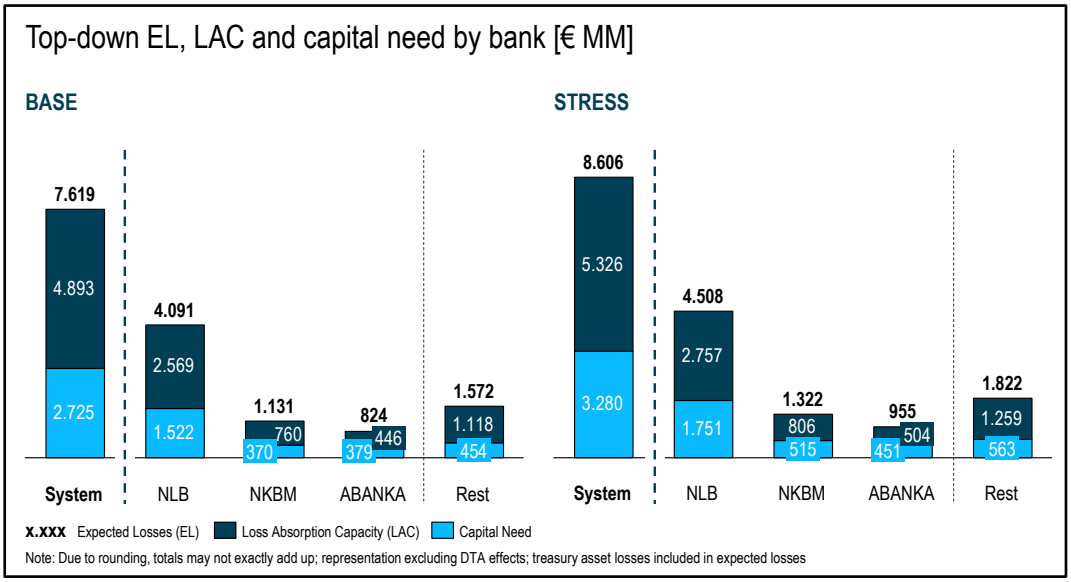
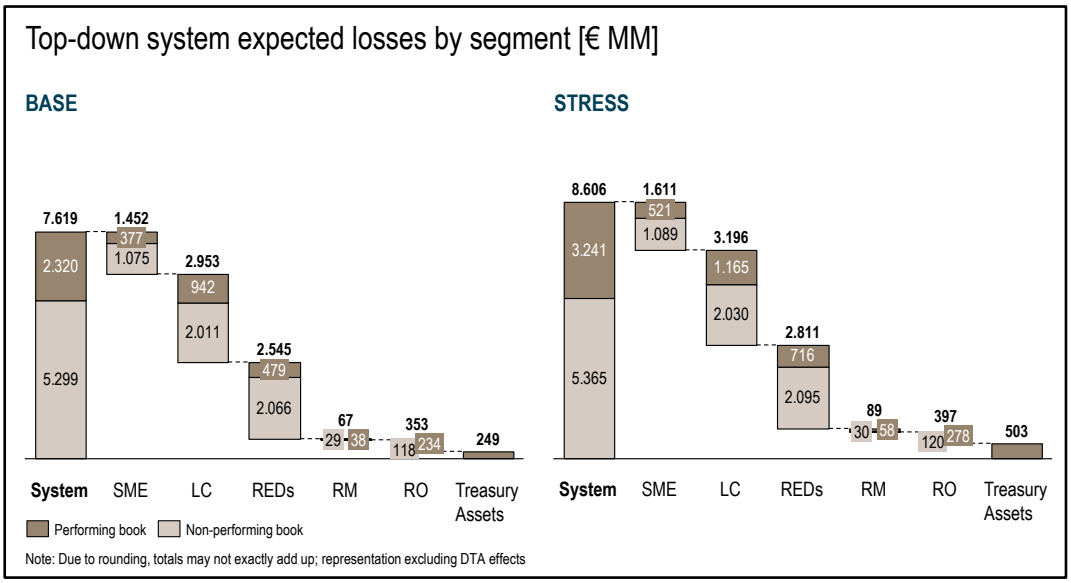


Figure 606 provides a breakdown of system losses by segment. Commercial segment losses represent more than 90% of total losses, confirming that the Slovenian retail sector is neither debt overloaded nor affected by the crisis. Large corporates and real estate developers are the biggest loss makers, each accounting for more than 30% of total losses. In both cases, the majority of losses come from the 2012 non-performing book, although the relative share of performing book losses increases in stress scenario as a result of additional defaults in the forecast period.

Figure 606: Expected losses by segment

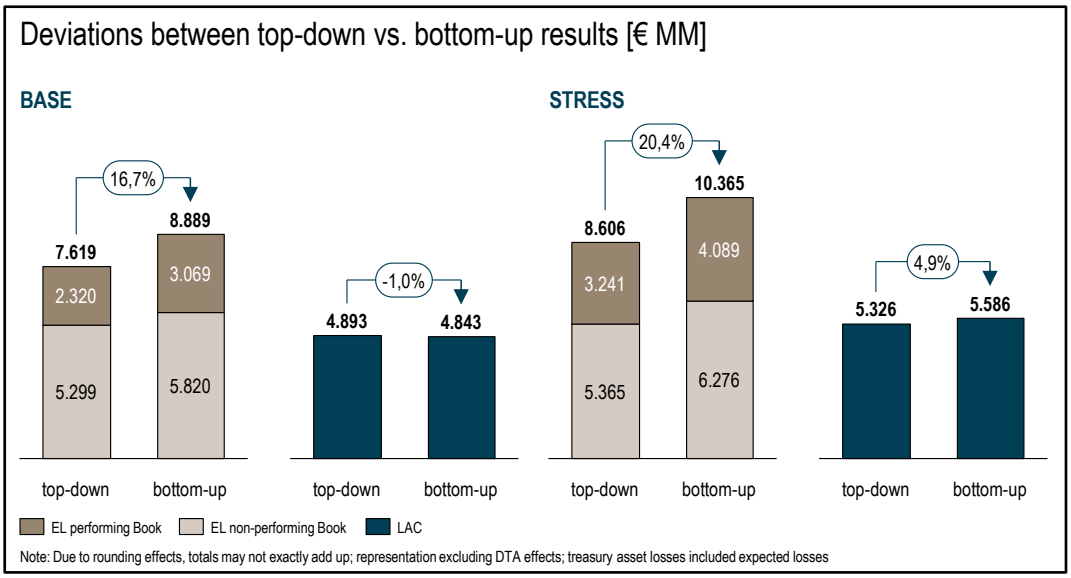


6.2.5. *Root causes of deviations between bottom-up stress testing and top-down challenge*

As a consequence of the top-down respectively bottom-up approach applied, different data sources and methodologies were used by the bottom-up and the top-down stress test provider. Deviations between bottom-up stress test and top-down challenge results are therefore a logical consequence and expected to occur.

The differences between bottom-up stress test and top-down challenge originate in (i) loss absorption capacity and (ii) expected losses (see Figure 607). During the reconciliation phase, both (i) and (ii) were thoroughly explained, recognized and fully understood. Potential deviations due to errors in calculation could be excluded on both sides based on an exercise where key parameters between top-down and bottom-up model where exchanged to challenge the calculation of the bottom-up stress test. As a conclusion the root cause for the deviations results from different data and methodological approaches applied in the top-down respectively bottom-up stress tests. The below chapter provides an overview of the main differences in the expected losses and the loss absorption capacity.

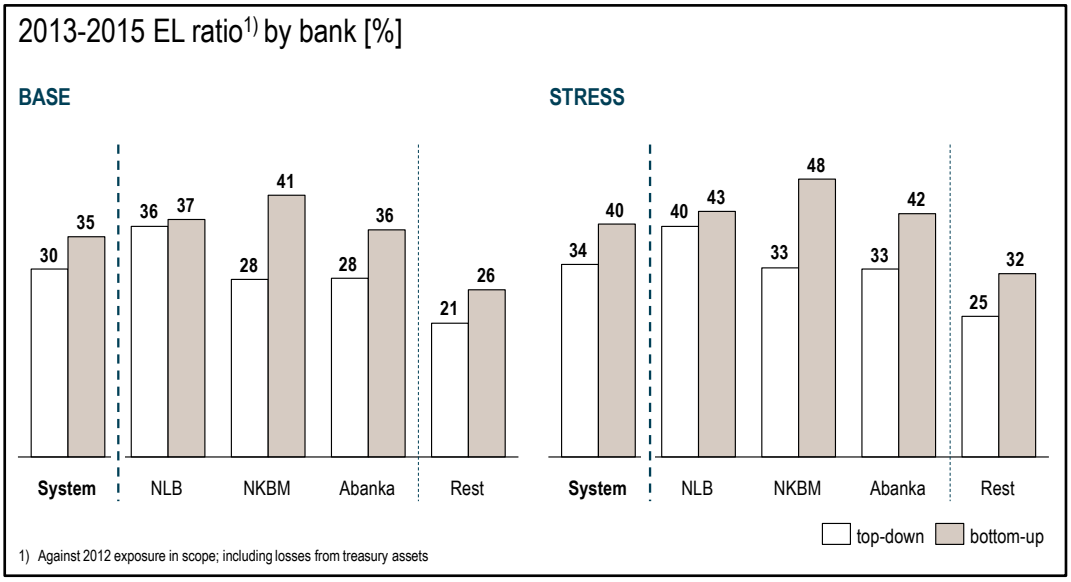
Figure 607: System-wide expected losses and loss absorption capacity differences



The expected losses are the major driver of deviations between the two results. In the base case, bottom-up loss projections are 16,7% higher than those provided by the top-down stress test provider, while the difference in loss absorption capacity is marginal (-1,0%). In the stress case, these differences are 20,4% and 4,9%, respectively. The combined effect from the expected losses and loss absorption capacity results in the overall capital need difference of 1.320 € MM in the base and 1.498 € MM in the stress case. During the top-down challenge process, all differences were reconciled. A large part of the difference comes from the risk parameters for Nova Kreditna Banka Maribor and Abanka as depicted in Figure 608.

Since the bottom-up and the top-down stress test provider are using common EADs, deviations related to PDs, LGDs and LAC are described separately in the following paragraphs.

Figure 608: Expected loss ratios



6.2.5.1. LGD deviation sources

Three main drivers contributed to differences in LGD projections. First, whereas AQR and Bank data were used in the bottom-up stress test exercise, the top-down challenge was performed with the official Credit Bureau dataset. The Credit Bureau dataset is a centralized database administered by the Bank of Slovenia, ensuring lack of bias and consistent data collection.

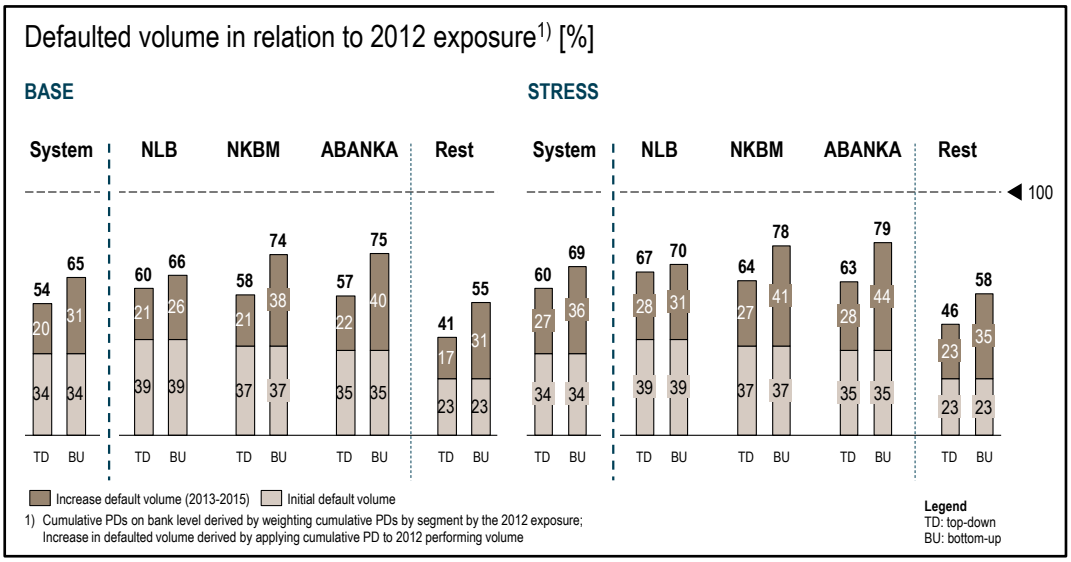
Second, the underlying LGD estimation approaches are different. In the bottom-up stress test a detailed structural approach for LGD of secured loans was applied, modeling the driver components (LGL and cure rates) in a differentiated fashion (for performing / non-performing loans, types of collateral etc.) for the banks. For unsecured loans, the LGDs were modelled based on the correlation of LGD and PD. The top-down stress test provider calculated LGD values individually for each bank on client level, depending on their collateral portfolio. Consequently, collateralization rates are a crucial factor in the top-down approach and a major driver of differences among banks. For instance, LGDs for Nova Ljubljanska Banka are higher due to lower collateralization (74% in Q4 2012) than for Nova Kreditna Banka Maribor and Abanka (149% for both banks in Q4 2012).

Third, the top-down approach links the haircuts on collaterals directly to the macroeconomic forecasts. Defined GDP and house pricing index are forecasted to stagnate or decrease in the next few years, hence the LGDs calculated by the top-down stress test provider increase accordingly.

6.2.5.2. PD deviation sources

The major sources of difference in the PD calculation between the two stress tests come from different data sources used. In the bottom-up stress test more granular data was available, thus, PDs were estimated on the client level, while the top-down stress test provider based its forecasts for each bank on the segment level. On the bank level, most of the deviation is accounted for by Nova Kreditna Banka Maribor and Abanka. Similar to the LGD deviations, there is evidence that the calculations of the bottom-up stress test result in higher defaulted volume projections as shown in Figure 609.

Figure 609: Default volumes 2012 actual and 2013-2015 projection



6.2.5.3. LAC deviation sources

In terms of loss absorption capacity, the differences between top-down and bottom-up stress test results are no more than 1% in the base case (65 € MM) and -5% (-260 € MM) in the stress case: These small differences can be explained as follows:

First, the capital effect is directly linked to expected losses: Higher loan portfolio write-offs translate into lower volumes and thus less risk-weighted assets. This, however, reduces capital requirements, which increases loss absorption capacity. Assuming a going concern, losses also increase the level of deferred tax assets. However, since DTAs are explicitly excluded from every representation, this effect did not find its way into the report.

Second, profit and loss statements are modeled differently. In both, the top-down and bottom-up stress tests key components were projected individually: Net interest income (interest income minus interest expenses), other operating income, other income and total non-interest expenses. Except for net interest income, methodologies of both approaches are reasonably aligned. The top-down stress test provider models its interest income and interest expenses based on both the Bank of Slovenia 's macroeconomic scenarios as well as expected losses as calculated by top-down model and their respective effects on volumes and interest rates. In

the bottom-up stress test , on the other hand, interest income was modelled on the loan/product level, whereas interest expenses were modeled on the deposit/product level. The level of granularity is therefore not comparable and constitutes a main driver of differences in the final LAC results.

7. Conclusion from the stress testing exercise

7.1. Summary and interpretation of results

The Bank of Slovenia assesses that the calculated estimates of the banks' capital shortfall based on both stress test approaches are very conservative. Stress tests using the bottom-up approach, measured as a deficit in Core Tier 1 capital in the adverse scenario over a three-year period, result in a shortfall of EUR 4.8 billion. This result confirms that three-quarters of expected losses can be expected from the operations of the three largest banks, which have been hit hardest to date by the financial crisis. The Bank of Slovenia also finds that the results reliably confirm the low expected losses from credit risk associated with the household sector, while exposure to the segment of small enterprises is somewhat higher. Exposure is highest to the segment of large enterprises and to the real estate developers, which has been hit hardest by the crisis. This fact provides an opportunity for the gradual recovery of the segment that most drives the economy. Credit risk losses can be expected over the next three years primarily in the part of the portfolio that has already been recognised in the portfolio of non-performing claims or was identified as such during the asset quality review. These losses are already covered in part by previously created impairments.

Stress tests using the bottom-up approach are based fully on an independent asset quality review. The asset quality review process, which proved demanding for the banks, identified a relatively high proportion of loans reclassified from lower-risk to higher-risk ratings, as well as assets that the banks previously treated as high-quality to the category of non-performing claims. A high level of credibility of the aforementioned process was also ensured by the use of conservative assumptions for incomplete assessments of input data.

The fact that the assessment of the capital shortfall over the next three years was carried out in a conservative and prudent manner is confirmed by an assessment of these results through stress tests carried out using the top-down approach. This assessment explains the source of discrepancies in assessments of the capital deficit under both approaches. Although the assessed capital shortfall using the top-down approach is lower at EUR 3.3 billion taking into account conservative assumptions based on more aggregate data from the Bank of Slovenia's loan register and is based on a different approach, this confirms the high level of conservatism in the assessments deriving from the bottom-up approach.

Further enhancement of the credibility of the aforementioned assessment is the Bank of Slovenia's calculation of the capital shortfall published in May 2013 in the amount of EUR 2.4 billion applying conditions from the adverse scenario.[72] In spite of the same starting point, the Bank of Slovenia performed a calculation at the end of 2012 for just two years using data that was not used as the basis for the asset quality review performed six months later, and using a different macroeconomic scenario that simulated a shorter but deeper recession. Despite the relatively better comparability of the results of the capital shorfall

œ

[72] http://www.bsi.si/iskalniki/sporocila-za-javnost.asp?VsebinaId=15881&MapaId=137#15881

under both assessments using the top-down approach, the bottom-up approach was confirmed as credibilble by the aforementioned assessment.

The Bank of Slovenia will use the assessed deficit in Core Tier 1 capital of EUR 4.8 billion for the purpose of calculating capital requirements. The conservatism of the aforementioned assessment is confirmed by two independent assessments; the top-down stress test approach and the Bank of Slovenia's assessment. The Bank of Slovenia's aim in applying the conservative assessment of the banks' capital deficit is to ensure the stability of the banks and a sufficient level of capital to revive lending to the non-banking sector in the context of medium-term conditions of weak economic growth. In order to ensure real long-term improvement in conditions at the banks and in the economy overall, it is very important that the performance of stress tests and the definition of the capital deficit be followed by the implementation of measures, not only to strengthen the banking system, but also relating to economic and fiscal policy.

7.2. Measures

7.2.1. Immediate measure to strenghten the banks

Measure 1: Determination of four approaches to restructuring and coverage of the capital deficit, and classification of the banks with regard to the results of the comprehensive review

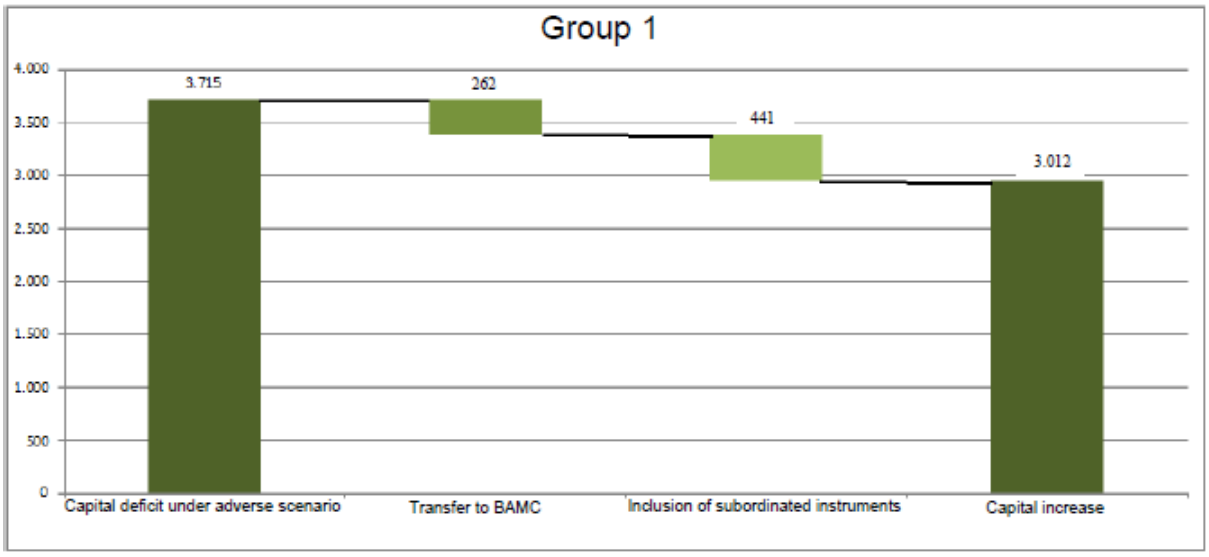
The banks have been classified into four groups with regard to the measures taken to date by the Bank of Slovenia and with regard to the results of the comprehensive review. The actions of the banks, the Bank of Slovenia and the government will vary for each group.

Group 1: The banks that had unresolved Bank of Slovenia measures requiring a capital increase even before the beginning of the comprehensive review, and are in the process of having state aid approved	NLB, NKBM, Abanka
Group 2: The banks that may potentially have a capital shortfall by the end of 2015	Banka Celje, UniCredit Banka Slovenija, Gorenjska banka, Hypo Alpe-Adria-Bank, Raiffeisen banka

Group 3: The banks that were not included in the comprehensive review	SID, Banka Koper, SKB, Banka Sparkasse, Sberbank, Deželna Banka, Delavska hranilnica, Hranilnica Vipava, Hranilnica Lon
Group 4: The banks that are subject to Bank of Slovenia extraordinary measures aimed at an orderly wind-down.	Factor banka, Probanka

The banks in Group 1 have already drawn up restructuring plans, which have been examined by the Bank of Slovenia and the European Commission (DG Comp) together with the results of the stress tests. Capital increases with the wipe out of qualified liabilities (towards shareholders and holders of hibrid and subordinated instruments) in capital will be executed immediately after the approval of state aid for the banks by the European Commission. The banks will also transfer the majority of their non-performing claims to the BAMC by the end of the year.

Calculation of requisite capital increase for banks in Group 1



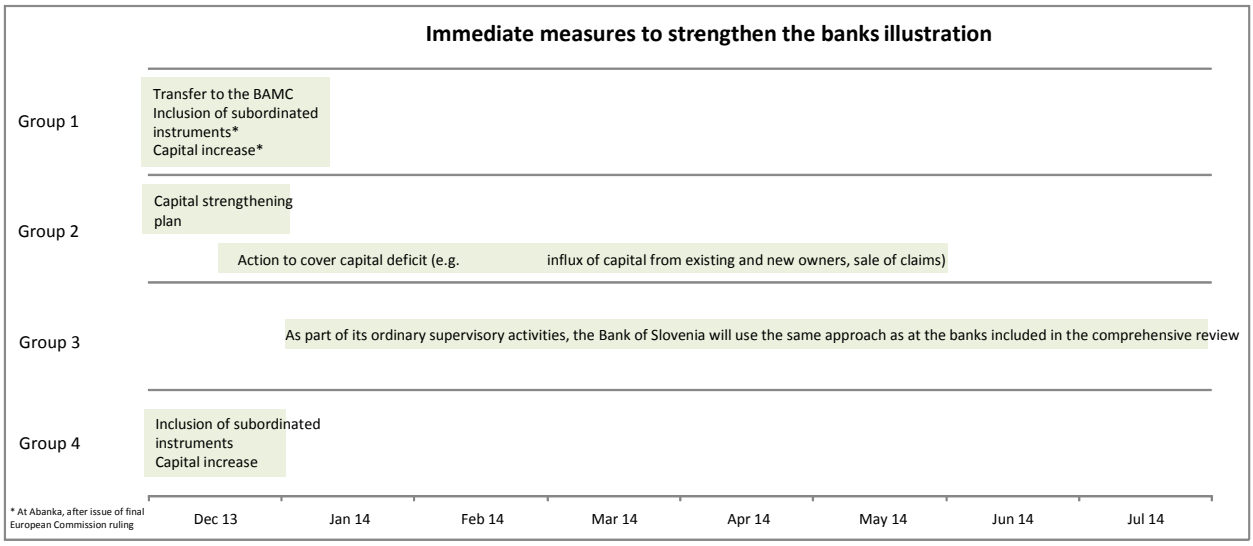
(Figure: Capital deficit under adverse scenario Transfer to BAMC Inclusion of subordinated instruments Capital increase)

Under the Bank of Slovenia measure the banks in Group 2 need by the end of January 2014 to draw up a capital strengthening plan that will demonstrate long-term viability, and to draw up measures to cover the capital deficit. Should their actions (primarily an influx of capital from existing owners, a search for new investors, the sale of claims and other assets, and

other measures to strengthen capital adequacy) prove fruitless by 30 June 2014, they will be able to request state aid in accordance with European Commission rules.

As part of its ordinary supervisory activities, the Bank of Slovenia will provide an assessment of capital risk at the banks in Group 3 using the same approach as at the banks included in the comprehensive review.

The capital for the orderly wind-down will be provided for the two banks in Group 4 by the government. The capital increase from the government will be carried out by means of the wipe out of qualified liabilities.



Measure 2: Immediate capital increase at the banks in Group 1 in accordance with state aid rules: preparation of capital increase and restructuring plan in accordance with the requirements of the European Commission (DG Comp)

During their most recent capital increases NLB and NKBM drew up restructuring plans, which have been updated to include the results of the comprehensive reviews and the stress tests. The following had to be disclosed in their restructuring plans:

a) long-term viability
b) appropriate burden sharing

c) measures for preventing distortions of competition.

Abanka has now begun drawing up its restructuring plan.

The Bank of Slovenia will issue (or has already issued) the banks with extraordinary capital increase measures, which will include the wipe out of all qualified liabilities, a capital increase from the government and the transfer of non-performing claims to the BAMC.

Measure 3: Required burden sharing by shareholders and junior creditors

The National Assembly of the Republic of Slovenia has adopted a new Banking Act, which with the aim of burden sharing allows the Bank of Slovenia to pronounce a restructuring measure including the participation of shareholders and holders of hibrid and subordinated instruments, namely it can require them to contribute to bank restructuring. The measure is carried out on the basis of a decision by the Bank of Slovenia, where the principle is that creditors cannot be placed in a worse position than they would be in ordinary bankruptcy proceedings.

Measure 4: Transfer of non-performing claims to the Bank Asset Management Company (BAMC)

NLB and NKBM are obliged, along with their other activities to transfer a portion of their non-performing claims to the BAMC. The list of claims for transfer was reviewed by the external auditor, and approved by the inter-departmental committee in accordance with the ZUKSB and by the European Commission's DG Comp.

Measure 5: Capital increases at the banks

For the banks in Group 1, the money for the capital increases is being provided by the Government in line with the EU state aid rules and with the approval of the European Commission. At Abanka the capital increase will be carried out when the European Commission has issued a final ruling. Because the state aid approval process is not yet complete, Abanka has been issued with a temporary requirement for a capital increase to attain a capital adequacy of 9%. At all three banks the capital increase provided by the government will be an amount derived from the capital shortfall identified by the end of 2015 under the adverse scenario.

The banks in Group 2 will draw fresh capital from existing owners (including foreign parent companies) or new owners, or will use other measures to strengthen capital adequacy. Should they be unable to take measures to strengthen capital themselves, they will be able to request state aid within the framework of the ZUKSB in accordance with European Commission rules.

Measure 6: Provision of liquidity loan as last resort

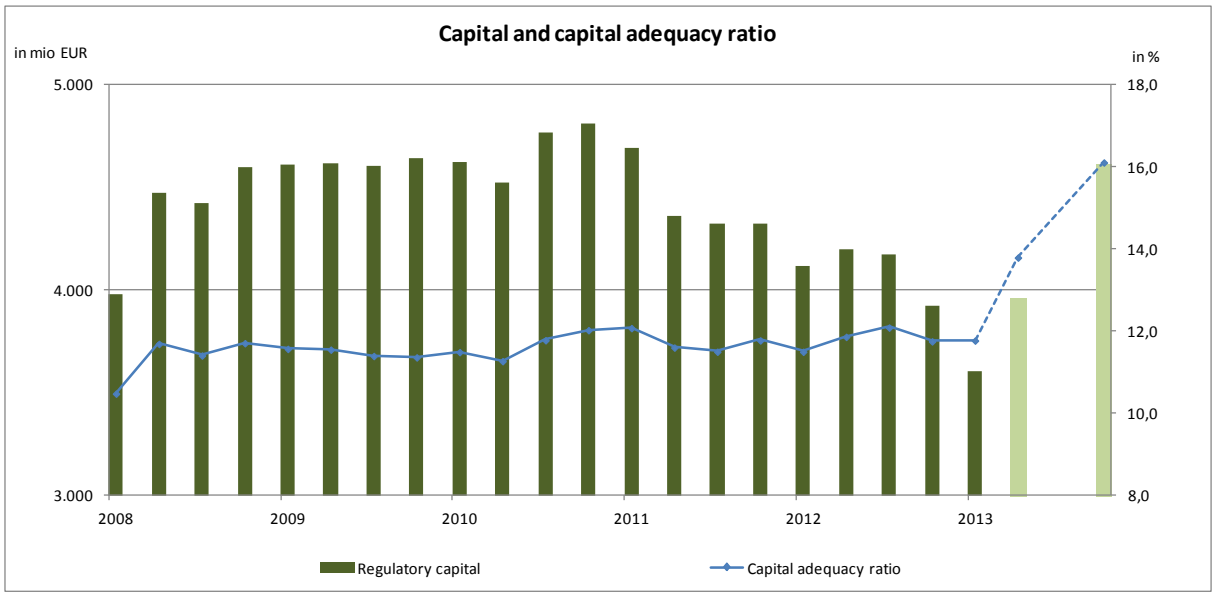
The Bank of Slovenia is ready to ensure the solvency of banks facing temporary liquidity difficulties by acting as a lender of last resort. The Bank of Slovenia issues loans of last resort in accordance with ECB rules.

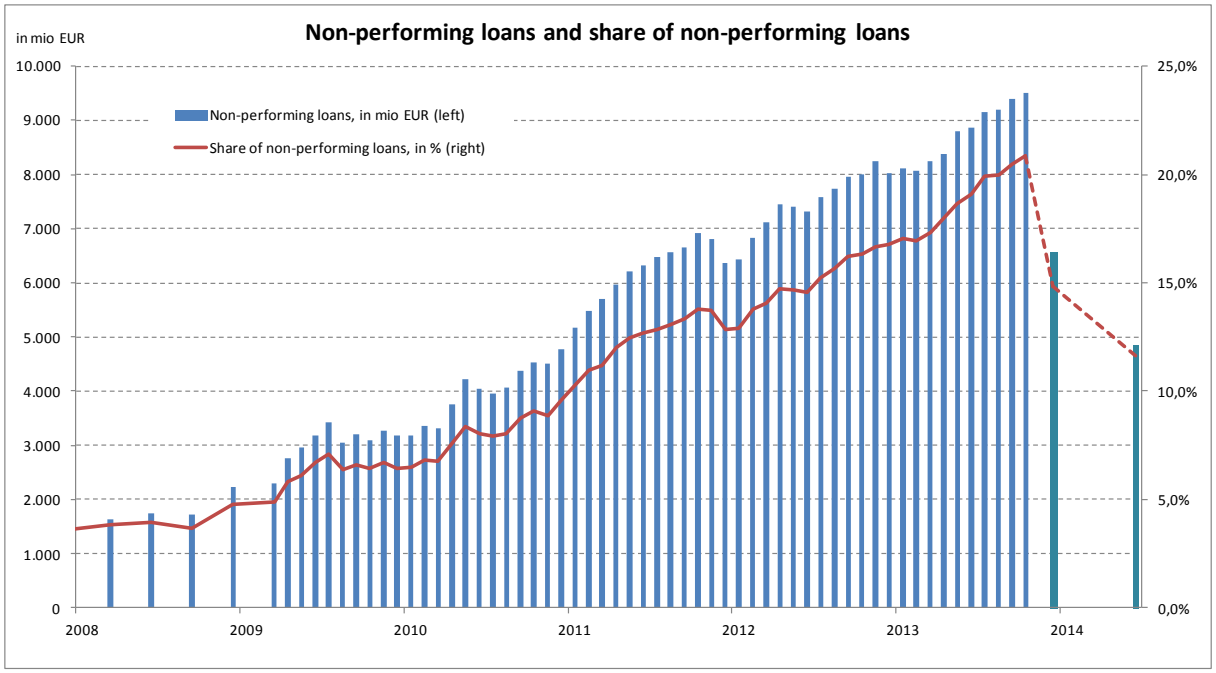
Measure 7: Further activities of the Bank of Slovenia

The Bank of Slovenia has sent all the banks a letter drawing attention to the findings of the asset quality review with regard to credit portfolio approval and monitoring procedures. In conjunction with the Slovenian Institute of Auditors (SIR) it sent the banks additional guidelines for the valuation of financial assets and real estate collateral, and for the treatment of restructured loans.

As in previous years, the Bank of Slovenia intends to carry out similar stress tests at all the banks in 2014. Under the single supervisory mechanism, stress tests will also be conducted at NLB, NKBM and SID banka by the ECB.

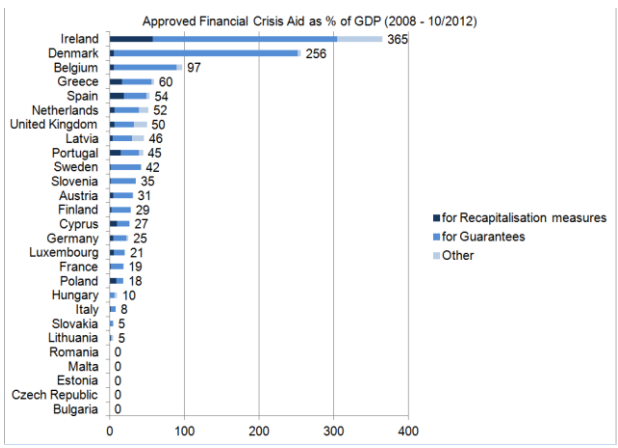
7.2.2 Estimated capital adequacy of the banking system and level of non-performing loans immediately after the execution of measures

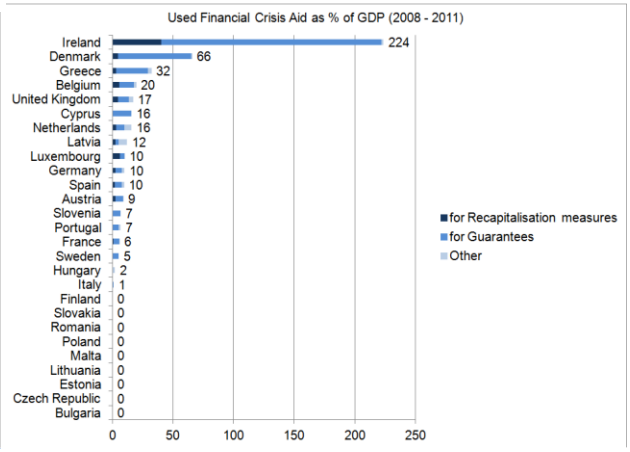




7.2.3 Overall projected fiscal effects

in mio EUR	Capital increase in cash	Capital increase in non-cash contribution	Capital increase Total
NLB			
NKBM	619	251	**870**
Abanka	348	243	**591**
Total	**2.107**	**905**	**3.012**
Factor banka	160	109	**269**
Probanka	160	16	**176**
Total	**320**	**125**	**445**





7.2.4 Strengthening of the Banking Supervision

Banking supervision is being reformed at the European Union level, which will also impact supervision in Slovenia. Of key importance is the transition to the **Single Supervisory Mechanism** (SSM). The regulation outlining the Single Supervisory Mechanism (Council Regulation (EU) No. 1024/2013) entered into force at the beginning of November 2013. The European Central Bank (ECB) will assume supervisory tasks in full in November 2014. Until that time, the competent national authorities of Member States will carry out the comprehensive assessment of credit institutions, the supervision of which will be assumed directly by the ECB.

The comprehensive assessment will comprise three parts: an assessment of banking risks, an asset quality review and stress tests. The comprehensive assessment will include 130 credit institutions, including three Slovenian banks: NLB, NKBM and SID banka. With the assumption of responsibilities by the ECB, supervision will be carried out on the basis of standard methodologies in all Member States. This will result in further stability and transparency, and investor confidence in the banking system.

Due to all of the new tasks that the new legislation imposes on the banking supervisor and the adaptation required due to the establishment of the Single Supervisory Mechanism, supervision must be enhanced, both in terms of additional human resources and in terms of changes to the organisational structure and processes.

The existing supervisory manual, which covers the processes, procedures and methodology of supervision, will be harmonised to a great extent with the SSM supervisory manual, including for those banks that will not be included directly in the SSM. Planned improvements to the existing methodology primarily relate to the introduction of quantitative indicators and qualitative estimates in the assessment of the banks' risk profile.

The system of micro-prudential risk indicators will be expanded and supplemented with macro-prudential risk indicators. The system of indicators will serve as the basis for monitoring the position of specific banks and the banking system as a whole, supervision, measures in line with legally defined powers, in terms of both micro-prudential and macro-prudential supervision, and potential decisions on the use of resolution mechanisms.

The merging and upgrading of loan registers for corporates (curretnly run by the Bank of SLovenia) and retail customers (currently run by a private company owned by banks) In the

future the central loan register (CLR) must facilitate the effective exchange of data to a limited extent with other loan registers in the EU and between the users of the Slovenian CLR, with the aim of improving risk management.

Also envisaged is the reform of the financial system in the direction of a single supervisor. A new structure of supervisory bodies could be established following the adoption of Solvency II rules in the new Act Governing Insurance and Stabilisation of the Banking System.

7.2.5 Consolidation

The structure of bank funding, the accumulated losses, the continuous deterioration of the quality of the credit portfolio and the accelerated deleveraging by the banks raise the issue of a sustainable size of the Slovenian banking sector, both in terms of the number of banks and the size of assets under management. The consolidation of the banking sector is urgent in the current conditions in Slovenia, where the further contraction of the banking system, due to the restructuring and divestment of non-banking activities, and weak economic growth can be expected.

The consolidation of the banking sector must focus primarily on ensuring capital stability, the dispersion of risks, a stable structure of funding and increased profitability, which would allow the banks to generate internal capital flows via retained earnings. Successful consolidation, with an improvement in the capital adequacy of the banks, and the improved dispersion of risks would mitigate the negative effects on lending activity. Sufficiently capitalised banks would find it easier to access the wholesale funding market at acceptable prices. Lower funding costs would allow the banks to operate with a higher net interest margin, which would increase the profitability of the banking sector. The consolidation of the banking sector is also expected to bring synergies related to cost-efficiency through lower operating costs.

The Bank of Slovenia believes that, in the context of current conditions and expectations, the consolidation of the banking sector is a natural process that will also be supported in the scope of the regulator's powers. A total of 21 banks (and three savings banks) were operating in Slovenia when the financial crisis broke at the end of 2008. Today that number stands at 20, with two other banks in the process of orderly wind-down. The number of banks is expected to decline to 15 or 16 by the end of 2015 in the scope of continuing consolidation. In that context, the size of the banking system would remain at 140% of GDP. The reduced number of banks will increase efficiency and contribute to economies of scale. The impetus for consolidation must thus come primarily from the owners of banks, both domestic and foreign private investors, and the government as the largest owner of the banks under majority domestic ownership.

7.2.6 Improvement of the legislative framework

In 2012 and 2013, a few key acts were adopted that facilitated the implementation of measures to strengthen financial stability:

- **The Measures of the Republic of Slovenia to Strengthen the Stability of Banks Act (Official Gazette of the Republic of Slovenia, No 105/12; hereinafter ZUKSB)** entered into force on 28 December 2012 and the implementing regulation based thereon that regulates the management of non-performing loans and other risk-weighted asset items of a bank. The Bank Asset Management Company (BAMC), the objective of which is the implementation of measures under this Act in such a way to ensure the efficient use of public funds and the recovery of budget funds, the stimulation of lending to the non-financial sector, the establishment of conditions for the sell off of the government's capital investments in banks, was established on the basis of this Act.

- **The Act Amending the Banking Act (Official Gazette of the Republic of Slovenia, No 105/12) (hereinafter: ZBan-1J)** entered into force on 28 December 2012. The objective of the ZBan-1J is to establish a special legal regime for resolving banking system issues resulting from limited possibilities for securing appropriate sources of funding, in particular for ensuring capital adequacy. The Act follows the principles emphasised by the European Commission in its draft directive establishing a framework for rescuing and restructuring credit institutions and investment firms. In accordance with the ZBan-1J, the Bank of Slovenia as a bank supervisor may adopt measures against a specific bank that breaches risk management and capital requirement regulations. The Bank of Slovenia may adopt measures also in case circumstances arise that may identify the likelihood of the occurrence of such breaches. In addition, the Bank of Slovenia may act if it believes the stability of the financial system is jeopardised.

- **The Act Amending the Banking Act (Official Gazette of the Republic of Slovenia, No 96/13) (hereinafter: ZBan-1L)** entered into force on 23 November 2013. The Act primarily relates to contingency measures that the Bank of Slovenia can impose on a bank, if increased risk arises in connection therewith and no circumstances are present that indicate that the reasons for the increased risk will likely be eliminated in a reasonable period. Contingency measures shall be imposed due to the reorganisation of a bank such that, either (i) conditions that allow the bank to operate successfully long-term in accordance with the act governing banking and other applicable regulations are re-established, or (ii) procedures are initiated for the gradual winding-up of a bank.

Even prior to the adoption of this Act, four emergency measures were available to the Bank of Slovenia: (a) appointment of an emergency administration for the bank, (b) sale of all the bank's shares, (c) increase in the bank's share capital, and (d) transfer of the bank's assets. This Act introduced a new contingency measure that may be used by the Bank of Slovenia and which relates to reducing share capital, and the cancellation or conversion of the bank's hybrid financial instruments and subordinate debt into ordinary bank shares to the extent to ensure the coverage of its losses or to attain the required capital adequacy. Here, the principle must be followed that no individual creditor, through this measure suffers losses greater than he would have suffered had the bank become bankrupt. The new contingency measure also complies with the Commission Communication on the Application of State Aid Rules to Support Measures in Favour of Banks in the Context of the Financial Crisis from 1 August 2013. Contingency measures that are deemed reorganisation measures in particular with respect to the reduction in share capital and cancellation or conversion of hybrid financial instruments and subordinate liabilities into ordinary bank shares are also listed in the draft directive establishing a framework for rescuing and restructuring credit institutions and investment firms.

Recently, in addition to these acts, also other amendments to the Banking Act and regulations that **enhance corporate governance** have been adopted. The new Regulation on the diligence of members of the management and supervisory boards of banks and savings banks imposes the following: (1) the determination of criteria for defining significant direct or indirect business contacts for the purpose of identifying conflicts of interest, (2) the detailed definition of tasks and the composition of a remuneration committee, and detailed criteria for determining the significance of a bank for the purpose of appointing a remuneration committee, and (3) the determination of criteria and procedures for the assessment of a bank in terms of the suitability of management or supervisory board members or already appointed members holding such office. The amended regulation transposed the EBA guidelines on the assessment of the suitability of members of the management or supervisory body and key function holders (EBA/GL/2012/06) into Slovenian legislation.

The new Banking Act (ZBan-2) is expected to enter into force in the first quarter of 2014. The main purpose of the new act is to implement (i) Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amendments to Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (CRDIV) and to also define the elements of prudential requirements specified in (ii) Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 (CRR).

The objectives of ZBan-2 are as follows: (1) further strengthening of the bank's capital with capital shock absorbers for preventing future shocks associated with own or systemic risks; (2) enhanced requirements regarding the system of governance at banks, including additional requirements in respect of corporate governance and the remuneration system; (3) greater transparency of bank operations through additional disclosure requirements, and (4) assessment of macro-prudential or systemic risks that complement micro-prudential supervision.

The ZBan-2 is expected to also include the required adjustments for implementing procedures in connection with the regulation outlining the Single Supervisory Mechanism (Council Regulation (EU) No. 1024/2013) and the Bank Recovery and Resolution Directive (BRRD).

Crisis management framework: The Slovenian framework for crisis management of banks shall completely adapt to future uniform regulations that will be prescribed by the BRRD and the Single Resolution Mechanism (SRM) laid down by the Regulation (EU). The framework shall outline the required measures, procedures and authorisations with which banks will be rescued in a manner that prevents financial instability and at the lowest possible cost for taxpayers. The government shall set out in more detail the authorities for performing functions and tasks associated with the rescue and ensure that the present crisis management system, this involving the rescuing and restructuring of institutions within Slovenia's financial system and in the scope of cross-border cooperation with other EU member states, will adapt to the above-specified EU framework for crisis management. The authority responsible for such rescuing shall have to modify its organisation in such a manner to ensure the separation of the supervising function from the rescue-related tasks, thus facilitating rapid action and avoiding a conflict of interest.

7.2.7 Measures of the banking supervisor and cooperation with other authorities

The Bank of Slovenia has issued a variety of measures in particular in the area of credit risk, which is a key banking risk and an absolute priority of supervisor activities, and to the members of management and supervisory boards.

In the period between 2006 and mid-2013, the largest number of measures (almost 900) were issued in the area of credit risk, which became increasingly strict over the years.

For reasons of frequent **deficiencies identified in the area of risk management and governance, which appeared as a result of inappropriate organisation and governance of banks as well as a lack of supervision over the work of the management board**, 30 measures were issued since 2008 in the area of governance - this being directly connected with the work of management boards and supervisory boards. In addition, 11 members of supervisory boards were issued dismissal proposals resulting from an identified conflict of interest and a variety of measures (from admonishments to revocation of authorisations to hold office). These were also issued to 13 members of management boards, in particular due to breaches of regulations or bad practices in managing the bank.

Measures in the area of bank governance– work of management and supervisory boards

Year	**2012**	**2011**	**2010**	**2009**	**2008**
TOTAL	6	4	17	2	1

Whenever the Bank of Slovenia has identified a suspected criminal offence when conducting prudential supervision, it has filed criminal complaints before the relevant prosecution authorities. Below is a table showing criminal complaints filed with prosecution authorities over the last five years:

Criminal complaints filed by the Bank of Slovenia by year

Year	**Authority**	**Number of complaints**
2013[1]	National Bureau of Criminal Investigation / Ministry of the Interior	4
	District State Prosecutor's Office	1
2012	Ljubljana Police Directorate	1
	National Bureau of Criminal Investigation	3

œ

[1] Figures to 30 September 2013

2011	District State Prosecutor's Office in Ljubljana	2
	District State Prosecutor's Office in Maribor	1
2010	Ljubljana Police Directorate	1
2009	Office of the State Prosecutor General of the Republic of Slovenia	1
TOTAL		**14**

In addition to the above complaints filed with the prosecution authorities directly by the Bank of Slovenia, in its reviews the Bank of Slovenia also identified examples of bad practice in governance and decision-making where criminal offences could possibly have been committed. In several cases, during its supervision of banks the Bank of Slovenia has imposed a measure ordering a bank to conduct a special investigation with the aim of ascertaining damage and criminal offences in the bank's operations, and any criminal liability on the part of individuals, and to take the requisite action based on the findings. Such a measure was imposed on five banks.

7.2.8 Establishment of macro-prudential supervision

- **Regulation**

The Act on the Macro-Prudential Supervision of the Financial System was adopted to strengthen the legal basis for macro-prudential supervision and the management of systemic risks in the financial system. The aforementioned act will facilitate improved supervision over financial institutions that, due to ownership or other cross-links, operate in different segments of the financial system and contribute to the development of systemic risks. The aim is to protect the stability of the entire financial system. A financial stability committee will formulate a macro-prudential supervision policy and dictate guidelines in the area of macro-prudential supervision to be implemented by supervisory authorities.

- **Macro-prudential measures**

Due to increasing profitability risk as a result of rising liability interest rates, the Bank of Slovenia has taken the aforementioned risk into account in the scope of the internal capital adequacy assessment process since March 2012 – **Measure to limit interest rates on deposits by the non-banking sector**. The purpose of the measure was to limit competition

between the banks for deposits by the non-banking sector through the raising of deposit interest rates. Relatively high interest rates on deposits result in an increase in funding costs, which the banks pass through in part to higher interest rates on loans.

The banks' dependence on wholesale sources of funding (e.g. liabilities to foreign banks and issued debt securities) increased significantly during the period of high growth: the proportion of total assets accounted for by wholesale funding reached 38% in the third quarter of 2008. The unstable structure of funding prior to the emerging financial crisis was reflected in the LTD ratio for the non-banking sector, which jumped to 162%. In the context of a deep recession in Slovenia and the freezing of the European wholesale funding market, the Slovenian banking sector was forced to make harsh adaptations with the repayment of debt to the rest of the world, which slowed lending activity and increased the costs of financing the economy.

The Bank of Slovenia therefore adopted **measures to maintain a sustainable future LTD ratio for the non-banking sector below 125% at the level of the banking system**, and to stabilise the structure of bank funding.

Appendix 2: Before adjustment view of Hypo Alpe Adria Bank excluding the Brush III transaction

Stress Test profile 2012	**€ MM**	**% of total 2012 assets**
Existing loan loss provisions and impairments (EOY 2012)	67	4%
Profit before provisions (EOY 2012)	14	1%
Risk Weighted Assets (EOY 2012)	1 547	81%
	€ MM	**EOY 2012 CT1 ratio**
Core Tier 1 Capital (EOY 2012)	148	10%

	Base Case		**Adverse Case**	
Expected losses 2013 – 2015	**€ MM**	**% of 2012 assets in scope[73]**	**€ MM**	**% of 2012 assets in scope[73]**
Current credit book (EOY 2012)	170	13%	212	17%
SME	86	27%	104	33%
Large Corporates	34	12%	49	18%
Real Estate Developers	41	39%	48	46%
Retail Mortgages	4	1%	6	2%
Retail Others	4	2%	5	2%
New credit book 2013 – 2015	8	n.a.	9	n.a.
Treasury assets	3	5%	9	17%
Additional losses due to Brush III transfer	47	n.a.	47	n.a.
Total losses 2013 – 2015	**227**	**n.a.**	**278**	**n.a.**

	Base Case	**Adverse Case**
Expected available loss absorption capacity	**€ MM**	**€ MM**
Existing loan loss provisions and impairments[74] (EOY 2012)	28	28
Profit before provisions 2013 – 2015	34	44
Capital buffer[75] (EOY 2015)	51	90
Total loss absorption capacity (EOY 2015) [76]	**113**	**162**

	Base Case	**Adverse Case**

œ

[73] %age loss rates based on assets as of EY2012, which were not transferred via Brush III
[74] EOY 2012 Loan loss provisions and impairments for non-Brush III assets
[75] EOY 2012 CT1 Capital in excess of EOY 2015 capital requirement based on estimated EOY 2015 RWAs
[76] Excluding pro-forma DTAs

Expected capital need / surplus (EOY 2015)	**€ MM**	**% of total 2012 assets[73]**	**€ MM**	**% of total 2012 assets[73]**
Capital shortfall incl. generation of new pro-forma DTAs	101	6%	99	6%
Capital shortfall excl. generation of new pro-forma DTAs	114	7%	116	7%

List of abbreviations used in this report

AJPES	**Agencija Republike Slovenije za javnopravne evidence in storitve**
AQR	Asset Quality Review
BAMC	Bank Asset Management Company
BoS	Bank of Slovenia
CCR	Central Credit Registry
CT1	Core Tier 1 Capital
DB	Domestic Business
DP	Default probability
DPD	Days-past-due
DTA	Deferred Tax Asset
EAD	Exposure at Default
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EL	Expected loss
EOY	End of year
FI	Fixed Income
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
HICP	Harmonised Index of Consumer Prices
HtM	Hold to Maturity
LGD	Loss Given Default
LGL	Loss Given Loss
LTV	Loan to Value
MoU	Memorandum of Understanding
MtM	Mark to Market
NDB	Non-domestic business
NII	Net Interest Income
NPL	Non-Performing Loan
ODR	Observed Default Rate
P&L	Profit and Loss
PBP	Profit before provisions
RE	Real Estate
RED	Real Estate Developers
REN	Registra nepremičnin
ROA	Return on Assets
RWA	Risk Weighted Assets
SME	Small and Micro Enterprises
SteerCo	Steering Committee
WorkGr	Working Group
y-o-y	Year-on-Year