susceptible to being cleared through a CCP are being cleared in this way. At the same time, the Group has worked to standardise OTC derivatives with a view to increasing the use of CCPs. The exposure to CCPs is equivalent to the amount of the guarantees provided.

Management considers that there is no exposure in derivatives transactions in organised markets (OM), given that the OM acts as counterparty and there is a settlement and guarantee mechanism that ensures transparency and continuity. As in the case of CCPs, the exposure is equivalent to the guarantees provided.

The philosophy behind counterparty risk management is aligned with the business strategy, and seeks at all times to ensure value creation while maintaining a balance between return and risk. For this purpose, criteria have been established for supervising and tracking counterparty risk deriving from activity in the financial markets so as to ensure that the Bank can carry out its business activity within the risk thresholds established by Senior Management.

Exposure is quantified on the basis of Marking to Market (MtM) plus Add-on. MtM represents current exposure, and is defined as the cost of replacing a transaction at market value in the event that a counterparty defaults. The add-on represents the potential future risk, which an operation may attain in a given period of time due to the transactions' characteristics and the market variables on which it depends. In the case of transactions under a collateral agreement, the add-on represents the possible fluctuation of MtM between the time of default and the time the position is unwound in the market. If the transaction is not carried out under a collateral agreement, the add-on represents the possible fluctuation of MtM throughout the term of the operation.

Each day at market close, all exposures are recalculated on the basis of transactions inflows and outflows, changes in market variables and the risk mitigation mechanism established by the Group. In this way, exposures are monitored on a daily basis to ensure that they conform to the limits approved by Senior Management. This information forms part of the risk reports which are escalated to the departments and areas responsible for risk management and monitoring.

With regard to counterparty risk, the Group adopts three different mitigation measures. The main measures are:

— Netting agreements for derivatives (ISDA and CMOF).
— Collateral agreements for derivatives (CSA and Annex III) and repos (GMRA).

Netting agreements allow positive and negative MtM to be aggregated in transactions with the same counterparty in such a way that, in the event of default, a single payment or collection obligation is established in relation to all of the operations arranged with that counterparty.

By default, the Group has netting agreements with all of the counterparties that wish to trade in derivatives.

Collateral agreements provide not just for netting but also for the regular exchange of guarantees that mitigate the exposure to a counterparty in respect of the operations covered by the agreement.

The Group requires that a collateral agreement be in place in order to trade in derivatives or repos with financial institutions. The Group's standard collateral contract is bilateral (i.e., both parties are obliged to post collateral) and provides for daily exchange of guarantees, always in cash and always denominated in euro.

Assets pledged in financing activities

At the end of 2016 and 2015, there are certain financial assets pledged in financing operations, i.e. offered as collateral for certain liabilities. Those assets are mainly loans linked to the issuance of mortgage covered bonds, public sector covered bonds bonds or long-term securitisation bonds (see Note 21 and Schedules III and IV of the 2016 consolidated financial statements). The other pledged assets are debt securities that are delivered in repos, collateral (loans or debt instruments) provided to gain access to certain types of funding from central banks and collateral of all types provided as surety for derivatives transactions.

The Bank has used part of its portfolio of homogeneous loans and advances in fixed-income securities by transferring the assets to securitisation trusts created for this purpose. Under current regulations, securitised assets cannot be derecognised unless the risk has been substantially transferred.

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

Liquidity risk

Definition

Liquidity risk arises due to 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, etc. 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 funding structure that, in line with its strategic objectives and based on its risk appetite statement (RAS), allows it to honour its payment commitments normally and at a reasonable cost, under business as usual conditions or under a stress situation caused by systemic or idiosyncratic factors.

The governance structure for Banco Sabadell's liquidity management is based on the direct involvement of Senior Management, clear delimitation of the three lines of defence and a strict separation of functions, and a clear structure of responsibilities in committees, departments, subdirectorates-general and functional areas.

Senior Management is involved in managing and controlling liquidity risk through the Board of Directors, as the entity's highest governing body, and also directly through three Board sub-committees:

— Executive Committee.
— Risk Committee.
— Audit and Control Committee.

These governing bodies receive regular information from all departments associated with liquidity risk management and control, through the various committees, departments and subdirectors-general.

Liquidity management

Liquidity management at Banco Sabadell seeks to ensure funding for its commercial activity at an appropriate cost and term while minimising liquidity risk. The bank's funding policy is focused on maintaining a balanced funding structure, based mainly on customer deposits, supplemented with access to wholesale markets that allows the Group to maintain a comfortable liquidity position at all times.

In order to manage its liquidity, the Group applies a structure based on Liquidity Management Units (LMU). Each LMU is responsible for managing its own liquidity and for setting its own metrics to control liquidity risk, in coordination with the Group's corporate functions. At present, the LMUs are Banco Sabadell (includes OFEX), Sabadell United Bank (SUB), Banc Sabadell d'Andorra (BSA) and TSB.

In order to achieve the objectives, the Group's current liquidity risk management strategy is based on the following principles and pillars, in line with the LMUs' retail business model and the defined strategic objectives:

— Involvement of the Board of Directors and Senior Management in the managing and controlling liquidity risk and funding.
— Clear segregation of functions between the different areas within the organisation, with a clear delimitation of the three lines of defence, to ensure independence when measuring positions and when controlling and assessing risks.
— Decentralised liquidity management system for the more significant units but with a centralised risk oversight and management system.
— Sound identification, measurement, management, control and reporting processes with respect to the liquidity and funding risks to which the Group is exposed.
— Existence of a transfer price system to transfer funding costs.
— A balanced funding structure based primarily on customer deposits.
— A broad base of unencumbered liquid assets that can be accessed immediately to generate liquidity and which comprises the Group's first line of defence.
— Diversification of funding sources, with controlled recourse to short-term wholesale funding and without depending on any specific funding provider.
— Self-funding of significant foreign banking subsidiaries.
— Oversight of the degree of encumbrance of the balance sheet.
— Maintenance of a second line of liquidity consisting of the capacity to issue mortgage covered bonds and public sector covered bonds.
— Availability of a Liquidity Contingency Plan.

Although ring-fencing will not officially enter into effect until 2019, TSB is an autonomous unit within the Group's liquidity management as it is an independent LMU. The future economic performance of the United Kingdom should not generate liquidity problems, as TSB operates independently from its parent company.

Tools/metrics for monitoring and controlling risk management

The Banco Sabadell Group defines two series of metrics that enable it to measure and control liquidity risk: 1) first-tier RAS metrics; and2) second-tier metrics. Liquidity risk is also monitored and controlled on a daily basis through the early warning indicators (EWI) and the Structural Treasury Report .

The Board of Directors of Banco Sabadell is responsible for defining the Group's liquidity and funding risk appetite statement (RAS) at consolidated level and for setting indicators that LMUs must include in their local RAS, independently of any other indicators they use.

The RAS is comprised of quantitative metrics that allow objective monitoring of risk management, as well as supplementary qualitative aspects.

The Board of Directors of the LMUs are responsible for approving local RAS which must consider the corporate guidelines and the respective local requirements. Aside from the metrics included in the Risk Appetite Framework, each LMU defines a set of second-tier metrics which contribute to analysing and monitoring the funding and liquidity risk. These metrics are monitored continuously by each of the local ALCOs.

The Group has also designed and implemented a system of early warning indicators (EWIs) at the LMU level, which includes market and liquidity indicators adapted to each LMUs funding structure and business model. These metrics at LMU level complement the RAS indicators and second-tier metrics and enable local threats to the liquidity position and funding structure to be detected in advance, thereby facilitating the decision-making process and implementation of corrective actions and reducing the risk of spillover to other management units.

These warnings are categorised into different levels of severity on the basis of which the Group must consider taking different corrective measures and actions in order to return to a BaU situation. The early warning system is linked to the Liquidity Contingency Plan (LCP).

Banco Sabadell has an LCP that sets out the strategy for ensuring that the institution has sufficient management capacities and measures in place to minimise any negative impacts of a crisis affecting its liquidity position and to allow it to return to a business-as-usual situation. The LCP also aims to facilitate operational continuity in liquidity management, particularly in the event that the crisis has arisen due to flawed performance of one or more market infrastructures. The LCP can be triggered in response to different crisis scenarios, either in the markets or in the entity itself. In general, and in line with the impact channels considered in the entity's stress tests, these scenarios can be classed as systemic crises, idiosyncratic crises or combined crises.

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

— Supervision of Group-wide liquidity risks, independently calculating the risk management metrics within risk systems.
— Definition of risk measurement methodologies and verification that control and measurement systems are working properly.
— Daily monitoring of risk indicators and limits, with reporting to the various management units.
— Systematic oversight and analysis of headroom within the limits, identifying cases of breach and activating the necessary procedures to correct the situation.
— Establishment and creation of the necessary reporting framework for optimum monitoring and control of risk management limits.

Additionally, the risk control and reporting framework for RAS indicators is comprised of:

— Development and regular updates of a scorecard to show the evolution of the main metrics, ensuring that they conform to the framework and established limits.
— Systematic oversight and analysis of changes to all material risks.
— Reporting and proposing actions (triggering protocols, changes to guidelines, etc.) based on the analysis of risk trends.

Funding strategy and liquidity trends in 2016

The Group's main source of funding is customer deposits (mainly demand accounts and deposits with agreed maturity captured through the branch network), supplemented by funding through the interbank and capital markets in which the entity maintains a number of short- and long-term funding programmes in order to achieve an appropriate level of diversification by type of product, term and investor. The entity also maintains a diversified portfolio of liquid assets, mostly eligible as collateral for European Central Bank funding transactions.

On-balance sheet customer funds

At 31 December 2016, on-balance sheet customer funds amounted to €133,457 million, compared with €131,489 million at 2015 year-end and €94,461 million at 2014 year-end (an increase of 1.5% in December 2016 compared with December 2015, and of 39.2% in December 2015 compared with December 2014 as a result of the acquisition of TSB in June 2015). In 2016, balances continued to move from deposits with agreed maturities to demand accounts and mutual funds as a result of the downward trend in interest rates. At 31 December 2016, the balance of demand accounts totalled €92,011 million (+8.8%), to the detriment of deposits with agreed maturity, which declined by 13.3% (T3).*

The bank markets deposits through the following Group units/companies (Commercial Banking, Corporate Banking and Global Businesses, Private Banking, SUB and TSB). Details of the volumes of these business units are set out in the section on Business results of the Directors' Report.

During 2016, the funding gap stabilised, maintaining the positive trend observed in recent years though at a more moderate pace. This enabled the bank to maintain its policy of partially refinancing maturities in the capital markets and, at the same time, with the Group's guidance for reduction of the loan-to-deposit (LtD) ratio (from 147% at the end of 2010 to 105.1% at the end of 2016). The ratio was enhanced during the year by the addition of TSB in June 2016, whose funding structure is exposed mainly to customer deposits. To calculate the loan to deposit (LtD) ratio, net customer loans (adjusted for subsidised funding) is taken as the numerator, and retail funding as the denominator.

Capital market

Recourse to funding in the capital markets has been declining in recent years as a consequence of, inter alia, the positive trend in the funding gap. At the end of 2016, the outstanding balance of capital market funding stood at €25,160 million, compared with €27,436 million at the end of 2015. By product type, as of 2016 year-end, of the amount of capital market funding, €13,607 million were in the form of mortgage covered bonds, €2,612 million

*** Off-balance sheet customer funds managed by the Group and those marketed but not managed by the Group are shown in Note 31 to the 2016 consolidated financial statements.**

were commercial paper and ECP placed with wholesale investors, €1,741 million were senior debt (of which €1,059 million were government guaranteed bonds connected with the acquisition of Banco CAM), €1,514 million were subordinated debt and preference shares, €5,653 million were securitisation bonds placed in the market (of which €3,433 million correspond to TSB), and €33 million were other medium- and long-term financial instruments (T4).

The Banco Sabadell Group is an active participant in the capital markets and has a number of active funding programmes with a view to diversifying its sources of liquidity.

In terms of short-term financing, the entity maintains a commercial paper programme and a Euro Commercial Paper (ECP) programme:

— Commercial paper programme: this program regulates issues of commercial paper aimed at institutional and retail investors. On 3 March 2016, Banco Sabadell registered its commercial paper programme for 2016 with the Spanish National Securities Market Commission (CNMV) with an issue limit of €7,000 million with scope for extension to €9,000 million. The outstanding balance of the commercial paper programme has remained stable, with a slight reduction in the outstanding balance placed with institutional investors, and a slight increase in the balance placed with non-qualified investors. At 31 December, the outstanding balance stood at €3,676 million (net of commercial paper acquired by Group companies), compared with €3,661 million at 31 December 2015.
— Euro Commercial Paper (ECP) Programme, aimed at institutional investors, under which short-term securities are issued in several currencies: EUR, USD and GBP. On 18 December 2015, Banco Sabadell renewed its Euro Commercial Paper Programme for a maximum nominal amount of €3,500 million. At 31 December 2016, the outstanding balance stood at €246 million, in comparison to €275,9 million at the end of 2015.

Regarding medium- and long-term financing, the entity has the following programmes in place:

— Programme for the issuance of non-equity securities registered with CNMV ("Fixed Income Programme"): this programme regulates the bonds and debentures, both non-convertible and subordinated, and mortgage covered bonds, public sector covered bonds and structured bonds issued under Spanish law through the CNMV and aimed at both domestic and foreign investors. The limit available for new issues under the Banco Sabadell Programme for the issuance of non-equity securities for 2016 at 31 December 2016, was €10,638.8 million (at 31 December 2015, the outstanding balance under the 2015 Fixed Income Programme was €6,145.8 million).
— During 2016, Banco Sabadell issued a total of €7,658.5 million under the existing Fixed-Income Programme. During the year, the entity tapped the

T3 On-balance sheet customer funds, by maturity:

€ million

	2016	3 months	6 months	12 months	>12 months	No fixed maturity
Total on-balance sheet customer funds (*)	**133,457**	**10.3%**	**6.8%**	**7.9%**	**5.9%**	**68.9%**
Deposits with agreed maturity	37,214	34.7%	21.3%	26.7%	17.3%	—
Demand accounts	92,011	—	—	—	—	100.0%
Retail issues	4,232	21.4%	28.0%	15.7%	34.9%	—

(*) Includes customer deposits (ex-repos) and other liabilities placed via the branch network: mandatory convertible bonds, non-convertible bonds issued by Banco Sabadell, commercial paper and others.

T4 Maturity of issues aimed at institutional investors, by product type

€ million

	2017	2018	2019	2020	2021	2022	>2023	Outstanding balance
Mortgage bonds and mortgage covered bonds*	2,022	1,560	1,124	2,165	2,108	1,119	3,508	13,607
Government-guaranteed bonds (GGB)*	1,059	—	—	—	—	—	—	1,059
Senior debt**	57	600	—	—	—	25	—	682
Subordinated debt and preference shares**	66	—	—	425	490	—	533	1,514
Other medium- and long-term financial instruments**	—	18	—	—	10	—	5	33
Total	**3,204**	**2,178**	**1,124**	**2,590**	**2,608**	**1,144**	**4,047**	**16,895**

(*) Collateralised
(**) Uncollateralised

market on several occasions, taking advantage of liquidity windows. Specifically, Banco Sabadell made two public issues of mortgage covered bonds in May (eight years) and October (seven years) for a total of €1,000 million each; a €100 million tap of an existing mortgage covered bond in March; three issues of 8-year mortgage covered bonds amounting to a combined €850 million, which were subscribed fully entirely by the European Investment Bank (EIB); eight issues of senior bonds at terms of between 1 and 3.25 years for a total amount of €2,488 million, and eleven issues of structured bonds for a total of €220.6 million at terms between 1 and 5 years. In the current market environment, the entity would have the capacity to issue in different formats and terms.

— Euro Medium Term Notes (EMTN) Programme, registered on 31 March 2016 with the Irish Stock Exchange. This programme allows senior debt and subordinated bonds to be issued in any currency, with a maximum limit of €5,000 million. On 6 May 2016, Banco Sabadell issued €500 million in 10-year subordinated debt million under this new EMTN programme.

Banco Sabadell's primary market activity has not been affected by the outcome of the June 2016 Brexit referendum to decide on the UK's membership in the European Union. As an example, in October 2016 the Bank issued a 7-year mortgage covered bond in the market for the amount of €1,000 million, achieving a historically low cost.

TSB has continued to establish itself as a benchmark issuer, and it would appear that the market also views it as such. In this regard, although TSB continues to have access to wholesale markets, it is not expected to issue significant amounts due to its ready access to retail markets and the implementation of the Term Funding Scheme (TFS) by Bank of England in August. The TFS is a programme to incentivise lending by allowing UK banks to borrow at 4 years from the date of drawdown in exchange for eligible collateral.

— Asset securitisation: since 1993, the Group has been very active in this market and has taken part in various securitisation programmes, sometimes acting together with other highly solvent institutions, granting mortgage loans, loans to small and medium-sized enterprises, consumer loans and debt claims deriving from finance lease contracts.

There are currently 34 outstanding asset securitisation operations (including those performed by Banco Guipuzcoano, Banco CAM, BMN, Banco Gallego and TSB); although part of the bonds issued were withheld by the issuer entity as liquid assets eligible for financing operations with the European Central Bank, the rest of the bonds were placed in capital markets. At the end of 2016, the balance of securitisation bonds placed in the market stood at €5,653 million.

For efficiency reasons, three securitisation operations with relatively small outstanding balances were redeemed before maturity in 2016 (see further details on securitisation funds in Schedule II to the notes to financial statements).

On 28 July 2016, Banco Sabadell issued a IM Sabadell Pyme 10, a bond backed by loans to SMEs, for an amount of €1,750 million; the bonds were retained in their entirety.

During the first half of 2016, TSB launched a new mortgage-backed bond, Duncan Funding 2016-1 PLC, for an amount equivalent to €3,934 million, of which €664 million have been placed in the market.

In general terms, the tone of the markets was positive in 2016, although there were several episodes of volatility caused by political and regulatory uncertainty, which led to tensions and even the closure of markets during relatively prolonged periods. In the overall system, a large portion of maturities in the market were not refinanced; this, together with the ECB's economic stimulation measures in the last quarter of 2014 and the beginning of 2016, resulted in an excess of liquidity.

In March 2016, the European Central Bank announced new economic stimulus measures through a new targeted long-term refinancing operation (TLTRO II), consisting of four auctions of liquidity at a term of four years, to be performed between June 2016 and March 2017. Banco Sabadell took part in TLTRO II, for a total of €10,000 million, by amortising early €11,000 million from the TLTRO I auctions announced by the ECB in June 2014. The Bank also took part in the Covered Bond Purchase Programme (CBPP3) implemented by the European Central Bank.

In August, Bank of England also implemented a series of measures to support economic growth. That package includes a reduction of the Bank Base Rate and the introduction of the Term Funding Scheme (TFS). As a member of the Sterling Monetary Framework (SMF), TSB plans to resort regularly to the TFS to obtain low-cost funding. There were no amounts drawn under the TFS at 2016 year-end.

The excess liquidity in the market together with a low interest rate environment reduced prices of repo funding compared to other alternatives. At 31 December 2016, the net nominal amount of repo funding stood at €7,927 million.

Liquid assets

In addition to these sources of funding, Banco Sabadell maintains a liquidity buffer in the form of liquid assets to cover any liquidity needs (T5).

With respect to 2015, Banco Sabadell's first line of liquidity has grown by €4,634 million, due to the funding gap, changes in the real estate portfolio and the creation of own collateral.

As for TSB, the first line of liquidity at 31 December 2016 was mainly comprised of gilts amounting to €1,678 million (€1,718 million at 31 December 2015) and surplus reserves at the Bank of England (BoE) amounting to €4,191 million (€3,383 million at 31 December 2015).

It should be noted that Banco Sabadell Group applies a decentralised liquidity management model. This model tends to limit the transfer of liquidity between the various subsidiaries involved in liquidity management, thereby limiting intra-group exposures beyond any restrictions imposed by local regulators on each subsidiary. Thus, the subsidiaries involved in liquidity management determine their liquidity position by considering only those assets in their possession which meet the eligibility, availability and liquidity requirements established both internally and in regulations in order to comply with the regulatory minima.

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

In addition to the first line of liquidity, the bank maintains a buffer of mortgage assets and loans to public authorities that are eligible as collateral for mortgage covered bonds and public sector covered bonds, respectively, which, at the end of 2016, added €4,924 million in terms of the capacity to issue new covered bonds that are eligible as collateral for the ECB facility. At the end of 2016, available liquidity amounted to €31,805 million in cash, corresponding to the amount of the first line of liquidity plus the bank's capacity at year-end to issue mortgage and public sector covered bonds, less the average haircut applicable to covered bonds by the ECB.

Fulfilment of regulatory ratios

As part of its liquidity management approach, the Banco Sabadell Group monitors the short-term liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR), and reports the necessary information the regulator 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.

Since 1 January 2016, the regulatory minimum LCR is 70%, a level which is comfortably surpassed by all of the entity's LMUs; in particular, TSB and Banco Sabadell Spain stand out due to their very high LCRs. At Group level, the bank's LCR was consistently above 100% throughout the year.

The NSFR is still under consideration and the final definition has yet to be adopted. The scheduled date for its implementation is January 2018, and, as with the LCR, it will be phased in. The bank has nonetheless already commenced monitoring this ratio as a liquidity metric at the LMU level.

Given the bank's funding structure, with a preponderance of customer deposits, and as the majority of its market funding is in the medium/long-term, this ratio is consistently over 100%.

Market risk

This risk is defined as arising from the possibility of loss in the market value of financial asset positions due to variations in risk factors with an impact on their market prices, volatility or correlation between them.

Those positions that generate market risk are usually held in trading activities, consisting of hedging transactions arranged by the Bank to provide services to its customers as well as discretionary proprietary positions.

It may also arise simply due to maintaining overall balance sheet positions (also known as structural positions) that in net terms are left open. In the latter case, the entity uses the market risk management and monitoring system to manage the structural market risk position. Other market risks of a structural nature, arising from such factors as interest rates, are addressed in the relevant sections.

The market risk acceptance, management and oversight system is based on setting limits for specifically assigned positions and the approval of transactions of each business unit; in this way, the various management units have the obligation to manage their positions within the established limits and to obtain approval for transactions from the risks department.

€ million

T5

	2016
Cash (*) + Net interbank position	8,002
Available under ECB facility	6,869
Collateral provided under ECB facility (**)	18,687
Balance drawn under Bank of Spain facility (***)	11,818
Assets eligible as collateral for ECB facility not yet used	8,423
Other marketable assets ineligible for central bank facility (****)	3,587
Total available liquid assets	**26,881**

(*) Excess reserves at central banks.
(**) Market value after applying ECB haircut for monetary policy transactions.
(***) Of which, in 2016, €10,000 relate to the ECB's 4-year Targeted Longer-Term Refinancing Operation (TLTRO II) on 29 June 2016. In 2015, €11,000 million related to the Bank of Spain TLTRO on 17 December 2014.
(****) Market value after applying the Liquidity Coverage Ratio (LCR) haircut. Includes fixed-income securities classified as high-quality liquid assets (HQLA) for the purposes of the LCR and other marketable securities of Group undertakings.