Risk management

R

In anticipation of tests of balance-sheet resilience under different stress scenarios which the European Central Bank is to carry out on European banks in 2014 in coordination with the European Banking Authority, Banco Sabadell engaged consultancy Oliver Wyman to conduct its own internal stress test. On 9 September 2013 Banco Sabadell filed a regulatory disclosure with Spain's stock market regulator (CNMV) that included the results of the Oliver Wyman stress test. The test measured the resilience of Banco Sabadell's balance sheet in the period June 2013 to December 2016 under two specified macroeconomic scenarios: one baseline or central scenario and one adverse scenario. The central scenario was based on the most recent macroeconomic data and the market consensus view (Bloomberg, the IMF, etc.). The more pessimistic scenario was similar to the adverse scenario defined in the bottom-up asset quality review and stress test exercise of 2012, adjusted for the differences in timeframes. On this basis, estimates were made for:

— Projected write-downs in the loan and foreclosed asset portfolios.
— Loss absorption capacity, including profit generation.
— The resulting capital surplus or shortfall.

The results, in summary, were that for the period June 2013 to December 2016, under both the central and the pessimistic scenario, loss absorption capacity and capital were estimated to be sufficient to cover any possible losses in the credit book and the foreclosed asset portfolio:

— Under the central scenario, cumulative losses in the credit book and foreclosed asset portfolio amounted to €11,600 million and €7,400 million respectively, while the loss absorption capacity was estimated at €24,800 million.
— Under the pessimistic scenario, losses amounted to €23,000 million (€14,300 million for the credit book and €8,700 million for foreclosed assets) against a loss absorption capacity of €25,300 million.

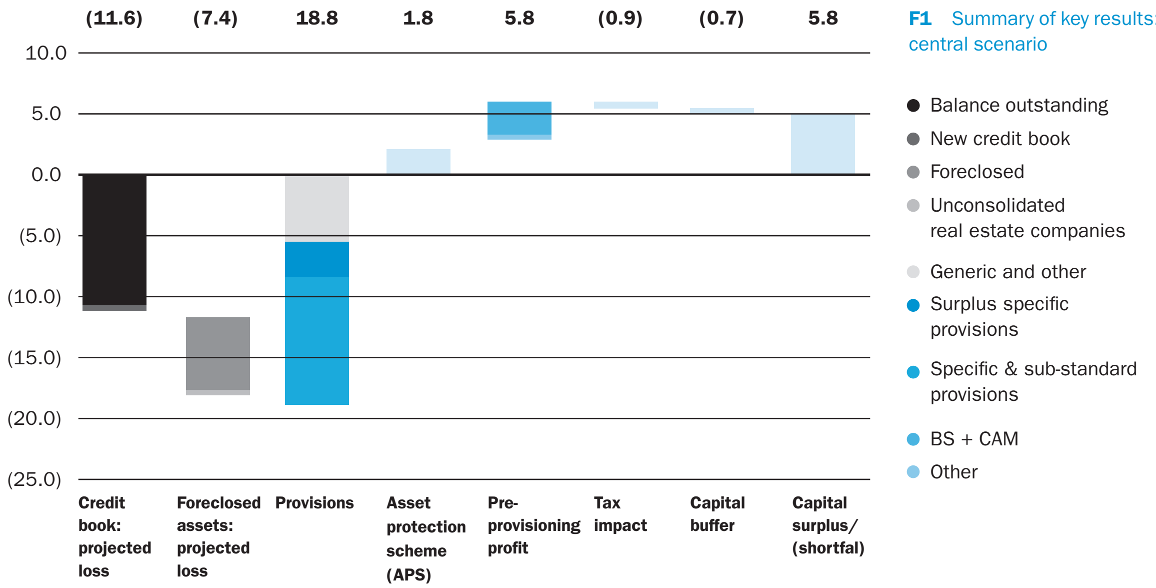
This implied that Banco Sabadell group would have surplus capital of 5.8 billion euro in the core scenario and around 2.4 billion euro in the adverse scenario (F1 and F2).

The chief categories of risk inherent in the business of Banco Sabadell and its group are credit risk, market risk and operational risk.

The accurate and efficient management and control of risk is critical to realizing the aim of maximizing shareholder value while ensuring an appropriate degree of financial strength. The management and control of risk comprises a broad framework of principles, policies, procedures and advanced evaluation methodologies, integrated within an efficient decision-making structure. These are fully and clearly set out in the Annual Accounts, the Report of the Directors, the Report on Corporate Governance and the Basel Pillar 3 Disclosure document, all of which can be found on the group's web site.

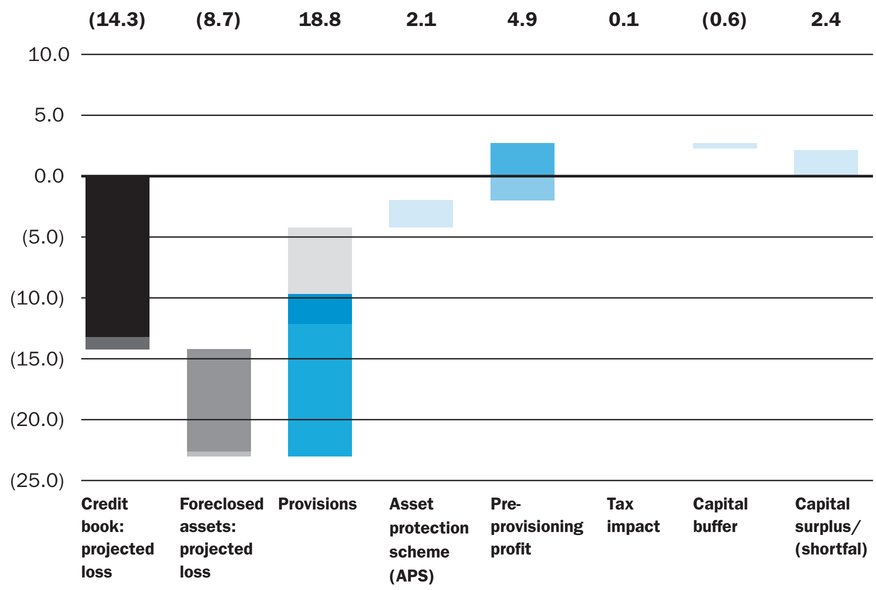
New advances were made in risk approval and monitoring systems, recovery processes and asset management. At the same time, the Catalonia and Aragon business and bank branches acquired from BMN-Penedès were fully integrated on our systems, resulting in unified risk management and control procedures across the group. Banco Sabadell complies with guidelines drawn up under the Basel Capital Accord, a fundamental principle of which is that a bank's capital requirements should be more closely related to risks actually incurred, based on internal risk measurement models which have been independently validated.

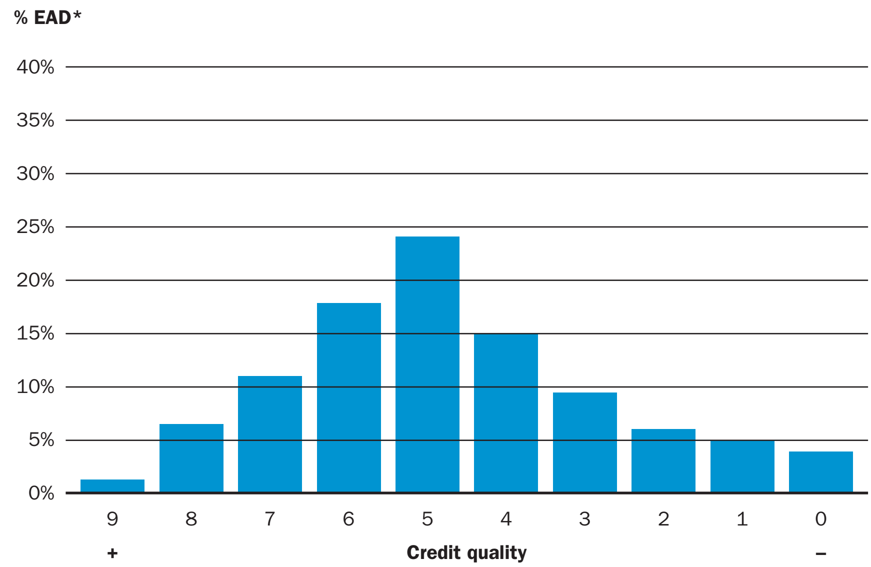
Banco Sabadell has supervisory approval for the use of its own internal models for companies, real estate developers, specialized finance, financial institutions, retail outlets and sole proprietors, mortgage loans, personal loans, personal credit and credit cards, in estimating its regulatory capital requirements.



F1 Summary of key results: central scenario

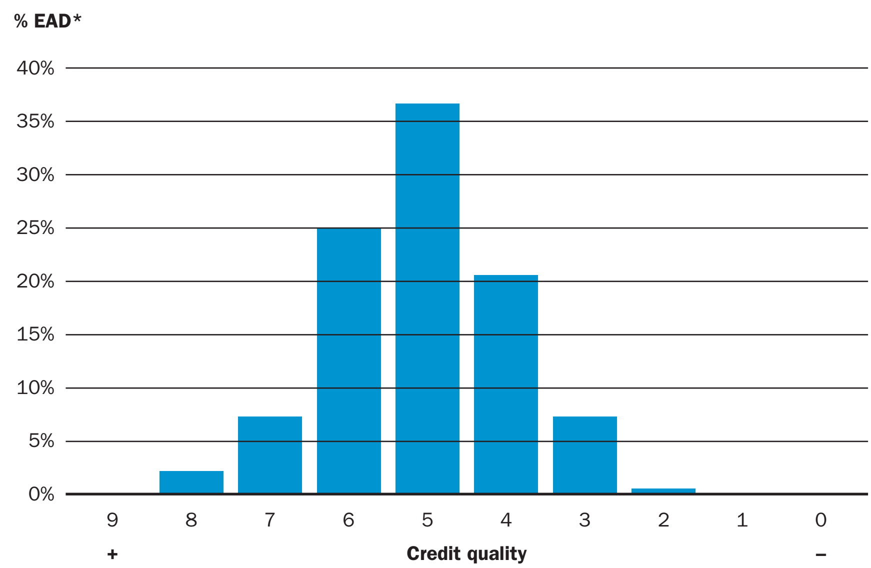
F2 Summary of key results: adverse scenario





F5 Business loan portfolio
Credit rating profile

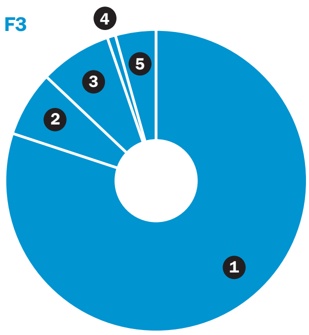
* EAD (exposure at default)



F6 Individual customer loan portfolio
Credit rating profile

* EAD (exposure at default)

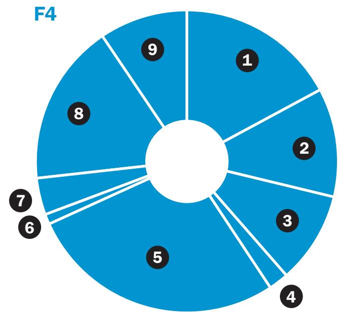
F3



Capital allocation (by type of risk)

1	Credit risk	80%
2	Structural risk	7%
3	Operational risk	8%
4	Market risk	1%
5	Other risks	4%

F4



Overall risk profile by customer category (distribution of credit risk exposures) %EAD*

1	Large corporates	17.14%
2	Midsize businesses	11.63%
3	Small businesses	9.80%
4	Retailers and sole proprietors	2.12%
5	Mortgage loans	27.52%
6	Consumer loans	1.08%
7	Banks	3.93%
8	Sovereigns	17.32%
9	Other	9.45%

Based on the risk metrics provided by these new methodologies, Banco Sabadell has a consolidated system in place for measuring risk (F3).
The assessment of risk in terms of an allocated capital requirement means that risk can be related to return, from individual customer up to business unit level. The group has an analytical "risk-adjusted return on capital" system in place which provides this assessment and includes it as part of the transaction pricing process (F4).

Credit risk

Credit risk is the possibility that losses may be incurred as a result of borrowers failing to meet their obligations or through losses in value due simply to deterioration in borrower quality.

Loan approval, monitoring and recovery

To maximize the business opportunities provided by each customer and to guarantee an appropriate degree of security, responsibility for approving and monitoring risks is shared between the relationship manager and the risk analyst, who are thus able to obtain a comprehensive view of each customer's individual circumstances.

The Board of Directors delegates powers and discretions to the Risk Control Committee, which then sub-delegates authority at each level. The implementation of controls on these authority limits as part of the group's loan approval system ensures that the powers delegated at each level are appropriate to the expected loss estimates for all loan applications by business customers.

By analysing indicators and early warning alerts in addition to credit rating reviews, the quality of a risk can be constantly monitored in an integrated way. The establishment of effective processes for managing existing risk exposures also benefits the process of managing past-due accounts, since the early identification of probable default cases ensures that measures can be taken proactively. With an early warning system, the quality of a risk can be monitored in an integrated way and risks transferred to recovery specialists who are best equipped to determine the most suitable type of recovery procedure in each case. Risks above a certain limit are grouped into categories according to their expected loss ratios, so that they can be treated in the most suitable way. These alerts are co-managed by the relationship manager and the risk analyst, helped by the feedback obtained as a result of direct contact with customers.

Credit rating

Credit risk exposures to corporate customers, real estate developers, specialized financing projects, retailers and sole proprietors, financial institutions and countries are assessed according to a system of credit ratings based on predictive factors and internal estimates of the probability of default. The rating model is reviewed each year on the basis of an analysis of actual default data.

Each rating score is assigned an anticipated default rate which allows consistent comparisons to be made across segments and with the ratings of independent rating agencies, according to a master scale (F5).

Credit scoring

Credit risk exposures to individual customers are classified by means of scoring systems which make use of quantitative modelling based on historical data to identify key predictive factors. Two types of scoring are used:

— Behavioural scoring: a system in which all customers are automatically classified according to their transaction histories and data for each product taken. It is used primarily for: granting loans, setting limits on authorized overdrafts, targeting sales campaigns, and for tracking and segmenting in claim and/or recovery procedures.
— Application scoring: this is used to evaluate applications for personal loans, mortgage loans and credit cards. When full details of the application have been entered, the system generates a result based on the estimated borrowing capacity and financial position of the applicant and the quality of any security or collateral (F6).

Country risk

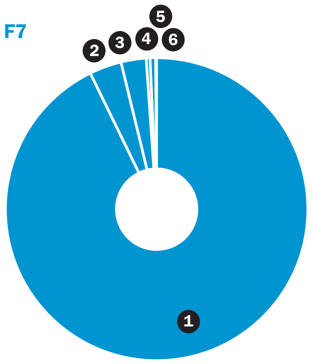
This is the risk of incurring loss from exposures to sovereign borrowers or to persons domiciled in a particular country for reasons connected with national sovereignty or the economic situation of the country, and therefore unrelated to normal business risks. Country risk includes sovereign risk, transfer risk and other risks inherent in global financial operations (war, expropriation, nationalization, etc.).

An overall exposure limit is set for each country and this applies across the whole group. Country limits are approved by the Risk Control Committee and are constantly monitored to ensure that any deterioration in the political, economic or social situation in a country can be detected in good time.

A range of different tools and indicators are used to manage country risk. These include: credit ratings, CDS's, economic indicators and the like (F7).

Credit risk in market trading

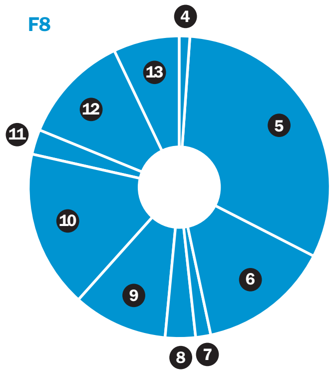
Credit risk associated with market trading arises from trading in financial instruments in market transactions with financial counterparties and in the fixed-income portfolio. In the particular case of derivatives and repos, F7



Credit risk
Distribution by geography

1	Spain	92.76%
2	Other European Union	3.44%
3	USA & Canada	2.69%
4	Rest of world	0.41%
5	Latin America	0.59%
6	Other OECD	0.11%

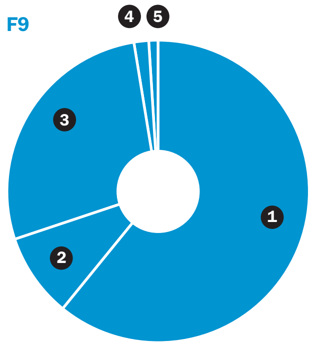
F8



Counterparty risk
Distribution by credit rating

1	AAA / Aaa	0.00%
2	AA+ / Aa1	0.00%
3	AA / Aa2	0.00%
4	AA- / Aa3	1.12%
5	A+ / A1	31.40%
6	A / A2	14.12%
7	A- / A3	1.62%
8	BBB+ / Baa1	3.24%
9	BBB / Baa2	10.14%
10	BBB-/Baa3	16.86%
11	BB+ / Ba1	2.66%
12	BB / Ba2	11.74%
13	Other ratings	7.09%

F9



Counterparty risk
Distribution by geogrphy

1	E.M.M.	60.88%
2	Rest of Europe	9.00%
3	Other USA & Canada	27.55%
4	US Investment banks	1.57%
5	Rest of world	1.00%

risk exposure is generally substantially below the nominal amount of the contract (counterparty risk).

Banco Sabadell has a system in place for assessing and managing these risks which allows compliance with approved limits to be monitored and controlled on a daily basis.

In addition, to mitigate exposure to counterparty risk Banco Sabadell maintains netting agreements — Credit Support Annexes (CSAs) or Global Master Repurchase Agreements (GMRAs) — negotiated with the majority of its counterparties. The collateral provisions of these agreements ensure that exposure to such counterparties is significantly reduced (F8 and F9).

Market risk

Discretionary market risk

Discretionary market risk arises from the possibility of loss in the value of financial asset positions due to changes in any of the factors affecting market risk (stock prices, interest rates, exchange rates or credit spreads). It arises primarily from treasury and capital market positions and can be managed through the holding of other financial instruments.

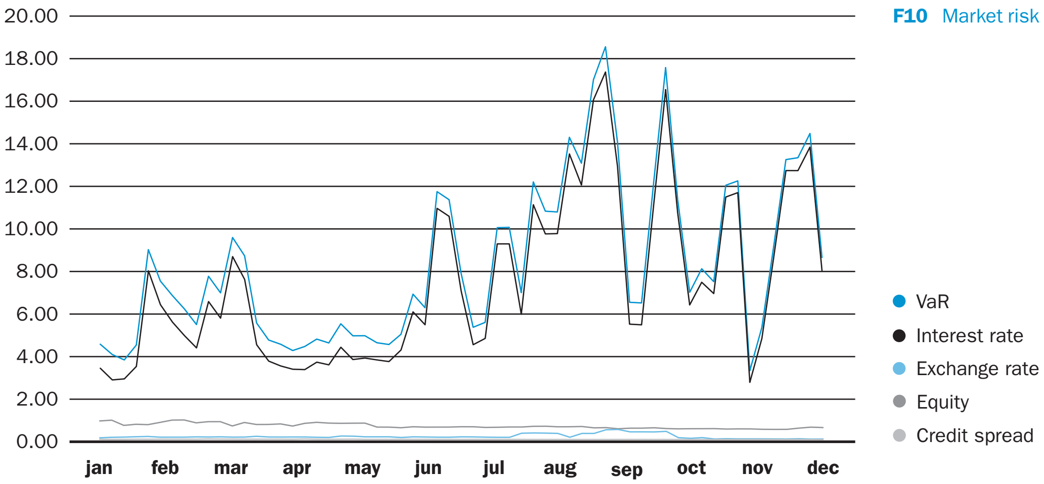
Discretionary market risk is measured, in most cases, by the VaR (Value at Risk) method, which allows the risks on different types of financial market transaction to be analysed as a single class. VaR provides an estimate of the anticipated potential maximum loss on a position that would result from an adverse, but possible, movement in any of the market risk factors that have been identified. This estimate is expressed in money terms and is calculated at a specified date, to a specified confidence level and over a specified time horizon. The estimate takes account of different levels of market risk factors. VaR limits are approved by the Risk Control Committee and are assigned on a top-down basis, with the overall limit being divided into sub-limits for different business units and risk factors down to individual portfolio level.

In addition to VaR limits other types of limit are applied, such as sensitivity, nominal value and stop-loss limits; these, along with VaR, ensure that a complete assessment of market risk exposure can be obtained. Market risk is monitored on a daily basis and reports on current risk levels and on compliance with the limits assigned to each unit are sent to the relevant control functions. This makes it possible to track changes in exposure levels resulting from changes in the market prices and volatilities of financial instruments. The reliability of the VaR methodology is validated by backtesting techniques which are used to verify that the VaR estimates are within a specified confidence level.

The F10 graph shows the movement of the 1-day VaR for market trading operations in the year 2013 at a 99% confidence level.

Risk control techniques of this kind are supplemented by special simulation exercises under extreme market scenarios ("stress testing"), the purpose of which is to analyse different scenarios, historical as well as hypothetical, and their possible impacts on the trading portfolio.

The T1 table shows a stress analysis of this kind for the treasury portfolio:



F10 Market risk (€Mn.)

T1 Stress test results (late 2013) (€Mn.)

Scenario	Result
2008 banking crisis scenario	(0.60)
Sovereign debt stress scenario	(7.09)
Downward parallel shift in yield curve scenario	(0.59)
Flattening yield curve scenario	(1.35)
Upward parallel shift in yield curve scenario	(1.18)
Steepening yield curve scenario	(0.20)

Structural interest rate and liquidity risk

Structural risk arises from ongoing customer-based commercial and corporate banking operations and is divided into interest rate risk and liquidity risk. Management of structural risk seeks to ensure stability at the margin by maintaining appropriate levels of liquidity and capital strength.

Interest rate risk

Interest rate risk is caused by changes, as reflected in the position or the slope of the yield curve, in the interest rates to which asset, liability and off-balance sheet positions are linked. Gaps or mismatches arise between these items because of differences in repricing and maturity dates so that rate changes affect them at different times; this in turn affects the robustness and stability of results.

The management of interest rate risk focuses on overall financial exposure for the group as a whole and involves proposing alternative business or hedging strategies that will meet business objectives and are appropriate to market conditions and within the exposure limits that apply across the group.

A number of methodologies are used to measure interest rate risk. These include measuring the sensitivity of net interest income to changes in interest rates over a one-year horizon. This is done by means of static (gap analysis) or dynamic (simulation) tests based, in the latter case, on different assumptions of balance sheet growth and changes in the slope of the yield curve. Another technique that is used is to measure the sensitivity of equity to changes in interest rates by duration gap analysis, which measures the effect of interest rate changes over a longer time horizon. The sensitivity of net interest income and shareholders' equity to a 100 basis point change in interest rates for the years 2012 and 2013 is illustrated in the following diagram F11.

Liquidity risk

This can be defined as the possibility of the Bank's being unable to meet payment commitments, even if only temporarily, due to a lack of liquid assets or of its being unable to access the markets to refinance debts at a reasonable cost. Liquidity risk may be caused by external factors such as a financial market downturn, a systemic crisis or reputational issues, or internally, by an excessive concentration of maturing liabilities.

Banco Sabadell keeps a close watch on day-to-day changes in its liquid asset position and holds a diversified portfolio of such assets. The Bank analyses the quality of its holdings of liquid assets as measured by their sensitivity to different scenarios involving ratings downgrades and changes in market conditions. It also carries out projections to anticipate future needs and periodically assesses its ability to create assets eligible as collateral in ECB operations.

In addition, liquidity gap analysis is used to manage foreseeable mismatches between cash inflows and outflows over a medium-term horizon. Systematic checks are made to verify that the group's ability to raise funds on the capital markets is sufficient to satisfy its requirements in the medium and long term.

For this purpose the group has programmes in place to raise finance on the medium-and long-term capital markets, including mortgage covered bond and senior debt issuances. The group also has programmes set up for the issuance of short-term commercial paper, both domestic and foreign, which further diversify its funding sources. Finally, it promotes and develops new sources of finance such as long-term repo trades in asset-backed securities, thus providing additional instruments for the management of liquidity risk.

The Bank carries out regular liquidity stress testing exercises to enable it to assess inflows and outflows of funds and the impact of these flows on its cash position under different scenarios.

Based on this analytical framework, the Bank has a contingency plan to respond to unexpected scenarios that could cause an immediate funding requirement. Another type of liquidity stress test that is carried out is to analyse the impacts that changes in market prices could have on the assets deposited as collateral, whether in the futures and options markets or under collateral agreements (CSAs and GMRAs). A range of different market risk scenarios is studied and the effects of these on liquidity, individually and in combination, are analysed.

The contingency plan is constantly being updated and identifies the Bank's assets that are most readily convertible to cash in the short term; it also sets out action plans should it become necessary to raise additional cash.

Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from unforeseen external events. Banco Sabadell pays particular attention to operational risk and has implemented a management, measurement and oversight framework that fulfils the conditions necessary to opt for the use of an advanced model for calculating regulatory capital charges for operational risk.

Management of operational risk is decentralized and devolved to process managers throughout the organization. The full range of group processes is identified on a corporate process map, thus facilitating the compiling of information in a way that reflects the structure of the organization. The group has a specialized central unit to manage operational risk, whose main functions are to coordinate, supervise and drive forward the identification, assessment and management of risks by process managers in line with Banco Sabadell's process-based approach.

Senior managers and the Board of Directors play a direct, hands-on role in managing operational risk by approving the management framework and its implementation as proposed by an Operational Risk Committee made up of senior managers from different functional areas of the group; they also ensure that regular audits are carried out on the management strategy being applied, the reliability of the information being reported, and the internal validation tests required by the operational risk model. Management of operational risk is divided into two action areas:

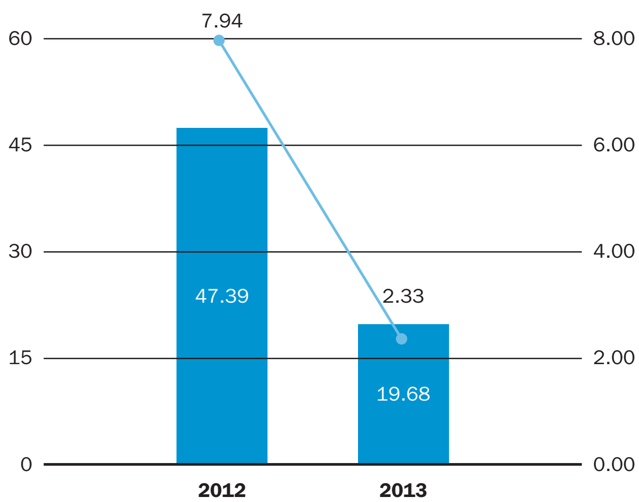
— The first action area is based on an analysis in which all processes and any associated risks that involve potential losses are identified, leading to a qualitative evaluation of the risks and their associated control mechanisms. This is done by process managers in conjunction with the central operational risk unit. The result is an assessment that allows future exposures to be recognized as expected and unexpected losses, tendencies to be anticipated and mitigating action to be taken in an informed way. This is supplemented by a system for identifying, monitoring and actively managing risk through the use of key risk indicators. These can be used to trigger alerts in response to increases in exposure, identify the causes of that exposure and measure the effectiveness of the controls in place and any improvements that are made.

  Care is taken to ensure that all processes identified as critical are protected by specific business continuity plans in the event of a service failure. The operational risks identified are also qualitatively assessed from the point of view of their reputational implications, should an incident occur.

—The second action area is based on experience. It consists of maintaining a database of all losses that occur in the organization. This provides a store of information of actual operational risk events for each business line and the causes of those events, so that risks can be acted upon and minimized. This loss information is also of use in measuring the extent to which estimates of potential loss are consistent with reality, both in terms of severity and frequency, so that loss exposure estimates are constantly being updated and improved in this way.

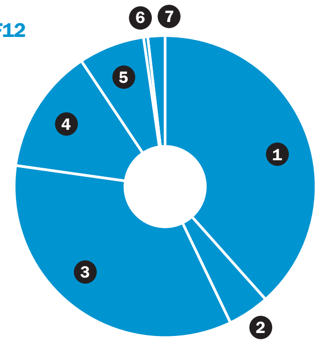
The database contains historical records of actual losses resulting from operational risk going back to 2002. It is constantly being updated as information is received on losses and also on recoveries, whether resulting from the Bank's own efforts or from insurance provision (F12 and F13).

F11 Structural interest rate risk
(interest rate sensitivity)



● Sensitivity of net interest income (€Mn.)
● Sensitivity of shareholders' equity (%)

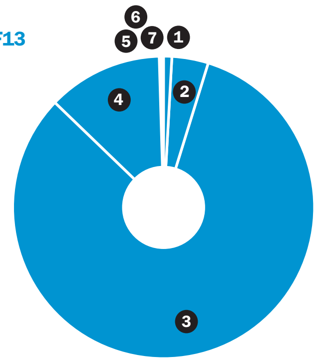
F12



Distribution of loss events due to operational risk (by amount)

1	Customers, products and business practices	38.41%
2	Property damage	4.46%
3	Process execution, delivery and management	34.36%
4	External fraud	13.40%
5	Internal fraud	7.07%
6	Business disruption/ systems failure	0.45%
7	Staff relations and workplace security issues	1.85%

F13



Distribution of loss events due to operational risk (by number)

1	Customers, products and business practices	0.88%
2	Property damage	3.90%
3	Process execution, delivery and management	82.41%
4	External fraud	12.34%
5	Internal fraud	0.06%
6	Business disruption/ systems failure	0.28%
7	Staff relations and workplace security issues	0.12%

Compliance risk

The direct impact that breaches of regulations would have on the Bank's image vis-à-vis customers, the market, employees and regulators makes it necessary to deal with compliance risk, that is, the risk of incurring legal or administrative sanctions, significant financial loss or reputational damage as a result of an infringement of laws, regulations, internal procedures and banking industry codes of conduct.

With this aim in view, the group has a compliance policy that handles the setting of policies, procedures and controls centrally at head office and delegates implementation to its subsidiaries and branches in other countries. This is a flexible, risk-focused approach which can be adapted to changes in group strategy as they occur; it also makes use of synergies, especially in cases involving complex global impacts requiring technology solutions. The main challenge with this approach is to achieve a uniform system of controls for regulatory compliance across the group by laying down standards that must be observed regardless of the type of business or the country where the business is located.

The policy has six main components:

— Technology: regulatory compliance and its associated control mechanisms must be incorporated into the group's IT operating systems and procedures to reduce the degree of discretionality in the observance of applicable rules and regulations.
— Employee training: process executors' knowledge of and sensitivity to risk are being extended through training in the areas that are most sensitive or involve particularly high risks.
— Procedures: clear instructions on how to act are issued for each process or product.
— Communication channels: special channels have been set up to ensure the efficacy of any information flow from any part of the organization to the Compliance team.
— Verification and control programmes: to ensure compliance with legal and regulatory requirements.
— Approval procedure for products and regulations: the Compliance department is involved in the process of approving new regulations, products and procedures and its permission must be obtained before any of them can be launched or implemented. In this way the conformity of group operations with laws and regulations can be assured.

The Banco Sabadell group has installed a more robust and effective control infrastructure in all areas where a compliance risk may be present, such as prevention of money laundering and the financing of terrorism, market abuse, internal codes of conduct and investor protection (MiFID). Key actions implemented in 2013 included the following:

— Constantly updated anti-money laundering monitoring systems and Know-your-Customer and Customer Acceptance procedures.
— Progress in complying with Spanish anti-money laundering legislatino on the keeping and updating of customer documents and due diligence procedures.
— Expanded and more rigorous measures to bring greater transparency to all dealings with customers, particularly in the marketing of products and the terms of contracts; making available to the public all fees, commissions, costs and expenses actually charged on the more common banking products and services.
— Improving investor protection by implementing new procedures to evaluate the timeliness and suitability of investments.
— Strengthening the group's resources for the detection of possible market abuse by incorporating additional risk parameters; this will make alerts systems more sensitive and extend the range of possible suspicious behaviour patterns.
— Strengthening the mechanisms for overseeing compliance with the group's Internal Code of Conduct for trading on the securities market.
— Promoting and monitoring implementation of the Foreign Account Tax Compliance Act (FATCA).
— Implementing these compliance systems at branches taken over following the acquisition of the BMN-Penedès network in Catalonia and Aragon, and making a start on integrating the operations of Banco Gallego and SabadellSolbank (formerly Lloyds Bank España).