## Main significant risks of the strategic risk framework

#### Introduction

The Banco Sabadell group has a Strategic Risk Framework in place to ensure the proactive control and management of all of the group's risks. This framework is made up of, amongst others, a risk appetite statement (RAS), which sets the quantity and diversity of risks that the group seeks and tolerates in order to achieve its business objectives, whilst maintaining a balance between return and risk.

The risk appetite statement comprises quantitative metrics that allow the group to monitor the risk management, and qualitative aspects that complement them.

The management and control of risks is set up as an ample framework of principles, policies, procedures and advanced assessment methodologies that together comprise an efficient decision-making structure under a governance framework for the risk function, adapted to European and Spanish regulations.

The framework of principles, policies, procedures and methodologies is reflected in the document "Banco Sabadell group risk policies", which is reviewed at least once a year and approved by the Board of Directors. The document was last updated in January 2016.

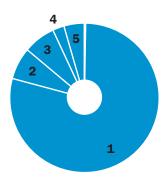
For each significant risk of the group, the main participants are identified, and their functions, policies, methods and procedures are explained, in addition to the monitoring and control mechanisms. Details on how the risk function is organised are also included, including the roles and responsibilities of different departments and committees in terms of risks and their control systems, adjusted to the activities of the business units, including the functions of granting loans and advances (G2).

The main financial risks facing the companies of the Banco Sabadell group as a consequence of their activities associated with the use of financial instruments are credit risk, liquidity risk and market risk. Of these, credit risk is the most significant risk facing the group (G3).

The main non-financial risks facing the group are operational risk, fiscal risk and compliance risk.

In terms of risk management, the group takes into consideration the regulatory and macro-economic environment. The most notable aspects during 2015 are detailed hereafter:





#### G3

#### **Capital mapping**

#### 31.12.2015 (%)

1	Credit risk	79.3
2	Structural risk	7.0%
3	Operational risk	7.0%
4	Market risk	2.3%
5	Others	4.4%

#### **Macro-economic environment**

- In 2015, the world economy showed modest growth.
   The year has been marked by new episodes of political and geopolitical instability and by more erratic behaviour of the financial markets.
- In the political arena, the situation in Greece during the first half of the year took centre stage, with increasing concerns over the possibility of it ultimately leaving the Eurozone.
- In the geopolitical arena, the conflict in Ukraine has taken second stage to the refugee crisis in Europe and the increasing tension with regard to Syria.
- On the global financial markets, the abrupt summer movements that occurred as a response to uncertainty regarding growth in China and the expectation of an increase in the benchmark interest rates in the United States are worthy of mention.
- The economy of the Eurozone has shown a slightly more positive evolution than in 2014, backed by the depreciation of the euro, the lower price of crude oil and the reduced cost of funding.
- The Spanish economy has shown a very favourable evolution and has continued to positively stand out within the Eurozone. Its GDP has seen its biggest increase since 2007.
- Emerging economies have been weighted down by more restrictive funding conditions, reduced prices of commodities and the structural deceleration in China. On the negative side, the behaviour of the economy in Brazil is worth mentioning.
- Inflation has continued to be very low and far from the monetary policy objectives in the main developed economies. Inflation has seen downward pressure from lower crude oil prices.
- The ECB has introduced a broad asset purchase program and has once again reduced the marginal

- deposit rate to -0.30%. In the United States, the Fed, at its December meeting, raised the benchmark interest rate for the first time in nine years, to a level of 0.25%-0.50%.
- The European banking sector has continued to be reinforced, improving its loss absorption capacity, and its solvency and profitability. In spite of this, it continues to face important challenges in relation to the weak economic recovery and the persistence of low interest rates.
- On the long-term government bond markets of the United States and Germany, yields have continued to be very low. Such assets have been supported by low inflation, the accommodating nature of monetary policies and doubts on global economic growth.
- In the European periphery, public debt has continued to be supported by the monetary policy of the ECB.
   The yields of the government bonds of such countries have reached new historical minimums.
- On the foreign currency markets, the euro has again depreciated against the dollar and the Sterling pound.
   Most of this change took place during the first quarter, coinciding with the announcement of the ECB government bonds purchase program.
- The financial markets in emerging countries have maintained their high volatility and were severely affected over the summer, with steep foreign exchange depreciations and a sudden drop in the Chinese stock markets.

#### **Regulatory environment**

In 2015, advances have been made in the regulatory and supervisory environment, among the most noteworthy of which are:

- Advances in the Banking Union: The euro crisis has demonstrated that to guarantee long-term sustainability of the Monetary Union it is necessary for there to be a truly integrated banking system.
- Action Plan for the Capital Markets Union: The creation of the Capital Markets Union (CMU) has also continued to develop, with the European Commission's publication of the Action Plan (September 30th), which establishes the specific measures to be implemented until 2017.
- Macro-prudential policy has acquired relevance: a relevant line of work in the Eurozone in 2015, as it is considered key to correcting imbalances that may amass at national level within the Monetary Union and contain systemic risks. In fact, in 2015, several member states have implemented macro-prudential measures, mainly focused on requiring additional capital buffers for the banks of systemic importance at national level, and counter-cyclical capital buffers or measures to contain risks in certain sectors, such as the real estate market.
- New stage of implementation, gauging and standardising the regulatory framework: In 2015, regulatory work has continued to increase the solvency of the financial system. After years of intensive work in the preparation of new regulations, a new stage has started involving the implementation of measures, the evaluation of their effectiveness and a possible redefinition of parameters. The purpose is not only to ensure the resistance of the banking sector in case of adverse events, but also for it to be able to fully carry out its role in society and finance economic growth.

#### General principles of risk management

#### **Corporate risk culture**

Banco Sabadell's risk culture is one of its defining features, and it is strongly embedded throughout the organisation as a result of its progressive implementation and development over several decades. Some of the most notable characteristics of this strong risk culture are:

- High level of commitment by the Board of Directors in risk management and control. Since before 1994, the bank has had a Risk Control Committee whose primary function is to supervise the management of all significant risks and their alignment with the profile defined by the group.
- A basic management team forms a key part in the acceptance and monitoring of risks. It has existed for more than twenty years and is formed by both the account manager and the risk analyst. Management is carried out by contributing both parties' points of view. All decisions taken must always be discussed and resolved by means of an agreement by both parties. This means that the team is highly involved in the decision-making process and it also means that decisions are based on sound and solid arguments.
- High degree of specialisation: specific management teams are created in each segment (Real Estate, corporate, businesses, SMEs, retail, banks and countries, etc.) which allow for a specialised management in each area.
- Advanced internal models for credit ratings as a basic part of the decision-making process have been in place for over fifteen years (since 1999 for individuals and since 2000 for businesses). The group, following best practices, uses these models in order to improve the overall efficiency of the process. These models not only allow ordinal ordering of borrowers, but are also the basis for quantitative measurement of the risk, and they therefore allow multiple uses of these measurements in key management processes: fine adjustment in the delegation of powers, efficient risk monitoring, global risk management, risk-adjusted profits and analysis of the group's solvency are some examples.
- The delegation of powers for sanctioning operations of corporate risk at the various levels is based on the expected level of loss. As a general policy in terms of the delegation of authorities, the group has chosen a system where the various levels are defined using the metric of expected loss, which takes into consideration the exposure to credit risk of the operation in sanctioning the customer and the risk group, their expected default rate and their estimated severity.
- Credit risk is rigorously monitored through an advanced system of early warnings for businesses and individuals. The monitoring at the customer or risk group levels can be divided into three types: operational, systematic and comprehensive monitoring.
   One of the basic sources used for this monitoring is the implementation of an early warnings system for

both businesses and individuals (launched in 2008 and 2011) which allows credit risk to be identified in advance. These warnings are based on both internal information, such as the number of days in an irregular situation, overdrawings of commercial discounts, guarantees or international loans, and external information, such as customers registered as defaulting in the rest of the financial system and information from available credit bureaux.

- An advanced model to manage irregular risks allows for the early identification and specialised management of risks. A comprehensive model of irregular risk management has been implemented, which enables the treatment of the risk to be directed in those situations close to default (early identification, refinancing, collection, etc.). This comprehensive system uses specific tools (simulators to identify the best solution in each case) and specialised managers in each segment who work exclusively to manage the risk.
- Pricing adjusted to the risk. The commercial policy as regards to price management is dynamic, and is adapted to the economic and financial situation of the market (liquidity premiums, difficult access to loans, volatile interest rates, etc.). It takes into account the cost of financing and the risk involved (expected loss and cost of capital). Risk models are key to determining prices and target returns.
- This risk management model has been fully integrated into the bank's technological platform, in such a way that the policies are immediately transferred to be managed daily: policies, procedures, methodologies and models that constitute the risk management model of Banco Sabadell have been fully integrated into the bank's technological platform. This allows policies to be immediately transferred for daily management.

- This has been particularly relevant in terms of the various recent acquisitions concluded by the Bank.
- Use of stress testing as a management tool: Banco Sabadell has been working for years with an internal tool to carry out stress tests and has collaborated with internal teams who have ample experience in using it.
- Since 2014, the Banco Sabadell group has a strategic risk framework in place, consisting amongst others, of the risk appetite statement, which ensures the control and proactive management of risks under a reinforced corporate governance framework, approved by the Board of Directors.

#### **Risk appetite framework**

The Risk Appetite Framework includes, among others, a risk appetite statement, defined as the quantity and diversity of risks that the Banco Sabadell group seeks and tolerates in order to achieve its business objectives whilst maintaining a balance between risk and return.

The Risk Appetite Statement (RAS) comprises quantitative metrics (G4) that allow the group to objectively monitor the risk management objectives and limits, and related qualitative aspects, which complement the metrics and determine the group's risk management and control policy.

#### **G4** Risk appetite statement



#### Qualitative aspects

In addition to quantitative metrics, the following qualitative elements should be used to guide the group's risk management and control:

- The bank's general position with regard to risk-taking seeks a medium-low risk profile through a prudent, balanced risk policy that ensures steadily rising profitability and is aligned with the group's strategic objectives so as to maximise creation of value while guaranteeing an appropriate level of capital.
- The Banco Sabadell group's risk management and control approach consists of a broad framework of advanced measurement principles, policies, procedures and methodologies integrated into an efficient decision-making structure. The risk variable is factored into decisions in all areas and quantified using a common metric in terms of allocated capital.
- Risk management is underpinned by solid, ongoing procedures for checking that risks conform to pre-defined limits, with clearly defined responsibilities for identifying and tracking indicators and early warnings, and an advanced risk assessment methodology.
- Capital and liquidity levels must enable the bank to cover the risks it has accepted, even in adverse economic situations.
- There should be no risk concentration levels that may significantly compromise shareholders' funds.
- The assumption of market trading risk seeks to cover the flow of transactions arising from customer business and to seize market opportunities while maintaining a position that is commensurate with the bank's market share, risk appetite, capacity and profile.
- The risk function is independent and has strong senior management involvement, ensuring a strong risk culture focused on protecting capital and ensuring an adequate return on said capital.
- The Board of Directors is committed to the risk management and control processes: approval of policies, limits, management model and procedures, and the measurement, monitoring and control methodology.
- The group has a risk culture that pervades the entire organisation and has units specialised in managing specific types of risk. The Risk Department transmits this culture by setting policies and implementing internal models and ensuring that they conform to the risk management processes.
- Risk management policies and procedures should be oriented to adapting the risk profile to the risk appetite framework while maintaining and pursuing a balance between expected returns and risk.
- The objective of Banco Sabadell in terms of tax risk is to ensure compliance with fiscal obligations and, at the same time, guarantee an appropriate return for shareholders.
- The achievement of the business objectives must be compatible, at all times, with their compliance with

- the legal framework and the application of the best practices.
- The institution will have sufficient human and technological resources to monitor, control and manage all the risks that may materialise in the course of its business.
- The group's compensation systems should align the interests of employees and Senior Management with compliance with the risk appetite framework.

#### Overall organisation of the risk function

The group develops a risk culture that is integrated throughout the entire group, equipped with units specialising in the treatment of the various risks, ensuring the independence of the risks function, and an intensive involvement from Senior Management.

The Board of Directors is the body responsible for setting general guidelines as to the organisational distribution of risk management and control functions and for determining the main lines of strategy in this respect. It is the body responsible for approving the risk appetite framework (developed in cooperation with the Managing Director, the Director of Risks and the Chief Financial Officer) and ensuring that it is aligned with the Bank's short- and long-term strategic objectives, as well as with the business plan, capital planning, risk capacity and compensation programmes.

The Board of Directors has four committees which play a role in the management and control of risk. The bank also has several other Committees which participate in this function (G5).

The group further establishes its control framework based on the model of three lines of defence, structured around the following assignment of functions:

- 1 First line of defence, consisting mainly of the business units and corporate centres, among the most noteworthy of which are the Risk Management Department, the Financial Department and the Treasury and Capital Markets Department units. The first line of defence is in charge of the management of the risks inherent in its activity, basically in their admission, monitoring, measurement and assessment and the relevant processes.
  - They are responsible for the implementation of corrective actions to remedy deficiencies in their processes and controls. The essential functions attributed to this line under the control framework are:
- The process manager is responsible for maintaining effective internal controls and performing risk assessment and control procedures on a day to day basis.
- The process manager identifies, assesses, controls and mitigates their risks, following established internal policies and procedures and ensuring that the activities are consistent with its purposes and objectives.
- The process manager naturally serves as a first line of

#### **Board of Directors**

RAS and risk management policies approval

Risk Committee	Executive Co	ommittee	Audit and Cont Committee		Remuneration Committee
Risk profile oversight and monitoring	Approval of c according to Approval of a allocation st	delegations asset	Risk managem systems, interr audit and interr efficiency moni	nal nal	Retributive policy monitoring and alignment with Risk Appetite Framework
Main committees rel	ated to rick manage	omont			
<b>Main committees rel</b> Technical Risk Committee	Assets and Liabilities Committee	Credit Operations Committee	Asset Operations Committee	Operational Risk Committee	Institutional Coordination Committee

defence, inasmuch as the controls are designed in the systems and processes at their discretion.

 Establishing adequate management and supervision processes to ensure regulatory compliance and focusing on control errors, inappropriate processes and unexpected events.

#### **2 Second line of defence,** consisting mainly of:

- The risk control function is independent from the first line of defence and is responsible for assessing, monitoring and controlling the group's significant risks and for presenting the corresponding information.
- The internal validation function is responsible for reviewing and ensuring that such models work as expected and that the results obtained from them are appropriate to their various uses, both internal and regulatory.
- The Compliance Department, Corporate Social Responsibility and Corporate Governance have the purpose of minimising the possibility of a regulatory breach and ensuring that any breaches that may occur are diligently identified, reported and resolved and that the appropriate preventive measures are implemented, if none exist.
- The IT Control Department is responsible for identifying risk situations associated with the use of technology, in all units, that may result in operational or reputational risks for the group, for promoting

necessary training and support among the group's units to enable them to resolve risk situations associated with their scope of responsibility and actions, and for independently transferring any significant risks that have not been covered by the implemented controls to the group's Operational Risk Department.

It ensures that the first line of defence is well designed, carries out the assigned functions and makes suggestions for its continuous improvement. The main functions attributed to this line under the control framework are:

- Proposing the risk management framework.
- Guiding and ensuring the application of the risk policies, defining responsibilities and objectives for their effective implementation.
- Verifying compliance of the regulations applicable to the group in the development of its business.
- Providing the technological infrastructure for risk management, measurement and control.
- Analysing and contrasting existing and future incidents by reviewing the information.
- Identifying changes in the underlying risk appetite of the organisation.
- Collaborating with the management team in the development of risk management processes and controls.

#### 3 Third line of defence:

- Internal Audit develops an independent and objective verification and consulting activity, guided by a philosophy of adding value by helping to fulfil its objectives.
- Assists the group in meeting its objectives by providing a systematic, disciplined approach to evaluate the sufficiency and effectiveness of the governance processes and the risk management and internal control activities of the organisation.

#### Managing and monitoring the main risks

#### **Credit risk**

#### Description

Credit risk arises from the possibility of losses being caused by the non-fulfilment of payment conditions by customers, and a reduction in value due to the deterioration in their credit quality.

#### Credit risk control framework

#### Risk acceptance and monitoring

Credit risk exposure is subjected to rigorous monitoring and control through regular reviews of borrowers' creditworthiness and their ability to meet their obligations to the group, with exposure limits for each counterparty being adjusted to levels that are deemed to be acceptable. It is also normal practice to mitigate exposure to credit risk by requiring borrowers to provide collateral or other securities to the bank.

The Board of Directors delegates powers and discretions to the Executive Committee, which then sub-delegates authority at each level. The implementation of authority thresholds on credit approval management systems ensures that powers delegated at each level are linked to the expected loss calculated for each business loan or other transaction that is requested.

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

The relationship manager monitors the business aspect through direct contact with customers and by handling their day-to-day banking, while the risk analyst takes a more system-based approach making use of his specialised knowledge.

The implementation of advanced methodologies for managing risk exposures (in line with the New Basel Capital Accord – NBCA – and industry best practice) also benefits the process in ensuring that proactive measures can be taken once a risk has been identified. Of vital

importance in this process are risk management tools such as credit rating for corporate borrowers and credit scoring for individual customers, as well as indicators that serve as early warnings in monitoring risk.

The analysis of indicators and early warnings, in addition to the credit rating reviews, allows the level of the risk to be continuously measured in an integrated manner. The establishment of efficient control procedures for outstanding risks also allows benefits to be obtained from managing risks that have been overcome as it enables a proactive policy to be implemented based on an advanced identification of cases that could enter default status.

The early warnings system allows an integrated measurement to be made of the level of the risk taken and allows it to be transferred to recovery management specialists, who will determine the different types of procedures that should be applied. Therefore, based on superior risks up to a certain limit and on the predicted default rates, groups or categories are identified for their individual treatment. These warnings are additionally managed by the business manager and the risk analyst.

#### Irregular risk management

Debt refinancing and restructuring processes are generally the most significant risk management techniques during the weaker stages of the economic cycle. The bank's objective, when faced by debtors and borrowers that have, or are expected to have, financial difficulties when meeting their payment obligations in the agreed contractual terms, is to facilitate the repayment of the debt by reducing the likelihood of non-payment to the minimum possible level. A number of specific policies to achieve this are in place across the group, including procedures for the approval, monitoring and control of possible debt refinancing and restructuring processes. These include the following:

- Having a sufficiently detailed compliance record for the borrower and a clear intention to repay the loan, assessing the time-frame of the financial difficulties being undergone by the customer.
- Refinancing and restructuring conditions based on a realistic payment scheme which is in line with the borrower's current and predicted payment capacity, preventing issues being put off until a later date.
- If new guarantees are provided, these must be regarded as a secondary and exceptional source for recovering the debt, avoiding any prejudicial effects on existing sources. All ordinary interest must always be paid up to the refinancing date.
- Revisions of any lengthy grace periods.

The group continually monitors compliance with current terms and conditions and with the above policies.

The Banco Sabadell group has an advanced non-performing exposure management model to handle the impaired asset portfolio. The objective of non-performing exposure management is to find the best solution for customers faced by the first symptoms of impairment,

helping customers with difficulties to avoid defaulting on their repayments, ensuring intensive management and preventing down-time between the different phases.

For further quantitative information, see Note 4 of the 2015 consolidated annual accounts, under the section Credit risk: refinancing and restructuring operations.

#### Real estate loans risk management

The group has a series of specific risk mitigation policies that form part of the general risk policy and, specifically, the risk policy for construction and real estate development sectors.

The main measures that are implemented are the continuous risk monitoring and the reassessment of the creditworthiness of the borrower taking consideration of their new economic situation. If the results of this reassessment are satisfactory, the original terms and conditions are applied, and new commitments are added where these allow for a better adaption to the new circumstances.

The policy applied varies in line with the type of asset that is being financed. For completed constructions, actions are taken that support their sale through the group's distribution channels, and a competitive price is fixed allowing transactions to be activated and enabling the final buyers to access financing options, provided that they meet the risk requirements. For works in progress, the basic objective is to complete the construction, as long as the short and medium-term market expectations allow the resulting properties to be absorbed.

In terms of financing for land and plots, the possibility of selling the future homes is also considered before financing their construction.

In the event that the analysis and monitoring performed does not show reasonable feasibility, the mechanism of non-recourse loans and/or asset purchases is applied.

When none of these solutions is possible, judicial proceedings and the subsequent award of assets shall be sought.

All assets that, through non-recourse loans, purchase, or judicial proceedings, are awarded to the group to ensure repayment or to implement other credit improvements are mainly awarded tangible assets that have been received by borrowers and other obligors of the bank, to ensure the availability of financial assets that represent collection rights, and they are actively managed with the main objective of divestment. The nature and carrying amount of these assets are given in Note 14 of the 2015 consolidated annual accounts, Non-current assets held for sale.

Based on the degree of maturity of the real estate assets, three strategic lines of action have been established:

#### 1 Trading:

Various trading mechanisms are available for the sale of finished products (housing, commercial establishments, industrial buildings, parking lots, etc.) through various distribution channels and commercial agents, based on type, status, location and state of conservation. The real estate website www.solvia.es is a fundamental factor in such strategy.

#### 2 Mobilisation:

In a scenario of major difficulties in the sale of development plots and works in progress, their mobilisation strategy has been adopted to make the finished plots more liquid and various mechanisms for the mobilisation of assets have been created:

- Program for collaboration with real estate developers: contribution of plots in areas with demand for housing, for developers to construct and sell their developments.
- Investors program: development of third-party real estate projects with the participation of investors.
- Protected housing program: development of official protection housing for the rent and subsequent sale of the rented developments.

#### 3 Urban management:

For non-development plots, it is important to consolidate the urban rights based on the urban management, which is an important mechanism for value enhancement and is key for any subsequent development and sale.

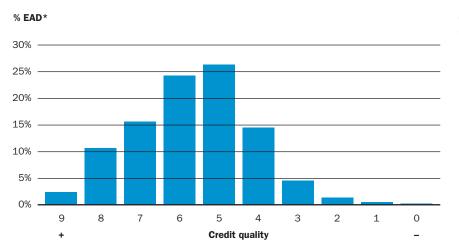
For further quantitative information see Note 4 of the 2015 consolidated annual accounts, in the section Credit Risk: Risk concentration, exposure to the real estate construction and development sector.

#### Risk management models

#### **Credit rating**

Credit risk exposures to corporate customers, real estate developers, specialised financing projects, 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 internal rating score is assigned to an anticipated default rate which allows consistent comparisons to be made across segments and with the ratings produced by independent rating agencies, according to a master scale (G6).



**G6** Distribution by credit rating of the companies portfolio

\* EAD (exposure at default)

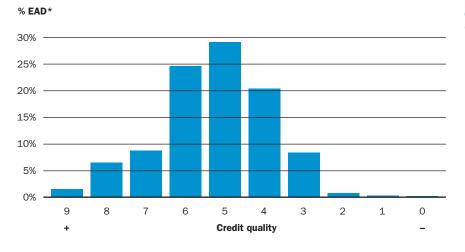
#### **Scoring**

In general, 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 (G7). For those geographical regions for which there is a scoring, it is divided into two types:

1 Behavioural scoring: The system in which all customers are automatically classified according to their transaction histories and on each product acquired. It is used primarily for such purposes as granting loans, setting (authorised) overdraft limits, targeting sales campaigns, and for monitoring and segmenting in claim and/or recovery procedures.

2 Reactive scoring: This is used to evaluate applications for consumer 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 quality of any security or collateral.

If no scoring system exists, it is replaced with individualised analyses supplemented with policies.



**G7** Distribution by scoring of individuals portfolio

\* EAD (exposure at default)

#### Alert tools

For both companies and Individuals, in general the Banco Sabadell group has a system of alerts, either individual systems or advanced alert models which, based on available information sources (credit rating or scoring, customer file, balance sheets, the Bank of Spain's CIRBE risk information system, industry information, transaction data, etc.), models the customer's short-term risk (anticipating delinquency) and achieves a high level of predictability in detecting potential non-performing exposures. The score, which is produced automatically, is included in the monitoring process as one of the basic inputs in tracking the risk posed by individuals and companies.

This alert system allows for:

- Improvements in efficiency by focusing attention on customers with lower credit scores (different groups are assigned different thresholds).
- Early action in view of a customer's worsening situation (change of score, new serious alerts, etc.).
- Periodic oversight of customers who remain in the same situation and have been analysed by the basic management team.

#### Exposure to credit risk

# The reduction of problem assets has exceeded the target reduction of the business plan.

Financial assets exposed to credit risk by portfolio, type of counterparty and instruments, and areas in which the risk has been generated are, at the end of 2015, those shown by their carrying value in table T1, representative of the highest level of exposure to the credit risk incurred, inasmuch as they reflect the highest level of debt of the borrower at the date to which they refer.

The group also maintains contingent risks and commitments with borrowers, materialised by the establishment of guarantees provided or commitments inherent in the credit agreements up to an availability level or limit ensuring financing for the customer when required. Such facilities also imply the acceptance of a credit risk and are subject to the same management and monitoring systems described above.

€ million

		2015	
Exposure to credit risk	Business in Spain	Business abroad	Total
Cash and central banks	1,835.92	4,303.54	6,139.46
Loans and advances to credit institutions	4,876.96	1,146.44	6,023.40
Of which: doubtful assets	0.27	0.30	0.57
Loans and advances to customers	106,022.81	45,962.85	151,985.66
Public administrations	5,505.76	78.39	5,584.15
Of which: doubtful assets	11.46	_	11.46
Other private sectors	100,517.04	45,884.46	146,401.50
Of which: doubtful assets	12,173.34	285.61	12,458.95
Debt securities	22,430.65	2,995.03	25,425.68
Public administrations	19,111.36	1,980.10	21,091.46
Credit institutions	1,058.80	145.49	1,204.29
Other private sectors	2,249.07	869.44	3,118.51
Doubtful assets	11.42	_	11.42
Trading derivatives	1,409.20	99.25	1,508.45
Hedging derivatives	642.72	58.09	700.81
Contingent exposures	8,086.86	269.31	8,356.17
Contingent commitments	11,690.01	9,440.60	21,130.61
Total	156,995.13	64,275.11	221,270.24

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T1

The credit risk exposure value described above has not been subject to the deduction of the amount of the financial collateral, or other credit improvements received to ensure compliance, of common use in the type of financial instruments handled by the entity.

Figure G8 shows the distribution of credit risk across the different segments and portfolios of the group.

#### Credit risk mitigation

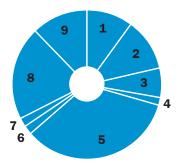
Credit risk exposure is managed and rigorously monitored based on regular analyses of the solvency of borrowers and their potential to meet their payment obligations undertaken with the group, adapting the exposure limits established for each counterparty to the level deemed acceptable. It is also common to modulate the level of exposure by the obligor providing collateral and guarantees in favour of the bank.

Normally, these take the form of financial collateral, mainly mortgages on properties used as housing, whether finished or under construction. The entity also accepts, although to a lesser degree, other types of financial collateral, such as mortgages on business establishments, industrial buildings, etc., and financial assets. Another credit risk mitigation technique that is commonly used by the entity is to accept guarantees, in this case subject to the guarantor presenting a contrasted certificate of good standing.

All these mitigation techniques are established ensuring their legal certainty, i.e. under legal agreements binding all parties and allowing their legal enforceability in all relevant jurisdictions to ensure, at all times, the possibility of redeeming the guarantee. The entire process is subject to an internal control of the legal adequacy of the agreements, sometimes requesting legal opinions from international specialists when the agreements are established under foreign law.

Financial collaterals are formalised before a notary via a public document so that they are effective before third parties. These public documents, in the case of mortgage loans, are also registered at the relevant registries, to acquire effectiveness with respect to third parties. In the case of pledges, the pledged goods are regularly deposited in the entity. Unilateral cancellation by the debtor is not permitted, and the guarantee shall remain valid until repayment in full of the debt.

The personal guarantees or bonds are established in favour of the entity and, except in certain exceptional scenarios, are also formalised before a notary public via a public document, to vest the agreement with the highest possible legal security of formalisation and to allow legal claims to be submitted through executive proceedings in case of non-payment. They constitute a credit right with respect to the guarantor that is irrevocable and payable on first demand.



#### G8

#### Overall risk profile by portfolio (distribution of credit risk exposures) %EAD (Exposure at default)

1	Large corporates	10.1%
2	Midsize businesses	11.4%
3	Small businesses	6.5%
4	Retailers and sole proprietors	1.6%
5	Mortgage loans	34.2%
6	Consumer loans	1.9%
7	Banks	1.9%
8	Sovereigns	20.4%
9	Other risks	12.0%

In addition to the mitigation of the risk derived from the guarantees formalised between the debtors and the entity as a result of the acquisition of Banco CAM, the group has an additional guarantee for a certain asset portfolio, provided by the APS, with retroactive effects from 31 July 2011, and for a period of ten years (see further details in Note 2 of the 2015 consolidated annual accounts).

The bank has not received significant guarantees which it is authorised to sell or pledge, irrespective of any non-payment by the owner of the referred guarantee, except for those intrinsic in the treasury activity, which are mostly the temporary acquisition of assets with maturities of no more than three months, therefore their fair value does not differ substantially from their carrying value (details are included in Note 6 of the 2015 consolidated annual accounts).

The fair value of the assets sold with a buyback agreement derived from the temporary acquisition is included under the heading Trading portfolio of liabilities, within the short positions of securities.

Conversely, transferred assets from the same operation amount to €768,994,000 and are included under Temporary transfers, depending on their nature.

The main concentration of risk in relation to all these types of in financial guarantees or credit improvements corresponds to the use of the mortgage bonds as a credit risk mitigation technique in exposures of loans for use in the financing or construction of housing or other types of real estate. In relative terms, the exposure secured with mortgages represents 66.6% of the overall gross investment.

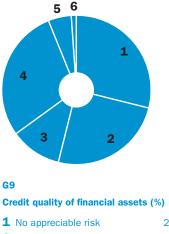
In terms of risks with LTV >80%, which mainly correspond to operations from acquired institutions or business operations in which, as a supplement to the valuation of the operation, a mortgage guarantee is available for its coverage. Similarly, there are other additional reasons for approval, which mainly respond to solvent borrowers with proven payment capacity, as well as customers with a good profile who contribute additional guarantees (personal and/or pledged) to the mortgage guarantees already considered in the LTV ratio.

In the case of market operations, in line with general trends, the Banco Sabadell group also provides rights and contractual compensation (netting) agreements with most financial counterparties with which derivative instruments and some collateral agreements (CSA) are contracted, in order to mitigate the exposure to credit risk and avoid excessive concentrations.

#### Credit quality of financial assets

As stated earlier, in general terms, the group uses internal models to rate most borrowers (or transactions) through which credit risk is incurred. Such models have been designed considering the best practices proposed by the NBCA. Nonetheless, not all portfolios where a credit risk is incurred use internal models, partly due to the fact that a minimum level of experience in cases of non-payments is required for their reasonable design. Therefore, in order to best describe the quality of the portfolio from an overall perspective, figure G9 uses the rating system of the Bank of Spain to analyse the group's credit risk exposure and to estimate the hedging requirements due to impaired values of debt instrument portfolios.

The (original) percentage exposure, calculated using internal models, in terms of solvency for the bank is 52.15%.

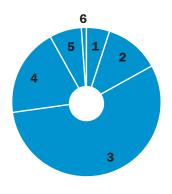


٠.	ours quarrey or minure an account	( , ,
1	No appreciable risk	29
2	Low risk	25
3	Medium-low risk	11
4	Medium risk	29
5	Medium-high risk	5
6	High risk	1

# Problem assets have been reduced by €3.2 billion in 2015.

The breakdown of the total exposure, rated based on the internal rating levels, is shown in figure G10.

During 2015 there has been an improvement in the evolution of problem assets. The reduction in doubtful balances resulted in a loan-loss ratio of 7.79% at 2015 year-end. Further information on the quantitative details of hedging and doubtful assets is included in Note 11 of the 2015 consolidated annual accounts, Loans and advances to customers.



#### **310**

### Breakdown of exposure by credit rating (%)

credit rating (%)	
AAA/AA	5
A	12
BBB	56
BB	19
В	7
Rest	1
	AAA/AA A BBB BB B

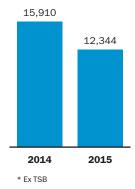
# The balance of doubtful assets has declined at a faster pace than expected.

#### **G11**

### Evolution of balance of doubtful assets\*

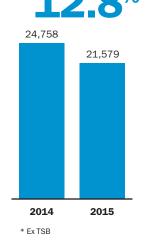
Figures include 20% of APS. In millions of euros.

**-22.4**%



A reduction
of €3,566 million,
of which €800 million
correspond to
the last quarter

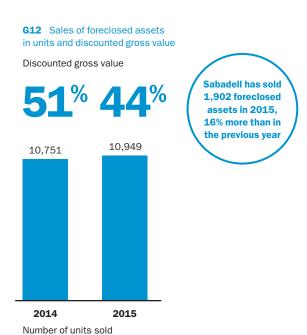
**Evolution of problem assets\*** Figures include 20% of APS. In millions of euros.



The total balance of problem assets has fallen by €3,180 million In 2015

# There have been more sales of real estate assets.

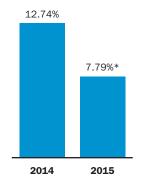
# The loan-loss ratio has fallen to single-digit figures.





Basis points

**-495** 



\* Ex TSB, loan loss ratio falls to 9.86%.

%

	4Q14	Proforma <b>2Q15</b> (*)	2Q15	Proforma 4Q15 (*)	4Q15
Real estate development & construction	52.17	47.21	47.07	38.81	38.71
Non-real estate construction	8.08	8.74	8.74	14.36	14.35
Companies	6.46	6.14	6.14	4.62	4.62
SMEs and independent contractors	12.60	11.96	11.88	10.83	10.76
Private individuals with 1st mortgage guarantee	9.25	8.76	5.52	7.83	4.71
Banco Sabadell group loan-loss ratio	12.74	10.98	9.01	9.86	7.79

**T2** Loan-loss ratio by funding segment

Loan loss ratio

is 53.1% and, if TSB is included.

this figure increases

#### Concentration risk

Concentration risk refers to exposures than can potentially generate enough losses large enough to threaten the financial solvency of the institution or the viability of its ordinary business activity. This type of risk is divided into two basic subtypes:

- Individual concentration risk: imperfect diversification of idiosyncratic risk in the portfolio, due either to its small size or to very large exposures to specific customers.
- Sectorial concentration risk: imperfect diversification of systematic risk components in the portfolio. Such concentrations may occur in particular sectors or geographical regions, for example.

Further details and information on the risk concentration by activity and at the level of Spanish autonomous communities, as well as the concentration of the real estate construction and development can be found in the 2015 consolidated annual accounts.

In order to ensure an efficient management of concentration risk, Banco Sabadell has a series of specific tools and policies:

- Quantitative metrics in the risk appetite statement and their subsequent monitoring as top-level metrics.
- Individual limits for risks and customers considered to be significant, which are established by the Executive Committee.
- A structure of delegation which requires that relevant

<sup>(\*)</sup> Corresponds to loan-loss ratio ex TSB.

customer transactions be approved by the Credit Operations Committee, or even by the Executive Committee.

#### Exposure to customers or significant risks

At 31 December 2015 there were no borrowers with a ceded risk that individually exceeded 10% of the group's equity.

#### Exposure to customers or significant risks

The country risk is that applicable to the debts of a country, globally considered to be due to reasons inherent in the sovereignty and the economic situation of a country, i.e. for circumstances other than the regular credit risk. It manifests itself in the eventual inability of a debtor to meet their foreign currency payment obligations as regards external creditors, among other reasons, for failing to allow the country access to foreign currency, the inability to transfer it, the ineffectiveness of legal actions against borrowers for reasons of sovereignty, or for reasons of war, expropriation or nationalisation.

Country risk not only affects debts contracted with a State or entities guaranteed by it, but also the entire group of private debtors forming part of that State and that for reasons outside of their own control or decision, have experienced a general inability to honour their debts.

There are no significant restrictions (such as statutory, contractual and regulatory restrictions) on the ability to access or use assets and settle liabilities of the group

provided that the entity complies with regulatory requirements established in each country.

An overall exposure limit is set for each country and this applies across the whole Banco Sabadell group. These limits are approved by the Executive Committee and the corresponding decision-making bodies, depending on the level of delegation, 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: credit ratings, CDS, macroeconomic indicators, etc.

#### Exposure to sovereign risk

The exposure to sovereign risk, broken down by types of equity instrument, with the criteria established by the European Banking Authority (henceforth, EBA) at 31 December 2015, is shown in figure G15.

#### Counterparty risk

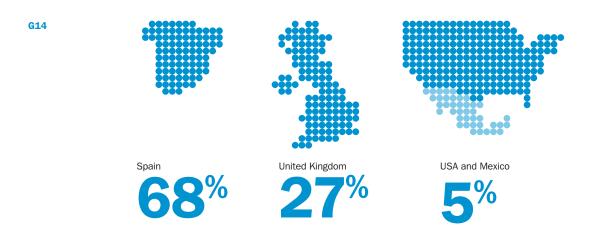
The counterparty risk management philosophy is aligned with the business strategy, which pursues value creation through the efficient use of capital allocated to the business units. Strict criteria have been established for managing counterparty risk deriving from the financial markets, to guarantee the integrity of the Banco Sabadell group's capital.

€	mil	lion

	Spain	an Union	America	the world	TOTA
Credit institutions	4,394.88	4,128.43	655.93	382.85	9,562.09
Public authorities	14,979.84	8,671.84	3,289.08	35.42	26,976.18
Central government	10,208.89	8,653.70	3,289.08	35.42	22,187.09
Rest	4,770.95	18.14	_	_	4,789.09
Other financial institutions	3,720.61	304.73	1,083.59	86.40	5,195.33
Non-financial companies and individual entrepreneurs	57,281.42	3,538.60	6,818.51	379.12	68,017.65
Real estate development and construction	6,646.22	99.76	268.45	0.37	7,014.80
Civil engineering construction	1,876.89	16.78	19.72	3.46	1,916.85
Other purposes	48,758.31	3,422.06	6,530.34	375.29	59,086.00
Large companies	22,333.34	2,447.84	4,748.99	296.68	29,826.85
SMEs and individual entrepreneurs	26,424.97	974.22	1,781.35	78.61	29,259.15
Other households and NPISHs	40,366.74	37,990.20	1,546.91	692.09	80,595.94
Home loans	31,926.68	34,916.46	1,513.35	660.44	69,016.93
Consumer loans	5,607.39	1,882.20	18.32	18.58	7,526.49
Other purposes	2,832.67	1,191.54	15.24	13.07	4,052.52
Less: Adjustments due to asset impairment not allocated to specific operations	_	_	_	_	345.11
TOTAL	120,743.49	54,633.80	13,394.02	1,575.88	190,002.08

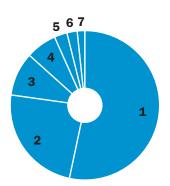
**T3** Breakdown of risk concentration by activity throughout the world

# 32% of performing loans and advances are located outside of Spain.



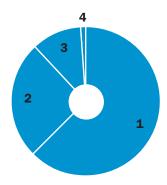
The Banco Sabadell group has a system for evaluating and managing those risks, which allows it to monitor and control compliance with approved limits on a daily basis. Figures G16 and G17 show the distribution of counterparty risk by geographical region and credit rating.

Additionally, to mitigate exposure to counterparty risk, Banco Sabadell has Credit Support Annexes (CSA) and Global Master Repurchase Agreements (GMRA) with most counterparties, which notably reduce the risks incurred through the provision of collateral, as explained previously.



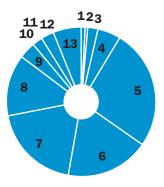
**G15** Breakdown of exposure to sovereign risk

1	Spain	53.5%
2	Italy	23.9%
3	USA	9.5%
4	UK	6.7%
5	Portugal	2.7%
6	Mexico	2.3%
7	Rest of the world	1.4%



**G16** Distribution of counterparty risk (by geographical region)

1	Eurozone	62.6%
2	Rest of Europe	25.6%
3	USA and Canada	10.9%
4	Rest of the world	0.9%



**G17** Distribution of counterparty risk by credit rating (%)

1	AAA / Aaa	1.0%
2	AA+/Aa1	0.6%
3	AA / Aa2	2.1%
4	AA- / Aa3	5.0%
5	A+ / A1	26.2%
6	A / A2	18.1%
7	A- / A3	19.0%
8	BBB+ / Baa1	13.3%
9	BBB / Baa2	3.8%
<b>10</b>	BBB- / Baa3	2.2%
11	BB+ / Ba1	0.0%
<b>12</b>	BB / Ba2	2.7%
13	Other	6.0%

#### Assets pledged in financing activities

At the end of 2015, there are certain financial assets pledged in financing operations, i.e. offered as collateral or guarantee for certain liabilities. Such assets correspond mainly to loans linked to the issue of mortgage covered bonds, territorial bonds or long-term securitisation bonds (see Note 21 and Schedules III and IV of the 2015 consolidated annual accounts). The remaining pledged assets are debt securities that are submitted in operations of assets ceded under repurchase agreements, pledged collateral (loans or debt instruments) to access certain financing operations with central banks and all types of collateral provided to guarantee derivatives.

On the other hand, the bank has used part of its loan portfolio and harmonised loans in fixed income securities by transferring assets to various securitisation funds created for this purpose. Under current regulations, securitisations where there is no substantial risk transfer cannot be derecognised from the balance sheet (further details on securitisation funds are included in Schedule II of the 2015 consolidated annual accounts).

For further information on funding programs in the capital market, refer to the section below on liquidity risk.

#### Liquidity risk

#### Description

Liquidity risk arises from the possibility of losses being incurred as a result of the bank's being unable, albeit temporarily, to honour payment commitments due to a lack of liquid assets, or of its being unable to access the markets to refinance debts at a reasonable cost. This may be associated with factors of a systemic nature or specific to the bank itself.

The group is exposed to daily demands on its available cash resources to meet contractual obligations related to financial instruments with which it trades, such as maturing deposits, drawdowns of credit facilities, settlements of derivatives, and so on. Experience shows, however, that only a minimum amount is ever actually required and this can be predicted with a high degree of confidence.

In this regard, the objective of the Banco Sabadell group is to maintain liquid assets and a financing structure that, in line with its strategic objectives and based on its risk appetite statement, allows it to fulfil its payment commitments normally and at a reasonable cost, under business as usual conditions or under a stress situation caused by both systemic and idiosyncratic factors.

In order to fulfil these objectives, the group's current liquidity risk management plan is based on the following principles and pillars, serving the group's retail business model and defined strategic objectives:

 Involvement of the Board of Directors and Senior Management in the management and control of liquidity risk and funding.

- Clear segregation of functions between the different areas of the organisation, with a clear delineation of the three lines of defence, providing independence in the valuation of positions and in risk control and analysis.
- Decentralised liquidity risk management system for the most significant units, but with a centralised risk monitoring and management system.
- Sound processes of identification, measurement, management, control and information of the different liquidity and financing risks facing the group.
- Existence of a price transfer system to transfer financing costs.
- Balanced financing structure, based primarily on customer deposits.
- Wide range of unencumbered and immediately available liquid assets to generate liquidity, which make up the group's first line of defence.
- Diversification of funding sources, with controlled use of short-term wholesale funding and which is not dependent on providers of individual funds.
- Self-funding of significant foreign banking subsidiaries.
- Oversight of the level of encumbrance of the group's balance sheet.
- Maintenance of a second line of liquidity that makes up the capacity of issuing mortgage covered bonds and territorial bonds.
- Availability of a liquidity contingency plan.

#### Liquidity management

The purpose of managing liquidity in Banco Sabadell is to guarantee the financing of commercial activities at an adequate cost and within a reasonable time frame, thus minimising the liquidity risk. In recent years, the bank's financing policy has focused on generating a liquidity gap in commercial business, reducing total financing in wholesale markets (which stood at  $\ensuremath{\in} 27,436$  million at the end of 2015) and increasing the bank's liquidity position.

Basic policies state that all management units must comply with local regulatory requirements and with internal limits. These limits are established in the first instance for the consolidated companies in the Banco Sabadell group, and as management limits for each of the management units. Standardised individual limits are also established for each management unit which are adapted to the specific aspects of each business and to the risk of each jurisdiction. These limits, at group-level and at management unit-level are established for the following variables:

 Collateral guarantees under agreement with the Bank of Spain: a minimum figure is set which may be achieved through discountable assets within the National Central Banks of the European Central Bank System as a whole.

- Cash ratio coverage: the cumulative position in coverage of minimum reserves in all group banks on any day shall be between the following upper and lower limits:
  - 1 Minimum balance in Bank of Spain account.
  - **2** Monitoring indicator for maximum cumulative daily balance.
  - **3** Lower limit of cumulative daily balance.
- Sensitivity matrix by term and product: A certain interest rate risk could arise in operative liquidity management which is limited for each term and product through a maximum sensitivity matrix.
- Maximum level of financing needs on the trading balance sheet.
- Unutilised commitments indicator: a maximum figure is established for loan agreements, credit card facilities, discount facilities and personal mortgage loans as a whole which represent a commitment towards third parties and which have yet to be utilised. This indicator is to be checked on a monthly basis.
- Available liquid assets: high quality assets must be available at all times as defined by the regulatory LCR (Liquidity Coverage Ratio), in accordance with regulatory requirements plus a management buffer on net outflows in 30 days provided for by said ratio.
- Interbank lines: For wholesale market funding lines are set with banking counterparties and clearing houses.
- Survival horizon: the bank must have a buffer of sufficient liquid assets to overcome a stress situation so that it can remain at least one year in a situation wherein it does not acquire liquidity and where this does not affect its operation.
- Loan to deposit (LtD): a target LtD level is set to guarantee the stability of the group's funding structure.

In order to manage its liquidity, the group follows a structure based on Liquidity Management Units (LMU). Each LMU is responsible for managing its own liquidity and for setting its own liquidity risk control metrics in coordination with the group's corporate area. Current LMUs are: Banco Sabadell, including consolidated subsidiaries, Sabadell United Bank (SUB), Banc Sabadell d'Andorra (BSA), Banco Sabadell Mexico and TSB.

## Tools/metrics for monitoring and control of risk management

The basic tools for managing and measuring liquidity risk are:

- Information on daily asset and liability balances.
- Information on the status of liquid assets and second lines of liquidity based on discountable assets at the ECB and on the capacity to generate them. Additionally, Banco Sabadell analyses the robustness of its liquid asset portfolio as discountable assets at the ECB by assessing the sensitivity of the eligible asset base to various combined scenarios of downgrades in rating and impacts on the market price of the assets, in order to verify that the bank's eligible asset base is

- sufficiently robust to guarantee that the bank has sufficient eligible assets available, considering its current position with the ECB.
- Information on short, medium and long-term maturities of financing operations in wholesale financial markets.
- Regular stress tests. Banco Sabadell regularly carries out stress tests centred on the bank's position in the institutional market, where a prolonged closure of capital and interbank markets is considered, combined with a divestment of deposits from institutions and companies that professionally manage the group's treasury funds. These tests set a survival horizon, identifying the period over which the group can remain in a situation where no new liquidity is acquired without affecting its activities; this guarantees that the group has the necessary liquid asset buffer to cover the net income and expenses balance in a stress situation.

To complement this exercise, the bank carries out a stress test which, unlike the previous tests and as an additional measure, considers the full provision of all available assets in the bank over a one-month period, the outflow of 7.5% of the deposit base of retail customers (households and SMEs), 15% of the deposit base of public administrations and companies over a one-month period and the non-renewal of all securities placed with retail customers.

Additionally, Banco Sabadell establishes a monthly contingency plan in which two liquidity stress scenarios are considered: a systemic crisis and a crisis specific to Banco Sabadell. This contingency plan takes into account the bank's issuing capacity in a capital market under each of the two scenarios, as well as all that of the on-balance assets that are able to generate liquidity, establishing the percentage that could become liquid for each type of asset and in line with the crisis scenario within the space of one week and one month, thus calculating the entity's contingent liquidity in a liquidity crisis scenario.

- Early Warning Indicators (EWI). Banco Sabadell has designed and implemented an early warnings system to identify any possible strain in capital markets and within the group's own funding structure that could endanger the group's liquidity position. These EWIs set limits for the entity's different financial variables, in such a way that once these limits are exceeded the entity must consider adopting different measures and corrective actions to maintain the group's liquidity.
- General information relating to the situation of financial markets: issuances, spreads, reports from external credit agencies, etc.

The risk control and reporting framework for the liquidity risk management limits is comprised of:

 Supervision of global liquidity risks, independently calculating the risk management metrics within risk systems.

# The generation of a liquidity gap in commercial business has continued, reducing total funding of wholesale markets and increasing the liquidity position.

- Define the risk measurement methodologies and verify the correct operation of control and measurement systems.
- Daily monitoring of risk indicators and limits, reporting to the various management units (Treasury Management and Capital Market and Financial Management Division).
- Systematic control and analysis of the adherence to limits, identifying instances of non-fulfilment and activating the necessary protocols for their correction.
- Establish and generate the necessary reporting framework for optimum monitoring and control of risk management limits.

#### Funding strategy and liquidity evolution in 2015

The main source of funding of the group is the customer deposits base (mainly demand accounts and time deposits collected through the branch network), complemented by financing through interbank markets and capital markets, where the entity has various short and long-term financing programs to achieve an appropriate level of diversification by product type, term and investor. The entity also maintains a diversified portfolio of liquid assets, mostly eligible as collateral for the financing operations with the European Central Bank (ECB).

#### On-balance sheet customer funds

At 31 December 2015, on-balance sheet customer funds amounted to £131,489 million, compared with £94,461 million at 2014 year-end and £94,497 million at 2013 year-end (a 39.2% increase in December 2015 compared with December 2014 as a result of the acquisition of TSB in June 2015 and a -0.04% reduction in December 2014 compared with December 2013). In 2015, the movement of balances from time deposits to demand accounts and mutual funds has continued, as a result of the downward evolution of interest rates. At 31 December 2015, the balance of demand accounts (checking accounts, together with savings accounts) totalled £84,536 million euros (+95.3%), to the detriment of time deposits, which showed a -11.7% decrease (T4).

Off-balance sheet customer funds managed by the group and those traded but not under management are shown in Note 31 of the 2015 consolidated annual accounts. The deposits of the entity are traded through the following units/companies of the group (Commercial Banking, Corporate Banking and Global Businesses, Private Banking, SUB and TSB). Details of the volumes of these business units are included in the section on Business results of the Directors' Report.

During 2015, the generation of commercial gap has stabilised, with the positive trend seen over the last years continuing, although more moderately. This has allowed, on the one hand, continuing with the bank's policy of partially refinancing maturities in capital markets and, at the same time, with the system for the reduction of the loan to deposit (LtD) ratio of the group (from 147% at the end of 2010 to 106.5% at the end of 2015). The evolution of the ratio over the year has also been positively affected by the incorporation of TSB in June 2015, with a financing structure that is mainly concentrated on customer deposits. To calculate the loan to deposit (LtD) ratio, the net credit investment, adjusted by subsidised financing, is used as the numerator, and the retail financing as denominator.

#### Capital market

As a result of deleveraging by the group and its successful campaign to attract deposits, the proportion of funding raised on the wholesale markets has declined steadily in recent years. At the end of 2015, the outstanding balance of capital market funding was €27,436 million, which excluding TSB amounted to €22,961 million, compared with an outstanding balance of €23,106 million at 2014 year-end. By type of product, at December 2015, €13,628 million of the total amount placed in capital markets corresponded to mortgage covered bonds, €2,816 million to commercial paper and Euro Commercial Paper (ECP) aimed at wholesale investors, €2,595 million corresponding to senior debt (of which €1,058 million were for transactions with State guarantees as a result of the acquisition of Banco CAM), €1,388 million corresponded to issuances of subordinated debt and preference shares placed on the market, €6,974 million corresponded to securitisation bonds placed on the market (of which €3,951 million corresponded to TSB) and €34 million corresponded to other medium- and long-term equity instruments (T5).

The Banco Sabadell group performs activities and maintains certain financing programs active on capital markets to diversify its various sources of liquidity.

6 months 12 months >12 months 2015 3 months No mat. Total on-balance sheet customer funds (\*) 131,489 8.7% 8.0% 12.7% 6.3% 64.3% Time deposits 42,947 25.2% 22.5% 34.6% 17.7% 0.0% Demand accounts 84,536 0.0% 0.0% 0.0% 0.0% 100.0% Retail issuances 4,006 15.9% 21.6% 46.4% 16.1% 0.0%

**T4** On-balance sheet customer funds by maturity

€ million

	2016	2017	2018	2019	2020	2021	>2022	Outstanding balance
Mortgage bonds and covered bonds	2,876	2,022	1,561	1,124	2,172	2,013	1,859	13,628
Secured issuances	_	1,058	_	_	_	_	_	1,058
Senior debt	1,412	_	100	_	_	_	25	1,537
Subordinated debt and preferential bonds	299	66	_	_	425	565	33	1,388
Other medium- and long-term financial instruments	_	_	18	_	_	10	6	34
Total	4,587	3,146	1,679	1,124	2,597	2,589	1,923	17,645

**T5** Maturities of issues to institutional investors by product type

In terms of short-term financing, the entity maintains a company promissory notes program and a Euro Commercial Paper (ECP) program:

- Company promissory notes program: this program regulates issues of promissory notes and is aimed at institutional and minority investors. On 5 March 2015, the promissory notes program of Banco Sabadell for 2015 was registered with the CNMV (Spanish Securities Commission), with an issue limit of €6 billion, extendible to €9 billion. The outstanding balance of the promissory notes program has increased over the year, in terms of both the outstanding balance of unqualified investors, and the institutional customer base. At 31 December, the outstanding balance was of €3,661 million (net of promissory notes subscribed by companies of the group), vis-à-vis the €2,745 million euros at 31 December 2014.
- Euro Commercial Paper (ECP) Program, aimed at institutional investors, whereby securities are issued for the short term in various foreign currencies: euro, USD and GBP. On 18 December 2015, Banco Sabadell renewed this program for a maximum nominal amount of €3.5 billion. This program has been increased from €165.2 million euros at the end of 2014, to €275.9 million euros at 31 December 2015.

Regarding medium- and long-term financing, the entity maintains the following programs in place:

— Program for the issue of non-equity securities registered with CNMV (fixed income program): this program regulates the issues of bonds and debentures, both straight and subordinated, and mortgage covered bonds, territorial bonds and structured bonds, made under Spanish law through the CNMV and aimed at both national and foreign investors. The limit available for new issues under the program for the issue of non-equity securities for 2015 of Banco Sabadell at 31 December 2015, was of €6,145.8 million (at 31 December 2014, the outstanding balance under the fixed income program of 2014 was of €5,912.7 million).

During 2015, Banco Sabadell has issued securities under the fixed income program effective at any time for a total of €10,354.2 million, including retained and placed issues. Over the year, the entity has accessed the market on several occasions, taking advantage of available liquidity windows. Specifically, Banco Sabadell made two public issues of five-year mortgage covered bonds in May and October 2015 for an aggregate of €750 million and €1 billion, respectively; two issues of 8-year mortgage covered bonds for a total amount of €300 million, subscribed in full by the European Investment Bank (EIB); ten issues of senior debt at 1 and 2 year terms, for a total amount of €2,750 million and nine issues of structured bonds for a total of €111 million and terms spanning between 1 and 5 years. In the current market context, the entity would have the capacity to issue in various formats and terms.

<sup>(\*)</sup> Includes customer deposits (ex repos) and other liabilities placed by the branch network: mandatory convertible bonds, straight bonds of Banco Sabadell, commercial paper and others.

Asset securitisation: Since 1993, the group has been very active on this market and has participated in various securitisation programs, in some cases together with other highly solvent entities, granting mortgage loans, loans to small and medium sized enterprises, consumer loans and credit rights derived from financial lease agreements.

There are currently 35 outstanding asset securitisation operations (including the securitisation of Banco Guipuzcoano, Banco CAM, BMN, Banco Gallego and TSB), although part of the bonds issued were withheld by the entity as liquid assets eligible for financing operations with the European Central Bank, the rest of the bonds were placed on capital markets. At the closing of 2015, the balance of securitisation bonds placed on the market was of €6,974.4 million euros.

For efficiency reasons, during 2015, seven securitisation operations with relatively small outstanding balances were cancelled early (see further details on securitisation funds in Schedule II of the memorandum).

Overall, in 2015 market performance has been positive, although there have been various episodes of volatility that have resulted in tensions and even the closing of markets over relatively extended periods of time. The system as a whole has not seen the refinancing of a large part of the market maturities. This, combined with the ECB stimulation measures over the last quarter of 2014, has caused an excess of liquidity.

Banco Sabadell has taken part in these ECB stimulation measures by attending targeted four-year liquidity auctions (TLTRO or Targeted Longer-term refinancing operations) in both 2014 and 2015, for a total amount of €11 billion. The entity has also participated in the Covered Bond Purchase Program (CBPP3) implemented by the European Central Bank.

The excess of liquidity in the market, together with a scenario of negative short-term interest rates, have driven down prices in repo financing compared to other alternatives. At 31 December 2015, the net amount of repo financing in nominal terms amounted to € 5,303 million.

#### Liquid assets

In addition to these sources of funding, Banco Sabadell also maintains a liquidity buffer in the form of liquid assets to face any possible liquidity needs (T6).

In the case of TSB, the first line of liquidity at 31 December 2015, consists mainly of gilts amounting to  $\[ \in \]$ 1,718 million and an excess of reserves at the Central Bank of England (BoE) of  $\[ \in \]$ 3,383 million.

There are no significant amounts of cash and cash equivalents that are not available for use by the group.

In addition to the first line of liquidity, the entity maintains a buffer of mortgage assets and loans to public administrations eligible as collateral for mortgage covered bonds and territorial bonds, respectively, which at the end of 2015 provided an additional €7,376 million in

terms of the capacity to issue own new bonds eligible as collateral to be discounted at the ECB. At the closing of 2015, available liquidity amounted to  $\pounds 29,623$  million in cash, corresponding to the amount of the first line of liquidity plus the capacity to issue mortgage covered bonds and territorial bonds of the entity at year end.

#### Fulfilment of regulatory ratios

The Banco Sabadell group has included, as part of its liquidity management, the monitoring of the new short-term Liquidity Coverage Ratio or LCR and the Net Stable Funding Ratio or NSFR, reporting to the regulator on the required information on a monthly and quarterly basis, respectively. The measurement of liquidity based on these metrics forms part of the liquidity risk control in the set of the LMUs.

In terms of the LCR ratio, since 1 October 2015, the statutory minimum payment is 60%, a level that is widely surpassed by all LMUs of the entity, with the cases of TSB and Banco Sabadell España being noteworthy, with high levels of LCR. At the group level, the LCR ratio of the entity has been permanently and stably positioned over the year at well above 100%.

As regards the NSFR ratio, it is still in the analysis and final definition stage. The date set for its implementation is January 2018, and just as for the LCR ratio, a period of gradual application is planned. The bank has nonetheless already commenced the monitoring of this ratio as a liquidity metric at the LMU level.

Given the funding structure of the entity, with a high level of customer deposits, and the majority of the market financing being focused on the medium-/long-term, the entity has remained stable at levels that are well above 100%.

#### **Market risk**

Market risk arises from the possibility of incurring losses in the market value of positions maintained in financial assets, due to changes in risk factors which affect its prices and shares, its volatilities and their interconnections (for example: equity, interest rates or exchange rates).

These positions that generate market risk are normally kept for the treasury intermediation or capital markets management business or to maintain the entity's own positions of a discretionary nature.

It may also arise simply by maintaining global balance sheet positions (also known as structural positions) that in net terms are left open. In the latter case, the group uses the market risk management and monitoring system to treat the structural exchange rate risk position. Other market risks of a structural nature, affected by such factors as interest or liquidity rates, are addressed in the relevant sections.

The market risk acceptance, management and control system is based on the establishment of limits for expressly allocated positions and the approval of transactions

	2015
Cash(*) + Net interbank position	4,016
Available in policy	4,349
Pledged assets in policy(**)	15,899
Drawn balance in Banco of Spain policy (***)	11,550
ECB eligible assets not included in policy	10,785
Other ECB ineligible marketable assets (****)	3,097
Total available liquid assets	22,247

- (\*) Surplus reserves in central banks.
- (\*\*) At market value and after applying ECB reductions on monetary policy transactions.
- (\*\*\*) Of which in 2015, €11,000 correspond to ECBr-year TLTRO auctions (Targeted longer-tterm refinancing operations).
- (\*\*\*\*) At market value and after applying reductions on the Liquidity Coverage Ratio (LCR). Includes fixed income, which is considered to be a high-quality and high-liquidity asset in terms of its LCR (HQLA) and other marketable assets from different companies in the group.

in each business unit, such that different management units have the obligation to manage their positions within the agreed limits at all times and their transactions are subject to approval by the risk department.

The changes in commodities prices have not had an impact in 2015, as the group maintains residual exposures, both direct and in underlying assets.

#### **Trading activity**

Market risk is measured using the VaR and stressed VaR methodology, which allows the harmonisation of the risks in various types of financial market operations.

The VaR provides an estimate of the maximum potential loss posed by a position due to an adverse but normal movement of any of the identified parameters influencing market risk. This estimate is expressed in monetary terms and refers to a specific date, a specified level of confidence and a specific time horizon. The various market risk factors are taken into consideration for this purpose.

The feasibility of the VaR methodology used is verified using back testing techniques, used to ensure that the VaR estimates are within the considered confidence level.

Stressed VaR is calculated in the same way as the VaR but with a historical window of variations of the risk

factors in stressed market conditions. Its monitoring is complemented with specific simulation exercises and adverse market scenarios (stress testing), which analyse the impact of various historical and theoretical scenarios on the portfolios, and the calculation of management results, used to monitor stop-loss limits.

Market risk is monitored on a daily basis and reports on current risk levels and on compliance with the limits assigned to each unit established by the Risk Control Committee are sent to the control bodies (based on nominal amounts, VaR or sensitivity limits, as applicable). This makes it possible to keep track of changes in exposure levels and measure the contribution of each risk factor.

Risk control of this kind is supplemented by special simulation exercises and adverse market scenarios (stress testing), which provide the positions' risk profile. Therefore, the use of this methodology does not imply any restriction on the ability to incur losses that exceed the established limits, as significant changes in market conditions may exceed the established confidence levels. The reliability of the VaR methodology is validated by back testing techniques that are used to verify that VaR estimates are consistent with the specified confidence level.

Market risk by trading activity incurred in terms of the VaR at day 1 with 99% confidence for 2015 is shown in figure G18.



# Structural risks concerning interest rates and exchange rates

#### Structural interest rate risk

Structural Interest rate risk arises from changes in market rates of interest that impact on different balance sheet assets and liabilities, which present temporary mismatches in the maturity or repricing dates, as is common in banking. Exposure to this risk in the event of unexpected interest rate movements may ultimately feed through into unforeseen changes in interest margins and economic value.

The metrics developed for the control and monitoring of structural interest rate risk in the group are aligned with the market best practices and are consistently implemented throughout the Balance sheet Management Units (BMUs) and at the heart of each of the local assets and liabilities committees. The diversification effect between currencies and BMUs is taken into account when presenting key figures at the global level.

The group therefore has two main objectives in terms of interest rate risk management:

- Optimise the net interest income.
- Maintain the economic value of the balance sheet.

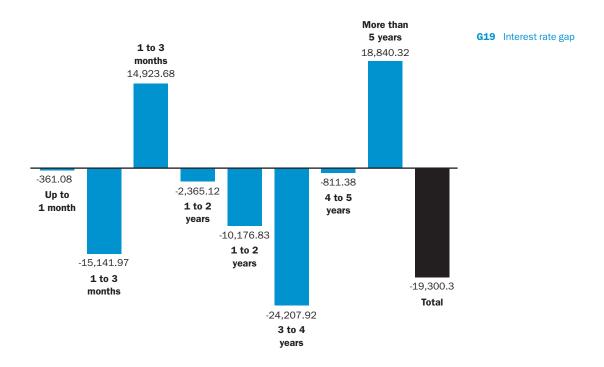
To accomplish these objectives and at the same time stay within the limits set for risk appetite, an active management of the balance sheet is used both through the development of commercial strategies providing natural hedges, and the contracting of market operations seeking to minimise the risk level assumed.

The set of risk sources taken into account in the control and monitoring process depends on the materiality of each in the various BMUs and is as follows:

- Repricing risk: is that arising as a result of the different rate at which assets and liabilities renew their interest rates
- Yield curve risk: is that arising as a result of the shifts of various different types that may be experienced by the market interest rates curve.
- Basis risk: is that arising from the unequal or disparate movements that may be seen in the various interest rate curves to which the sensitive assets and liabilities on the balance sheet are subject.
- Optionality risk: is that arising as a result of the contractual characteristics of certain products and instruments on the balance sheet. The optionality may be explicit, when clearly established in terms of an observable or implicit market variable, when it depends on possible considerations of customers. The latter case encompasses the prepayment and early withdrawal options.

The metrics used are as follows:

— Interest rate gap (G19), a static measure showing the distribution of maturities and repricing of sensitive items on the balance sheet. For amounts with no contractual maturity, estimated expected maturities based on the experience of the entity have been used, establishing assumptions of stability and remuneration according to product type.



- Net interest income sensitivity: measures the short and medium-term impact of fluctuations in interest rates. It is obtained by comparing the net interest income over a one-year period in the baseline scenario, which is obtained from implicit market rates, and that obtained from parallel and instantaneous movements of  $\pm 100$  basis points (\*), always considering the most unfavourable scenario.
- Economic value sensitivity: measures the long-term impact of interest rate fluctuations. It is obtained by comparing the economic value of the balance sheet in the baseline scenario and that of parallel and instantaneous movements of ±100 basis points (\*), always considering the most unfavourable scenario.
- Other statistical and econometric models estimating correlations between various market variables or between these and the historical behaviour of the customer base.

Table T7 shows the interest rate risk levels in terms of sensitivity of the main foreign currencies of the group at the end of 2015.

Derivatives from financial markets are used as risk hedging instruments, mainly interest rate swaps (IRS), which are considered as hedging instruments for accounting purposes. Two different forms of macro-hedging are used:

- Macro-hedging of interest rates of cash flows, the purpose of which is to reduce the volatility of the net interest income as a result of interest rate variations, for a one-year time horizon.
- Macro-hedging of interest rates at fair value, the purpose of which is to maintain the economic value of the hedged items, consisting of assets and liabilities at a fixed interest rate.

The balance sheet items recorded at amortised cost do not present any valuation adjustments associated to fluctuations in interest rates. However, for financial assets classified as Financial assets available for sale recorded at fair value, changes in risk premiums have had a more significant impact than the fall in interest rates that has taken place during this year.

%

Immediate and parallel increase of 100 bp			
Interest rate sensitivity	Impact on net interest income	Impact on net interest income	
EUR	(0.1)	(1.1)	
GBP	2.0	(0.9)	
USD	(0.2)	(1.8)	

<sup>\*</sup> Due to the current level of market interest rates, in the downturn scenario, a maximum displacement of 100 basis points is used in each term, so that the resulting rate is always greater than or equal to zero.

Risk management 137

**T7** 

#### Structural exchange rate risk

This risk arises from changes (if any) in the market exchange rates between currencies, which may generate losses in financial investments or in permanent investments in offices and subsidiaries abroad which use currencies other than the euro.

Exchange rate risk is monitored on a daily basis and reports on current risk levels and on compliance with the limits assigned by the Risk Committee are sent to the risk control bodies.

The Financial Department, through the ALCO, designs and implements the strategies for hedging the structural position in foreign currency with the priority objective of minimising the negative impact on capital ratios -CET1- of fluctuations in exchange rates.

The Market Risk Department and the Audit and Control Department oversee compliance with the objectives and policies of the group and their effectiveness, reporting to the Risk Committee and the Audit and Control Committee, respectively.

The exchange value in euro of assets and liabilities in foreign currencies maintained by the group at 31 December 2015, classed in line with their nature, is shown in figure G20.

The net position of foreign currency assets and liabilities includes the entity's structural position valued at historic exchange rates which includes €1,656 million corresponding to permanent investments in GBP and €734 million corresponding to permanent investments in USD. The net total of assets and liabilities valued at the fixing exchange rate is covered by forwards operations and currency options, following the group's risk management policy and resulting in a total net open position of €58 million at 31 December 2015.

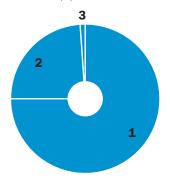
At year-end 2015 the equity exposure sensitivity to a 1% depreciation in exchange rates against the euro of the main currencies to which exposure exists amounted to  $\mathcal{e}$ 21 million, of which 60% pertains to the British Pound Sterling, 36% pertains to the US Dollar and the remaining amount pertains to other currencies.

#### **Operational risk**

Operational risk is defined as the risk of loss resulting from failures or inadequacies in people, processes and systems or from unforeseen external events. This definition includes reputational risk (which in turn includes behavioural risk), technological risk and model risk.

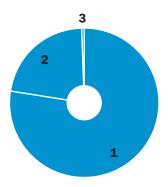
Management of operational risk is decentralised and devolved to process managers throughout the organisation. All of those processes are identified on a corporate process map, thus facilitating the compilation of information in a way that reflects the structure of the organisation. The group has a specialised central unit to manage operational risk, whose main functions are to coordinate, supervise and promote the identification, assessment and management of risks by process managers in line with the Banco Sabadell group's management model.

**G20** Exchange value in euro of assets and liabilities in foreign currencies (%)



#### Assets in foreign currencies

1	GBP	75.0%
2	USD	23.9%
3	Other currencies	1 1%



#### Liabilities in foreign currencies

1	GBP	77.5%
2	USD	22.1%
3	Other currencies	0.4%

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. Operational risk management is based on two lines of action.

The first line of action is based on the analysis of processes, the identification of risks associated with said processes that may result in losses, a qualitative assessment of the risks and the associated controls, carried out jointly between process managers and the central operational risk unit. This provides an assessment which lets the entity know its future exposure to the risk in terms of expected and unexpected loss, and also allows trends to be foreseen and the corresponding mitigating actions to be efficiently planned.

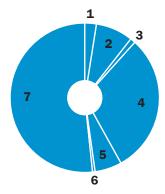
This is complemented by the identification, monitoring and active management of the risk through the use of key indicators, causing the establishment of alerts to warn of any increase in this exposure, the identification of the causes for this increase, and the measurement of the efficiency of the resulting controls and improvements.

At the same time, any processes in which a high criticality has been identified due to a lack of service are defined and specific business continuity plans are implemented. In terms of the identified risks, a qualitative estimate is made of the reputational impact that these risks could cause in the event of their occurrence.

The second line of action is based on experience. It consists of recording all losses suffered by the entity in a database, providing information for operational risks encountered by each line of business, as well as their causes, so that action may be taken to minimise these risks.

Additionally, this information allows the coherence between the estimates made on potential and actual losses to be compared and contrasted, in terms of both frequency and severity, iteratively improving the estimates of exposure levels.

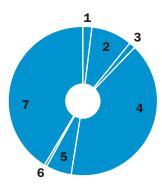
A database is available containing historical records of actual losses resulting from operational risk going back to 2002. It is constantly being updated as information is received on losses and recoveries, whether resulting from the bank's own efforts or from insurance provisions (G21 and G22).



**G21** 

### Breakdown of operational risk events by amount (12 months) (%)

1	Internal fraud	2.6%
2	External fraud	8.1%
3	Staff relations and job security issues	1.1%
4	Customers, products and business practices	30.3%
5	Property damage	5.7%
6	Business disruption/ systems failure	0.6%
7	Process execution,	51.7%



**G22** 

### Breakdown of operational risk events by amount (last 5 years) (%)

1	Internal fraud	2.0%
2	External fraud	9.1%
3	Staff relations and job security issues	1.4%
4	Customers, products and business practices	40.0%
5	Property damage	5.7%
6	Business disruption/ systems failure	0.4%
7	Process execution, delivery and management	41.4%

Operational risk includes management and control of the following main risks:

- Reputational risk: the possibility of losses arising from negative publicity related to the bank's practices and activities, potentially leading to a loss of trust in the institution with an impact on its solvency.
- Technology risk: possibility of losses due to inability of the systems infrastructure to fully support the continuation of ordinary business activity.
- Model risk: the possibility of losses arising from decision-making based on the use of inadequate models.

#### Tax risk

Tax risk reflects the possibility of a breach or of uncertainty over the interpretation of tax legislation in any of the jurisdictions where the bank operates.

The Banco Sabadell group's objective in this area is to ensure compliance with tax obligations while guaranteeing adequate returns for our shareholders.

The Board of Directors determines the tax risk control and management policies, as well as the tax strategy, with the two-fold objective of ensuring that legal obligations are met and ensuring greater returns for shareholders.

The Tax Advisory Area provides an independent review of the bank's operations to ensure that they conform to the lax legislation in force. Specifically, its functions are divided into two areas, depending on Banco Sabadell's situation in each case:

- As a taxpayer: with a view to ensuring that Banco Sabadell meets its tax obligations accurately and on time, the Tax Advisory Area performs regular and periodic checks that the bank's general situation complies with the tax legislation, and sporadic checks, as required, that specific operations are compliant.
- As a developer of new products: the bank's ordinary activity involves creating new products to be offered to our customers. The development of these products must include an analysis of their tax situation with a view to describing their characteristics in a transparent way.

#### **Compliance risk**

Compliance risk is defined as the risk of incurring legal or administrative penalties, significant financial losses or an impairment of reputation due to a breach of laws, regulations, internal rules and codes of conduct applicable to the banking industry.

One of the essential aspects of the Banco Sabadell group's policy, and the basis of its organisational culture, is rigorous compliance with all legal provisions. The pursuit of its business objectives must be compliant at all times with the current legislation and with best practice.

With this aim in mind, the group has a Compliance Department responsible for promoting and ensuring the highest possible degree of compliance with current regulations, as well as the professional ethics within the group. It also seeks to minimise the possibility of infringement and to ensure that any possible infringements are diligently identified, reported and resolved, and ensure that the corresponding preventive measures are adopted if they are not in place already.

Banco Sabadell has a compliance model that handles the setting of policies, procedures and controls centrally at head office, and carries out control programs, delegating their implementation and functional responsibility to its subsidiaries and branches in other countries.

This is a flexible risk-focused approach that can adapt with agility to the group's strategy at any given time and which takes advantage of synergy, particularly in areas with complex far-reaching impacts and/or which require technology to be developed, while it can also adapt to the specific situations and legislation affecting each business or country.

The main challenge is the standardisation throughout the group of compliance control levels, setting minimum standards whose fulfilment is mandatory, regardless of the activity carried out or the country in which it is carried out.

This model is comprised of two main pillars:

 A central unit providing services to the entire group and aimed at the global management of the compliance risk. Its main activity is the analysis, distribution and control of the implementation of any new regulations with impact on the group, as well as the risk-focused control of the correct compliance with regulations already in place.

It is also directly responsible for the implementation of various processes, classified as of high risk, as they require direct and comprehensive control: money laundering prevention and countering the financing of terrorism; the control of market abuse practices; control of compliance with the Internal Code of Conduct and the implementation and monitoring of investor protection elements (MiFID).

— A network of compliance managers located at each foreign subsidiary and branch (functionally dependent on the central compliance unit and hierarchically dependent on the Director of the foreign subsidiary or branch) implementing its own control programs and reporting regularly to the central unit, ensuring compliance with internal standards and legislation in force in all countries and activities in which it operates.

To ensure its efficiency, this model is carried out and implemented using six catalysts (technology, training, procedures, communication channels, control and monitoring programs and product and regulations approval processes).