2015

Disclosure Report

Helaba

Disclosure report of the Helaba Group in accordance with the Capital Requirements Regulation (CRR)

31 December 2015

Contents

Preamble

The Helaba Group

Landesbank Hessen-Thüringen Girozentrale of Frankfurt am Main and Erfurt (Helaba) provides financial services in Germany and other countries for companies, banks, institutional investors and the public sector. Helaba serves as the Sparkasse central bank for Hesse, Thuringia, North Rhine-Westphalia and Brandenburg, making it a strong partner for 40 % of all Germany's Sparkassen.

Frankfurter Sparkasse (FSP), the regional market leader in retail banking, is a wholly-owned subsidiary of Helaba. The Helaba Group also includes Landesbausparkasse Hessen-Thüringen (LBS) and Wirtschafts- und Infrastrukturbank Hessen (WIBank). The latter implements development programmes on behalf of the State of Hesse.

One key aspect of Helaba's business model is its legal form as a public-law institution. Helaba operates as a for-profit entity in line with the applicable provisions of the Charter and the Treaty of the Formation of a Joint Savings Banks Association Hesse-Thuringia. The Treaty and the Charter establish the legal framework for Helaba's business model. Other factors central to this business model are Helaba's status as part of the Sparkassen-Finanzgruppe with its institutional protection scheme, the distribution of tasks between Sparkassen, Landesbanken and other S-Group institutions, the large stake in Helaba owned by the Sparkassen organisation, and Helaba's retention and expansion of its activities in the S-Group and public development and infrastructure business.

Helaba's strategic business model centres on the three business units: Wholesale Business; S-Group Business, Private Customers and SME Business; and Public Development and Infrastructure Business. The Bank's registered offices are situated in Frankfurt am Main and Erfurt, and it also has branches in Düsseldorf, Kassel, Paris, London and New York. These are joined by representative and sales offices, subsidiaries and affiliates.

Helaba's sound strategic business model is based on three business units

Helaba …
… a Universal Bank with strong Regional Focus

Wholesale Business	S-Group Business, Private Customers and SME Business	Public Development and Infrastructure Business
Helaba	Verbundbank	WIBank – Wirtschafts- und Infrastrukturbank Hessen
Business Divisions: Real Estate; Corporate Finance; Financial Institutions and Public Finance; Global Markets; Asset Management; Transaction Banking	LBS	
	Frankfurter Sparkasse 1822	
	1822direkt – Ein Unternehmen der Frankfurter Sparkasse	
	Frankfurter Bankgesellschaft – Privatbank – Zürich – Frankfurt	

Frankfurt am Main · Erfurt · Düsseldorf · Kassel · London · Paris   New York · Zurich · Madrid · Moscow · Shanghai · Singapore

Disclosure Report

Helaba is the superordinated institution in the Group and, as such, is responsible for meeting the disclosure requirements at Group level in accordance with Part 8 of the Capital Requirements Regulation (CRR). This Disclosure Report satisfies these requirements for the reporting date of 31 December 2015. The supplementary provisions set out in Sections 10 and 10a of the German Banking Act (Kreditwesengesetz – KWG), Article 13 CRR, the transitional provisions set out in Part 10 CRR and the regulatory and implementing standards of relevance to disclosure are also taken into account.

The frequency and scope of the Disclosure Report are based on the European Banking Authority's (EBA) requirements as specified in EBA/GL/2014/14. Following a review of the requirements, there will also be a half yearly report for 2016, given the Helaba Group's total assets and its leverage ratio exposure.

Article 13 CRR requires significant subsidiaries of EU parent institutions and those subsidiaries that are of material significance for their local market to prepare their own disclosure report on an individual or sub-consolidated basis.

Helaba's FSP subsidiary, which is the regional market leader in retail banking, falls under this separate disclosure requirement.

Since 31 December 2014 the disclosure report for FSP has formed part of the disclosure report of the Helaba Group. From the latest disclosure reporting date (31 December 2015), the disclosure report for Frankfurter Sparkasse as an individual bank will be published in a "Disclosure report" section within its 2015 Annual Report, which will be available on FSP's website.

Since 1 January 2014, the regulatory capital requirements and Helaba's own funds have been based on financial reporting in accordance with IFRS.

The remuneration policy details in accordance with Article 450 CRR are presented in a separate remuneration report and published on Helaba's website.

Country-by-country reporting in accordance with Section 26a KWG can be found in the Annual Report in the section thus entitled.

Given the differences in the basis of consolidation for regulatory purposes and that under German commercial law, please refer to the Helaba Group's Annual Report (published on Helaba's website) for more detailed information relating to the financial statements.

Scope of Application

This disclosure is provided for the Helaba Group on the basis of the group of consolidated companies for regulatory purposes pursuant to the KWG/CRR. The document is prepared and coordinated by the parent company – Helaba.

A total of 21 companies are fully consolidated in the consolidation process for regulatory purposes in accordance with Sections 10 and 10a of the KWG and Article 18 of the CRR in addition to Helaba as the superordinated institution, and one other company is included in the consolidation on a pro-rata basis. A further 46 companies are excluded from the scope of consolidation for regulatory purposes in accordance with Section 31 KWG in conjunction with Article 19 CRR. One fully consolidated financial institution is no longer included in the group of consolidated companies for regulatory purposes compared with the corresponding basis of consolidation as at 31 December 2014.

Group of consolidated companies for regulatory purposes

Regulatory treatment	Number and type of companies
Full consolidation	**21 companies** 15 financial institutions 2 asset management companies 3 banks 1 provider of ancillary services
Pro-rata consolidation	**1 company** 1 financial institution
Excluded from the scope of consolidation for regulatory purposes	**46 companies** 45 financial institutions 1 provider of ancillary services

A detailed breakdown of the treatment of all corporate units included in the group of consolidated companies under either commercial law or regulatory provisions can be found in the separate Annex in the "Table of Consolidated Companies". Helaba does not avail itself of the exemptions listed in Article 7 CRR for institutions belonging to a group. Of the subsidiary enterprises included in the scope of prudential consolidation under the KWG, 21 companies are fully consolidated in the consolidated accounts under IFRS and one other company is accounted for using the equity method. Information on the group of consolidated companies under IFRS may be found in the Annual Report (Note (3) in conjunction with Note (85) in the Notes to the Consolidated Financial Statements).

Risk Strategy and Risk Management

Drafted in accordance with the requirements imposed by the law, the Charter and the banking regulatory authorities and the Rules of Procedure for the Board of Managing Directors (GaV), the risk strategy lays down the principal elements of the approach adopted to dealing with risk, the objectives of risk containment and the measures employed to achieve these objectives within the Helaba Group. The risk strategy covers the Helaba Group and therefore also the Helaba group of companies as defined by the KWG. It covers all of the material business activities of the Helaba Group. Helaba's business strategy and risk strategy are integrally linked to the business strategy and risk strategy of Sparkassen-Finanzgruppe Hessen-Thüringen. Helaba aligns the management of its risk profile with the jointly agreed risk stipulations of Sparkassen-Finanzgruppe Hessen-Thüringen in accordance with the business strategy and risk strategy of Sparkassen-Finanzgruppe Hessen-Thüringen.

The risk strategy is modular in nature and consists of a general risk strategy and specific risk strategies. The general risk strategy sets out the universal stipulations for risk management, while the specific risk strategies lay down detailed ground rules and methods for the treatment of the various risk types. Methodological specifications are detailed in derived policies.

Helaba and the companies included in Group-wide risk management have introduced guidelines and general and detailed operating procedures for employees to ensure the propriety of business operations and provide a robust foundation for the implementation of the risk strategy. The risk strategies make direct reference to the relevant elements of this structural foundation where necessary.

The Helaba Group operates as a for-profit entity in line with the provisions of its Charter and of the Treaty of the Formation of a Joint Savings Banks Association Hesse-Thuringia. It weighs up the opportunities and risks inherent in every exposure with great care as dictated by its prudent risk policy. Risks may be assumed only as permitted under the general risk strategy and the specific risk strategies and only in pursuit of the strategic objectives of the Helaba Group – in particular in order to maintain the Group's long-term earning power while protecting its assets as effectively as possible and accomplishing its mission. The principal objective of the Helaba Group's risk strategy is to ensure that risk-bearing capacity is always maintained and that all regulatory requirements are met. The Helaba Group's risk appetite framework ensures that activities are consistent with this objective.

The risk appetite framework brings together the entire system of guidelines, processes, monitoring structures and control functions in the Helaba Group and at individual institution level; this system is itself firmly established as part of the internal procedural instruction system. At Helaba, this framework is understood to include the approved management approaches, the reporting procedures in which relevant information is assembled according to user needs, the management and control committees established by the Group and governance procedures installed as part of overall processes.

The various responsibilities and powers of management and the supervisory body are also set out in the overarching risk governance system. This also includes the relevant committees and their composition as well as the distribution of tasks and responsibility for these tasks within the management. The components of the risk appetite framework are described below.

- Risk appetite statement
  The risk appetite statement specifies the risks that Helaba is prepared to take on to achieve its strategic objectives, taking into account the need to satisfy regulatory requirements. At Helaba, this statement is determined in the general risk strategy and in the specific risk strategies for types of risk classified as material, in the wording of risk policy guidelines and by the overall design of risk-bearing capacity (Internal Capital Adequacy Assessment Process, ICAAP), which takes into account the impact from operational and strategic planning.

- Risk appetite
  The risk appetite statement is used as the basis for specifying the risk appetite itself, which is then reviewed each year. The risk appetite, which is expressed as an overall risk amount, takes into account the risk capacity of the Helaba Group based on the operational and multi-year planning (benchmark resolution), the risk strategy, the results from the annual risk inventory check, the risk-bearing capacity concept and capital planning.

- Risk capacity
  The risk capacity for the Helaba Group is determined on the basis of the minimum capital requirements as specified in the CRR and the capital decision in the Supervisory Review and Evaluation Process (SREP). Risk capacity is monitored as part of the processes involved in regulatory reporting. The monitoring procedures include inverse stress tests and the application of the specified recovery threshold values.

- Risk limitation
  The risk appetite details are translated into quantitative specifications for Helaba's multi-level concept of limits to enable Helaba to allocate the risk appetite and continuously monitor compliance.
  Initially, the risk capacity (i.e. the risk that Helaba can take on without breaching regulatory requirements) is determined on the basis of the regulatory minimum requirements and the results from the calculation of risk-bearing capacity. For the purposes of determining risk appetite, Helaba sets overall regulatory and economic limits that take into account an internal risk buffer and that are consistent with the target capital ratios. The limits are then broken down and allocated to risk categories and divisions with due regard to the potential income in each case and to the need to ensure that strategic objectives are met. Helaba's multi-level limit concept also includes further individual limit structures for each type of risk, taking into account relevant risk concentrations.
  Appropriate monitoring and escalation processes have been set up within Helaba's governance system to ensure compliance with the limits and with maximum permissible monitoring levels.

- Risk profile
  The risk profile is closely integrated with the above components. As part of the Group-wide risk reporting system, it is constantly monitored and communicated to the Board of Managing Directors and the Supervisory Board in both regular and ad hoc submissions. In addition to the components of the risk appetite framework, internal risk management in the Helaba Group also takes into account the allocation of liquidity for medium- and long-term new business, the allocation of employee capacity to units, the determination of the personnel expenses budget and the provision of any other resources necessary to ensure that risk is appropriately handled.

The Bank's risk profile is largely shaped by default risk and market risk due to the priorities set out in Helaba's business strategy. Default risks are limited by monitoring concentration limits, country risk limits and business type limits as well as observing basic earnings and risk requirements. Market risk is limited by means of the daily monitoring of interest rate, exchange rate and other price risks and monthly monitoring of the residual and incremental risk.

Helaba applies a long-term approach to liquidity management and is correspondingly prudent in its liquidity planning, meaning that the liquidity risk is inherently limited. Daily monitoring of the short-term liquidity status and monthly monitoring of structural liquidity ensure that solvency is never compromised.

FSP operates as a legally independent institution and accordingly has its own comprehensive risk management system in accordance with Section 25a KWG in conjunction with the German Minimum Requirements for Risk Management (Mindestanforderungen an das Risikomanagement – MaRisk). The methods and processes employed and the system of implementation within its organisation are documented along with the strategies in FSP's Risk Manual and are updated regularly. The Risk Manual includes descriptions of the risk management regime in place and the risk early warning system and of the manner in which responsibilities are allocated to ensure strict separation of the relevant functions. The measures associated with the implementation of the CRR are fully integrated into FSP's own procedural instruction system. FSP's comprehensive risk containment apparatus extends from front office to portfolio management processes.

Risk Types

The risk types of material significance for managing the Helaba Group result directly from its business activities. The structured risk inventory process examines which risks have the potential to damage the Helaba Group's net assets (including capital resources), results of operations or liquidity position to a material degree. A risk type qualifies as material if the amount involved exceeds € 50 million across all Group companies and for Helaba Bank. The threshold applied in determining material status is based on the sustainable operating result and own funds under IFRS.

The material risk types that have been identified for the Helaba Group are set out below.

- The default risk or credit risk is the potential economic loss that can be incurred as a result of non-payment by or a deterioration in the creditworthiness of borrowers, issuers, counterparties or equity investments or as a result of restrictions on cross-border payment transactions or performance (country risk).

  The potential economic loss is determined using internal or external credit assessments plus regulatory and internally-generated risk parameters.

  Default risk does not include credit risk already forming part of market risk under residual risk or incremental risk.

  The equity risk – the potential economic loss as a result of non-payment by or a deterioration in the creditworthiness of an equity investment – that is not managed at the level of the individual risk types also forms part of the default risk. Such developments can lead to a decline in the value of the holding or the reduction or cancellation of dividend payments, to loss transfers or to contribution, margin call and liability obligations.

- Market risk is the potential economic loss as a result of disadvantageous movements in the market value of exposures due to changes in interest rates, exchange rates, share prices and commodity prices and their volatility. In this context changes in interest rate levels in one market segment lead to general interest rate risks, specific interest rate changes (for example on the part of an issuer) lead to residual risks, and changes in the price of securities subject to a credit rating as a result of rating changes (including default) lead to incremental risks.

- The liquidity risk is broken down into three categories. The short-term liquidity risk is the risk of not being able to meet payment obligations as they fall due. Structural liquidity risks result from imbalances in the medium- and long-term liquidity structure and a negative change in the organisation's own funding curve. Market liquidity risks result from insufficient liquidity of assets, with the consequence that positions can be closed out only, if at all, at a disproportionately high cost. The liquidity risks associated with transactions not included in the statement of financial position lead to short-term and/or structural liquidity risks depending on their precise nature.

- Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This risk type includes legal risk, which is defined as the risk of losses as a result of infringements of legal provisions in force or claims that cannot be legally enforced. Legal risks also include the risk of a change in the legal position (changed case law or amended legislation) leading to losses from transactions concluded in the past.

- Business risk is the potential economic loss attributable to possible changes in customer behaviour, in competitive conditions in the market or in general economic conditions. Damage to Helaba's reputation could also trigger a change in customer behaviour.

- Reputation risk involves the possibility of a deterioration in Helaba's public reputation in respect of its competence, integrity and trustworthiness as a result of perceptions of the individuals having a business or other relationship with the Bank. The material consequences of reputation risks impact on the business and liquidity risk and are accordingly considered under these two risk types.

- Real estate risks comprise real estate portfolio risk – the potential economic loss from fluctuations in the value of an entity's own real estate – and real estate project management risk associated with project development business. Risks associated with the provision of equity and loan capital for a project are excluded from this risk type, as are risks associated with real estate finance.

Risk Management Process

The risk management methods employed at Helaba are designed to be appropriate to the type, magnitude, complexity and risk content of business activities and the priorities of the Bank's business strategy and risk strategy. These risk management methods have been approved by management in accordance with the requirements imposed by the Charter, national and international law and the banking regulatory authorities. Helaba develops its risk management methods continuously to accommodate changing circumstances, new findings and newly introduced regulatory requirements in both national and international contexts. The risk management methods instituted consider all of the Bank's material risks and are appropriate to the institution's profile and strategy.

Responsibility for identifying and containing risks rests with local management units in the various components of the organisation, but the quantification and monitoring/controlling functions, which include the reporting duty and the associated methodological authority, are performed by the central monitoring units. Helaba's organisational structure keeps risk controlling and risk containment segregated at all levels including the Board of Managing Directors. This clear separation of roles and the close co-operation between the units concerned is intended to ensure efficient implementation of risk policy containment mechanisms.

The four elements of risk management represent consecutive phases in a single continuous process. The design of the risk containment mechanisms and tools for each risk type and the methods used to map the individual risks are addressed in the specific risk strategies.

1. Risk identification
The risks affecting Helaba and the companies included in risk management at Group level are identified continuously as an integral part of daily operations. Once identified, each risk is assigned to the relevant risk type.

Comprehensive identification and incorporation into existing risk measurement systems and the associated risk monitoring processes is particularly important in connection with the introduction of new products and complex transactions. The central monitoring units are involved in the authorisation of new products as part of the New Product Process for lending business and trading business.

The risk inventory process to be completed for the Helaba Group annually and on an ad hoc basis also helps to identify previously unknown risks and ensure that any of material significance are incorporated into the risk management process.

2. Risk quantification
Effective mapping of individual transactions and risk parameters in the risk measuring systems enables qualitatively and quantitatively robust risk measurement and assessment for the various risk types. A variety of models, methods and processes are used for this purpose. The Bank applies corresponding premiums and discounts to cover the model risk that results from the use of models and is confirmed in the course of validations.

3. Risk containment
The information obtained in the risk identification and quantification phases provides the basis for risk containment by the local management units. Risk containment encompasses all of the measures implemented in order to reduce, limit, avoid and transfer risks and keep risk exposure within the limits defined by the Board of Managing Directors.

4. Risk monitoring/controlling and reporting
A comprehensive and objective reporting system keeps the relevant people within the organisation apprised of the existing risks as part of an independent risk controlling structure. The methods of the preceding process phases and the quality of the data used are also reviewed in this phase and plausibility checks are carried out on the results.

Risk Management Structure

Committees
The Helaba Board of Managing Directors is responsible for all of the risks to which the Bank is exposed. In addition to determining the business strategy and a consistent risk strategy (including capital allocation and limitation), it is also responsible for implementing the risk policy throughout the Group. The Board of Managing Directors has established a Risk Committee in accordance with the applicable banking regulatory requirements.

The Risk Committee is an interdepartmental body in which the members discuss aspects of risk containment and monitoring, and carry out preparation work for decisions to be made by the Board of Managing Directors. The principal task of the Risk Committee is to implement and monitor Helaba's risk strategy. It is also responsible for aggregating all of the risks – that is to say the default risk, market risk, liquidity risk, operational risk, business risk and real estate risk – assumed across the Bank and evaluate their combined implications. The Risk Committee is charged with identifying risks within the Helaba Group at the earliest possible stage, designing and monitoring the calculation of risk-bearing capacity and deriving measures to avoid risk and generate containment mechanisms for risk management. It also approves the containment and quantification methods employed by the various units and assesses the appropriateness of the tools applied in light of the extent of the risk.

All members of the Board of Managing Directors are represented on the Risk Committee. The Risk Committee in principle meets every month and held a total of 16 meetings in 2015.

Operating directly below the Risk Committee are the Asset/Liability Management Committee, the Credit Management Committee (KMA) and the Credit Committee of the Board of Managing Directors (VS-KA). The Asset/Liability Management Committee has responsibility for monitoring market risk, including the associated limit utilisation, and managing the strategic market risk portfolio and the portfolio of non-interest-bearing liabilities. The Credit Management Committee is charged with the containment of default risks for the entire portfolio and of syndication risks, placement risks and country risks, while the Credit Committee of the Board of Managing Directors is responsible for credit and settlement risks associated with counterparties.

Appointments to the committees and the committees' duties, jurisdiction and responsibilities are governed in separate rules of procedure approved by the Board of Managing Directors.

The organisational guidelines specify that the approval of the entire Board of Managing Directors or of the Supervisory Board or one of its committees must be obtained for decisions on matters of particular significance such as acquiring, changing or disposing of equity investments, granting loans above a certain threshold and defining the cumulative limit for market risk. The Bank's Charter, moreover, requires that any decision to take on or make changes to strategic equity investments involving a stake in excess of 25 % also be approved by the Board of Public Owners.

Members of the management bodies

Helaba's corporate governance statutes, which are based on the provisions of its Charter, assign responsibility for the appointment of members of the Board of Managing Directors to the Board of Public Owners acting with the consent of the Supervisory Board. Candidates for positions on Helaba's Board of Managing Directors are accordingly selected, with reference to Section 25 d (11) KWG, by the Board of Public Owners, which is assisted in this connection by a nine-member Public Owners' Committee.

Article 1 of the Helaba company regulations stipulates that no employee of the organisation may be treated differently to others, either by the Bank or by other employees, on the basis of gender, race, age, religion, skin colour, origin or nationality.

Helaba signed the Diversity Charter, a German corporate initiative to promote diversity in companies and institutions, in 2011. Following the maxims of the Charter, it gives consideration when selecting members of the Board of Managing Directors to the differences in knowledge, skills and experience of all members of the Board of Managing Directors.

The Board of Public Owners additionally prepares a regular, at least annual, assessment of the knowledge, skills and experience of both the individual members of the Board of Managing Directors and of the Board of Managing Directors as a whole. Here too, the Board of Public Owners is assisted in its work by the Public Owners' Committee. The three meetings held by the Committee of the Board of Public Owners in the reporting year took place on 24 April 2015, 30 September 2015 and 23 November 2015.

The members of the Helaba Board of Managing Directors held management or supervisory posts as shown in the table below at 31 December 2015.

Mandates held by the members of the Board of Managing Directors (in accordance with Section 24 KWG)

	Number	Thereof subsidiaries/ equity investments > 10 %
Herbert Hans Grüntker	3	3
Jürgen Fenk	8	8
Thomas Groß	5	4
Dr. Detlef Hosemann	4	3
Rainer Krick	4	4
Klaus-Jörg Mulfinger	4	3
Dr. Norbert Schraad	2	2

Risk management and Helaba Group companies

Companies belonging to the Group are incorporated into risk management activities at Group level by taking account of the risks established in the course of the annual or, where applicable, an ad hoc risk inventory. The risk inventory process identifies risks at the level of Helaba's direct equity investments, with each of these Group companies measuring the cumulative risk across its own organisation including its own equity investments. The starting point for determining inclusion is all direct equity investments of Helaba Bank under commercial law plus special purpose vehicles and special funds. The regular risk inventory covers the companies belonging to the Group for which there exists a financial, legal or economic imperative for inclusion. The list of companies to be included is drawn up with reference to a catalogue of criteria. Companies belonging to the Group that are not included in the risk inventory are considered through the mechanism of the residual equity risk.

The outcome of the materiality assessment conducted as part of the risk inventory process is used to determine which Group companies are included in risk management at Group level with which risk types and which Group companies are considered only through the mechanism of the residual equity risk. If the risk exposures of a company belonging to the Group are deemed to be of material significance, the company concerned must be included in risk management at Group level in accordance with clear and binding standards and specifications.

Companies belonging to the Group must in addition establish an appropriate risk management process for any of their own risks that are assigned to the risk type at Group level. The officers responsible for the relevant risk types and methods stipulate precisely how risks are to be included. The mode of inclusion in the methods used in the risk management process varies from risk type to risk type.

Principal Risk Monitoring Areas

The units indicated in the table below have central responsibility for containing and monitoring risks falling within the primary risk types. A number of other departments and functions also contribute to risk management within the Helaba Group in addition to the units indicated in the table.

Risk types grouped by unit(s) responsible for risk containment/monitoring

Risk Types	Responsible for risk containment	Responsible for risk monitoring
Default risk including equity risk	Front office units, Capital Markets, Asset/Liability Management (municipal loans)	Risk Controlling (portfolio level), Credit Risk Management (individual exposure level), Group Strategy and Central Staff Division (equity risk)
Market risk	Capital Markets, Asset/Liability Management	Risk Controlling
Liquidity risk	Capital Markets (money market trading), Asset/Liability Management	Risk Controlling
Operational risk	All units	Risk Controlling, Legal Services (legal risk)
Business risk	Front office units	Risk Controlling
Real estate risk	Operationally independent subsidiaries ▪ Operational – discharged by management at the equity investment concerned ▪ Strategic – discharged by the supervisory bodies of the companies and the Real Estate Management unit	Risk Controlling, Real Estate Management

Internal risk reports are prepared by risk type, scale and frequency on the basis of the underlying risk types and counterparties.

The Risk Committee of the Board of Managing Directors receives detailed quarterly risk reports promptly following the reporting dates. These reports focus in particular on the primary risk types identified in the course of the annual risk inventory (default risks, market risks, liquidity risks, operational risks, business risks and real estate risks). Risks arising in connection with equity investments/other financial instruments, legal risks and risks from Pfandbrief business are reported separately, also according to a quarterly cycle. The reporting system additionally includes a calculation of risk-bearing capacity across risk types plus reporting on the status of and compliance with the threshold values of the early warning/recovery indicators (MaSan).

The Risk Committee of the Board of Managing Directors usually receives an additional risk report on market risks and liquidity risks every month. The weekly reports to the Asset/Liability Management Committee include information about the liquidity situation for new business, the utilisation of the MaR limits and the largest negative net asset changes and also about operating results.

The members of the Board of Managing Directors whose remit covers the monitoring of market risk/results and the entities responsible for exposures receive a daily report concerning the current utilisation of the MaR limits and trading book operating results. All members of the Board of Managing Directors additionally receive a daily report detailing any significant breaches of counterparty limits.

The various regular reports mentioned are supplemented by ad hoc reports that are submitted to the Board of Managing Directors as necessary in response to the identification or materialisation of extraordinary risks.

The Supervisory Board and the Board of Public Owners are informed of the risk situation at Helaba by means of a risk report prepared on the basis of the quarterly reports to the Risk Committee of the Board of Managing Directors. The Supervisory Board has delegated the acceptance and discussion of the risk report to the Supervisory Board Risk and Credit Committee, whose chairman reports to both the Supervisory Board and the Board of Public Owners on the committee's activities in connection with risk reporting.

Internal Audit
The Internal Audit function, which reports directly to the Board of Managing Directors, examines and assesses the activities of the Bank and of subsidiary companies without need of further instruction. It plans and conducts its audits with risk in mind, paying particular attention to the assessment of the risk situation, the adequacy of processing and the effectiveness of the internal control system.

The scope and findings of each audit are documented in accordance with uniform standards. Informative audit reports are supplied to the Board of Managing Directors and the people responsible for the units audited. Internal Audit reports to the Supervisory Board on findings of particular significance every quarter.

Capital Market Compliance Office, Money Laundering and Fraud Prevention Compliance Office, MaRisk Compliance function and Information Security Management function
The Bank has established a Capital Market Compliance Office, a Money Laundering and Fraud Prevention Compliance Office, a MaRisk Compliance function, an Information Security Management function and a Data Protection Officer, all of which are independent functions.

The Capital Market Compliance Office advises the operating units and monitors and evaluates the principles, processes and practices applied against various criteria including, in particular, the requirements of the German Securities Trading Act (Wertpapierhandelsgesetz – WpHG), German Investment Services Conduct of Business and Organisation Regulation (Wertpapierdienstleistungs-Verhaltens- und Organisationsverordnung – WpDVerOV) and German WpHG Employee Notification Regulation (WpHG-Mitarbeiteranzeigeverordnung – WpHGMaAnzV), statements of the German Federal Financial Supervisory Authority (BaFin) and pertinent statements of the European Securities and Markets Authority (ESMA). The Capital Market Compliance Office evaluates inherent risks and checks compliance with the relevant regulatory requirements. It also performs regular risk-oriented monitoring activities using a monitoring plan based on a prior risk analysis, paying particular attention in this regard to the rules prohibiting insider dealing and market manipulation, and identifies and regulates conflicts of interest throughout the Group that pose a potential risk.

The Money Laundering and Fraud Prevention Compliance Office, acting in its capacity as the central authority for the purposes of Section 25h KWG, develops internal principles and adequate transaction- and customer-related safeguards and checks to prevent money laundering, the funding of terrorism and other criminal acts. The precautionary organisational measures to be implemented are based in part on the Group risk analysis (money laundering, terrorism financing and fraud prevention) and also in part on the Group Policy. This Group Policy sets out the Group's general ground rules, which reflect the pertinent national and international regulatory requirements. Monitoring and research software keeps business relationships under constant surveillance. The Money Laundering and Fraud Prevention Compliance Office is also responsible for the implementation of the legal requirements created by the Agreement Between the United States of America and the Federal Republic of Germany to Improve International Tax Compliance (FATCA) and the international Automatic Exchange of Information (AEOI) process.

The MaRisk Compliance function promotes the adoption of effective procedures to implement and ensure compliance with the principal legal rules and stipulations identified in the context of risk and conducts related checks. It also conducts regular checks and analyses in this connection of the adequacy and efficacy of the business processes and practices associated with the implementation of and compliance with the principal legal rules and stipulations in the Bank.

The Information Security Management function is responsible for ensuring the proper control, coordination and development of information security management in line with the Bank's business strategy, IT strategy and risk management strategy. It identifies and analyses the information security risks to this end using an information security management system (ISMS) and develops relevant measures and checks for sustainable risk reduction and risk monitoring. The Information Security Management function is also charged with ensuring that any necessary security requirements arising in connection with relevant laws and regulations (German Federal Data Protection Act – BDSG, German IT Security Act, German Minimum Requirements for the Security of Internet Payments – MaSI, MaRisk, etc.) are derived and defined without delay, that information protection classifications and infrastructures are analysed regularly and that technical and organisational measures appropriate for this purpose are coordinated to make certain that a proper level of security is maintained at the Bank.

The Data Protection Officer promotes compliance with and implementation of data protection requirements and serves the Board of Managing Directors and Bank Officers as a permanent point of contact for any questions relating to data protection matters. The Data Protection Officer maintains a process overview (Section 4g (2) BDSG) and monitors the proper use of data processing programs (Section 4g (1) 1. BDSG). The Data Protection Officer also carries out prior checks and ensures that training and measures to raise awareness of data protection matters are provided regularly for Bank employees.

These independent functions report directly to the Board of Managing Directors. The internal control structures and procedures in place to contain and monitor the specified risks are thus adequate – in terms of both structural and procedural organisation – and effective as required by the applicable regulatory provisions.

Risk monitoring using the global limit system
Helaba employs a global limit system that records counterparty-specific default risks promptly in a structured and transparent manner. The system uses counterparty limits based on a combination of the creditworthiness (rating) of counterparties and the Bank's risk-bearing capacity.

Cumulative limits for each borrower are recorded in the global limit system at Group level to help monitor, limit and contain default risks. All types of loans in accordance with Article 389 et seq. of the CRR made to borrowers in both trading and banking book activities are counted against these cumulative limits. Advance payment and settlement risks attributable to foreign currency and securities transactions, current account intraday risks and what are referred to as "additional risks from constructs" are approved as commercial risks and counted against separate limits.

The approved total limits are allocated to individual borrowers, product categories and the operating divisions concerned in accordance with the application for approval. The utilisation of the individual limits is monitored on a daily basis and appropriate measures are initiated immediately if any limit is exceeded.

Swaps, forward transactions and options are counted towards the total limit at their credit equivalent amounts calculated in accordance with the CRR. All other trading book positions (for example money market trading and securities) are valued at market prices.

Creditor risks associated with direct debits and secondary risks resulting from leasing commitments (lessees) or guarantees received are also recorded for the relevant entity bearing the economic risk as indirect commercial risks.

Strategies and processes to counter and mitigate risks
Strategies and processes to counter and mitigate risks with recourse to suitable collateral are in place. The processes established by Helaba ensure that the collateral received is appropriately measured. Reporting, financial and non-financial covenants, including material adverse change (MAC) clauses, are agreed in line with the customary international standards insofar as this is established practice in the relevant markets. Compliance with the agreements concluded is subject to continuous monitoring. It is possible to proceed without a covenant provided that the market position or the credit standing of the borrower/sponsor is sufficiently strong.

The object of risk containment is to avoid operational risks wherever possible. Suitable measures have to be implemented to reduce the potential harm associated with unavoidable material operational risks if their occurrence could jeopardise or permanently impair the company's future prospects. Risks that are sufficient in scale to put its existence in jeopardy have to be incorporated into Helaba's financial protection concept and transferred by means of insurance cover with due consideration given to the associated costs and benefits. Decisions in this context have to be made on the basis of a proper assessment of the various business administration factors involved and it will be entirely appropriate in certain cases knowingly to assume or accept operational risks.

Market risk and interest rate risk can only be assumed in the banking book within the scope of approved limits (see "Limitation of market risks"). All the processes and models used to reflect market risk must be constantly reviewed to ensure that they are appropriate and then adjusted if required. This relates to both risk and measurement models. This issue must be taken into account especially in the authorisation of new products.

Helaba's good credit standing, sufficiently well diversified funding base and heavy use of covered issues (Pfandbriefe) keep funding costs at an acceptable level. An established collateral management regime and the systematic use of highly liquid securities portfolios create additional liquidity buffers. Access to markets is also continuously reviewed.

In addition, the Bank satisfies the regulatory reporting requirements pertaining to the liquidity coverage ratio (LCR) in accordance with the CRR. Compliance with a specified minimum ratio as mandated by the regulatory authorities is being gradually introduced. This process started in 2015. The Bank has adopted a roadmap for compliance with the LCR based on these stipulations. In addition to the LCR requirements, various monitoring tools are also being used in accordance with the European provisions.

Mandatory regulatory requirements for the CRR net stable funding ratio (NSFR) have yet to be issued.

Own Funds and Own Funds Structure

This section presents information about the Helaba Group's own funds together with a breakdown of the capital requirements for each risk type in accordance with the Pillar I return. The capital ratios and the determination of limits for risk-weighted assets are also reported.

The CRR defines own funds as Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital. The summary below shows the extent and composition of the Helaba Group's own funds at 31 December 2015.

Composition of own funds for regulatory purposes

Helaba Group — in € m

	31.12.2015
Common Equity Tier 1 capital	**7,564**
Paid-in capital instruments	2,509
Capital reserves	1,546
Retained earnings	3,770
Accumulated other comprehensive income	–180
Regulatory adjustments	–81
Additional Tier 1 capital	607
Paid-in capital instruments	737
Regulatory adjustments	–130
Tier 1 capital	**8,171**
Tier 2 capital	2,708
Paid-in capital instruments	2,759
Regulatory adjustments	–51
Own funds, total	**10,879**

The Helaba Group's Common Equity Tier 1 capital essentially comprises the subscribed capital (paid-up capital and capital contributions), capital reserves and retained earnings.

Shown in the Additional Tier 1 capital category are the silent participations that constituted liable capital in accordance with Section 10 KWG until 31 December 2013 and that fall under the grandfathering provisions set out in the CRR, meaning that they can still be applied as Additional Tier 1 capital, on a steadily decreasing basis, until 2021.

The Tier 2 capital as defined in the CRR consists largely of profit participation rights and other subordinated liabilities of Helaba.

The Helaba Group's Common Equity Tier 1 capital rose year on year by approximately € 352 m, mainly as a result of additions to retained earnings. Total own funds increased by around € 915 m. Other than the rise in Common Equity Tier 1 capital, the principal reason was the issue of new Tier 2 capital instruments, the total of which exceeded the impact from residual maturity amortisation.

A description of the individual capital instruments including a list of their key features can be found in the separate Annex under "Key Features of the Capital Instruments".

Details of the composition of the regulatory own funds and the regulatory deduction amounts are shown in the separate Annex under "Disclosure of Own Funds". The information in the separate Annex under "Reconciliation from the IFRS Consolidated Statement of Financial Position to the Consolidated Statement of Financial Position for Regulatory Purposes" additionally shows how the regulatory own funds components are derived from the corresponding items in the audited annual financial statements.

The table below shows the RWAs and capital requirements for default risks, broken down by exposure class, and market risks, operational risks and CVA at 31 December 2015.

The most significant changes compared with 31 December 2014 resulted from an increase in market risk (internal model), in the IRBA institutions exposure class and in the securitisation exposures under the IRBA. The increase in market risks equating to approximately € 851 m of RWAs was essentially attributable to greater euro interest rate volatility following the sharp market fluctuations in 2015. Securitisation exposures under the IRBA went up by around € 591 m of RWAs, mainly as a consequence of new business with target customers and a modified interpretation of the CRR. The changes in the institutions exposure class under the IRBA amounting to approximately € 755 m of RWAs were largely business-related.

RWAs and capital requirements

in € m

Exposure class	RWA	Capital requirement
Credit Risk Standardised Approach (CRSA)	**6,276**	**502**
Central governments or central banks	38	3
Regional governments or local authorities	20	2
Public-sector entities	205	16
Multilateral development banks	0	0
International organisations	0	0
Institutions	778	62
Corporates	1,835	147
Retail	97	8
Exposures secured by real estate	483	39
Exposures in default	187	15
Higher risk categories	93	7
Covered bonds	19	2
Exposures to institutions and corporates with a short-term credit assessment	–	–
Collective investment undertakings (CIU)	–	–
Equity exposures	996	80
thereof: Grandfathered exposures	258	21
Other items	365	29
Securitisation positions	1,160	93
Internal Ratings-Based Approach (IRBA)	**40,287**	**3,223**
FIRB	**36,152**	**2,892**
Central governments or central banks	1,535	123
Institutions	3,953	316
Corporates – SME	1,695	136
Corporates – Specialised lending exposures	16,405	1,312
Corporates – Other	12,564	1,005
AIRB	**1,084**	**87**
Central governments or central banks	–	–
Institutions	–	–
Corporates – SME	–	–
Corporates – Specialised lending exposures	–	–
Corporates – Other	–	–
Retail – Secured by real estate, SME	177	14
Retail – Secured by real estate, non-SME	533	43
Retail – Qualifying revolving	55	4
Retail – Other, SME	67	5
Retail – Other, non-SME	252	20
IRBA equity exposures	**587**	**47**
thereof: Simple risk-weight approach	526	42
Private equity exposures in sufficiently diversified portfolios (190 %)	97	8
Exchange traded equity exposures (290 %)	209	17
Other equity exposures (370 %)	220	18
thereof: PD/LGD approach	20	2
thereof: Risk-weighted equity exposures	41	3

in € m

Exposure class	RWA	Capital requirement
IRBA securitisation positions	**2,138**	**171**
Other non credit-obligation assets	**327**	**26**
Default fund contributions to a central counterparty (CCP)	**–**	**–**
Settlement and delivery risks	**–**	**–**
Position, foreign-exchange and commodities risks	**3,750**	**300**
In accordance with standardised approaches (SA)	**1,652**	**132**
Position risk	1,231	98
Foreign-exchange risk	416	33
Commodities risk	6	0
In accordance with internal models (IM)	**2,098**	**168**
Operational risks	**3,703**	**296**
Standardised Approach (STA)	3,703	296
Credit valuation adjustment (CVA)	**839**	**67**
Total	**54,855**	**4,388**

There were no capital requirements on the reporting date for trading book activities of the Helaba Group in relation to large exposures above the limits set out in Articles 395 to 401 CRR.

The table below shows the capital ratios of the Helaba Group, Helaba Bank and the significant subsidiary FSP.

Capital ratios

in %

Entity	Total capital ratio	Tier 1 capital ratio	CET 1 capital ratio
Helaba Group (IFRS)	19.8	14.9	13.8
Helaba Bank (HGB)	19.5	13.7	12.3
Frankfurter Sparkasse (HGB)	18.8	17.4	17.4

The Helaba Group has a comfortable capital position with a Tier 1 capital ratio of 14.9 % and a Common Equity Tier 1 capital ratio of 13.8 % as at 31 December 2015.

The RWA limits are derived on the basis of the own funds available and the appetite for risk defined by the Board of Managing Directors, in the form of target ratios, in accordance with the following principles:

- Risk adequacy
- Earnings adequacy
- Operationalisability
- Consistency

The RWA limits are allocated as part of the annual planning process.

Planning proceeds in accordance with the business area strategy, the risk strategy and other provisions intended to ensure accurate alignment with customer and business requirements. The principal parameters of the operational planning process for the subsequent year are defined in the benchmark resolution adopted by the Board of Managing Directors. The profit centres plan elements including their business portfolios, new business, earnings, the regulatory expected loss (EL) resulting from the performance of the business and the RWAs during the local planning phase.

The results of the planning process for each unit are approved on the basis of an integrated earnings and risk assessment. An integrated overall plan comprising a volume plan, an earnings plan and a risk plan is adopted for each unit. The Board of Managing Directors passes a corresponding resolution and the RWA limit allocations are then submitted to the Supervisory Board and Board of Public Owners for approval as part of the annual planning submissions for the financial year.

Risk-Bearing Capacity

Helaba uses its established procedures for measuring and containing risks to ensure that all primary risks within the Helaba Group are always covered by risk cover pools and that its risk-bearing capacity is thus assured.

The calculation of risk-bearing capacity across risk types takes into account risk exposures in relation to default risks, market risks, operational risks, business risks and real estate risks. Risk exposures are quantified as part of an economic assessment, and the regulatory EL and regulatory capital requirement are calculated using the regulatory measurement specifications. A capital deduction from the regulatory EL/impairment comparison is taken into account when quantifying the regulatory own funds.

Two other parameters are also reported in addition to the risk-bearing capacity based on cover pools: the result of the regulatory interest rate shock, which applies to market risks, and the liquidity horizon for liquidity risks.

Risk-bearing capacity is presented on the basis of a time frame of one year and both risk exposures and risk cover pools are designed and quantified for this period.

The scenarios applied comprise a base scenario, which maps the risk-bearing capacity as at the reporting date, plus historical and hypothetical stress scenarios whose implications for the risk-bearing capacity are regularly investigated. These scenarios include a macroeconomic stress scenario and a scenario simulating extreme market dislocation on the basis of observed market behaviour during a global financial crisis. Inverse stress tests are also conducted.

Helaba's Group calculation of risk-bearing capacity maps two distinct situations reflecting the regulatory requirements stipulating a going-concern approach and a gone-concern approach.

The going-concern approach aims to verify that the minimum capital requirements specified by the regulator can be satisfied even if expected and unexpected losses are incurred. Risk exposures are quantified with a 95.0 % confidence level for this purpose. The calculation of risk-bearing capacity under the gone-concern approach is intended to demonstrate that the Helaba Group's capital is sufficient to satisfy all creditors in full even in the event of exceptional and heavy losses being incurred (expected and unexpected losses at a confidence level of 99.9 %).

The going-concern approach involves comparing the total economic risk exposures according to the Group calculation of risk-bearing capacity against a sustainable result before risks and total own funds not committed for regulatory purposes (minus an internally defined risk buffer, depending on the scenario). The going-concern approach also regularly quantifies the implications of the stress scenarios for the regulatory capital requirement and regulatory own funds in order to analyse the impact on the regulatory capital ratios.

Helaba applies particular weight to the going-concern approach, which focuses on compliance with the regulatory capital ratios, in its capital allocation decisions and allocates regulatory capital to divisions and Group units on the basis of the associated anticipated changes in capital ratios. This ensures consistency between capital allocation assuming full utilisation of the limits and the result thus produced in the calculation of risk-bearing capacity. In addition, the economic risk exposures are limited to ensure that, if the allocated regulatory capital is utilised at the same time as the economic risk exposures, the capital does not fall below the internally specified minimum capital requirements even if economic risks materialise.

The gone-concern approach draws on an economic cover pool to cover the internal capital requirement. This pool takes into account the cumulative consolidated net profit on the reporting date, the equity capital and the subordinated debt under IFRS. Cover pool components are also adjusted in accordance with economic criteria. The gone-concern approach does not treat silent reserves as a cover pool component.

The risk-bearing capacity assessment for the Group covering all risk types reveals that the existing risk cover pools once again exceeded the quantified risk exposures by a substantial margin at the end of 2015. The same applies in respect of the calculation of risk-bearing capacity for Helaba Bank.

The base scenario of the going-concern approach for the Group showed a capital buffer of € 3.2 bn (2014: € 3.3 bn) with respect to the economic risk exposures after taking account of an internal risk buffer. The capital buffer with respect to the economic risk exposures under the gone-concern approach for the Group amounted to € 6.6 bn (2014: € 6.1 bn).

The capital ratios achieved under the simulated stress scenarios exceed the regulatory minimum requirements by a significant margin.

Helaba additionally conducts two inverse stress tests to investigate what nature of event could jeopardise its continued existence. The associated scenarios, "minimum capital requirements not met" and "illiquid", examine the implications of a variety of economic developments that could result in Helaba being unable to comply with the minimum capital requirements specified by the regulator or consuming its liquidity reserves. There is currently no indication of these scenarios becoming a reality.

Other Deposit Security Mechanisms

There are other deposit security mechanisms in addition to the risk cover pool. Helaba is a member of the Reserve Fund of the Landesbanken and Girozentralen and is thus included in the Sparkassen-Finanzgruppe's protection scheme, which comprises the eleven regional Sparkasse support funds, the aforementioned reserve fund and the deposit security reserve fund of the Landesbausparkassen.

The most notable features of this protection scheme are the way that it safeguards the viability of the affiliated institutions, especially their liquidity and solvency, its risk monitoring system for the early detection of specific risk profiles and its use of a method based on risk parameters defined by the supervisory authorities to calculate the amounts to be paid into the protection scheme by the various institutions. The legally dependent LBS, subsidiary FSP and Frankfurter Bankgesellschaft (Deutschland) AG, which is a subsidiary of Frankfurter Bankgesellschaft (Schweiz) AG, are also directly integrated into this protection scheme.

The German Deposit Guarantee Act (Einlagensicherungsgesetz – EinSiG), which implements the requirements of the EU Directive on Deposit Guarantee Schemes, came into force on 3 July 2015. The Sparkassen-Finanzgruppe acted promptly to bring its deposit protection scheme into line with the amended legal provisions. The scheme now includes a deposit protection scheme to protect qualifying deposits up to a value of € 100,000 per customer as well as safeguarding the viability of the affiliated institutions themselves. The deposits thus protected at the Helaba Group amount in total to € 14.5 bn. The target total value of the protection scheme to be contributed by 2024 was also increased and an amended basis for assessment was adopted. The German Federal Financial Supervisory Authority (BaFin) has recognised the Sparkassen-Finanzgruppe's institutional protection scheme as a deposit guarantee scheme for the purposes of the German Deposit Guarantee Act.

Helaba and FSP are also affiliated to the Reserve Fund of the Sparkassen- und Giroverband Hessen-Thüringen under the terms of their Charters. The reserve fund provides further protection in the event of a default in addition to the nationwide Joint Liability Scheme and provides creditors of the affiliated institutions (Helaba, Sparkassen) with a direct and uncapped entitlement. The total volume of the fund is equal to 0.5 % of the affiliated institutions' total risk exposure amount and stood at € 521 m at the end of 2015 (2014: € 508 m).

The Sparkassen- und Giroverband Hessen-Thüringen has undertaken to make up the shortfall between the amount actually paid in and the full amount should the fund be required before such time as the full amount has been contributed.

Rheinischer Sparkassen- und Giroverband (RSGV) and Sparkassenverband Westfalen-Lippe (SVWL) have each also unilaterally set up an additional regional reserve fund for Helaba.

Development institution WIBank, which is organised as a dependent institution within Landesbank Hessen-Thüringen, enjoys the direct statutory guarantee of the State of Hesse as regulated by law and as permitted under EU law on state aid.

General Disclosures Concerning Default Risks

The Helaba Group's gross lending volume at 31 December 2015 amounted to € 169,841 m. Gross lending volume is defined in this connection as the total amount of exposures after accounting offsets and without taking into account the effects of credit risk mitigation. Default risk exposures per exposure class are shown below with the average values on the quarterly reporting dates. Information on equity investments and securitisations is not included, as these items are addressed separately under "Equity Investments in the Banking Book" and "Securitisations".

The figures include all companies comprising the group of consolidated companies for regulatory purposes in accordance with the KWG/CRR as at 31 December 2015.

Types of credit exposure with average values based on the quarterly reporting dates

in € m

		at 31 December 2015				
	Exposure class	On balance sheet	Off balance sheet	Derivatives and others	Total	Average in reporting year 2015
CRSA	Central governments or central banks	1,381	0	0	1,381	1,371
	Regional governments or local authorities	9,636	771	0	10,407	10,057
	Public-sector entities	1,166	1,635	78	2,879	2,811
	Multilateral development banks	231	0	0	231	237
	International organisations	577	0	0	577	614
	Institutions	13,179	2,118	2,606	17,903	20,613
	Corporates	3,454	259	170	3,883	3,837
	Retail	992	213	183	1,388	1,467
	Exposures secured by real estate	1,328	109	0	1,437	1,481
	Exposures in default	166	1	0	167	209
	Higher risk categories	82	30	0	112	112
	Covered bonds	186	0	0	186	221
	Exposures to institutions and corporates with a short-term credit assessment	0	0	0	0	0
	Collective investment undertakings (CIU)	0	0	0	0	0
	Other items	368	0	0	368	317
		32,746	**5,136**	**3,037**	**40,919**	**43,347**
IRBA	Central governments or central banks	21,508	595	3,193	25,296	26,909
	Institutions	14,641	1,721	1,375	17,737	16,955
	Corporates	54,877	22,203	3,182	80,262	80,715
	thereof: SME	2,667	582	7	3,256	3,203
	thereof: Specialised lending exposures	30,203	5,410	1,146	36,759	37,066
	thereof: Other	22,007	16,211	2,029	40,247	40,446
	Retail	4,068	1,163	0	5,231	5,255
	Secured by real estate	3,305	80	0	3,385	3,418
	thereof: SME	479	31	0	510	516
	Qualifying revolving	58	773	0	831	834
	Other retail	706	309	0	1,015	1,003
	thereof: SME	89	121	0	210	220
	Other non credit-obligation assets	396	0	0	396	460
		95,490	**25,682**	**7,750**	**128,922**	**130,294**

The types of credit exposure by region, sector and residual maturity are presented in the separate Annex under “Types of credit exposure by exposure class”.

Additional information relating to impaired loans and loans past due – similarly broken down by sector and region – is presented below to augment the gross lending volume data.

Transactions involving a customer with which a default event as defined in Article 178 CRR has occurred are designated as impaired irrespective of the recognition of any allowance for losses on loans and advances. Transactions are deemed to be past due if they are 90 days in arrears and this has also been recorded as a default criterion in bank systems.

Impaired loans and loans past due by sector

in € m

Sector	Total impaired exposures	Total past due exposures*	Portfolio SLLA	Portfolio GSLLA	Portfolio PLLA	Portfolio Provision	Net additions/releases SLLA	Net additions/releases GSLLA	Net additions/releases PLLA	Net additions/releases Provision
Civil engineering, real estate and housing	326	153	223	10	26	14	–226	1	–26	7
Data processing, telecommunication, media	5	1	1	1	2	0	-0	0	0	–0
Energy, utilities, waste disposal	202	29	27	0	9	0	–18	–1	2	–14
Financial enterprises and insurance companies	302	0	71	1	16	3	39	–0	4	2
Trade and services	198	8	77	18	110	7	-8	–12	22	–7
Banks	3	3	1	0	1	0	-0	0	–0	0
Public-sector entities, organisations, services	1	1	0	1	0	0	–2	–0	–0	0
Manufacturing	82	20	32	10	3	2	–21	–2	0	–15
Transport (including vehicle manufacturing)	510	0	182	1	177	2	8	–1	92	–2
Other	117	70	73	20	7	17	35	–6	1	16
Total	**1,747**	**285**	**687**	**61**	**350**	**44**	**–193**	**–20**	**94**	**–14**

* The total amount of past due exposures overlaps with the total amount of impaired exposures where loan loss allowances apply

The extent of the allowance for losses on loans and advances is determined on the basis of an assessment of the financial circumstances including the use of appropriate rating systems and including forecasts of going concern value or break-up value, and the measurement of collateral at the expected recovery value taking into account the time required for collateral recovery and appropriate recovery costs.

Specific and portfolio loan loss allowances, provisions and direct write-offs are submitted for approval in the form of an application for an allowance for losses on loans and advances. The adequacy of the allowance is reviewed regularly and adjustments are made where necessary. The allowance for losses on loans and advances for the Bank is recorded and updated in the central Credit Loss Database system. More detailed information on the calculation of the allowance for losses on loans and advances and the approval process is available in the form of an internal set of rules and regulations.

Impaired loans and loans past due by region

in € m

Region	Total impaired exposures	Total past due exposures*	Portfolio SLLA	Portfolio GSLLA	Portfolio PLLA	Portfolio Provision
Europe	1,554	182	540	45	350	32
Central and South America	66	20	19	5	0	9
Africa	2	2	0	0	0	0
North America	95	79	124	10	0	3
Australia and New Zealand	28	0	3	2	0	1
Asia	3	3	1	0	0	0
Total	**1,747**	**285**	**687**	**61**	**350**	**44**

* The total amount of past due exposures overlaps with the total amount of impaired exposures where loan loss allowances apply

The table below shows the changes in the allowances for losses on loans and advances over the reporting period.

Changes in allowances for losses on loans and advances in € m

Type of allowance for losses on loans and advances	Opening balance	Additions	Releases	Use	Change*	Closing balance
Specific loan loss allowance	880	272	109	342	–13	687
Specific loan loss allowances evaluated on a group basis	81	24	27	17	0	61
Portfolio loan loss allowance	256	93	0	0	–1	350
Provision	58	17	31	0	0	44

* Changes due to exchange rate fluctuations, changes in the group of consolidated companies, unwinding effects and other changes

Direct write-offs amounted to € 35 m and recoveries on loans written off to € 39 m at 31 December 2015.

The information in the tables above relates to the 31 December 2015 reporting date and comprises the amounts of the allowances for losses on loans and advances under IFRS based on the group of consolidated companies for regulatory purposes.

The quantitative information on the allowance for losses on loans and advances under IFRS that is included in the disclosures pursuant to the CRR differs from the allowance for losses on loans and advances in the consolidated accounts under IFRS due to differences between the group of consolidated companies for regulatory purposes and the group of consolidated companies for accounting purposes.

IRB Approach Exposures

Helaba's internal rating methods and processes were reviewed by the supervisory authority in a number of individual and follow-up audits conducted between 2006 and 2015. In December 2006, Helaba received approval from the German Federal Financial Supervisory Authority (BaFin) to use the FIRB Approach in accordance with the German Solvency Regulation (Solvabilitätsverordnung – SolvV). This approval covered both the Helaba Group and Helaba Bank. The parameters laid down in the Foundation Approach for internal ratings have been applied for both regulatory capital backing and internal management purposes since 1 January 2007. The approval of the rating method for aircraft finance in December 2010 marked the completion of the regulatory audits in relation to the use of the internal rating methods for the FIRB and thus the full delivery of the IRBA implementation plan. The AIRB Approach has been applied for the retail portfolio of FSP since the third quarter of 2008. In 2013, LBS became the first Bausparkasse to gain permission to use the "LBS-Kunden-Scoring" rating method and the LGD model devised by Sparkassen Rating- und Risikosysteme GmbH (S-Rating) in the AIRB Approach for retail exposures.

The Bank as a whole (excluding LBS and WIBank) uses internal rating methods for all material portfolios. The 16 rating methods available make it possible to measure the Bank's credit risks against a uniform standard and express the rating result using a uniform scale. All but two of these methods are maintained and refined in collaboration with other Landesbanken and Sparkassen. Helaba works together in this connection with Rating Service Unit GmbH & Co. KG (RSU) at Landesbank level and with Sparkassen Rating- und Risikosysteme GmbH (S-Rating), both of which are companies providing internal rating methods in accordance with the CRR. The remaining two rating methods have been developed for portfolios for which no pooling project has been initiated. The rating methods are based on statistical models and classify loan exposures by probability of default using a 25-point cardinal master scale.

Overview of approved IRBA methods in use at the Combined Helaba Bank (excluding LBS and WIBank)

Borrower/exposure	Rating method	Origin of the method
Countries and central, regional and local authorities in Germany	Country and Transfer Risks	Pool method
Central, regional and local authorities outside Germany	International Public Finance	Pool method
Large/multinational corporations, public-sector enterprises (municipal corporations) in Germany and abroad	Corporates Rating	Pool method
Small and mid-sized domestic companies	DSGV Standard Rating	Pool method
Commercial domestic real estate business	DSGV Real Estate Business Rating	Pool method
Banks, financial services institutions, financial companies	Bank Rating	Pool method
Insurance companies	Insurance Companies Rating	Pool method
Leasing companies, special purpose vehicles (SPV) for real estate and movables leasing	Leasing Rating	Pool method
Special purpose vehicles (SPV) for project finance	Project Finance Rating	Pool method
Special purpose vehicles (SPV) for ship finance	Ship Finance Rating	Pool method
International commercial real estate business	International Commercial Real Estate (ICRE)	Pool method
Special purpose vehicles (SPV) for aircraft finance	Aircraft Finance Rating	Pool method
Securitisations in accordance with Article 259 (4) CRR having no external rating	Internal Assessment Approach (IAA) for Securitisations	Helaba development
Commodities	Commodity Trade Finance Rating	Helaba development
Leveraged finance	Leveraged Finance Rating	Pool method
Member institutions of the DSGV	DSGV Institution Guarantee Fund Rating	Pool method

Helaba has performed the lead role among the pooling institutions for the International Public Finance and International Commercial Real Estate (ICRE) rating methods since they were developed. The Rating Map it has created provides an overview of the approved rating methods, sub-modules, definition criteria and areas of application to help assign exposures and debtors to rating methods. The table above shows the Rating Map with the rating methods and their assignment to borrowers/exposures in simplified form. The use of the methods is governed by detailed internal specifications plus supplementary application guidelines issued by pooling service providers S-Rating and RSU. The latter are also incorporated as appropriate into the internal procedural instruction system.

The probabilities of default are estimated on the basis of actual default rates observed internally or external rating estimates from the recognised rating agencies (the shadow rating method) depending on the rating method concerned. External credit assessments are mapped to the internal rating scale by RSU in a process that is updated every year in order to ensure equivalence between internal ratings and external credit assessments.

The rating methods are validated annually in the course of a defined update and maintenance process. Validation includes back-testing on the basis of actual incidents of non-payment as well as benchmarking.

S-Rating and RSU are the lead entities in the pool methods; validation for internal methods is carried out internally by Helaba. RSU and S-Rating are tasked with validating and refining the methods using actual data and with issuing central guidelines for the uniform application of the pool rating methods. The S-Rating/RSU methodological validation process is supplemented by Helaba's internal validation of the rating method and verification that the results are sufficiently representative for the pooling method to be used.

The Risk Controlling unit is responsible for the development and quality of the rating methods, for their regular – at least annual – review and any necessary amendments, for the specification of the tasks, authority and jurisdictions involved in the rating and for all general policy matters associated with the rating procedure. If modifications to the rating methods are required, input from the senior management of the institution and representatives of the divisions is sought prior to implementation through presentation of the measures before the Risk Committee of the Board of Managing Directors.

The following rating methods are used in the business areas served by FSP.

Overview of the IRBA rating methods established at FSP

Borrower/exposure	Rating method
Corporate customer business	Sparkassen – Standard Rating Landesbanken – Rating Transfer
Capital market business (banks/institutions/corporates)	Landesbanken – Rating Transfer
Retail	Sparkassen – Customer Scoring Sparkassen – Customer Compact Rating
Domestic real estate	Sparkassen – Real Estate Rating

The rating methods pay particular attention to the threshold for assignment of lending business to the retail exposures class. The CRR stipulates a threshold of up to € 1 m total commitment for natural persons and small companies. FSP limits this threshold to € 0.75 m based on its own risk and process considerations. This figure is in addition compatible with the disclosure requirements laid down in Section 18 KWG. The CRR requires that the transactions reported in the retail segment also be managed as low-risk business, which means that the retail portfolio must contain a high proportion of similar transactions that can be controlled in a standardised fashion. This demands a high level of automation that also incorporates customer characteristics in those management variables determined by statistical methods. Creditworthiness is accordingly assessed using scoring methods that evaluate customer features such as length of employment, sector and the like directly. The procedure away from retail is different: in the corporates portfolio, for instance, the lending commitment is evaluated individually and in much greater detail, for example using indicators from the statement of financial position and income statement, by means of the credit rating.

The following rating method is applied at LBS.

Overview of the IRBA rating methods established at LBS

Borrower/exposure	Rating method
Retail	LBS Customer Scoring

LBS makes use of the “LBS-Kunden-Scoring” (LBS Customer Scoring) method devised by S-Rating to evaluate the home finance loans assigned to retail exposures. The assessment of creditworthiness applied here takes account of patterns of behaviour typical for home loan and savings products as well as the customer features considered in the Sparkasse methods, such as length of employment, sector and the like. LBS achieved the degree of coverage deemed to represent full implementation, with figures of 98.6 % (RWA) and 99.6 % (exposure value), as soon as the rating method was approved.

The Helaba Group determines and assigns the exposure class for regulatory purposes automatically once the ratings have been prepared. This process takes into account information on the rating method applied as well as debtor-specific criteria. In this context the requirement on the assignment of exposure classes satisfies Article 112 et seq. (CRSA) and Article 147 (IRBA) CRR. Other than in the case of securitisations, external credit assessments are not used in calculating the regulatory capital for transactions handled in accordance with the IRBA.

The input parameters and results of the regulatory capital calculation are integrated into internal management activities at the divisions. Management in the divisions proceeds using a multi-level contribution margin accounting system in which standard risk costs for expected losses and imputed capital costs for the capital requirement are considered.

The following table shows, for FIRB exposures, the exposure value in accordance with the CRR, the average probability of default (mean PD), the average risk weight taking into account credit risk mitigation effects and the exposure value of outstanding loans and unutilised and partially utilised loan commitments. The average risk weight does not include the deduction factor for credit risk on exposures to SMEs to be applied in accordance with Article 501 CRR.

Exposure values by PD band, FIRB

Exposure class	PD band (mean PD) 0.00 – 0.17 %	0.26 – 0.88 %	1.32 – 45.00 %	Default
Central governments or central banks				
Exposure value in € m	27,801	0	400	1
Average PD in %	0.01	0.00	19.97	100.00
Average RW in %	1.89	0.00	252.37	0.00
thereof: Exposure value of outstanding loans, in € m	23,860	0	400	1
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	748	0	0	0
Institutions				
Exposure value in € m	16,584	481	88	2
Average PD in %	0.05	0.44	4.85	100.00
Average RW in %	21.34	58.66	148.27	0.00
thereof: Exposure value of outstanding loans, in € m	13,897	424	76	2
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	1,361	22	12	0
Corporates – SME				
Exposure value in € m	750	1,523	611	58
Average PD in %	0.11	0.59	4.18	100.00
Average RW in %	26.85	62.01	111.10	0.00
thereof: Exposure value of outstanding loans, in € m	696	1,310	533	55
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	54	211	78	3
Corporates – Specialised lending exposures				
Exposure value in € m	20,277	10,285	2,939	1,166
Average PD in %	0.10	0.40	4.59	100.00
Average RW in %	29.54	62.57	133.79	0.00
thereof: Exposure value of outstanding loans, in € m	17,405	8,394	2,742	1,141
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	2,095	1,678	54	13
Corporates – Other				
Exposure value in € m	20,590	7,420	1,951	683
Average PD in %	0.09	0.41	7.25	100.00
Average RW in %	27.25	61.55	122.37	0.00
thereof: Exposure value of outstanding loans, in € m	13,656	4,548	1,600	619
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	5,687	2,715	307	61
Equity exposures				
Exposure value in € m	27	0	0	0
Average PD in %	0.10	0.00	0.00	100.00
Average RW in %	74.10	0.00	0.00	434.79
thereof: Exposure value of outstanding loans, in € m	27	0	0	0
thereof: Exposure value for unutilised/partially utilised loan commitments, in € m	0	0	0	0

The exposure-weighted average PD by region, broken down into the institutions, corporates, central governments and equity holdings exposure classes, is also shown.

Average PD by country, FIRB

Exposure class	Average PD in %
Central governments or central banks	
Africa	100.00
Asia	0.00
Australia and New Zealand	0.00
Europe	0.30
North America	0.01
Central and South America	100.00
Institutions	
Africa	1.64
Asia	1.83
Australia and New Zealand	0.03
Europe	0.10
North America	0.04
Central and South America	30.70
Corporates – SME	
Africa	96.36
Asia	1.12
Australia and New Zealand	0.23
Europe	3.17
North America	0.08
Central and South America	0.88
Corporates – Specialised lending exposures	
Africa	35.84
Asia	0.12
Australia and New Zealand	26.99
Europe	4.94
North America	1.21
Central and South America	2.16
Corporates – Other	
Africa	10.00
Asia	0.18
Australia and New Zealand	1.08
Europe	2.95
North America	0.48
Central and South America	26.37
Equity exposures	
Africa	0.00
Asia	0.00
Australia and New Zealand	0.00
Europe	0.11
North America	0.00
Central and South America	0.00

The AIRB exposures of LBS and FSP are presented below.

Retail portfolio exposure values by PD band, AIRB

	PD band (mean PD)			
Exposure class	**0.00 – 0.17 %**	**0.26 – 0.88 %**	**1.32 – 45.00 %**	**Default**
Retail				
Exposure value in € m	2,404	1,782	668	61
Average PD in %	0.09	0.47	5.19	100.00
Average RW in %	7.32	25.15	77.85	33.46
Average LGD in %	40.97	35.85	36.15	48.97
thereof: Exposure value of outstanding loans, in € m	1,826	1,614	593	59
thereof: Exposure value for undrawn commitments, in € m	578	168	75	2
Average CCF in %	68.26	60.87	54.79	97.87
Secured by real estate				
Exposure value in € m	1,552	1,312	472	39
Average PD in %	0.10	0.46	5.16	100.00
Average RW in %	6.77	21.19	77.68	39.24
Average LGD in %	28.45	27.92	27.47	37.65
thereof: Exposure value of outstanding loans, in € m	1,522	1,290	462	39
thereof: Exposure value for undrawn commitments, in € m	30	22	10	0
Average CCF in %	63.89	55.40	32.36	100.00
thereof: SME				
Exposure value in € m	114	222	164	0
Average PD in %	0.11	0.56	5.32	100.00
Average RW in %	8.40	28.12	97.60	0.00
Average LGD in %	31.88	32.43	33.99	23.55
thereof: Exposure value of outstanding loans, in € m	108	214	157	0
thereof: Exposure value for undrawn commitments, in € m	6	8	7	0
Average CCF in %	66.94	70.23	77.03	0.00
Qualifying revolving				
Exposure value in € m	455	76	51	1
Average PD in %	0.05	0.52	5.82	100.00
Average RW in %	2.24	15.95	73.12	25.36
Average LGD in %	66.39	66.86	66.59	73.27
thereof: Exposure value of outstanding loans, in € m	13	21	24	1
thereof: Exposure value for undrawn commitments, in € m	442	55	27	0
Average CCF in %	68.97	71.42	73.27	100.32
Other retail				
Exposure value in € m	397	393	145	20
Average PD in %	0.10	0.48	5.05	100.00
Average RW in %	15.31	40.13	80.06	22.86
Average LGD in %	60.80	56.30	53.63	69.22
thereof: Exposure value of outstanding loans, in € m	291	303	107	19
thereof: Exposure value for undrawn commitments, in € m	106	90	38	1
Average CCF in %	66.51	55.72	47.54	97.62
thereof: SME				
Exposure value in € m	39	72	52	0
Average PD in %	0.11	0.53	6.44	100.00
Average RW in %	16.67	46.06	92.21	76.37
Average LGD in %	59.28	60.62	59.43	60.96
thereof: Exposure value of outstanding loans, in € m	17	39	34	0
thereof: Exposure value for undrawn commitments, in € m	22	33	18	0
Average CCF in %	63.43	66.63	65.68	77.56

The exposure-weighted average LGD is shown for the retail portfolio in addition to the exposure-weighted average PD by region.

Retail portfolio average PD/LGD by country, AIRB

Exposure class	Average PD in %	Average LGD in %
Retail		
Africa	2.13	45.69
Asia	1.48	43.82
Australia and New Zealand	0.95	43.35
Europe	2.15	38.54
North America	2.00	42.17
Central and South America	9.16	53.61
Secured by real estate property		
Africa	1.01	27.33
Asia	2.04	29.22
Australia and New Zealand	0.60	30.00
Europe	2.10	28.21
North America	1.80	30.42
Central and South America	0.26	30.99
thereof: SME		
Africa	0.00	0.00
Asia	0.03	23.55
Australia and New Zealand	0.00	0.00
Europe	2.04	32.81
North America	0.00	0.00
Central and South America	0.00	0.00
Qualifying revolving		
Africa	0.39	67.19
Asia	0.18	66.73
Australia and New Zealand	2.84	66.06
Europe	0.82	66.48
North America	0.20	66.37
Central and South America	0.20	67.28
Other retail		
Africa	6.35	67.56
Asia	0.74	67.07
Australia and New Zealand	1.24	68.12
Europe	3.14	58.01
North America	5.23	58.73
Central and South America	38.37	69.90
thereof: SME		
Africa	0.00	0.00
Asien	2.25	66.98
Australia and New Zealand	0.00	0.00
Europe	2.31	59.94
North America	19.92	23.68
Central and South America	5.95	61.47

The table below compares actual losses and expected losses for portfolios handled under the IRBA as at 31 December 2015 and as at the same date in the previous year. Actual losses are defined as the sum of the specific loan loss allowances and provisions utilised, direct write-offs and recoveries on loans written off. The EL shown is the EL calculated in accordance with the stipulations of the IRBA for the portfolio of loans not in default (excluding securities and derivatives). The year-on-year increase in actual losses was attributable to a greater level of utilised specific loan loss allowances.

Actual losses versus expected loss in lending business

in € m

	31.12.2014		31.12.2015	
Exposure class	**Losses**	**Expected loss**	**Losses**	**Expected loss**
Central governments or central banks	0	1	0	1
Institutions	0	2	0	3
Corporates	189	149	314	150
thereof: Specialised lending exposures	128	94	134	80
thereof: SME	0	12	9	14
thereof: Other	61	43	171	56
Retail	6	17	6	17
thereof: Secured by real estate property	0	9	1	9
thereof: SME	0	3	0	3
thereof: Qualifying revolving	1	2	1	2
thereof: Other	5	6	5	5
thereof: SME	0	2	0	2
Equity investments	0	1	0	0
Total	**195**	**170**	**321**	**171**

CRSA Exposures

Helaba calculates the capital requirements for default risk exposures under the CRSA using exclusively external ratings from Standard & Poor's and Moody's Investors Service (the latter only in FSP). The designated categories of both rating agencies for this purpose are 'corporates', 'banks' and 'sovereigns'. When calculating the capital in relation to securitisations, reference is made to other agencies as well, as explained in greater detail in the section "Securitisations".

When applying credit assessments of issues to exposures, an issue rating is assigned to each transaction if one is available. If no issue rating is available, the issuer rating is used. If no issuer rating is available, the country of domicile rating is applied in the case of churches and institutions. If no issuer or country of domicile rating is available, Helaba investigates the possibility of applying long-term ratings of other issues to short- and long-term exposures with the borrower. The table below shows the CRSA exposure value before and after collateral provided and IRBA exposure values with general risk weighting. The Comprehensive Method in accordance with Article 223 CRR is applied for financial collateral in the great majority of cases. Helaba also avails itself of Article 113 CRR to exempt default risk exposures to companies belonging to the same group or members of the same institutional protection system permanently from the IRBA and to treat them instead as CRSA exposures. Exposure values after collateral are higher than the exposure values before collateral because CRSA guarantors for IRBA exposures are taken into account.

CRSA default risk exposure values before and after collateral provided, and IRBA exposure values with general risk weighting

Risk weighting in %	CRSA exposure value: Before collateral in € m	CRSA exposure value: After collateral in € m	IRBA exposure value in € m
0	25,837	28,465	69
10	44	44	0
20	3,179	3,339	0
35	1,337	1,507	0
50	568	661	97
70	0	0	0
75	838	96	0
100	4,617	2,812	327
150	126	124	0
190	0	0	51
250	52	52	0
290	0	0	72
370	0	0	59
Other risk weightings	690	690	0
Total	**37,288**	**37,791**	**675**

The IRBA exposure values for exposures with general risk weighting, other non-lending assets and securitisations are presented below.

The risk weights for specialised lending exposures based on the supervisory slotting criteria are assigned in accordance with the CRR using a system of five categories. Assignment to the categories is determined by various factors including supplier and commodity risk, off-taker risk and transaction risk.

Specialised lending exposures based on the supervisory slotting criteria

in € m

Category	Exposure value
Category 1	0
Category 2	97
Category 3	0
Category 4	0
Category 5	0

The table below shows the equity investment exposures in the simple risk-weight approach as specified in article 155 (2) CRR.

Equity investments under the simple risk-weight approach

in € m

Simple risk-weight approach	Exposure value
Private equity exposures in sufficiently diversified portfolios (190 %)	51
Exchange traded equity exposures (290 %)	72
Other equity exposures (370 %)	59

The exposure value for non-lending assets amounted to € 396 m, and for securitisations under the IRBA € 5,339 m.

Credit Risk Mitigation Techniques under the CRSA and IRB Approach

Like the creditworthiness of borrowers or counterparties, the collateral arrangements (or general risk mitigation techniques) available are of major importance when determining the capital backing requirement of default risks. Helaba takes the following collateral instruments into account for regulatory purposes in the context of credit risk mitigation techniques insofar as the instruments concerned comply with the requirements of the CRR:

- Financial collateral
- Real estate collateral
- Collateral assignments
- Ships and aircraft as other physical collateral
- Unfunded credit protection

FSP, as an institution within the Helaba Group, takes the same collateral instruments into account – ships and aircraft excepted – when calculating its capital requirements.

The systems for measuring and managing collateral are set out in the Helaba Group's organisational guidelines. The Lending Principles lay down basic rules as to the types and scope of collateral instruments permitted and define measures against which the monetary value of these instruments can be assessed. The monetary value of collateral has to be reviewed accordingly prior to every loan decision and on a continuous and ad hoc basis during the term of the loan. External valuations are used in principle provided that they have demonstrably been performed by an expert third party and are subjected to an internal bank plausibility check.

The measurement approach, the review and the regular measurement of the collateral provided form a mandatory part of the opinion to be rendered by Credit Risk Management. The stated values of collateral arrangements are reviewed by Credit Risk Management, annually in ordinary cases and at shorter intervals in the case of critical exposures, in the course of the loan monitoring and review process and are adapted as necessary if factors of relevance for valuation have changed.

The market fluctuation concept for commercial and residential real estate markets, which is permitted as a statistical method in relation to regulatory charge relief for commercial and residential real estate loans, is also used in the context of the Bank's internal monitoring and review processes to monitor real estate collateral. As regards ships and aircraft, certain asset types are subject to internal market fluctuation monitoring.

The collateral provided is administered in an application system that meets all of the requirements under the CRR in order to use credit risk mitigation techniques to release regulatory capital.

Helaba currently has no involvement with nth-to-default credit derivatives. The necessary conditions for the recognition of guarantees, unfunded credit protection and credit derivatives are reviewed and, if they are met, the collateral is recognised as mitigating the credit risk under the CRR.

Guarantees provided by public-sector entities represent the largest item (67.5 %) in the unfunded credit protection class in the context of regulatory credit risk mitigation in accordance with the CRR. Guarantors from the banking sector constitute a further large block (22.2 %).

Concentration risks affecting collateral based on real estate and guarantees represent another risk parameter of particular interest to Helaba, which reviews these risks on the basis of regular analyses. The Collateral Management System provides dedicated analysis options for real estate and real estate portfolios. The remaining financial collateral is in principle of subordinate importance for Helaba as far as concentration risks are concerned (with the exception of cash deposits at third-party banks).

Helaba employs close-out netting for OTC derivatives. Close-out netting is a bilateral netting arrangement under which all transactions falling under the arrangement are netted by close-out in the event of the counterparty defaulting (for example as a result of insolvency). This method, unlike novation netting, also enables transactions involving different maturities and currencies to be netted. The basic necessary condition for recognition in respect of risk mitigation is compliance with the requirements of Articles 295 et seq. CRR.

The deduction of collateral within the scope of collateral management is also used for OTC derivatives at Helaba. This involves concluding collateral agreements (standardised collateral arrangements recognised by the regulatory authorities) with counterparties, in the form of credit support annexes to netting master agreements, so that default risks from OTC derivatives can be protected by transferring title to liquid funds and securities. The transfer of the securities here does not constitute the provision of collateral in contractual terms (as in the case of the conventional contract of pledge), but rather a credit event payment to cover an outstanding balance after the netting of receivables and liabilities from OTC transactions. The basic necessary condition for recognition is compliance with the requirements of Articles 196, 206 and 220 CRR in conjunction with a related interpretation by the EBA (netting of negative market values and collateral provided). Helaba does not avail itself of on-balance sheet netting arrangements.

Total collateralised exposure values

in € m

Exposure class	Financial collateral	Other/ physical collateral	Guarantees	Credit derivatives
CRSA	**2,091**	**314**	**1,698**	**0**
Central governments or central banks	0	0	0	0
Regional governments or local authorities	0	0	0	0
Public-sector entities	78	0	1	0
Multilateral development banks	0	0	0	0
International organisations	0	0	0	0
Institutions	438	0	7	0
Corporates	502	314	1,147	0
Retail	547	0	532	0
Exposures secured by real estate	0	0	0	0
Exposures in default	0	0	10	0
Higher risk categories	35	0	0	0
Covered bonds	0	0	0	0
Exposures to institutions and corporates with a short-term credit assessment	–	–	–	–
Collective investment undertakings (CIU)	–	–	–	–
Equity exposures	490	0	0	0
Securitisation positions	0	0	0	0
Other items	0	0	0	0
IRBA	**1,630**	**18,920**	**4,568**	**0**
Central governments or central banks	709	0	2	0
Institutions	217	2	443	0
Corporates	459	16,188	4,104	0
thereof: Specialised lending exposures	103	8,592	1,012	0
thereof: SME	59	1,430	116	0
thereof: Other	297	5,735	2,976	0
Retail	133	2,730	20	0
Secured by real estate	89	2,728	2	0
thereof: SME	1	378	1	0
Qualifying revolving	0	0	0	0
Other retail	44	2	17	0
thereof: SME	8	2	9	0
Equity exposures	0	0	0	0
Securitisation positions	111	0	0	0
Other non credit-obligation assets	0	0	0	0
Total	**3,721**	**19,234**	**6,266**	**0**

Derivative Exposures

The positive fair values of derivative transactions at Group level totalled € 18,264 m at 31 December 2015. The deduction of collateral provided (€ 1,342 m) and the utilisation of netting arrangements (€ 10,511 m) reduced the positive fair values by a total of € 11,854 m.

The counterparty credit risk exposure resulting from derivatives amounted to € 9,871 m at 31 December 2015. This exposure is calculated using the mark-to-market method. Helaba does use credit derivatives to protect counterparty credit risk exposures as part of its risk mitigation efforts, but such products account for only a small proportion of its overall collateral arrangements. There were no exposures collateralised with credit derivatives on the reporting date.

Capital is allocated internally to default risks from derivatives in accordance with the capital allocation process explained in the section “Own Funds and Own Funds Structure”. Derivative exposures with each counterparty are limited as part of the counterparty-specific default risk containment and monitoring processes. Helaba does not avail itself of the possibility of taking into account interactions/correlation effects between the risk types as a way of mitigating risk.

Helaba has been clearing OTC interest rate derivatives business through London clearing house LCH.Clearnet since October 2012 and complies with the requirements of the European Market Infrastructure Regulation (EMIR). Negotiations in relation to non-centrally cleared OTC derivatives business are ongoing with the relevant counterparties with the intention of incorporating the legal requirements arising out of the EMIR technical standards by September 2016.

The net exposure is calculated daily for each individual counterparty and compared with the accepted value of the collateral provided. Collateral netting is conducted taking into account the exemptions and minimum transfer amounts that have been contractually defined subject to the creditworthiness of the counterparty. Exposures are protected with cash collateral. The relevant collateral amounts are calculated automatically in an application system that obtains the contract parameters from a contract database and the necessary market values directly from the trading system in which they are maintained.

Processes and procedures are detailed in full in a Collateral Policy. The Helaba Best Practice contains the standard clauses approved at Helaba for collateral agreements (eligible collateral, haircuts, etc.).

The additional amount of collateral to be provided by Helaba in the event of a possible rating downgrade is simulated at regular intervals on the basis of the contract parameters. If the amount concerned is found to be significant in terms of Helaba’s liquidity management, it can then be included accordingly in bank-wide liquidity risk scenarios. Currently, however, the amounts involved, which are associated primarily with a reduction in the minimum transfer amounts (MTA) for Helaba, remain negligible.

Equity Investments in the Banking Book

Helaba’s equity investments portfolio contains both strategic and operating equity investments. Strategic equity investments here are corporate relationships established first and foremost not in pursuit of profit through the particular relationship in and of itself but rather for reasons of business policy or business area positioning or similar (with immediate financing concerns never a key factor). The Bank breaks its strategic equity investments down further into primary and other strategic equity investments. All equity investments associated with lending and/or credit substitutes, in contrast, are classified as operating equity investments. This also applies in respect of equity investments held indirectly through subsidiaries.

Companies to be fully consolidated or accounted for using the equity method in accordance with IFRS are included in the consolidated financial statements with their contributions in accordance with the accounting method shown in the separate Annex under “Table of Consolidated Companies”. Holdings in companies that are not consolidated are generally accounted for under IFRS at fair value, but may be recognised at cost, minus prior write-downs where applicable, in exceptional cases.

The recoverability of the equity investments portfolio as held is monitored continuously by the relevant front office units and all of Helaba’s direct equity investments are subjected to a standard impairment test for the purposes of the annual financial statements, taking into account the principle of materiality. Risk classification for equity investments using a traffic signal method is carried out as part of this testing. Selected equity investments are remeasured twice a year, on 30 June and 31 December.

For regulatory purposes an exposure value is reported in the equity investments exposure class of € 1,144 m. Exposures reported under the exposure class “higher risk categories” are included in the details under “General Disclosures Concerning Default Risks”.

Type of equity investment instrument in € m

Type of equity investment instrument	Exposure value, on-balance sheet	Exposure value, off-balance sheet
Exchange-traded equity exposures	72	0
Private equity exposures in sufficiently diversified portfolios	268	13
Other equity exposures	788	3
Total	**1,128**	**16**

In line with the relevant grandfathering provision, equity investments acquired prior to 31 December 2007 are treated in accordance with the CRSA regulations. The PD/LGD approach is generally used at Helaba for new equity investments acquired from 2008 onwards. The IRBA simple risk-weight approach is used for these equity investments if no rating has been approved for IRBA purposes.

Total unrealised gains and losses amounted to € 45.0 m at 31 December 2015. There were no latent remeasurement gains or losses or other amounts included in the original or additional own funds on the reporting date. More detailed information on equity investment exposures can be found in the Annual Report (Notes (28 et seq.)/(40 et seq.)).

Securitisations

Objectives and scale of securitisation exposures and functions performed

Helaba engages in securitisation business primarily in order to provide attractive finance options for its target customers. It does not purchase asset-backed securities outside of its target customer business. Helaba has yet to securitise any of its own assets, meaning that it has so far performed the functions of investor and sponsor (own special purpose vehicles OPUSALPHA, OPUSDELTA and OPUSLAMBDA) but not that of originator. In its securitisation business, Helaba invests primarily in credit products, provides liquidity facilities for its own special purpose vehicles and purchases assets from target customers. It assumes no risks in connection with securitisation activities outside of the risk types indicated in the “Risk Strategy and Risk Management” section.

Methods used to calculate the risk-weighted exposure amounts including types of securitisation exposure

The approaches employed by Helaba in order to ensure compliance with regulatory capital requirements in respect of securitisation transactions are set out below. Also shown are the asset types included in the securitisation portfolio under each of the approaches at 31 December 2015.

Approaches used for securitisation transactions

Approach	Securitisation approach	Asset type
CRSA	Ratings-based approach	Residential real estate Other
	Risk concentration rate with average risk weight	Trade receivables Consumer credit Other
	Qualifying liquidity facilities	Currently not applicable
	Second-loss or better ABCP positions	Currently not applicable
IRBA	Ratings-based approach	Commercial real estate Residential real estate Loans to corporates Trade receivables Lease receivables Other
	Internal Assessment Approach (IAA)	Trade receivables Lease receivables Loans to corporates
	Inferred rating	Currently not applicable
	Supervisory Formula Approach (SFA)	Commercial real estate Trade receivables Lease receivables Loans to corporates Other

Except for securitisation exposures at FSP, securitisations with underlying assets from the retail sector were handled using CRSA variants as at 31 December 2015. For all other securitisation transactions, the IRBA risk weight is determined using the applicable methods insofar as they fall within the scope of application. Helaba does not avail itself of the fallback solution for qualifying liquidity facilities that is permitted under the CRR.

Helaba uses the following rating agencies, which were recognised by BaFin for risk weighting in connection with bank regulation in June 2007:

- Standard & Poor’s
- Moody’s Investors Service
- Fitch Ratings

These rating agencies are used for all of the asset types referred to above.

Processes employed to monitor changes in securitisation exposures and their recoverability

A defined process documented in the internal procedural instruction system ensures that all relevant data and documents of significance – especially such data and documents relating to the monitoring of how changes in the securitised assets affect the recoverability of the securitisation exposures – are procured, analysed and evaluated promptly on a continuous basis both prior to any investment in a securitisation and for existing exposures.

The front office unit concerned is in principle responsible for procuring the necessary data and additional information, which is then assessed by the organisational unit responsible for credit processing. The office whose approval is required under the standard process verifies the adequacy of the analysis and evaluation in the course of deciding whether or not to approve the transaction.

Should data and additional information of significance for the analysis and evaluation of the securitisation be unavailable, new investments may not be made and existing exposures may not be maintained. The data and additional information procured, the assessment results and, where applicable, the decisions made and/or measures adopted in the context of the assessment are documented with a full audit trail in the credit file.

The same process applies analogously to resecuritisation exposures.

Quantitative disclosures concerning securitisation exposures

The tables below show the total volume of the Helaba Group’s securitisation exposures in the banking book and in the trading book broken down by underlying asset type and risk weight band. As at 31 December 2015, there were no resecuritisation exposures in the portfolio.

Total volume of securitisation exposures by asset type in € m

			Securitisation							
			Commercial real estate	Residential real estate	Current trade receivables	Lease receivables	Loans to corporates	Consumer credit	Other	Total
Own special purpose vehicles	Banking book	On balance sheet	0	0	714	311	786	0	1	1,812
		Off balance sheet	0	0	280	169	94	0	407	951
	Trading book	Derivatives	0	0	1	0	8	0	0	9
Liquidity lines for ABCP programmes/EETC financing for third-party special purpose vehicles	Banking book	Off balance sheet	0	0	0	65	234	0	0	300
Securities	Banking book	On balance sheet	8	96	0	0	7	0	93	204
Other securitisation positions	Banking book	On balance sheet	646	0	1,704	0	294	453	199	3,296
		Off balance sheet	0	0	281	5	1	0	14	300
	Trading book	Derivatives	2	0	0	0	0	0	0	2
Total			**656**	**96**	**2,980**	**550**	**1,424**	**453**	**714**	**6,874**

Total volume of retained or purchased securitisation exposures by risk weight band in € m

		Securitisation		
Risk weight band		**Total volume**	**CRSA Capital requirement**	**IRBA Capital requirement**
≤ 10 %	Banking book	3,480	0	20
	Trading book	9	0	0
> 10 % to < 20 %	Banking book	520	0	5
≥ 20 % to < 50 %	Banking book	1,006	0	20
≥ 50 % to < 100 %	Banking book	1,397	81	3
	Trading book	2	0	0
≥ 100 % to 850 %	Banking book	437	12	117
1,250 %/Capital deduction	Banking book	24	0	6
Total		**6,874**	**93**	**171**

Material changes in the securitisation exposures as compared with the previous year are the result of new business with target customers, amortisation in respect of securities, and a modified interpretation of the CRR.

Helaba acts as sponsor for the securitisation special purpose vehicles OPUSALPHA, OPUSDELTA and OPUSLAMBDA. The portfolio of OPUSALPHA, a special purpose vehicle for a hybrid ABCP programme, consists partly of receivables that have been purchased by customers and partly of asset-backed securities. OPUSDELTA is a credit-financed special purpose vehicle through which receivables from goods and services are securitised. OPUSLAMBDA is a special purpose vehicle used for a financing arrangement within the Sparkassen-Finanzgruppe.

The table below shows the nature and extent of Helaba's securitisation exposures in respect of its own special purpose vehicles as investor or sponsor. All of the exposures apart from interest rate and currency swaps are banking book exposures.

Total volume of securitisation exposures in respect of own special purpose vehicles in € m

			Current trade receivables	Lease receivables	Loans to corporates	Other	Total
Sponsor	Banking book	On balance sheet	714	311	786	1	1,812
		Off balance sheet	280	169	94	407	951
	Trading book	Derivatives	1	0	8	0	9
Total			**995**	**480**	**889**	**408**	**2,773**

Internal assessment approaches (IAA)
Helaba has two internal assessment approaches, both of which are based on the related methodology of rating agency Standard & Poor's.

The scope of application encompasses securitisations and purchases of a company's receivables from the sale of products or the provision of services ("trade") and also other securitisations and purchases of loans and lease receivables (including transactions with a small proportion of outstanding receivables).

The approach used to assess trade receivables looks initially at the risks arising from the underlying portfolio and the transaction-specific payment guarantee structures. The portfolio default risks are calculated here by a method analogous to that used by Standard & Poor's. The risk associated with the payment guarantee structures and major individual borrowers and credit insurance arrangements is estimated, moreover, and the commingling risk and dilution risk are considered via expert appraisals.

The approach used for loans and lease receivables analyses the risks of the portfolio and transaction-specific payment guarantee structures and also the seller risk, which is essentially dominated by the servicer risk. The portfolio default risks are determined on the basis of monthly or annual default rates using the corresponding Standard & Poor's stress factors. The risk associated with the payment guarantee structures and major individual borrowers is also analysed. The seller risk is determined by means of a flat-rate estimate of the servicer risk in combination with the rating of the seller.

The regulatory capital charge is calculated with reference to the internal assessment approach if the transaction belongs to an ABCP programme and the underlying asset type is subject to the IRBA. The internal assessment approaches are also applied in the context of the internal lending process. This applies to transactions in ABCP programmes and non-ABCP programmes in which the underlying asset type is subject to the Standardised Approach at Helaba. In the case of transactions that do not belong to an ABCP programme and in which the underlying asset type is subject at Helaba to the IRBA, the one-year loss disregarding credit enhancements can be determined using the internal assessment approach for use in calculating KIRB. The regulatory capital backing requirement is then ascertained under the SFA.

Helaba has implemented the mechanisms detailed below in relation to the use of the internal assessment approaches and the verification of their suitability.

Helaba implements the rating method with the same IT environment used for its other internal rating systems, so here too compliance with all process-related requirements, such as the application of the double verification principle, is assured.

- Initial processing is handled by the front office unit in the case of new business involving complex financing arrangements and by Credit Risk Management (CRM) in the case of business with existing customers and more straightforward financing arrangements.

- Responsibility for follow-up processing in the case of new business rests with whichever of CRM and the front office unit did not perform initial processing. CRM always handles follow-up processing in the case of business with existing customers.

- The subsequent technical release of the rating in LB-Rating simultaneously determines the default rating grade and is always performed by CRM.

Credit Risk Controlling performs and documents a validation of the two internal assessment approaches using the proprietary validation concept annually in order to verify their suitability. This process includes a comparison of the current Helaba methodology with the related publications from Standard & Poor's as well as discussions with the Group's own analysts. The results are subject to review by Internal Audit.

The internal assessment approach for trade receivables assigns the portfolio risk for this asset type with reference to the relevant stress factors published by Standard & Poor's. Similarly, the internal assessment approach for loans and lease receivables makes use of the relevant set of stress factors published in respect of receivables from automobile loans and automobile leasing as well as equipment leasing.

Market Risks

All market risks are quantified every day using a money-at-risk (MaR) method backed up by stress tests and sensitivity analyses. The MaR method specifies what is deemed, with a certain confidence level, to be the upper threshold of the potential loss of a portfolio or position due to market fluctuations within a prescribed holding period.

Internal model in accordance with the CRR

Helaba calculates the regulatory capital required for the general interest rate risk (€ 168 m at 31 December 2015) using an internal model in accordance with the CRR for Helaba Bank. This model, which consists of the risk measurement systems MaRC² (linear interest rate risk) and ELLI (interest rate option risk), has been approved by the banking regulator. The linear interest rate risk is measured on the basis of a variance-covariance approach, while the interest rate option risk is calculated using a Monte Carlo simulation. Rating-dependent government, financials and corporate yield curves are also used alongside swap and Pfandbrief curves for evaluation purposes in the context of linear risk measurement. Both risk measurement systems are based on the same statistical parameterisation laid down by the banking regulator (one-tailed confidence level of 99 %, holding period of ten trading days, historical observation period of one year). Helaba additionally calculates a stressed MaR figure (money-at-risk in a crisis scenario), which maps the risk represented by the current exposure applying the risk parameters (volatilities and correlations) of the largest historical one-year stress phase. The table below shows the trading book interest rate risks for Helaba Bank for financial year 2015.

Interest rate risks in the trading book for financial year 2015 in € m

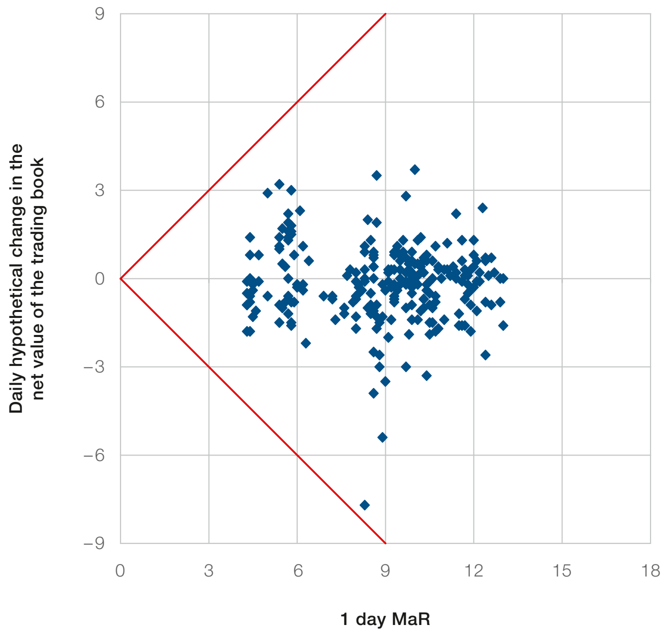
	31.12.2015	Maximum	Minimum	Average
10 days MaR	26.7	31.2	10.3	23.8
10 days stressed MaR	33.7	40.8	18.3	26.8

Back-testing and validation

Helaba carries out clean back-testing daily to check the forecasting quality of the risk models. This involves determining the MaR figure for a holding period of one trading day with a one-tailed confidence level of 99 % and a historical observation period of one year. The forecast risk figure is then compared with the hypothetical change in the net value of the trading book, which represents the change in the value of the portfolio over one trading day for an unchanged position and on the basis of new market prices. Any case in which the decrease in the net value of the trading book exceeds the potential risk figure constitutes a back-testing outlier.

The regulatory back-testing of Helaba's internal model for general interest rate risk, which consists of the model components MaRC² and ELLI, produced no negative outliers in 2015. The chart below shows the results of clean back-testing (in € m).

Internal model clean back-testing for financial year 2015



Model validation with respect to Helaba's internal model is a continuous process. Models are validated as part of the New Products Committee's product introduction process in the case of new products and using a random sampling process commensurate with the significance of the product concerned in the case of existing products. Models also undergo a comprehensive validation once every year. Changes to models resulting from the model validation process are implemented in accordance with a model change policy that has been submitted to the banking regulator.

Stress tests

A proper analysis of the effects of extraordinary but not unrealistic market situations requires the use of stress tests in addition to the daily risk measurement routine. Various portfolios are remeasured regularly under the assumption of extreme market scenarios. Unless specific banking regulatory provisions apply, the portfolios selected for stress testing and the frequency of the stress tests depend on the level of exposure (materiality) and the existence of any risk concentrations. Stress tests are carried out daily on Helaba's options book.

The results of the stress tests are included in market risk reporting to the Board of Managing Directors and are taken into consideration in the limit allocation process. Methods available for use in stress testing include historical simulation, Monte Carlo simulation, a modified variance-covariance approach and a variety of scenario calculations – including those based on the main components of the correlation matrix. Helaba also performs stress tests to simulate extreme spread changes. The stress tests for market risks are supplemented by inverse stress tests and stress tests across risk types conducted in the course of Helaba's calculation of risk-bearing capacity.

Measurement of trading book positions

Trading book positions are measured daily at market prices by the traders responsible for the relevant products. Prices are set in the same way throughout the Group at a fixed point in time (end-of-day). This ensures that cash instruments are measured at the same time as the derivatives used for hedging such that all measurement parameters are based on the same market information. The Risk Controlling unit, which is independent of the front office, examines the market prices and the market parameters used on a daily basis.

The prices of securities and money market transactions are in principle checked against price quotations in the interbank market. If no quotations are available in the interbank market, the price to be used for measurement purposes is calculated on the basis of the swap curve plus credit spread. Risk Controlling verifies the price in such cases in a graded procedure using the credit spread of comparable bonds from the same issuer or with reference to information obtained in the CDS market (spread quotations are obtained from Bloomberg or specialist data suppliers). If no spread quotations are available for the issuer in question, the prices are subjected to a plausibility check using sector-related spread curves for the relevant sector of industry and the rating category.

Derivatives are measured with the aid of the trading system used by the Bank. The measurement algorithms have been examined by the front office and by Risk Controlling and accepted as part of the process of introducing the system. The measurement parameters specified by the front office (yield curves, volatilities, etc.) for calculation of the market values are reviewed daily by Risk Controlling.

Article 104 et seq. CRR is taken into account in the measurement of trading book positions.

Standardised method for market risks
Although Helaba and the subsidiary entities use the internal model to calculate the regulatory capital requirements for general interest rate risk, they rely on the standardised method to calculate the capital requirements for their other market risks.

Capital requirements in accordance with the standardised method for market risks in € m

Standardised method risk types	Capital requirement
Position risk (share price risk and specific interest rate risk)	98
Foreign-exchange risk	33
Settlement risk	0
Commodities risk	0
Total	**132**

Limitation of market risks
Helaba employs a uniform limit structure to limit market risks. The process through which limits are allocated involves the Supervisory Board Credit Committee as well as the Bank's internal corporate bodies. The cumulative limit defined for market risks, which is proposed by the Board of Managing Directors on the basis of the Bank's risk-bearing capacity, must be approved by the Supervisory Board Credit Committee. The preparatory work leading up to this decision is carried out by the Risk Committee.

Acting through the Asset/Liability Management Committee, the Board of Managing Directors allocates limits to the risk-relevant divisions and to the various types of market risk within the scope of the cumulative limit for market risks. In addition separate limits are defined for the trading book and the banking book. Responsibility for the onward allocation of limits to Helaba's subordinate organisational units and its various sites rests with the divisions to which a limit has been assigned. Stop-loss limits and volume limits are also used in the trading units to limit market risks.

Interest Rate Risk in the Banking Book

The interest rate risks in Helaba's banking book consist mainly of positions taken by Asset/Liability Management, which is responsible for funding and for the management of the interest rate and liquidity risks in the banking book, the strategic positions taken by the Asset/Liability Management Committee and the net balance of non-interest-bearing funds. Helaba employs the MaR approach used for the trading book for the daily mapping of the interest rate risks in the banking book. Contractual agreements and the interest rates fixed for positions or products are generally taken into account. However variable-rate products at FSP, such as savings and sight deposits, are not subject to a specified fixed interest rate or fixed capital commitment period, so fictional maturities determined with a moving averages model are used for containment activities in respect of the relevant interest rate risk.

The quantification of interest rate risks in the banking book is also subject to regulatory requirements, which stipulate a risk computation based on standardised interest shocks. The computation examines the effects of a change of ± 200 basis points in interest rates in line with the requirements of the banking regulator. Such an interest rate shock would have caused a negative change in the value of the banking book for the Helaba Group at year-end 2015 of € 285 m, the lion's share of it from a loss of € 270 m on euro exposures. The remaining loss of € 15 m would have been attributable to foreign currencies, with the pound sterling accounting for € 8 m and the Swiss franc € 7 m. Helaba determines the effect of interest shocks in accordance with the requirements of BaFin Circular 11/2011.

Operational Risks

Principles of risk containment
Helaba identifies, measures and contains operational risks using an integrated management approach introduced for this purpose in line with the regulatory requirements.

The approach taken by Helaba provides for the disciplinary and organisational segregation of operational risk management and controlling. Risk management is accordingly a local responsibility discharged by Helaba's individual units, which are supported in this task by central containment units. Central responsibility for operational risk controlling rests with the Risk Controlling unit.

Tools
Helaba uses the Standardised Approach (STA) to calculate capital requirements.

Operational risks are contained and monitored using a risk management system that identifies, records and presents risks and losses in a structured manner. This makes it possible to compare and cross-check risks and loss data systematically and contain them with appropriate measures.

Operational risks are classified systematically with reference to Helaba's proprietary risk model, which is based on the Basel event categories. The view of risk used for internal risk assessment purposes is thus fully congruent with that of the regulator. The quantification methodology was expanded significantly in 2014 and is now based entirely on a modelling approach that encompasses internal and external losses plus risk scenarios created by the business units and plausibility-checked by the Risk Controlling unit.

Technical assistance to help facilitate the management of operational risks is provided in the form of a web-based application that supports local data access and a central database and is updated regularly in line with expert recommendations.

Operational risks are avoided or limited using insurance arrangements that cover specific losses up to agreed maximum limits and also by means of established measures in internal processes and other workflows.

Leverage Ratio

In January 2015, the requirements for calculating the leverage ratio were redefined and issued by the European Commission in Delegated Act EU 2015/62.

The leverage ratio is based on the relationship between Tier 1 capital and the unweighted total of all on-balance-sheet and off-balance-sheet asset items (including derivatives).

These disclosures are published in compliance with Commission Implementing Regulation 2016/200 laying down implementing technical standards with regard to disclosure of the leverage ratio for institutions. The table below presents the variables used to determine the leverage ratio taking account of the transitional provisions in accordance with Article 499 (1b) CRR.

Leverage ratio in accordance with Delegated Act in € m

CRR Leverage Ratio – Disclosure Template

Reference date	31.12.2015
Entity name	Landesbank Hessen-Thüringen
Level of application	Consolidated

Table LRSum: Summary reconciliation of accounting assets and leverage ratio exposure measure

		Applicable amounts
1	Total assets as per published financial statements	172,256
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	– 906
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the total exposure measure used in the calculation of the leverage ratio in accordance with Article 429 (13) of Regulation (EU) No 575/2013 "CRR")	(1,101)
4	Adjustments for derivative financial instruments	5,458
5	Adjustments for securities financing transactions "SFTs"	80
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	13,938
EU-6a	(Adjustment for intragroup exposures excluded from the total exposure measure used in the calculation of the leverage ratio in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	(0)
EU-6b	(Adjustment for exposures excluded from the total exposure measure used in the calculation of the leverage ratio in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	(0)
7	Other adjustments	(10,080)
8	**Total exposure measure used in the calculation of the leverage ratio**	**179,645**

Table LRCom: Leverage ratio common disclosure

		CRR leverage ratio exposures
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	154,890
2	(Asset amounts deducted in determining Tier 1 capital)	(211)
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**154,679**
	Derivative exposures	
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	7,696
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	2,694
EU-5a	Exposure determined under Original Exposure Method	0
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	0
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(0)
8	(Exempted CCP leg of client-cleared trade exposures)	(576)
9	Adjusted effective notional amount of written credit derivatives	2,963
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(1,925)
11	**Total derivative exposures (sum of lines 4 to 10)**	**10,852**

		CRR leverage ratio exposures
	Securities financing transaction exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	108
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(0)
14	Counterparty credit risk exposure for SFT assets	83
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	0
15	Agent transaction exposures	0
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	(5)
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**185**
	Other off-balance sheet exposures	
17	Off-balance sheet exposures at gross notional amount	31,253
18	(Adjustments for conversion to credit equivalent amounts)	(17,323)
19	**Other off-balance sheet exposures (sum of lines 17 to 18)**	**13,929**
	Exempted exposures in accordance with CRR Article 429 (14) (on and off balance sheet)	
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429 (7) of Regulation (EU) No 575/2013 (on and off balance sheet))	(0)
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	(0)
	Capital and total exposure measure	
20	**Tier 1 capital**	**8,171**
21	**Total exposure measure in leverage ratio (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)**	**179,645**
	Leverage ratio	
22	**Leverage ratio**	**4.55 %**
	Choice on transitional arrangements and amount of derecognised fiduciary items	
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional
EU-24	Amount of derecognised fiduciary items in accordance with Article 429 (11) of Regulation (EU) NO 575/2013	1,101

Table LRSpl: Breakdown of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

		CRR leverage ratio exposures
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	139,416
EU-2	Trading book exposures	13,478
EU-3	Banking book exposures, of which:	125,938
EU-4	Covered bonds	3,312
EU-5	Exposures treated as sovereigns	28,016
EU-6	Exposures to regional governments, MDBs, international organisations and PSEs NOT treated as sovereigns	711
EU-7	Institutions	23,315
EU-8	Secured by mortgages on real estate	15,323
EU-9	Retail exposures	1,745
EU-10	Corporate	42,031
EU-11	Exposures in default	1,184
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	10,302

Description of the process for monitoring the risk of excessive leverage
Helaba is already taking the leverage ratio requirements into account in the optimisation of its business portfolio. The risk of excessive leverage is addressed by including the leverage ratio in the planning and control process. Based on the business and risk strategy, an internal target ratio is specified as an additional key performance indicator, supplementing the capital ratios. Helaba is managing its business using qualitative and quantitative guidelines, taking into account the limits it will have to comply with in the future. Changes in the leverage ratio are subject to regular monitoring. In addition to ex-post analyses of the leverage ratio in the internal reporting system, future changes in the ratio and in the basis of measurement form an integral part of the Bank's internal planning process.

Description of the factors that impacted the disclosed leverage ratio during the reporting period

1. Changes in the regulatory requirements for determining the leverage ratio

   Delegated Act EU 2015/62 made changes, in particular, to the calculation of the total risk exposure. The adjustment of the LR-specific credit conversion factors (CCFs) had a significant impact here. The other off-balance-sheet items were affected, in particular.

2. Changes in the leverage ratio

   Both off-balance-sheet and on-balance-sheet risk exposures (excluding derivatives and securities financing transactions (SFTs)) increased slightly year on year. However, the change in calculation methodology referred to above resulted in a decline in the total off-balance-sheet risk exposure. In the case of the on-balance-sheet risk exposures, a rise in customer loans and advances offset a decrease in loans and advances to banks. These changes were also accompanied by a slight decline in the total risk exposure related to derivatives and securities financing transactions.

   Given the comparatively minor significance of derivatives, SFTs and other off-balance-sheet risk exposures, the leverage ratio is mostly influenced by changes in the statement of financial position. Detailed information on the changes in the statement of financial position in the 2015 financial year can be found in the published Annual Report for 2015 under Statement of Financial Position Disclosures in the Notes (Note (34) et seq.).

   In 2015, a rise in Tier 1 capital once again had a positive impact on the leverage ratio. Please refer to "Own Funds and Own Funds Structure" in this report for further information on the changes in key Tier 1 capital drivers.

Asset Encumbrance

Encumbered assets are broadly speaking all of those assets to which the institution would not have unrestricted access in the event of a possible insolvency. Assets that are pledged, for example, or that serve as collateral for other transactions are always considered to be encumbered assets.

There was still no implementing standard concerning disclosure requirements available at the time this report was prepared, so guideline EBA/GL/2014/03 was used as the basis instead.

Helaba's funding strategy aims for a diversified funding mix. Asset encumbrance is mainly a factor in connection with Pfandbrief issuance and development business. The excess cover in the cover funds above and beyond the applicable legal requirements ensures substantial room for manoeuvre with issues. Encumbrance is also relevant in the context of derivative and repo transactions. Helaba generally only enters into such transactions under standard market master agreements/collateral agreements. Such transactions within the Helaba Group are concentrated in Helaba Bank.

No use is made of "Other assets" for collateral purposes. The item consists principally of the positive fair values of derivatives, real estate assets and intangible assets.

Assets in € m

	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of non-encumbered assets	Fair value of non-encumbered assets
Assets	**55,472**		**125,134**	
thereof: Equity instruments	0	0	3,585	3,473
thereof: Bonds	6,933	7,239	32,180	30,353
thereof: Other assets	0		20,073	

Collateral received in € m

	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
Collateral received	**1,054**	**3,703**
thereof: Equity instruments	0	0
thereof: Bonds	1,051	3,703
thereof: Other collateral received	0	0
Own debt securities issued other than own covered bonds or ABSs	**0**	**0**

Sources of encumbrance in € m

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	**60,179**	**56,000**

List of Abbreviations and Key Terms

Term/abbreviation	Definition
ABCP	Asset-backed commercial paper
ABS	Asset-backed securities
AEOI	Automatic exchange of financial account information
AIRB	Advanced IRB
AT1	Additional Tier 1 capital
BaFin	German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht)
BDSG	German Data Protection Act (Bundesdatenschutzgesetz)
CCF	Credit conversion factor
CCP	Central counterparty
CDS	Credit default swap
CET1	Common Equity Tier 1 capital
CRM	Credit Risk Management
CRR	Capital Requirements Regulation
CRSA	Credit Risk Standardised Approach
CVA	Credit valuation adjustment
DSGV	German Savings Banks Association
EBA	European Banking Authority
EETC	Enhanced equipment trust certificate
EL	Expected loss
ELLI	Risk measurement system (interest rate option risk)
EMIR	European Market Infrastructure Regulation
ESMA	European Securities and Markets Authority
FATCA	Foreign Account Tax Compliance Act

Term/abbreviation	Definition
FIRB	Foundation IRB
FSP	Frankfurter Sparkasse
GaV	Rules of procedure for the Board of Managing Directors
GSLLA	Specific loan loss allowances evaluated on a group basis
HGB	German Commercial Code (Handelsgesetzbuch)
IAA	Internal Assessment Approach for Securitisations
ICAAP	Internal Capital Adequacy Assessment Process
ICRE	International Commercial Real Estate rating method
IFRS	International Financial Reporting Standards
IM	Internal models for market risk
IRB	Internal Ratings-Based (Approach) (FIRB/AIRB)
IRBA	Internal Ratings-Based Approach (FIRB/AIRB)
ISMS	Information security management system
ITS	Implementing technical standards (EBA)
KIRB	The capital charge for the underlying portfolio had it not been securitised, including the expected loss
KMA	Credit Management Committee
KWG	German Banking Act (Kreditwesengesetz)
LBS	Landesbausparkasse Hessen-Thüringen
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
MAC clause	Material adverse change clause
MaR	Money-at-risk
$MaRC^2$	Risk measurement system (linear interest rate risk)
MaRisk	German Minimum Requirements for Risk Management
MaSan	German Minimum Requirements for the Design of Recovery Plans
MaSI	German Minimum Requirements for the Security of Internet Payments
MTA	Minimum transfer amounts
NSFR	Net Stable Funding Ratio
OTC	Over-the-counter
PD	Probability of default
PLLA	Portfolio loan loss allowance
P&L	Profit and loss, income statement
RSGV	Rheinischer Sparkassen- und Giroverband
RSU	Rating Service Unit GmbH & Co. KG
RW	Risk weight
RWA	Risk-weighted assets
SA	Standardised Approach (market risk)
SFA	Supervisory Formula Approach
SFTs	Securities financing transactions
SLLA	Specific loan loss allowance
SME	Small and medium-sized enterprises
SolvV	German Solvency Regulation
SPV	Special purpose vehicle
S-Rating	Sparkassen Rating- und Risikosysteme GmbH
SREP	Supervisory Review and Evaluation Process
STA	Standardised Approach (operational risks)
SVWL	Sparkassenverband Westfalen-Lippe
T1	Tier 1 capital (T1 = CET1 + AT1)
T2	Tier 2 capital
TC	Total capital (TC = T1 + T2)
VS-KA	Credit Committee of the Board of Managing Directors
WpHG	German Securities Trading Act (Wertpapierhandelsgesetz)
WpDVerOV	German Investment Services Conduct of Business and Organisation Regulation
WpHGMaAnzV	WpHG Employee Notification Regulation

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