



MünchenerHyp

Creating. Our Future. Together.

Disclosure Report 2016
Münchener Hypothekenbank eG

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LIST OF ABBREVIATIONS

| | |
|----------|--|
| AE ratio | Asset Encumbrance Ratio |
| AfS | Available for Sale |
| Art. | Article |
| AT1 | Additional Tier 1 capital |
| BaFin | German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) |
| BPV | Basis Point Value |
| BVR | Federal Association of German Volksbanken and Raiffeisenbanken (Bundesverband der Deutschen Volksbanken und Raiffeisenbanken) |
| BWGV | Association of Baden-Wuerttemberg Cooperatives (Baden-Württembergischer Genossenschaftsverband e. V.) |
| CCB | Countercyclical Capital Buffer (Antizyklischer Kapitalpuffer) |
| CCF | Credit Conversion Factor |
| CD | Certificate of Deposit |
| CDS | Credit Default Swaps |
| CET1 | Common equity Tier 1 capital |
| CP | Commercial Paper |
| CRD IV | Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (CRDIV) |
| CRM | Credit Risk Mitigation (techniques) |
| CRR | Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 |
| CUSIP | Committee on Uniform Security Identification Procedures |
| CVA | Credit Valuation Adjustment |
| CVaR | Credit Value at Risk |
| EBA | European Banking Authority |
| ECAI | External Credit Assessment Institutions |
| ECB | European Central Bank |
| EDP | Electronic Data Processing |
| EEA | European Economic Area (EEA) |
| EL | Expected Loss |
| etc. | et cetera |
| FX-risks | Foreign Exchange Risks |
| GVB | Association of Bavarian Cooperatives (Genossenschaftsverband Bayern e. V.) |

LIST OF ABBREVIATIONS

| | |
|----------------|--|
| ICAAP | Internal Capital Adequacy Assessment Process |
| ILAAP | Internal Liquidity Adequacy Assessment Process |
| InstitutsVergV | German regulation on the supervisory requirements for compensation systems of banks; Remuneration Regulation for Institutions (Institutsvergütungsverordnung) |
| IPRE | Income Producing Real Estate |
| IRBA | Internal Ratings Based Approach |
| ISIN | International Securities Identification Number |
| IT | Information Technology |
| ITS | Implementing Technical Standards |
| KSA | Standard Approach to Credit Risk (Kreditrisikostandardansatz) |
| KWG | German Banking Act (Kreditwesengesetz) |
| LDP | Liquidity Coverage Potential (Liquiditätsdeckungspotenzial) |
| LGD | Loss Given Default |
| LRG | Local and Regional Governments |
| MaRisk | Minimum Requirements for Risk Management (Mindestanforderungen an das Risikomanagement) |
| MBS | Mortgage Backed Securities |
| MDB | Multilateral Development Bank |
| MünchenerHyp | Münchener Hypothekbank eG |
| N/A | Not applicable |
| NSFR | Net Stable Funding Ratio |
| OpRisk | Operational Risk |
| PD | Probability of Default |
| PPU | Permanent Partial Use |
| PU | Partial Use |
| QIS | Quantitative Impact Study |
| RTS | Regulatory Technical Standards |
| RWA | Risk-Weighted Assets |
| RWGv | Association of Rhineland-Westphalia Cooperatives (Rheinisch Westfälischer Genossenschaftsverband e. V.) |
| SME | Small and Medium-Sized Enterprises |
| SolvV | German Solvency Regulation (Solvabilitätsverordnung) |
| SRB | Single Resolution Board |
| SREP | Supervisory Review and Evaluation Process |
| T1 | Tier 1 capital (T1 = CET1 + AT1) |
| T2 | Tier 2 capital (Supplementary capital) |
| TC | Total Liable Equity capital (TC = T1 + T2) |
| UL | Unexpected Loss |
| VaR | Value at Risk |
| vdp | Association of German Pfandbrief Banks (Verband deutscher Pfandbriefbanken) |
| VR | Volksbanken Raiffeisenbanken |

DISCLOSURE PURSUANT TO CRR/CRD IV

1 BASIS FOR SUPERVISORY DISCLOSURE

The Basel III capital framework was introduced in the European Union by means of Directive (EU) No 575/2013 on prudential requirements for credit institutions and investment firms (Capital Requirements Regulation – CRR) and Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (Capital Requirements Directive IV – CRD IV) and published on 27 June 2013. CRD IV became national law in Germany by amending the German Banking Act (KWG) and the German Solvency Regulation (SolvV), as well as the related regulations. The sum of these regulations represents the new regulatory framework, which in Germany applies to subjects including capital, leverage, liquidity, as well as Pillar III disclosures. The new regulatory framework took effect on 1 January 2014, subject to different transitional rules. This report refers to the business year ending on 31 December 2016. Thus, rules and regulations that were valid to this date apply, unless otherwise indicated.

Transitional rules apply to some regulatory requirements, most of which will be phased in through 2018, such as capital deductions, regulatory filters and the introduction of minimum capital ratios. A standard for the structure of longer term refinancing is expected to become effective in 2018. The introduction of a binding leverage ratio is currently anticipated to take place in 2019.

This disclosure report uses CRR/CRD IV framework terminology, various EBA standards, as well as national regulatory requirements pursuant to the SolvV and the KWG.

Furthermore, this disclosure report also meets disclosure requirements for risk reporting, as well as those of the Remuneration Regulation for Institutions (Instituts Vergütungs Verordnung – InstitutsVergV).

Independent of individual regulatory initiatives, MünchenerHyp works continuously to further develop its risk management infrastructure.

In keeping with the further development of the risk management infrastructure, the structure of the disclosure report has been appropriately adjusted to reflect the risk categories that have been identified as relevant within the framework of the risk inventory and the preparation of MünchenerHyp's risk strategy. Qualitative and quantitative information has been presented for each type of risk as required pursuant to the regulatory disclosure guidelines.

This report fully complies with all of the regulatory disclosure requirements that are relevant for MünchenerHyp. This report is published every year on MünchenerHyp's website shortly after the publication of the annual financial statements.

The following overview lists the disclosure requirements pursuant to CRR and the corresponding chapters in Münchener Hypothekbank's disclosure report.

| Disclosure requirements per Title 8 CRR | Corresponding chapter in this disclosure report |
|---|--|
| Article 435: Risk management objectives and policies | Risk management, and Annex – Management Bodies |
| Article 436: Scope of application | Fundamentals of regulatory disclosure |
| Article 437: Own funds | Own funds |
| Article 438: Capital requirements | Own funds |
| Article 439: Counterparty credit risk | Counterparty risk, and derivative counterparty risk exposure and netting positions |
| Article 440: Capital buffers | Countercyclical Capital Buffer |
| Article 441: Indicators of global systemic importance | N/A |
| Article 442: Credit risk adjustments | Counterparty risk |
| Article 443: Unencumbered assets | Encumbered assets |
| Article 444: Use of External Credit Assessment Institutions (ECAIs) | Counterparty risk |
| Article 445: Exposure to market risk | Market price risk |
| Article 446: Operational risk | Operational risk |
| Article 447: Exposures in equities not included in the trading book | Investment risk |
| Article 448: Exposure to interest rate risk on positions not included in the trading book | Counterparty risk |
| Article 449: Exposure to securitisation positions | N/A |
| Article 450: Remuneration policy | Remuneration policy |
| Article 451: Leverage | Exposure to leverage risk |
| Article 452: Use of the IRB Approach to credit risk | Counterparty risk |
| Article 453: Use of credit risk mitigation techniques | Counterparty risk |
| Article 454: Use of the advanced measurement approaches to operational risk | N/A |
| Article 455: Use of internal market risk models | N/A |

Table 1: Disclosure topics presented in this report as required by Title 8 CRR

2 MÜNCHENER HYPOTHEKENBANK eG STRUCTURE

In both financial and regulatory terms, the MünchenerHyp is an individual institution and not a financial conglomerate. The three fully owned subsidiary companies: M-Wert GmbH, Munich, Immobilienservice GmbH der Münchener Hypothekenbank eG (M-Service), Munich, and Nußbaumstraße GmbH & Co. KG, Munich, do not represent significant subsidiaries that would trigger a mandatory consolidation requirement. Moreover, MünchenerHyp does not operate any foreign subsidiaries that would trigger mandatory reporting requirements per Art. 26a (1) 2 KWG.

3 RISK MANAGEMENT

3.1 APPROPRIATENESS OF RISK MANAGEMENT PROCEDURE

Pursuant to Art. 435(1) CRR the Board of Management hereby states that the submitted risk management system as shown below is appropriate for the Bank's profile and its strategy:

The ability to monitor and keep risks under control at all times is essential for the successful steering of business development at MünchenerHyp. For this reason risk management plays a very important role in the overall management of the Bank.

The business and risk strategy defines the parameters of the Bank's business activities. MünchenerHyp's entire Board of Management is responsible for both the business strategy and the risk strategy, which are regularly reviewed regarding the attainment of goals and the effectiveness and are updated as necessary and then submitted to the Supervisory Board at least once a year. As part of its supervisory duties, the Supervisory Board is advised at least once per quarter concerning the Bank's risk profile, as well as how it has performed towards achieving its objectives. This takes place, for example, using the reports concerning the Bank's risk-taking capabilities, lending risks, as well as the risk report prepared in accordance with the "Minimum Requirements for Risk Management" (MaRisk); this takes place, for example, using the reports concerning the Bank's risk-taking capabilities, lending risks, as well as the risk report prepared in accordance with the "Minimum Requirements for Risk Management" (MaRisk), which contains a complete summary of all the risks.

The basis of risk management consists of, on one hand, the analysis and presentation of existing risks, and, on the other, comparing these risks with the risk cover potential (ability to bear risk). The analysis and presentation of existing risks primarily distinguishes between counterparty, market price, liquidity, credit spread, migration and investment risks, as well as operational and model risks. Additional risks such as placement risk, reputational or behavioural risk, business risk, etc., are viewed as parts of the abovementioned risks and are taken into consideration at the appropriate place in the individual calculations, or are taken into consideration as other risks. Appropriate monitoring processes are in place involving internal process-dependent and independent supervision. Our internal audit department is responsible for the process-independent monitoring function within the Bank.

The professional concepts and models used to calculate the ability to bear risks are continuously further developed in accordance with regulatory requirements. Münchener Hypothekenbank calculates its ability to bear risks on both a present value and period-oriented basis. The Going-Concern scenario is a more important method used to manage risk. This scenario is used to determine if the Bank still would have an adequate equity capital ratio exceeding the required regulatory minimums for core capital and total capital pursuant to the Supervisory Review and Evaluation Process (SREP) after the occurrence of risks contained in all of the risk categories. The only risk cover potential that may be used to cover risks in this scenario is the available regulatory own funds.

MünchenerHyp employs a limit system as an additional risk control instrument to monitor its ability to bear risks. The paramount purpose of monitoring the ability to bear risks is to ensure that the Bank's income, cost and risk structures are organised in a manner that allows them to be controlled without external assistance. The limit system assists in setting and regularly reviewing limits, for example, for debtor categories or countries.

Resolutions passed by the Basel Committee on Banking Supervision, or by the European Union regarding regulatory requirements, and their subsequent transposal into German law, are continually observed and analysed by the Bank's Regulatory Office, which also initiates measures needed to implement these requirements. Furthermore, these measures lead to the review and further development of the Bank's risk and business strategies. Based on this procedure, relevant processes and systems are then adjusted as necessary.

Methods to measure risk included in the framework of obtaining IRBA certification, along with risk management procedures that are being continuously further developed, are embedded in MünchenerHyp's risk management system. The results derived from the risk models are suitable for managing MünchenerHyp. Despite careful development/further development and regular assessments of models, constellations may, however, still arise whereby the actual losses or liquidity needs are higher than foreseen by the risk models. Various stress scenarios are used within the framework of risk mitigation in order to take this extraordinary, but plausible, situation into proper account.

3.2 RISK STATEMENT

Segment 3.2 of the Report presents the concise risk statement of MünchenerHyp's Board of Management pursuant to Art. 435 (1) f CRR of the Board of Management.

3.2.1 Description of risk management objectives

The risk strategy is an integral part of the Bank's business strategy. Based on the institution's business objectives, risk strategy is the source of risk-related measures to manage risk that are necessary for the Bank to achieve these objectives. The business and risk strategy is set by the Board of Management. Details are coordinated with the affected department heads. This information is available to all of the Bank's employees. This process takes place at least once a year, as well as ad hoc basis. Monitoring of the defined standards (volumes, margins, limits, etc.) takes place in the various departments and is reported to the Management Board and the Supervisory Board at least once per quarter.

Within its business strategy, MünchenerHyp defines its business areas as residential and commercial property finance, which are divided into the following segments: Retail Germany, Retail Switzerland, Commercial Domestic, and Commercial Foreign. In addition, the Bank also engages in capital market transactions with the public sector and banks. Strategic and operational objectives are set for each of these segments, which should be achieved within the framework of the mid-term business plan.

Based on this, the risk strategy states how MünchenerHyp will, or plans to, deal with the risks associated with these business activities. In principle, systems, processes, controls and guidelines are integral elements of risk management. Therefore, individual risk management processes, as well as modelling and measuring approaches to quantify risks, as well as liquidity and capital requirements, are being implemented by MünchenerHyp. The key capital and liquidity ratios that are significant for MünchenerHyp are subject to tight supervision with corresponding stress tests, limit system with early warning indicators and escalation processes. Expert evaluations are employed to gauge additional risks, such as reputational or model risk, which are then taken into general consideration when calculating the Bank's ability to bear risks. Processes and procedures used in risk management are subject to regular institution-wide examinations by our internal audit department.

Within the framework of ensuring adequate capital, institutions must, in principle, identify and evaluate their risks, maintain sufficient capital to cover their risks, and employ processes to manage risk in order to permanently ensure that they are adequately capitalised (so-called Internal Capital Adequacy Assessment Process – ICAAP). The available internal capital must always exceed internally measured risks at all times. The most important metric used by MünchenerHyp to manage risk is the (marginal) VaR, which is determined in both the Going Concern as well as the Gone Concern scenarios, and is additionally subject to numerous stress tests. Here it is determined if the ability to bear risks is still given after all risks have occurred (excluding diversification effects between the risk categories) i.e. capital requirements according to Pillar I and SREP surcharges are still met. Only regulatory equity capital may be used as risk-covering equity.

The Risk Weighted Assets (RWA), or the Expected Loss are additional factors used to manage risks. For example, depending on the rating system or individual rating, caps are set on loan-to-value ratios or on maximum permitted lending exposure. Management of capitalisation is integrated in MünchenerHyp's risk management processes and is regularly supervised by the Board of Management. The calculation of the risk-bearing capacity (Risikotragfähigkeit – RTF) figure allows countermeasures to be taken in time to avoid un-wanted developments.

In principle, the Bank advocates exposing itself to only minor risks. This policy is visible, for example, in the average loan-to-value figure of about 60% of the mortgage lending value, or in the fact that the Bank does not enter into any significant trading book deals.

The formulation of the Bank's business strategy, which is made in agreement with the Bank's Treasury Department, already examines if the necessary liquidity can be obtained at the planned margins within the framework of the ILAAP. Funding plans are aligned with sales objectives in an iterative process headed by Risk Controlling. A limit system with early warning indicators is also employed to continually monitor and control liquidity during the business year. An emergency liquidity plan also exists and can be activated in stress situations.

MünchenerHyp submitted a restructuring plan for the first time in 2015. This plan has to be updated annually. Furthermore, since 2016 the Bank has provided all of the necessary data to the Single Resolution Board (SRB) in order to prepare the appropriate resolution measures needed in the theoretical case of insolvency.

3.2.2 Description of risk tolerance and risk appetite

The impact on portfolios and RWAs is determined within the framework of a planning session that takes place (at least) once a year using an iterative process involving sales plans (depending on goals set for the average target margins), as well as the targeted interest income figure. Guidelines regarding risk tolerance and risk appetite in the credit business are derived from comparing the planned RWA with risk-bearing capacity and capital planning and then applying this to the planned volumes of new business and prolongations in the individual business segments. Required refinancing needs are also guaranteed as the required liquidity is determined parallel to the Bank's funding plans.

The reality, however, is that MünchenerHyp in principle only assumes minor risks in comparison to the rest of the banking sector. One example of this is that the lowest rating category accepted by the Bank as new business, and which the Bank only deviates from in exceptional cases, is 2b (see Table 12). This means that the main emphasis of the Bank's existing business is even in the 1a to 1c rating categories.

Within the framework of the Bank's business strategy plans call for new business to grow in the areas of Retail Germany, Commercial Domestic and Commercial Foreign. New business growth is primarily driven by the four main objectives of the business strategy:

- Increase property lending business
- Stronger growth in the private residential than in the commercial property area of business
- Shrink the capital market business

The capital market business is primarily focusing on LCR or the Net Stable Funding Ratio (NSFR) to manage liquidity, whereby business with banks will be more greatly reduced than with public-sector entities.

The lending portfolio will expand due to the planned increase in new business, however, MünchenerHyp expects only a moderate increase in counterparty risk as the increase will for the most part take place in the low-risk Retail business.

MünchenerHyp uses derivative strategies to hedge its exposure to the risk of changing interest rates (interest risk). As a result, an increase in the volume of the lending portfolio does not automatically lead to an increased risk of changing interest rates.

Changes in the mentioned risk categories are accounted for when limits are set for the individual risk categories within the framework of calculating the Bank's ability to bear risk.

3.2.3 Description of risk management instruments

Within the framework of calculating the Bank's ability to bear risk, limits are set for each individual category of risk in order to restrict overall risk. In addition, country and individual limits are in place in the capital market and when granting loans, respectively. Individual limits in the credit segment are derived from the marginal CVaR from the rating and the loan-to-value figure.

3.2.4 Description of the development of key figures and risk management instruments (incl. risk inventory)

Last year risks within the framework of a Going Concern, for example, developed as follows at a 95% level of confidence:

| | 31.12.2016 | 31.12.2015 |
|---|-------------|-------------|
| Market risk-value-at-risk | 9.9 | 5.7 |
| Credit risks | 49.4 | 60.8 |
| Operational risks | 10.9 | 4.4 |
| Spread and migration risks current assets | 0.0 | 0.6 |
| Investment risks | 17.4 | 16.6 |
| Model risks and other risks | 8.1 | 3.5 |
| Total | 95.7 | 91.4 |

Table 2: Overview of Exposure as Going Concern

Risks used for the insolvency scenario with a 99.9% level of confidence as follows:

| | 31.12.2016 | 31.12.2015 |
|---|--------------|--------------|
| Market risk-value-at-risk | 23.7 | 14.5 |
| Credit risks | 140.8 | 191.6 |
| Operational risks | 34.5 | 14.5 |
| Spread and migration risks current assets | 174.6 | 170.7 |
| Investment risks | 32.6 | 31.2 |
| Property risks | 2.7 | 2.9 |
| Model risks and other risks | 72.3 | 24.9 |
| Total | 481.0 | 450.3 |

Table 2: Overview of Exposure as Going Concern

All of the following explanations employ the Going Concern concept as the relevant control method to determine risk-bearing capacity.

1. Overview of Credit Risk

Credit risks fell substantially last year. This was primarily due to the following factors:

- The Bank reduced the number of its large-volume business deals involving relatively high capital requirements.
- The portfolio of claims on banks was reduced.

As MünchenerHyp only employs VaR as a control metric for its entire loan portfolio but not for sub-portfolios, it is not shown for individual areas of business. However, credit risk remains the risk that has the significantly greatest influence on the Bank's ability to bear risk in the Going Concern concept. The credit spread risk plays an added and similarly important role in the Gone Concern concept.

2. Overview of Market Risk

Despite the fact that MünchenerHyp is a trading book institution, it has not engaged in trading deals for many years and does not plan to in the foreseeable future.

Capital requirements for the interest rate risk in the banking book have only changed marginally. The Bank does not have a deposits business and does not wish to earn large sums from maturity transformation trades. The Bank does strive to obtain maturity matching refinancing to the greatest extent possible and the remaining interest rate risks are continuously hedged to the greatest extent possible.

The capital market business/Public Pfandbriefe is no longer part of our core business and over the mid-term will only be engaged in to ensure that the necessary liquidity is available to manage the LCR and NSFR. This is reflected, for example, by the further contraction of the volume of loans in our Public-Sector/Banks area of business and generally in an increasing focus on Level I Assets.

The VaR for all assets (interest rates and currencies), at a 99% confidence level and a 10-day holding period in 2016, was recorded at a maximum of € 78 million, while the average amount was about € 44 million

3. Overview of Operational Risk

The basic indicator approach is used to determine the Bank's regulatory capital requirements, which rose slightly last year to € 18.3 million. Actual damages of almost € 7 million incurred due to operational risks were, however, far below this figure.

The Bank minimises its operational risks by qualifying its employees, using transparent procedures, automating standard procedures, and by having fixed working instructions, extensive functional testing of the IT systems, as well as appropriate emergency plans and preventive measures. MünchenerHyp has purchased appropriate insurance policies to cover certain kinds of operational risks. Examples of these policies are pecuniary damage liability insurance, and fidelity insurance including hacker coverage. The insurance coverage is regularly compared with the risks reported by the specialist department as part of their self-assessment process. The definition includes legal risks and operating risks. However it does not include reputational risks, which must be viewed separately. Furthermore, due to the Bank's very specific business model, many of the usual operational risks within the banking sector cannot occur at all at MünchenerHyp.

4. Investment and Property Risks

MünchenerHyp has only made equity investments within the Cooperative Financial Network.

The Bank does not have risks related to property as it only has very few properties in its holdings and for which major undisclosed reserves exist.

5. Overview of Liquidity Risk

The LCR and NSFR figures were calculated in accordance with regulations. The legal requirement for LCR was maintained without any difficulty. Even though the NSFR is not yet subject to regulatory limitations, it remained above 100% for MünchenerHyp at all times. Both these key figures are closely monitored, regularly analysed and forecast for the future.

The Bank was continuously able to obtain both covered and uncovered refinancing throughout the entire year. The Bank placed Pfandbriefe with a nominal value of about € 2.8 billion in the market along with € 2.1 billion in uncovered paper, in addition to short-term CDs/CPs.

6. Overview of Capital Management

During the previous business year MünchenerHyp attracted € 271 million of additional common equity Tier 1 capital thereby posting a total capital ratio of over 24.5% at the end of the year.

In accordance with its business model, the Bank manages the required level of own funds via regulatory requirements and rules governing risk-bearing capacity.

3.3 RISK STRATEGY

Risk strategy takes legal requirements into account, especially the provisions contained in the latest version of the KWG and MaRisk. In conformity with Article 25a KWG, MünchenerHyp has a proper business organisation, which, among other purposes, includes the management of, and the ability to bear, risks in accordance with the Bank's risk strategy.

Within its business strategy, MünchenerHyp defines the following segments: Retail Business Germany, Retail Business Switzerland, Commercial Domestic, Commercial Foreign, and Capital Market Business with the Public-Sector and Banks. Strategic and operational objectives are set for each of these segments and which should be achieved within the framework of the mid-term business plan. Based on this, the risk strategy states how MünchenerHyp will, or plans to, deal with the risks associated with these business activities. Quantitative and qualitative parameters are set for each risk category and describe how to deal with all significant risks in order to achieve the objectives. In addition, measures are derived from these processes that define how the parameters are to be observed. Thus, MünchenerHyp's risk strategy defines the strategic framework for risk management and encourages risk awareness among all employees within the framework of the Bank's corporate and risk culture. All of MünchenerHyp's employees are aware of the Bank's risk strategy and naturally observe it in their daily work. In determining remuneration parameters care is taken at all levels that they are aligned with this strategy and support the Bank in attaining its strategic goals.

The Board of Management is responsible for the regular examination and adjustment of the risk strategy and ensures that appropriate procedures exist for the management, supervision and control of risks. The risk strategy is an element of the firm's internal rules and therefore also within the Supervisory Board's area of responsibility as the institution's controlling body. The risk strategy is submitted and explained directly to the Supervisory Board at least once a year.

3.4 ORGANISATION, PROCESSES AND RESPONSIBILITIES

The institution-specific Credit Handbook describes the competencies and procedural requirements of entities involved in the lending business, defines their responsibilities, and also presents the credit products. The Credit Handbook documents the relevant processes and responsibilities for internal risk management within the organisation through the use of organisational guidelines, process descriptions, handbooks and rating-specific professional instructions. It contains descriptions of organisational safeguard measures, as well as ongoing automatic measures and controls integrated in the work processes. These include, in particular, separation of functions, the double-check principle, access limitations, payment guidelines, new product process and balance confirmations.

The management methods described in the risk strategy continuously provide qualitative and quantitative statements regarding Münchener Hypothekbank's economic situation, including, for example, the development of performance. This evaluation involves aspects of all risk categories. Furthermore, a close coordination procedure exists between the risk controlling and accounting departments at MünchenerHyp. This coordination procedure is monitored by the entire Board of Management. The results from the risk management system form the foundation for the multi-year planning calculations, year-end projections, and agreement procedures for approving key figures generated by the Bank's accounting process.

The Bank's Articles of Association as well as the Board's Rules of Procedure define the formal framework for the activities of the Board of Management. As part of its weekly meetings the Board of Management approves necessary resolutions in accordance with the Board's Rules of Procedure. The Management Board must request approval from the Supervisory Board for resolutions referring to subjects contained in Art. 15 of the Bank's Articles of Association.

The Bank's Supervisory Board generally holds five meetings per year. Each meeting is focused on a special subject. The review of the annual financial statements is the main topic of the spring meeting. During the summer meeting the business unit reports on the results of the annual examination and update of the Bank's business and risk strategy in accordance with MaRisk requirements. The Interim Report is the main subject of the autumn meeting. During the last meeting of the year, which usually takes place in December, 12-month plans for the coming year are presented. The fifth meeting is organised as a brief constituting session of the Supervisory Board and is held immediately after the regularly scheduled Delegates Meeting in April of every year.

The Bank's risk situation is extensively reported during every Supervisory Board meeting. In accordance with the terms of MaRisk, copies of the credit risk report, the risk capacity report, as well as the risk report, are made available to the members of the Supervisory Board. An intensive review and discussion of the risk reports takes place during the meetings of the Risk Committee, which are held about 6 to 8 times per year depending on the need to approve loans. The credit decisions and the Bank's risk situation as described in the risk reports are always reported under a separate agenda item covering the actions of the Risk Committee and examined in the subsequent meeting of the Supervisory Board where all of the members of the Supervisory Board are present.

In addition to the Risk Committee, the Supervisory Board has delegated its duties to three additional committees: the Nomination Committee, the Remuneration Control Committee, and the Audit Committee. The Nomination Committee and the Remuneration Control Committee generally meet twice a year while the Audit Committee generally meets three times a year.

The Supervisory Board established this structure for itself thereby fulfilling requirements pursuant to Art. 25d KWG. The committees' tasks are shown as follows:

| Committee | Task |
|--------------------------------|---|
| Audit Committee | Acceptance of auditor's report on annual financial statement |
| | Acceptance of results of special regulatory audits, and internal audits |
| Risk Committee | Credit approvals, monitoring credit risks |
| | Monitoring of additional risk categories |
| Nomination Committee | Board of Management issues |
| | Supervisory Board issues |
| Remuneration Control Committee | Examination of Bank-wide remuneration system |
| | Define Board of Management remuneration |

The Delegates Meeting is the Bank's highest governing body. As the cooperative has almost 70,000 members the general meeting is held in accordance with Art. 18 of the Articles of Association as a Delegates Meeting, which currently consists of 80 delegates. Every April the members' delegates receive the reports prepared by the Board of Management and the Supervisory Board. Furthermore, they generally discharge the members of the Management Board from liability for their activities during the previous business year, decide on the dividend to be distributed, approve amendments to the Articles of Association and conduct elections concerning members of the Supervisory Board.

The following guidance issues apply when appointing members to governing bodies:

During the year under review the Delegates Meeting consisted of 80 members. At the time of their election as a delegate, three-quarters of the delegates served as members of a Board of Management at a primary bank. The remaining members of the Delegates Meeting are persons from all walks of business and society. Delegates are elected to serve 4-year terms.

Supervisory Board:

The Supervisory Board currently consists of 12 members, of which eight were elected as members by the Delegates Meeting and four were elected by employees as employee representatives in accordance with the One-Third Participation Act (Drittelbeteiligungsgesetz). The members of the Supervisory Board are listed in the Management Bodies Annex.

The appointment of new members to the Board of Management is governed by legal requirements stated in the Cooperatives Act and the German Banking Act (KWG), as well as the bylaws of the Supervisory Board and the Bank's Articles of Association. The Supervisory Board appoints and dismisses members of the Board of Management and consults with the Board of Management on long-term succession planning. The Supervisory Board can delegate preparations to appoint members of the Board of Management and selection of candidates for election to the Supervisory Board's Nomination Committee.

The Nomination Committee supports and advises the Supervisory Board in identifying candidates for the Board of Management. In fulfilling this role the Nomination Committee considers candidates against a range of criteria including the balance and different areas of expertise, abilities and experience of all members of the involved executive bodies.

The Supervisory Board advises and supervises the Board of Management. The competencies and obligations of the Supervisory Board are defined by the Cooperatives Act and the German Banking Act (KWG), as well as the bylaws of the Supervisory Board and MünchenerHyp's Articles of Association.

The Supervisory Board has set itself concrete objectives for its composition. In particular, the regional origin of Supervisory Board members who are members of their respective boards of credit cooperatives plays an important role in view of the fact that MünchenerHyp is active across Germany as a credit institution. In addition, pursuant to KWG Art. 25d, para 2, para 11 (3 & 4), and within the framework of an annual self-evaluation of the Supervisory Board, the body as a whole, as well as the individual members of the Supervisory Board, are examined regarding required expertise, abilities, professional experience, as well as reliability and possible conflicts of interest.

Almost all members of the Supervisory Board (excluding employee representatives) have many years of experience as members of the board of different large credit cooperatives and therefore bring with them the required banking expertise, as well as knowledge concerning risk management, financial reporting and auditing.

Board of Management:

The Board of Management consists of at least two members, and generally has three members. The Supervisory Board can appoint a member to be the spokesman or chairman of the board. A member should have extensive knowledge of, and connections within, the Cooperative Financial Network, whereby all members of the Board of Management have fixed regional responsibilities regarding primary bank level relationships.

The members of the Board of Management are listed in the Management Bodies Annex. Ever since the Bank became subject to the requirements of co-determination in 2016, the Bank has set a quantitative quota for women in the various executive levels pursuant to the German law "For the equal participation of women and men in executive positions in the private economy and the public sector", as well as Art. 9 of the Cooperatives Act. Mid-term plans call for women to represent 20 percent of the Supervisory Board, 33 percent of the Board of Management, and 20 percent at the two levels just below the Board of Management. On 31.12.2016 women represented 8 percent of the Supervisory Board, zero percent of the Board of Management and 11 percent of the first executive level and 14 percent of the second executive level. While keeping in mind the interests of the Bank, the Supervisory Board intends to raise the percentage of the hitherto underrepresented gender in the Supervisory Board and the Board of Management over the mid-term. To achieve this goal subsequent replacement of Supervisory Board members and members of the Board of Management will be viewed particularly closely for the purpose of raising the share of the hitherto underrepresented gender in these bodies.

3.5 RISK TOLERANCE AND RISK CAPACITY

An important basis for managing risk consists of, on one hand, the analysis and presentation of existing risks, and, on the other, comparing these risks with the risk cover potential (ability to bear risk). MünchenerHyp calculates its ability to bear risk on both a present-value basis as well as a period-oriented basis.

The Going-Concern scenario is the more important method used to manage risks. This scenario is used to determine on a period-oriented basis if the bank would still have adequate equity capital ratios exceeding the legally required minimums, including the SREP surcharge, for CET 1, Tier 1 and total capital after the occurrence of risks contained in all of the risk categories. The only risk cover potential that may be used to cover risks in this scenario is the freely available regulatory equity capital above the regulatory required amount of equity capital. A liquidity scenario is applied as a supplementary scenario. The scenario examines if in case of liquidation MünchenerHyp would have adequate risk cover potential to avoid losses being incurred by providers of capital.

The aforementioned approaches used to calculate the Bank's ability to bear risk quantify counterparty risks, market price risks, credit spread and migration risks, operational risk, investment risks and property risks. An additional buffer is employed for model risks, and additional risks such as reputational risks and business risks. Liquidity risks (incl. placement risks) are not taken into account within the framework of calculating the Bank's ability to bear risk, as liquidity risks cannot be cushioned with additional (liquid) equity capital. Appropriate control procedures are in place to manage these risks and have been approved by the Bank's senior management within the framework of the Bank's internal monitoring system.

The professional concepts and models used to calculate the ability to bear risks is continuously further developed in accordance with regulatory requirements. Beyond this, important assumptions are regularly validated and adjusted if necessary. Numerous and different additional stress scenarios are employed within the framework of the risk capacity report in order to account for extraordinary yet plausible situations which cannot be described via calculations used to determine the Bank's ability to bear risk.

The results of the calculations concerning the Bank's ability to bear risk are provided to the Board of Management and the Supervisory Board no less than once a quarter. Ad-hoc reports are foreseen in the event of significantly worsening developments that affect the Bank's ability to bear risk. Recommended action will be stated in the report should action be necessary. Calculating the Bank's ability to bear risk provides input for mid-term planning of capital requirements as the Going-Concern scenario gives an outlook over the next four business years following the end of the current business year. If the Going-Concern scenario indicates the need for more capital, this requirement is conveyed to the persons responsible for planning mid-term capital to enable them to respond adequately.

4 OWN FUNDS

4.1 STRUCTURE

MünchenerHyp conducts its business in the legal format of a registered cooperative. In addition to reserves and funds for general banking risk pursuant to Art. 340 (g) HGB, core capital consists of equity investments in the form of shares. A single share costs € 70.

As of December 31, 2016, the volume of these shares was € 956.0 million, of which € 5.1 million was called.

As of the end of December 2016 Tier 2 (T2) capital amounted to € 91.9 million, of which € 90.8 million were subordinated liabilities with an average interest rate of 5.55%. These liabilities will expire between March 20, 2018 and December 1, 2022. Profit-sharing rights capital (€ 0.9 million) included in T2 capital has an average interest rate of 7.35% and the maturity dates on April 30, 2018.

At the end of last year total liable equity capital amounted to € 1,343.1 million. The following listing presents the specific elements of equity capital pursuant to Article 492 (3) CRR. Deviating from Article 4 of the Implementing Regulation (EU) No 1423/2013, the template shown in Annex VI will be applied to disclose and publish equity capital during the transitional period lasting from 31 March 2014 to 31 December 2017. The residual amounts that will apply at the end of the transitional arrangements as of 1 January 2019 are shown in column C. Thus, the reconciliation of the capital ratios is also assured beyond the 2018 business year and a better comparability is achieved for instruments, deductible positions, and ratios.

| Common equity Tier 1 capital: instruments and reserves | | (A) Amount at disclosure date (in € million) | (B) Regulation (EU) No 575/2013 article reference | (C) Prescribed residual amount of Regulation (EU) No 575/2013 (in € million) |
|--|---|---|---|---|
| 1 | Capital instruments and the related share premium accounts | 950.9 | 26 (1), 27, 28, 29, EBA list pursuant to Article 28 (3) | 950.9 |
| | of which, paid up capital | 950.9 | EBA list pursuant to Article 26 (3) | 950.9 |
| 2 | Revenue reserves | 283.8 | 26 (1) (c) | 283.8 |
| 3 | Accumulated other income (and other reserves) | – | 26 (1) | – |
| 3a | Funds for general banking risk | 23.0 | 26 (1) (f) | 23.0 |
| 4 | Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1 | – | 486 (2) | – |
| | Public sector capital injections grandfathered until 1 January 2018 | | 483 (2) | – |
| 5 | Minority interests (amount allowed in consolidated CET 1) | – | 84, 479, 480 | – |
| 5a | Independently reviewed interim profits net of any foreseeable charge or dividend | – | 26 (2) | – |
| 6 | Common equity Tier 1 (CET1) capital before regulatory adjustments | 1,257.2 | sum of lines 1 to 5a | 1,257.7 |
| Common equity Tier 1 (CET1) capital: regulatory adjustments | | | | |
| 7 | Additional value adjustments (negative amount) | – | 34, 105 | – |
| 8 | Intangible assets (net of related tax liability) (negative amount) | -2.6 | 36 (1) (b), 37, 472 (4) | -4.3 |

| | | | | | |
|----|--|------|-------------------------|--|------|
| 9 | Empty set in the EU | | | | |
| 10 | Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount) | - | 36 (1) (c), 38, 472 (5) | | - |
| 11 | Fair value reserves related to gains or losses on cash flow hedges | - | 33 (1) (a) | | |
| 12 | Negative amounts resulting from the calculation of expected loss amounts | -1.6 | 36 (1) (d), 40, 159 | | -2.6 |
| 13 | Any increase in equity that results from securitised assets (negative amount) | - | 32 (1) | | - |
| 14 | Gains or losses on liabilities valued at fair value resulting from changes in own credit standing | - | 33 (1) (b) | | - |
| 15 | Defined benefit pension fund assets (negative amount) | - | 36 (1) (e), 41 | | - |
| 16 | Direct and indirect holdings by an institution in own CET1 instruments (negative amount) | - | 36 (1) (f), 42 | | - |
| 17 | Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where those entities have reciprocal cross-holdings with the institution designed to inflate artificially the own funds of the institution (negative amount) | - | 36 (1) (g), 44 | | - |

| | | | | |
|-----|--|---|---|---|
| 18 | Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment (above the 10% threshold and net of eligible short positions) (negative amount) | - | 36 (1) (h), 43, 45, 46, 49 (2) and (3), 79 | - |
| 19 | Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (above the 10% threshold and net of eligible short positions) (negative amount) | - | 36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79 | - |
| 20 | Empty set in the EU | | | |
| 20a | Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative | - | 36 (1) (k) | - |
| 20b | of which, qualifying holdings outside the financial sector (negative amount) | - | 36 (1) (k) (i), 89 to 91 | - |
| 20c | of which, securitisation positions (negative amount) | - | 36 (1) (k) (ii), 243 (1) (b), 244 (1) (b), 258 | - |
| 20d | of which, free deliveries (negative amount) | - | 36 (1) (k) (iii), 379 (3) | - |
| 21 | Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) (negative amount) | - | 36 (1) (c), 38, 48 (1) (a) | - |
| 22 | Amount exceeding the 15% threshold (negative amount) | - | 48 (1) | - |

| | | | | |
|-----|---|---|----------------------------|---|
| 23 | of which, direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities | - | 36 (1) (i), 48 (1) (b) | - |
| 24 | Empty set in the EU | | | |
| 25 | of which, deferred tax assets arising from temporary differences | - | 36 (1) (c), 38, 48 (1) (a) | - |
| 25a | Losses for the current financial year (negative amount) | - | 36 (1) (a) | - |
| 25b | Foreseeable tax charges relating to CET1 items (negative amount) | - | 36 (1) (l) | - |
| 26 | Regulatory adjustments applied to common equity Tier 1 in respect of amounts subject to pre-CRR treatment | - | | - |
| 26a | Regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468 | - | | - |
| | of which, deduction and adjustment positions for unrealised losses on AfS claims against central governments | | 467 | |
| | of which, deduction and adjustment positions for unrealised gains on AfS claims against central governments | | 468 | |
| 26b | Amount to add or deduct from CET1 related to additional deduction and adjustment positions subject to pre-CRR treatment | - | 481 | - |
| | of which, additional deduction and adjustment positions | - | 481 | - |

| | | | | |
|--|--|----------------|--|----------------|
| 27 | Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount) | -2.3 | 36 (1) (j) | - |
| 28 | Total regulatory adjustments to common equity Tier 1 (CET1) | -11.6 | sum of lines 7 to 20a, 21, 22 and lines 25a to 27 | -12.0 |
| 29 | Common equity Tier 1 (CET1) capital | 1,251.2 | line 6 minus line 28 | 1,250.8 |
| Additional Tier 1 (AT1) capital: instruments | | | | |
| 30 | Capital instruments and the related share premium accounts | - | 51.52 | - |
| 31 | of which, classified as equity under applicable accounting standards | - | | - |
| 32 | of which, classified as liabilities under applicable accounting standards | - | | - |
| 33 | Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1 | - | 486 (3) | - |
| 34 | Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties | - | 85, 86 | - |
| 35 | of which, instruments issued by subsidiaries subject to phase out | - | 486 (3) | - |
| 36 | Additional Tier 1 (AT1) capital before regulatory adjustments | 0.0 | sum of lines 30, 33 and 34 | 0.0 |
| Additional Tier 1 (AT1) capital: regulatory adjustments | | | | |
| 37 | Direct and indirect holdings by an institution of own AT1 instruments (negative amount) | - | 52 (1) (b), 56 (a), 57 | - |

| | | | | |
|-----|--|-----|--|-----|
| 38 | Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount) | - | 56 (b), 58 | - |
| 39 | Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount) | - | 56 (c), 59, 60, 79 | - |
| 40 | Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above the 10% threshold net of eligible short positions) (negative amount) | - | 56 (d), 59, 79 | - |
| 41 | Regulatory adjustments applied to Additional Tier 1 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (i.e. CRR residual amounts) | 0.0 | | 0.0 |
| 41a | Residual amounts deducted from Additional Tier 1 capital with regard to deduction from common equity Tier 1 capital during the transitional period pursuant to Article 472 of Regulation (EU) No 575/2013 | 0.0 | 472, 472 (3) (a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a) | 0.0 |
| | of which, intangible assets | 0.0 | | 0.0 |

| | | | | |
|--|---|----------------|-------------------------------|----------------|
| | of which, shortfall of provisions to expected losses | 0.0 | | 0.0 |
| 41b | Residual amounts deducted from AT1 capital with regard to deduction from Tier 2 (T2) capital during the transitional period pursuant to Art. 475 of Regulation (EU) No 575/2013 | - | 477, 477 (3), 477 (4) (a) | - |
| 41c | Amount to be deducted from or added to AT1 capital with regard to additional adjustments and deductions required pre-CRR treatment | - | 467, 468, 481 | - |
| 42 | Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount) | - | 56 (e) | - |
| 43 | Total regulatory adjustments to Additional Tier 1 (AT1) capital | 0.0 | sum of lines 37 to 42 | 0.0 |
| 44 | Additional Tier 1 (AT1) capital | 0.0 | line 36 minus line 43 | 0.0 |
| 45 | Tier 1 capital (T1 = CET1 + AT1) | 1,251.2 | sum of lines 29 and 44 | 1,250.8 |
| Tier 2 (T2) capital: instruments and provisions | | | | |
| 46 | Capital instruments and the related share premium accounts | 91.7 | 62, 63 | 0.0 |
| 47 | Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2 | 0.0 | 486 (4) | 0.0 |
| 48 | Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties | - | 87, 88 | - |

| | | | | |
|--|--|-------------|------------------------|------------|
| 49 | of which, instruments issued by subsidiaries subject to phase out | – | 486 (4) | – |
| 50 | Credit risk adjustments | 0.7 | 62 (c) und (d) | 0.7 |
| 51 | Tier 2 (T2) capital before regulatory adjustments | 92.4 | | 0.7 |
| Tier 2 capital : regulatory adjustments | | | | |
| 52 | Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount) | – | 63 (b) (i), 66 (a), 67 | – |
| 53 | Holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross-holdings with the institution designed to inflate artificially the own funds of the institution (negative amount) | – | 66 (b), 68 | – |
| 54 | Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount) | – | 66 (c), 69, 70, 79 | – |
| 54a | of which, new positions which are not subject to transitional rules | – | | – |
| 54b | of which, holdings that existed before January 2013 and are subject to transitional rules | – | | – |
| 55 | Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount) | – | 66 (d), 69, 79 | – |

| | | | | |
|-----|---|----------------|--|----------------|
| 56 | Regulatory adjustments applied to Tier 2 capital in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase-out as prescribed in Regulation (EU) No 575/2013 (i.e. CRR residual amounts) | -0.5 | | 0.0 |
| 56a | Residual amounts deducted from Tier 2 capital with regard to deduction from CET 1 capital during the transitional period pursuant to Art. 472 CRR | -0.5 | 472, 472 (3) (a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a) | 0.0 |
| | of which, shortfall of provisions for expected losses | -0.5 | | 0.0 |
| 56b | Residual amounts deducted from Tier 2 capital with regard to deduction from AT1 items during the transitional period pursuant to Art. 475 CRR | - | 475, 475 (2) (a), 475 (3), 475 (4) (a) | - |
| 56c | Amount to be deducted from or added to Tier 2 capital with regard to additional deductions or adjustment items pursuant to required pre-CRR treatment of required deductions | - | 467, 468, 481 | - |
| | of which, deduction and adjustment items for unrealised losses | - | 467 | - |
| | of which, deduction and adjustment items for unrealised gains | - | 468 | - |
| 57 | Total regulatory adjustments to Tier 2 (T2) capital | -0.5 | sum of lines 52 to 56 | 0.0 |
| 58 | Tier 2 (T2) capital | 91.9 | line 51 minus line 57 | 0.7 |
| 59 | Total regulatory capital (TC = T1 + T2) | 1,343.1 | sum of lines 45 and 58 | 1,251.5 |

| | | | | |
|-----------|---|----------------|---|----------------|
| 59a | Risk-weighted assets in regard to amounts subject to pre-CRR treatment and treatment during the transitional period for which phase-out arrangements apply pursuant to Regulation (EU) No 575/2013 (i.e. CRR residual amounts) | - | | - |
| | of which, items not to be deducted from CET 1 (Regulation (EU) No 575/2013, residual amounts) (items shown on a line-by-line basis, e.g. future yield that depends on of deferred tax claims reduced by corresponding amounts owed for taxes, indirect position in own CET 1 instruments, etc.) | - | 472, 472 (5), 472 (8) (b), 472 (10) (b), 472 (11) (b) | - |
| | of which, items not to be deducted from CET 1 (Regulation (EU) No 575/2013, residual amounts) (items shown on a line-by-line basis, e.g. reciprocal cross-holdings of T2 instruments, direct insignificant capital holdings in other finance sector entities, etc.) | - | 475, 475 (2) (b), 475 (2) (c), 475 (4) (b) | - |
| | of which, items not to be deducted from T 2 (Regulation (EU) No 575/2013, residual amounts) (items shown on a line-by-line basis, e.g. indirect holdings in own T2 instruments, indirect insignificant capital holdings in other finance sector entities, etc.) | - | 477, 477 (2) (b), 477 (2) (c), 477 (4) (b) | - |
| 60 | Total risk-weighted assets | 5,475.5 | | 5,475.5 |

| Capital ratios and buffers | | | | | |
|----------------------------|---|------|-----------------------------|------------|------|
| 61 | CET 1 ratio (as a percentage of total risk exposure amount) | 22.9 | | 92 (2) (a) | 22.8 |
| 62 | Tier 1 ratio (as a percentage of total risk exposure amount) | 22.9 | | 92 (2) (b) | 22.8 |
| 63 | Total capital ratio (as a percentage of risk exposure amount) | 24.5 | | 92 (2) (c) | 22.9 |
| 64 | Institution specific buffer requirement (CET1 requirement in accordance with Article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus systemically important institution buffer expressed as a percentage of risk exposure amount) | 5.1 | CRD 128, 129, 130, 131, 133 | | 7.0 |
| 65 | of which, capital conservation buffer requirement | 0.6 | | | 2.5 |
| 66 | of which, countercyclical buffer requirement | 0.0 | | | 0.0 |
| 67 | of which, systemic risk buffer requirement | - | | | - |
| 67a | of which, Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer | 0.0 | | | 0.0 |
| 68 | CET 1 available for buffer (as a percentage of total risk exposure amount) | 18.4 | | CRD 128 | 18.3 |
| 69 | [non-relevant in EU Regulation] | | | | |
| 70 | [non-relevant in EU Regulation] | | | | |
| 71 | [non-relevant in EU Regulation] | | | | |

| Amounts below the threshold limits for deductions (before risk weighting) | | | | |
|---|--|------|--|-----|
| 72 | Direct and indirect holdings the institution of capital instruments of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions) | 1.5 | 36 (1) (h), 46, 45, 56 (c), 59, 60, 66 (c), 69, 70 | 1.5 |
| 73 | Direct and indirect holdings the institution of CET 1 capital instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) | 0.6 | 36 (1) (i), 45, 48 | 0.6 |
| 74 | Empty set in the EU | | | |
| 75 | Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) | 0.0 | 36 (1) (c), 38, 48 | |
| Applicable caps on the inclusion of provisions in Tier 2 | | | | |
| 76 | Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap) | 0.7 | 62 | |
| 77 | Cap on inclusion of credit risk adjustments in T2 under standardised approach | 6.0 | 62 | |
| 78 | Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap) | 0.0 | 62 | |
| 79 | Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach | 26.1 | 62 | |

| Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022) | | | | |
|--|---|--|-----|--------------------------|
| 80 | Current cap on CET1 instruments subject to phase-out arrangements | | 0.0 | 484 (3), 486 (2) and (5) |
| 81 | Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities) | | 0.0 | 484 (3), 486 (2) and (5) |
| 82 | Current cap on AT1 instruments subject to phase-out arrangements | | 0.0 | 484 (4), 486 (3) and (5) |
| 83 | Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities) | | 0.0 | 484 (4), 486 (3) and (5) |
| 84 | Current cap on T2 instruments subject to phase-out arrangements | | 0.0 | 484 (5), 486 (4) and (5) |
| 85 | Amount excluded from T2 due to cap (excess over cap after redemptions and maturities) | | 0.0 | 484 (5), 486 (4) and (5) |

Table 3: Overview of Specific Equity Elements

The following table 4 provides a description of the main features of the common equity Tier 1, Additional Tier 1 and Tier 2 capital instruments issued by MünchenerHyp pursuant to Art. 437 (1) b) CRR. This information is presented using Annex II of the Commission Implementing Regulation (EU) No 1423/2013 of 20 December 2013 laying down implementing technical standards with regard to disclosure of own funds requirements for institutions.

Legal rules pertaining to shares in the cooperative are based on the terms of the German Cooperatives Act and the Articles of Association of MünchenerHyp as a registered cooperative. MünchenerHyp's Articles of Association are available at the Bank's home page under Companies/members (https://www.muenchenerhyp.de/en/_downloads/members/mhyp_Satzung_english_.pdf). All of the other equity instruments are defined in individual agreements with creditors, and for this reason issuing prospectuses are not relevant.

| | | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. | Subord. |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Existence of step up or other incentive to redeem | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 22 | Non-cumulative or cumulative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Capital | | | | | | | | | | | | | | |
| 23 | Convertible or non-convertible | no | no | no | no | no | no | no | no | no | no | no | no | no |
| 24 | If convertible, conversion trigger(s) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 25 | If convertible, fully or partially | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 26 | If convertible, conversion rate | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 27 | If convertible, mandatory or optional conversion | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 28 | If convertible, specify instrument type convertible into | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 29 | If convertible, specify issuer of instrument it converts into | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 30 | Write-down features | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 31 | If write-down, write-down trigger(s) | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency | insolvency, insolvency proceedings or proceedings to avoid insolvency |
| 32 | If write-down, full or partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial | total and partial |
| 33 | If write-down, permanent or temporary | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent | permanent |
| 34 | If temporary write-down, description of write-up mechanism | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 35 | Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 36 | Non-compliant transitional features | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 37 | If yes, specify non-compliant features | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table 4: Key Features of Capital Instruments¹¹ N/A is shown where category does not apply.

4.2 COUNTERCYCLICAL CAPITAL BUFFER

The Countercyclical Capital Buffer (CCB) is regarded as a macroprudential Instrument of banking supervision policy. The purpose of the CCB is to counteract the risk of excessive credit growth in the banking sector. The CCB is intended to ensure that banks build up an additional capital buffer during times of excessive credit growth. This buffer generally increases banks' ability to absorb losses. It is explicitly stated that the buffer may be completely depleted to absorb losses during times of crisis, thereby avoiding the formation of a credit crunch. The Countercyclical Capital Buffer may amount to the equivalent of 0% to 2.5% of the total sum of risk-weighted assets.

The CCB took effect for the first time on 1 January 2016 and is defined by the individual national supervisory authorities. In Germany this is the Federal Financial Supervisory Authority (BaFin).

Supervisory authorities in Sweden and Norway were the only European authorities to require the formation of Countercyclical Capital Buffers in their countries (1.5% in each country) on the 31 December 2016 date of record for disclosing the capital buffers for individual institutions.

The institution-specific CCB is generally determined by multiplying the percentage figure of the institution-specific Countercyclical Capital Buffer with the aggregate exposure amount pursuant to Art. 82 para. 3 CRR.

In contrast, the determination of the institution-specific capital buffer is defined by the terms of Art. 10d para. 2 of the German Banking Act. Based on this, the capital buffer is equal to the weighted average of the countercyclical capital buffer percentages in the individual countries where MünchenerHyp holds substantial positions. Substantial exposure positions are defined in Art. 36 SolvV (all claim categories defined by Article 112 (a to f) CRR) and generally comprising private sector exposure positions.

The location of all substantial risk positions has to be determined in accordance with Commission Delegated Resolution (EU) No. 1152/2014 of 4 June 2014 in order to weight these substantial risk positions with the countercyclical capital buffer. Institutions have to disclose this geographic distribution of the substantial risk positions and the calculated amount of the institution-specific Countercyclical Capital Buffer pursuant to the terms of Art. 440 CRR in association with Commission Delegated Resolution (EU) No. 1555/2015 of 28 May 2015.

| Geographic Distribution of Key Credit Exposure Positions Used to Calculate the Countercyclical Capital Buffer | | | | | | | | | | | | | |
|---|---------------------------|---|--|--|---|--|--|--|---|--|--|---|-------|
| Line | | General credit exposure positions (in € m) | | Exposure positions in the trading book (in € m) | | Securitised positions (in € m) | | Own funds requirements (in € m) | | | Weighted own funds require- ments (in %) | Quote of the countercyclical (in %) | |
| | | Value of exposure positions (SA) | Value of exposure positions (IRBA) | Total value of long and short positions in the trading book | Value of exposu- re positions in the trading book (internal model) | Value of exposure positions (SA) | Value of exposure positions (IRBA) | Of which: General credit exposure positions | Of which: Exposure positions in the trading book | Of which: Securitisation exposure positions | | | Total |
| | | 010 | 020 | 030 | 040 | 050 | 060 | 070 | 080 | 090 | 100 | 110 | 120 |
| 010 | Germany | 205.7 | 24,123.1 | 0.0 | 0.0 | 0.0 | 0.0 | 244.8 | 0.0 | 0.0 | 244.8 | 69.5 | 0.0 |
| | France | 0.0 | 344.6 | 0.0 | 0.0 | 0.0 | 0.0 | 11.7 | 0.0 | 0.0 | 11.7 | 3.32 | 0.0 |
| | The Netherlands | 0.0 | 295.3 | 0.0 | 0.0 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 8.2 | 2.3 | 0.0 |
| | Ireland | 0.0 | 62.7 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 1.2 | 0.4 | 0.0 |
| | Denmark | 0.0 | 96.5 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.3 | 0.0 |
| | Portugal | 0.0 | 58.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 2.1 | 0.6 | 0.0 |
| | Spain | 25.8 | 519.6 | 0.0 | 0.0 | 0.0 | 0.0 | 15.4 | 0.0 | 0.0 | 15.4 | 4.4 | 0.0 |
| | Belgium | 0.8 | 51.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 |
| | Luxembourg | 4.0 | 886.1 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 0.0 | 0.0 | 19.8 | 5.6 | 0.0 |
| | Sweden | 0.0 | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.2 | 0.1 | 1.5 |
| | Finland | 0.0 | 54.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 |
| | Austria | 0.7 | 118.8 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 2.3 | 0.7 | 0.0 |
| | Switzerland | 13.4 | 4,489.3 | 0.0 | 0.0 | 0.0 | 0.0 | 17.0 | 0.0 | 0.0 | 17.0 | 4.8 | 0.0 |
| | UK | 0.0 | 213.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 2.3 | 0.7 | 0.0 |
| | Guernsey | 0.0 | 56.4 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 2.5 | 0.7 | 0.0 |
| | Jersey | 1.3 | 55.9 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 1.6 | 0.4 | 0.0 |
| | Isle of Man | 0.0 | 23.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 |
| | USA | 213.9 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 17.9 | 0.0 | 0.0 | 17.9 | 5.1 | 0.0 |
| | Bermuda | 0.0 | 23.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 |
| | British Virgin Islands | 0.0 | 38.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 1.3 | 0.4 | 0.0 |
| | Cyprus | 0.0 | 12.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 |
| | Total | 465.6 | 31,569.0 | 0.0 | 0.0 | 0.0 | 0.0 | 352.3 | 0.0 | 0.0 | 352.3 | | |

Table 5: Geographic Distribution of Key Credit Exposure Positions Used to Calculate the Countercyclical Capital Buffer²

| Line | Column |
|------|---|
| | 010 |
| 010 | Total amount of exposure |
| 020 | Institution-specific quota of the Countercyclical Capital Buffer |
| 030 | Claims on the institution-specific Countercyclical Capital Buffer |

Table 6: Amount of institution-specific Countercyclical Capital Buffer

²The presentation does not constitute an overall breakdown of the loan portfolio, but is rather based on Article 440 (1a) CRR.

4.3 APPROPRIATENESS

In principle MünchenerHyp applies IRBA for parts of its credit portfolio to calculate regulatory capital requirements in accordance with the CRR and pursuant to the approvals received from BaFin to use it. The basic IRBA is employed to determine the amount of equity capital required to back the major portion of the Corporates and Institutions category of loans. This means that the PD is estimated. The advanced IRBA will be used for the Retail Business Germany, Retail Business Small and Medium-Sized Enterprises (SME), and Retail Business Post-Finance. This means that in addition to the PD, the LGD will also be estimated. In order to comply with regulatory requirements, the standardised approach for credit risk (KSA) will be applied to determine the level of equity capital required for the remainder of the portfolio.

With total required equity capital (required equity capital) of € 438.0 million on 31 December 2016, the total key figure was 24.53%, while the CET 1 ratio was 22.85% and the T1 ratio was 22.85%. This means that the T1 ratio of 8%, which is also required by the ECB's stress test for systemically important institutions, was exceeded by a wide margin. The split of equity capital required per 31 December 2016 by different risk categories and exposure classes is summarised in tables 7 to 9. The equity capital required for counterparty risks from the IRBA positions amounts to € 348.2 million, and € 38.7 million for counterparty risks from the KSA positions. Equity capital required for operational risks and credit valuation adjustments is significantly lower with € 18.3 million and € 30.2 million respectively. The basic indicator approach is used to calculate operational risk. The standard method is used to calculate equity capital requirements arising from credit valuation adjustments (CVA risk). The equity capital required for foreign currency risks was € 2.6 million.

| Counterparty Risks for IRBA Portfolios | | Equity Capital Requirement in € m |
|--|------------------------------------|-----------------------------------|
| 1. | Central governments | 0.0 |
| 2. | Institutions | 45.0 |
| 3. | Corporates | 175.9 |
| 4. | Retail business | 120.1 |
| 5. | Equity investments | 0.0 |
| 6. | Securitisations | 0.0 |
| | of which, re-securitisations | 0.0 |
| 7. | Other non-credit obligation assets | 7.2 |
| | Total | 348.2 |

Table 7: Equity Capital Required for Counterparty Risks – IRBA Portfolios

| Operational Risk and Market Risks | Equity Capital Requirement in € m |
|---|-----------------------------------|
| Operational risk (Basic indicator approach) | 18.3 |
| CVA-risk (based on standardised method) | 30.2 |
| Foreign currency risks | 2.6 |

Table 8: Equity Capital Required for Operational Risks and Market Risks

| Counterparty Risks for KSA Portfolios | | Equity Capital Requirement in € m |
|---------------------------------------|--|-----------------------------------|
| 1. | Sovereigns and central banks | 1.1 |
| 2. | Regional and local administrative authorities | 0.5 |
| 3. | Public entities | 0.4 |
| 4. | Multilateral development banks | 0.0 |
| 5. | International organisations | 0.0 |
| 6. | Institutions | 2.5 |
| 7. | Covered bonds | 0.0 |
| 8. | Corporates | 19.1 |
| 9. | Retail business | 0.1 |
| 10. | Exposures secured by properties | 2.6 |
| 11. | Positions associated with particularly high risk | 0.5 |
| 12. | Equity investments (Grandfathering) | 9.3 |
| 13. | Securitisations | 0.0 |
| 14. | Other positions | 0.5 |
| 15. | Positions in default | 2.1 |
| | Total | 38.7 |

Table 9: Equity Capital Required for Counterparty Risks – KSA Portfolios

The level of required equity capital is planned as part of MünchenerHyp's multi-year planning calculations and care is taken to ensure that the equity capital requirements demanded by the regulatory authority are fully met at all times. MünchenerHyp internally judges the appropriateness of own funds in line with the regulatory requirements arising from CRR/CRD IV.

4.4 BALANCE SHEET RECONCILIATION

MünchenerHyp is not a member of a consolidated group of companies in terms of German commercial law or in terms of regulatory requirements. The audited and published annual financial statements are prepared in accordance with German commercial law and therefore contain all of the positions that are elements of regulatory equity capital and are to be deducted therefrom including assets, liabilities such as promissory notes, or other on-balance sheet items that influence regulatory capital such as intangible assets. For this reason a transfer of the on-balance sheet items of companies included in consolidation for regulatory purposes does not take place.

Table 10 (below) presents the transfer of equity capital as reported on the balance sheet to regulatory equity capital.

| | 31.12.2016 (in € m) |
|---|---------------------|
| Equity capital reported on-balance sheet | 1,302.7 |
| Paid-up capital | 956.0 |
| Silent participations | 30.8 |
| Revenue reserves | 290.5 |
| Unappropriated profit | 25.4 |
| Funds for general banking risks | 30.0 |
| Total reported on-balance sheet | 1,332.7 |
| Regulatory adjustments to items reported on-balance sheet | |
| Accrued future dividends | -25.4 |
| Silent participations | -30.8 |
| Terminated paid up capital | -5.1 |
| Allocations to funds for general banking risks reported in annual financial statements | -7.0 |
| Allocation to revenue reserves from annual results | -6.7 |
| Intangible assets (amount of reduction in Tier 1) | -4.3 |
| As reported on-balance sheet | -4.3 |
| Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Common equity Tier 1 capital during the transitional period pursuant to Art. 472 CRR | 0.0 |
| Shortfall of provisions to expected losses (amount of reduction in Tier 1) | -2.2 |
| Common equity Tier 1 capital | 1,251.2 |
| Hybrid capital instruments | 0.0 |
| As reported on-balance sheet | 30.8 |
| Regulatory adjustments | -30.8 |
| Deductions from Additional Tier 1 capital | 0.0 |
| Intangible assets (amount of reduction in Tier 1) | 0.0 |
| Shortfall of provisions to expected losses (amount of reduction in Tier 1) | 0.0 |
| Additional Tier 1 capital | 0.0 |
| Tier 1 capital | 1,251.2 |
| Subordinated liabilities | 90.8 |
| As reported on-balance sheet | 156.2 |
| Regulatory adjustments | -65.4 |

| | 31.12.2016 (in € m) |
|---|----------------------------|
| Profit participation capital | 0.9 |
| As reported on-balance sheet | 6.1 |
| Regulatory adjustments | -5.2 |
| Other (credit risk adjustments) | 0.7 |
| Deductions from Tier 2 capital | -0.5 |
| Shortfall of provisions to expected losses (amount of reduction in Tier 1) | -0.5 |
| Tier 2 capital | 91.9 |
| Total regulatory equity capital | 1,343.1 |

Table 10: Reconciliation of On-Balance Sheet Equity Capital to Regulatory Equity Capital

5 COUNTERPARTY RISK

5.1 CONTAINMENT

Counterparty risk – also referred to as credit risk – is of major significance for MünchenerHyp. Counterparty risk describes the danger that a counterparty or group of counterparties may delay, make partial payments or even default on repaying a loan to the lender. Migration risk is included as a credit risk. Migration risk is defined as the danger of loss in present value arising over the period of a loan due to a drop in ratings, which is normally accompanied by an implied increase in yield.

5.2 STRATEGIES AND PROCESSES

Strategies and Processes which are relevant for managing lending risks are documented in the business and risk strategies, as well as in the Credit Handbook. The business and risk strategies contain extensive explanations about the partial strategies concerning target customers and target markets, as well as requirements regarding the measurement and management of lending risks at the individual transaction and portfolio levels. The competencies and procedural requirements of entities involved in the lending business are contained in the Credit Handbook.

5.3 RISK MANAGEMENT STRUCTURE AND ORGANISATION

Credit risk management begins with selecting the target business for loan conditioning. Risk cost functions are used, which are validated in an ongoing back-testing process. Depending on the category and risk level of the business, various rating and scoring procedures are used. In addition, an IT-supported early warning system is used in order to recognise risks at an early stage.

The expected loss (EL) is taken into account within the framework of calculating the individual transaction by applying standard risk costs during the lending process. Furthermore, the EL flows into the credit portfolio model. Based on the credit portfolio model, the unexpected loss (UL) is measured using a Credit-Value-at-Risk procedure (CVaR). The CVaR describes, with a certain level of probability, the maximum losses for a credit portfolio within a specific period. The UL is derived by subtracting the EL for the portfolio from this amount.

The CVaR process is also used for determining credit limits. The individual contribution by a unit and/or a borrower to the Bank's aggregate credit risk – the marginal CVaR – is limited. In addition, property limits are also established for certain business categories. Furthermore, limits are also set for each country to ensure adequate regional diversification.

With respect to counterparty risks, MünchenerHyp calculates its positions according to the market valuation method. Compensation effects from correlation are not taken into account in this context.

5.4 RATING SYSTEMS AND CUSTOMER SEGMENTS

MünchenerHyp uses specific customer-segment rating systems to evaluate creditworthiness. In this context, customers or claims are classified into segments (customer segments). The objective of this segmentation is to assign customers with homogeneous risk profiles to appropriate customer segments, which can in turn be assigned to IRBA exposure classes as defined by the supervisory authority. Rating systems appropriate to the risk profile are used to determine the rating class, and thus the risk level of positions in the various customer segments. This guarantees risk-appropriate and supervision-compliant allocation of claims to customer segments, rating systems and regulatory-related exposure classes. Customer segments and rating systems share the same names at MünchenerHyp in order to express the close relationship between customer segments and rating systems. Guidelines for customer segmentation and ratings application are established in the corresponding specialised instructions and implemented in the relevant data processing systems.

Rating systems consist of rating methods, processes and IT systems. A rating procedure processes all of the creditworthiness-related information about a borrower or a claim, using a specific algorithm, and combines it into a creditworthiness evaluation (rating method). The processes relate to the work flows and management/monitoring procedures that are used in the rating system. The IT systems are based on the category and method of data delivery or data-related processing of creditworthiness-related information. In this context, MünchenerHyp makes a distinction between IRBA rating systems and non-IRBA rating systems. IRBA rating systems are rating systems that have received IRBA approval from BaFin and the Bundesbank. These rating systems are used to evaluate the creditworthiness of the IRBA exposure classes. Non-IRBA rating systems are systems for which no IRBA approval is intended because the ratings-related portfolio is less important for MünchenerHyp (permanent partial use – PPU). These rating systems are used to evaluate the creditworthiness of the KSA exposure classes.

5.4.1 IRBA Exposure Classes

The rating systems or customer segments that have received IRBA approval are summarised in Table 11. This table also shows the associated IRBA exposure classes. These are the exposure classes used to determine the necessary equity capital pursuant to the supervisory authority's requirements on the basis of the approved rating systems.

| Seq. no. | Customer Segment/Rating System | IRBA Exposure Classes |
|----------|---------------------------------------|--|
| 1. | Banks | Institutions |
| 2. | Intra-Group claims | Institutions |
| 3. | Property companies, domestic | Corporates |
| 4. | Property companies, foreign | Corporates |
| 5. | Housing companies | Corporates |
| 6. | Closed funds, domestic | Corporates |
| 7. | Closed funds, foreign | Corporates |
| 8. | Investors, domestic | Corporates |
| 9. | Investors, foreign | Corporates |
| 10. | Open funds (special assets), domestic | Corporates |
| 11. | Open funds (special assets), foreign | Corporates |
| 12. | Retail business, domestic | Retail business |
| 13. | Retail business, SME | Retail business |
| 14. | Retail Business PostFinance | Retail business |
| 15. | Non-credit obligation assets | Other assets, without loan commitments |

Table 11: IRBA Rating System and Exposure Classes

1. Banks

This customer segment includes claims against banks and financial institutions that are not members of the protection scheme of the Federal Association of German Volksbanken and Raiffeisenbanken (BVR) and do not fulfil the German Banking Act requirements for a multilateral development bank.

The VR Rating Banks is used to evaluate the creditworthiness of claims in this segment. The VR Rating Banks was developed in the Cooperative Financial Network under the leadership of DZ BANK AG, and was approved by BaFin and the Bundesbank as an IRBA rating procedure. The ratings are provided to MünchenerHyp by the rating desk at DZ BANK AG. The provided ratings are subjected to a plausibility check by the analysts at MünchenerHyp and adjusted if necessary.

2. Intra-Group claims

This customer segment includes MünchenerHyp's claims against members of the National Association of German Cooperative Banks (BVR) that belong to the BVR protection scheme. Intra-Group claims are assigned to the "Institutions" IRBA exposure category, and are shown with a risk weighting of 0%.

The creditworthiness of claims in this segment is evaluated using the VR Rating Banks employed by DZ BANK AG's Rating Desk.

3. Property companies, domestic

The customer segment of domestic property companies includes special purpose companies that keep property in their portfolio and handle the long-term management of rented/leased properties. This customer segment includes contracts with property companies in the Federal Republic of Germany. The federal state in which the property is located is of relevance in this context.

The creditworthiness evaluation for claims in this segment is based on the VR Immo Rating. The VR Immo Rating was developed in the Cooperative Financial Network under the leadership of DG HYP, and was approved by BaFin and the Bundesbank as an IRBA rating procedure. The VR Immo Rating consists of various partial modules that are developed, implemented and validated independently in consideration of the special risk characteristics of the customer segments. The VR Property Companies rating module is used to evaluate the creditworthiness of claims in the domestic property companies segment.

4. Property companies, foreign

This customer segment is defined analogously to property companies, domestic. The difference is that properties in this segment are located outside of Germany.

The creditworthiness of claims in this segment is evaluated using the Rating Process for Commercial Real Estate developed by CredaRate Solutions GmbH. This rating process has been approved by BaFin and the Bundesbank for use as an IRBA rating process and takes company and property-specific attributes into consideration.

5. Housing companies

This customer segment includes claims against housing companies. These are companies that make available, manage and renovate residential housing for private individuals. Customers in this segment are usually housing construction companies, municipal housing companies and private housing companies. The property must be located in the Federal Republic of Germany.

The creditworthiness evaluation for claims in this segment is based on the VR Immo Rating, using the VR Housing Companies module.

6. Closed funds, domestic

This segment includes funds that were created to finance firmly defined, generally larger, investment projects. This customer segment encompasses investment properties or projects within the Federal Republic of Germany. The federal state in which the property is located is of relevance in this context.

The creditworthiness evaluation for claims in this segment is based on the VR Immo Rating, using the VR Closed Funds module.

7. Closed funds, foreign

This customer segment is defined just like the aforementioned customer segment, except that the properties in this segment are located outside of Germany.

The creditworthiness evaluation for claims in this segment is based on the CredaRate rating process.

8. Investors, domestic

Investors are both natural and legal entities who invest in residential and commercial properties. Investors provide financial resources for their own investment properties; they do not build or develop properties for third parties. The financed properties in this customer segment must be located in the Federal Republic of Germany.

The creditworthiness evaluation for claims in this segment is based on the VR Immo Rating, using the VR Investors module.

9. Investors, foreign

This customer segment is defined just like "Investors, domestic", except that the properties in this segment are located outside of Germany.

The creditworthiness evaluation for claims in this segment is based on the CredaRate rating process.

10. Open funds (special assets), domestic

This segment includes classes of financing in which capital investment companies take out loans for the account of special assets. The main property must be located in the Federal Republic of Germany.

The CredaRate rating process is used to evaluate the creditworthiness of claims in this segment.

11. Open funds (special assets), foreign

Professionally, the definition of international open funds corresponds to that of domestic open funds. However, the main property must be located outside the Federal Republic of Germany.

The CredaRate rating process is also used to evaluate the creditworthiness of claims in this segment.

12. Retail business, domestic

The "Retail business, domestic" customer segment includes claims against individual persons or private entities owning properties within the Federal Republic of Germany, up to a total maximum liability of € 1 million. Employees of MünchenerHyp are excluded from this segment.

The creditworthiness evaluation is based on an application score and a behavioural score. In this customer segment, loss rates are estimated internally in the event of default (Loss Given Default, LGD). The Credit Conversion Factor (CCF) is conservatively estimated at a standard 100% for the required underlying equity.

13. Retail business, SME

This customer segment includes exposure to properties located within the Federal Republic of Germany that have the following characteristics of small and medium-sized enterprises (SMEs) up to a maximum total liability of € 1 million:

- Corporates (including commercial partnerships) with annual sales € 50 million
- Economically independent private persons (self-employed professionals, businessmen, majority shareholders controlling 50% of the company shares)

Certain industries and legal forms are excluded. The creditworthiness evaluation is based on an application score and a behavioural score. These scores were calibrated using the specifics of the SME segment. In this customer segment, loss rates are estimated internally in the event of default (Loss Given Default, LGD). The Credit Conversion Factor (CCF) is conservatively estimated at a standard 100% for the required equity.

14. Retail Business PostFinance

This segment contains all of Retail business exposure arising from business generated by PostFinance. Claims in this segment are solely claims against properties located in Switzerland. In accordance with the limits placed on Retail business transactions, claims against individual persons or private entities in this segment are limited to a total maximum liability of CHF 1.2 million.

The creditworthiness evaluation takes place based on a specific customer segment application score and a behavioural score. An internal procedure was developed to estimate LGD. The Credit Conversion Factor (CCF) is conservatively set at a standard 100% for the required equity.

15. Non-credit obligation assets

To the extent that non-credit obligation assets pose a counterparty risk to MünchenerHyp, these are allocated to the "other assets" IRBA exposure category. They include, for instance, fixed assets and prepayments counted as assets that cannot be allocated to a borrower. The risk is weighted in the same way as in the KSA.

The results of the various rating segments are standardised using the VR master scale and are thus comparable on a common basis. The VR master scale also serves to standardise the numerous rating systems used by the companies within the Cooperative Financial Network by way of a Network-wide rating scale, thus creating a uniform standard for all of the rating systems used in the Cooperative Financial Network. This is an important factor that allows the use of the Rating Desk approach, among other things, within the Cooperative Financial Network. The VR master scale is shown in Table 12 in the context of the external ratings used at MünchenerHyp as part of the KSA.

| Rating Class | Probability of Default | S&P; Fitch | Moody's |
|--------------|------------------------|------------|------------|
| 0a | 0.01% | AAA to AA | Aaa to Aa2 |
| 0b | 0.02% | AA- | Aa3 |
| 0c | 0.03% | | |
| 0d | 0.04% | A+ | A1 |
| 0e | 0.05% | | |
| 1a | 0.07% | A | A2 |
| 1b | 0.10% | A- | A3 |
| 1c | 0.15% | BBB+ | Baa1 |
| 1d | 0.23% | BBB | Baa2 |
| 1e | 0.35% | | |

| | | | |
|----|---------|-----------|-----------|
| 2a | 0.50% | BBB- | Baa3 |
| 2b | 0.75% | BB+ | Ba1 |
| 2c | 1.10% | BB | Ba2 |
| 2d | 1.70% | | |
| 2e | 2.60% | BB- | Ba3 |
| 3a | 4.00% | B+ | B1 |
| 3b | 6.00% | B | B2 |
| 3c | 9.00% | B- | B3 |
| 3d | 13.50% | | |
| 3e | 30.00% | CCC+ to C | Caa1 to C |
| 4a | 100.00% | | |
| 4b | 100.00% | | |
| 4c | 100.00% | | |
| 4d | 100.00% | | |
| 4e | 100.00% | | |

Table 12: VR Master Scale and KSA-Relevant External Ratings

Processes and IT systems relevant for rating purposes are constructed in a rating system-specific manner and fully comply with regulatory requirements. In this context, there is a strict separation for all of the rating systems between the areas of market, transaction management and counterparty risk monitoring. The rating systems are validated by the counterparty risk monitoring unit, which operates independently and is not involved in initiating and closing business transactions. In regard to the validation of rating systems, a distinction is made between a pool validation, which is a rating process applied on a shared basis with other institutions and takes place in part centrally at the rating providers, the VR Immo Rating, the VR-Rating Banks and at CredaRate, and a MünchenerHyp-specific validation. In addition to validating the rating procedure, the latter also examines the procedural and IT-related application of the rating systems at MünchenerHyp.

In addition to using the results from the rating systems as the foundation for determining regulatory requirements for underlying equity capital, they are also used as a basis for risk-adjusted pricing. The use of the rating results as a basis for determining the standard risk costs or equity costs is dependent upon the rating system. However, it is unrelated to the IRBA approval of the rating systems achieved by the German Federal Financial Supervisory Authority and the Bundesbank. Non-IRBA rating systems are thus also used for this purpose.

The following two disclosure tables show exposure values and average risk weights for the IRBA exposure classes of Corporates, Institutions and Retail business after the inclusion of Credit Conversion Factors and credit-risk mitigation measures. The IRBA formula does not provide any risk weights for unexpected loss for IRBA items in default. In this case, backing for risk is provided by reconciling the expected loss with the value adjustments that have been created. Thus the tables below do not show an average risk weight for these items.

Table 13 shows all of the positions in the basic IRBA for the exposure classes Institutions and Corporates, split into risk classes. The Institutions exposure category shows the Intra-Group portfolio with a risk weighting of 0%. The exposure values are shown as the sum of the outstanding credit amounts and non-utilised credit approvals, plus the average risk weight, weighted using the item values. The factors established by the supervisory authority for this exposure category are used as conversion factors. Non-credit obligation assets, investments and securitisations are not shown in Table 13. The standard approach is applied for exposure to central governments, without exception.

For the 2016 reporting year, the IRBA portfolio included total expenses of € 13.5 million as the net sum of additions and reversals to individual adjustments to value and direct write-offs. Of these, € 1.5 million are attributed to the Retail business. The Corporates exposure category shows expenses of € 12.0 million.

There were also no significant changes to the IRBA portfolio in comparison to previous years with respect to PD and LGD.

| IRBA Item Value and Average Risk Weighting – Institutions and Corporates | | | | | | |
|--|--------------|-------------------------|------------------------|------------------------|-------------|----------------|
| | Aaa-aa | A | BBB | BB-C | Default | |
| | PD ≤ 0.03% | PD > 0.03% PD ≤ 0.1% | PD > 0.1% PD ≤ 0.5% | PD > 0.5% PD < 100% | PD = 100% | Total |
| Item value in € m | | | | | | |
| Institutions | 456.4 | 513.6 | 628.7 | 280.6 | 0.0 | 1,879.3 |
| Corporates | 0.0 | 4,071.7 | 3,247.9 | 363.2 | 86.6 | 7,769.4 |
| of which, SME | 0.0 | 2,428.1 | 2,729.3 | 337.3 | 86.6 | 5,581.3 |
| Total | 456.4 | 4,585.3 | 3,876.6 | 643.8 | 86.6 | 9,648.7 |
| Average risk weighting in % | | | | | | |
| Institutions | 11.8 | 21.5 | 37.3 | 58.5 | 0.0 | 29.9 |
| Corporates | 0.0 | 18.5 | 37.2 | 65.2 | 0.0 | 28.3 |
| of which, SME | 0.0 | 16.9 | 36.1 | 64.9 | 0.0 | 29.0 |
| Total | 11.8 | 18.9 | 37.2 | 62.3 | 0.0 | 28.6 |

Table 13: IRBA Exposure Classes Institutions and Corporates: Item Value and Risk Weighting

| IRBA Item Value of Retail Business | | | | | | |
|--|------------|-------------------------|----------------------|---------------------|-----------------------|----------|
| | EL-Range | EL-Range | EL-Range | EL-Range | EL-Range | |
| | EL ≤ 0.05% | EL > 0.05% EL ≤ 0.5% | EL > 0.5% EL ≤ 5% | EL > 5% EL ≤ 25% | EL > 25% EL ≤ 100% | Total |
| Item value in € m | | | | | | |
| IRBA Retail business items secured by mortgage liens | 19,693.2 | 2,718.3 | 326.8 | 21.3 | 49.1 | 22,808.7 |
| Average risk in % | | | | | | |
| IRBA Retail business items secured by mortgage liens | 2.8 | 16.7 | 85.0 | 206.5 | 345.3 | 6.6 |
| Average-loss ratio in % | | | | | | |
| IRBA Retail business items secured by mortgage liens | 12.7 | 27.5 | 22.2 | 33.5 | 51.3 | 14.7 |

Table 14: IRBA Exposure Classes Retail Business: Item Value and Risk Weighting

MünchenerHyp exclusively maintains the partial portfolio of claims secured by mortgage liens in the IRBA Retail business. These positions are divided into the significant Expected Loss bands for MünchenerHyp as shown in Table 14. The disclosed item value, the average risk weight used to weight the item values, and the average of the loss rate in the event of default weighted with the item values. The IRBA exposure is the product of the IRBA risk exposure value and the IRBA conversion factor. In Retail business, the conversion factor is uniformly set at 100% as a conservative standard.

Table 15 shows a comparison of the expected losses with the actual losses recognised on the balance sheet for the IRB exposure classes Institutions, Corporates and Retail Business for the period 2012 to 2016.

| Comparison of expected losses versus actual losses recognised in the balance sheet as reported in the IRBA rating systems | | | | | | | | | | |
|---|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| in € m | 2012 | | 2013 | | 2014 | | 2015 | | 2016 | |
| IRBA exposure class | Ex-pected | Actual | Ex-pected | Actual | Ex-pected | Actual | Ex-pected | Actual | Ex-pected | Actual |
| Institutions | 3 | 0 | 4 | 0 | 4 | 0 | 4 | 0 | 2 | 0 |
| Corporates | 10 | 0 | 35 | 0 | 36 | 4 | 25 | 6 | 37 | 12 |
| Retail Business | 23 | 6 | 11 | 6 | 11 | 4 | 14 | 2 | 16 | 2 |

Table 15: Comparison of Expected Losses to Actual Losses Recognised on the Balance Sheet

The estimated loss is the expected loss per IRB report made on the basis of PD and LGD.

The expected loss stated in the previous annual report (i.e. 31.12.2015) is used as a (legal regulatory) loss forecast for a year (i.e. 2016). This figure already takes existing individual adjustments to value (IAV) into account. The loss recognised on the balance sheet is the sum of the direct write-downs and IAVs taken less recoveries of IAVs. Minor effects could arise due to fluctuations in currency rates.

In the past the expected regulatory loss was always substantially higher than the actual losses that were recognised on the balance sheet. This is because there were only low or no losses realised in the IRBA rating systems outside of the retail areas of business (banks, individual mortgage business). In addition, rules related to CRR require "raised" expectations for regulatory-defined losses such as safety margins in the Retail business (scorecards, downturn-LGD) or the high regulatory LGD-values for mortgage loans in the IRBA-based approach.

Actual losses recognised on the balance sheet for the IRBA rating systems in 2016 were immaterial. When compared over time, the relatively high level of losses recognised on the balance sheet for the corporates exposure class were due to adjustments taken to the value of property finance transactions in a foreign property market. It was already possible for the Bank to dissolve a substantial volume of these at the beginning of 2017. The rating system Retail Business PostFinance is shown for the first time following authorisation to include it in IRBA in the Retail Business exposure class. The current situation in the property market offering good settlement possibilities played an important role in low level of Retail Business losses recognised on the balance sheet. Calibration is basically included in retail areas of business where application scorecards are employed. The actual default rates are to some extent lower than the rates predicted by results derived from behaviour scorecards. All of the behaviour scorecards as well as the PostFinance application scorecards are being currently updated.

5.4.2 KSA Exposure Classes

The customer segments or rating systems used to evaluate the creditworthiness of the KSA portfolios are summarised in Table 16. Rating procedures for non-IRBA rating systems are not used as a basis for determining regulatory required own funds. However, similar standards apply for the use and validation of rating systems at MünchenerHyp as for the IRBA rating systems. The results of these rating systems are used as a basis for determining a risk-adjusted price and for additional bank management purposes. The rating results from non-IRBA rating systems are also standardised on a common basis using the VR master scale. If no internal rating procedures are available, external ratings are used to determine creditworthiness. In this context, only ratings from the leading agencies (Standard & Poor's, Moody's and Fitch) are used. The transfer of ratings from these agencies to the VR master scale is shown in Table 12. As a basic principle, MünchenerHyp does not transfer ratings for its issues to its claims.

| Seq. no. | Customer Segment/Rating | KSA Exposure Classes |
|----------|---|---|
| 1. | Central governments (excl. EEA with zero weighting) | Sovereigns and central banks |
| 2. | Central governments (EEA with zero weighting) | Sovereigns and central banks |
| 3. | LRG (excluding EEA with zero weighting) | Regional and local administrative authorities |
| 4. | LRG (EEA with zero weighting) | Regional and local administrative authorities |
| 5. | Development banks | Public entities |
| 6. | Special customers, residential housing | Corporates |
| 7. | Investments | Investments |
| 8. | Other | N/A |
| 9. | Discontinued business | N/A |

Table 16: Non-IRBA Rating Systems and KSA Exposure Classes

1. Central governments (excluding EEA with zero weighting)

This customer segment includes sovereign states as well as the associated central banks, and development banks with the status of Multilateral Development Bank (MDB), with the exception of those in the European Economic Area (EEA) and using zero weighting pursuant to CRR. This customer segment is maintained in the Permanent Partial Use (PPU) area at MünchenerHyp.

The VR Rating Countries is used to evaluate the creditworthiness of claims in this segment. The VR Rating Banks was developed in the Cooperative Financial Network under the leadership of DZ BANK AG, and was approved by BaFin and the Bundesbank as an IRBA ratings procedure. The ratings are provided to MünchenerHyp by DZ BANK AG in the context of a rating desk. The provided ratings are subjected to a plausibility check by the analysts at MünchenerHyp and adjusted if necessary.

2. Central governments (EEA, using zero weighting)

This customer segment includes sovereign states as well as associated central banks, and development banks with the status of Multilateral Development Bank (MDB) within the EEA, using a zero weighting pursuant to CRR. This customer segment is maintained in Permanent Partial Use (PPU) at MünchenerHyp.

The VR Rating Countries is used to evaluate the creditworthiness of claims in this segment.

3. LRG (excluding EEA with zero weighting)

The customer segment of Local and Regional Government (LRG) includes all of the regional governments, local authorities and public bodies, with the exception of those in the EEA, and uses a zero weighting pursuant to CRR. This customer segment is maintained in Permanent Partial Use (PPU) at MünchenerHyp.

The creditworthiness of claims in this customer segment is evaluated on the basis of the LRG rating. The LRG rating was developed under the leadership of the Association of German Pfandbrief Banks (vdp) with the participation of numerous German banks, including MünchenerHyp. The rating procedure was approved by BaFin and the Bundesbank for IRBA. The LRG rating takes into account, among other things, the financial strength and debt level of local and regional authorities.

4. LRG (EEA, with zero weighting)

This customer segment includes all of the regional governments, local authorities and public bodies within the EEA and using a zero weighting pursuant to the CRR. This customer segment is maintained in Permanent Partial Use (PPU) at MünchenerHyp.

The creditworthiness of claims in this customer segment is evaluated on the basis of the aforementioned LRG rating.

5. Development banks

This category consists of development banks that do not fulfil German Banking Act requirements to be classified as multilateral development banks. Development banks are contained in the "Public entities" category. They are carried under PPU.

The creditworthiness evaluation of these claims is based on DZ BANK AG's VR Rating Banks.

6. Special customers, residential housing

This customer segment in principle contains claims relating to residential properties and where less than 50% of the customers' income is generated by property-related activities. This customer segment is shown in the PPU.

The creditworthiness of claims in this customer segment is evaluated using an expert-based classification procedure (decision matrix).

7. Investments

MünchenerHyp's investment portfolio can be classified as an insignificant investment portfolio per Art. 150 CRR. This is because the average accounting value of the investment portfolio, excluding items for legally regulated programmes to support specific industrial sectors, was less than 10% of the modified available equity capital over the past one-year period. As long as this ratio of "accounting value of investment items" to the "modified available equity capital" remains the same, investments will be administered in the PPU.

8. Other

The category of "Other" includes all claims that do not have the characteristics of one of the abovementioned customer segments. The claims in this segment are of marginal significance for MünchenerHyp's credit portfolio and are administered in the PPU.

The creditworthiness evaluation takes place using an appropriate method, frequently on the basis of the expert-based decision matrix.

9. Discontinued business

Pursuant to Art. 14 SolvV, a discontinued business area is a segment in which no new risk positions are entered into and where there is no intent to create new risk positions. Currently, this segment includes commercial property financing for secured property located in the United States, Geno loans with and without indemnity, mezzanine financing in countries outside of Germany, as well as lines of credit secured by property, equity and government-guaranteed corporate bonds. Discontinued businesses are administered in the PPU. An application to resume commercial property financing activities in the USA has been submitted.

In most cases the creditworthiness evaluation takes place either on the basis of the IPRE rating or the decision matrix. These rating procedures are expert-based classification procedures.

Table 17 contains the respective totals for risk exposure values allocated to a fixed risk weighting established by the supervisory authority. The statement of risk exposure value for KSA is shown before and after the inclusion of credit risk mitigation effects from collateral. In this context, the total after credit risk mitigation is higher than before credit risk mitigation because positions from the IRBA portfolio are moved to the KSA portfolio through the provision of collateral.

| Risk weights | Risk Exposure Value in € m | |
|--------------|-------------------------------|------------------------------|
| | Before Credit Risk Mitigation | After Credit Risk Mitigation |
| 0% | 5,480.9 | 5,706.8 |
| 10% | 0.0 | 0.0 |
| 20% | 76.2 | 76.1 |
| 35% | 44.1 | 44.1 |
| 50% | 70.3 | 46.9 |
| 75% | 3.2 | 2.5 |
| 100% | 559.8 | 408.7 |
| 150% | 21.7 | 21.7 |
| Total | 6,256.2 | 6,306.8 |

Table 17: Value of KSA Items

5.5 STRUCTURE OF PORTFOLIO

This chapter classifies and presents the portfolios according to various criteria. The information in this chapter is based on data of the risk exposure value before the inclusion of credit risk mitigation (CRM). The portfolio did not contain any special financing securities or securitisations in 2016.

| Portfolio Structure Based on Equity Capital Backing Approach, Exposure Classes and Significant Asset Types, as of the date of record | | | | | |
|--|---|---------------------------------|----------------|--------------|-----------------|
| in € m | Loans secured by mortgage liens (incl. commitments) | Other loans (incl. commitments) | Securities | Derivatives | Total |
| IRBA exposure value | 29,002.9 | 2,069.0 | 1,037.9 | 522.7 | 32,632.5 |
| - Institutions | 0.0 | 373.6 | 1,031.1 | 522.7 | 1,927.4 |
| - Corporates | 6,194.2 | 1,695.4 | 6.8 | 0.0 | 7,896.4 |
| - of which, SME | 4,571.5 | 1,074.5 | 0.0 | 0.0 | 5,646.0 |
| - of which, other entities | 1,622.7 | 620.9 | 6.8 | 0.0 | 2,250.4 |
| - Retail business | 22,808.7 | 0.0 | 0.0 | 0.0 | 22,808.7 |
| - of which, SME | 3,206.3 | 0.0 | 0.0 | 0.0 | 3,206.3 |
| - of which, non-SME | 19,602.4 | 0.0 | 0.0 | 0.0 | 19,602.4 |

| KSA exposure value | 80.3 | 4,265.8 | 1,906.7 | 3.4 | 6,256.2 |
|--|-----------------|----------------|----------------|--------------|-----------------|
| - Sovereigns and central banks | 0.0 | 374.7 | 381.1 | 0.0 | 755.8 |
| - Regional governments or local authorities | 0.0 | 3,339.0 | 988.2 | 2.2 | 4,329.4 |
| - Public entities | 0.0 | 51.4 | 284.3 | 0.0 | 335.7 |
| - Multilateral development banks | 0.0 | 0.0 | 148.1 | 0.0 | 148.1 |
| - Institutions | 0.0 | 2.2 | 54.2 | 1.2 | 57.6 |
| - Corporates | 0.0 | 351.6 | 50.8 | 0.0 | 402.4 |
| - Retail business | 0.0 | 3.2 | 0.0 | 0.0 | 3.2 |
| - Exposures secured by properties | 80.3 | 0.0 | 0.0 | 0.0 | 80.3 |
| - Exposures in default | 0.0 | 17.7 | 0.0 | 0.0 | 17.7 |
| - Items associated with particular high risk | 0.0 | 4.0 | 0.0 | 0.0 | 4.0 |
| - Covered bonds | 0.0 | 115.7 | 0.0 | 0.0 | 115.7 |
| - Investments | 0.0 | 6.3 | 0.0 | 0.0 | 6.3 |
| Total | 29,083.2 | 6,334.8 | 2,944.6 | 526.1 | 38,888.7 |

Table 18: Portfolio Structure by Exposure Classes and Significant Asset Types per 31.12.2016

Portfolio Structure Based on Equity Capital Backing Approach, Exposure Classes and Significant Asset Types, figures shown are average figures for the year

| in € m | Loans secured by mortgage liens (incl. commitments) | Other loans (incl. commitments) | Securities | Derivatives | Total |
|---|---|---------------------------------|----------------|--------------|-----------------|
| IRBA exposure value | 28,176.1 | 2,211.8 | 1,234.3 | 516.2 | 32,138.4 |
| - Institutions | 0.0 | 717.5 | 1,227.4 | 516.2 | 2,461.1 |
| - Corporates | 6,052.9 | 1,494.3 | 6.9 | 0.0 | 7,554.1 |
| - of which, SME | 4,469.0 | 968.1 | 0.0 | 0.0 | 5,437.1 |
| - of which, other entities | 1,583.9 | 526.2 | 6.9 | 0.0 | 2,117.0 |
| - Retail business | 22,123.2 | 0.0 | 0.0 | 0.0 | 22,123.2 |
| - of which, SME | 3,124.5 | 0.0 | 0.0 | 0.0 | 3,124.5 |
| - of which, non-SME | 18,998.7 | 0.0 | 0.0 | 0.0 | 18,998.7 |
| KSA exposure value | 83.4 | 4,409.4 | 2,103.9 | 3.0 | 6,599.7 |
| - Sovereigns and central banks | 0.0 | 196.0 | 398.3 | 0.0 | 594.3 |
| - Regional governments or local authorities | 0.0 | 3,445.5 | 994.0 | 1.8 | 4,441.3 |
| - Public entities | 0.0 | 210.9 | 448.0 | 0.0 | 658.9 |
| - Multilateral development banks | 0.0 | 0.0 | 140.6 | 0.0 | 140.6 |
| - Institutions | 0.0 | 3.2 | 53.8 | 1.2 | 58.2 |
| - Corporates | 0.0 | 405.0 | 50.4 | 0.0 | 455.4 |
| - Retail business | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 |
| - Exposures secured by properties | 83.4 | 0.0 | 0.0 | 0.0 | 83.4 |

| | | | | | |
|--|-----------------|----------------|----------------|--------------|-----------------|
| - Exposures in default | 0.0 | 17.8 | 18.8 | 0.0 | 36.6 |
| - Items associated with particularly high risk | 0.0 | 4.4 | 0.0 | 0.0 | 4.4 |
| - Investments | 0.0 | 113.1 | 0.0 | 0.0 | 113.1 |
| - Other exposure | 0.0 | 9.2 | 0.0 | 0.0 | 9.2 |
| Total | 28,259.5 | 6,621.2 | 3,338.2 | 519.2 | 38,738.1 |

Table 19: Portfolio Structure by Exposure Classes and Significant Asset Types – Annual Average³

The IRBA shows all of the exposure values in the basic IRBA with the exception of Domestic Retail Business, SME and the Retail Business PostFinance. The advanced IRBA is used for domestic Retail Business, SME and the Retail Business PostFinance. The IRBA portfolio for the Retail Business only includes items secured by way of mortgage liens. The KSA shows all of the exposure values maintained using the standard approach, either as part of the PU or the PPU.

The item "loans secured by mortgage liens" shows all of the loan portfolios whose mortgage collateral has a mitigating effect on credit risk per regulatory terms. The assets in this asset type also include open commitments for loans secured by way of mortgage liens. Open commitments are off-balance sheet items treated as unused lines of credit.

"Other loans" include all loans that do not fall under the asset types of "loans secured by way of mortgage liens", "securities" or "derivatives". As a rule, "other loans" refer to promissory notes and real estate loans whose collateral in the form of property does not have a mitigating effect on credit risk per regulatory terms.

Risk exposure values for derivative transactions and for repo business items are shown after the inclusion of netting effects and financial collateral.

Table 20 shows the geographic distribution of the exposure values split by main countries and regions, and classified by exposure classes. The geographic attribution of loans secured by way of mortgage liens depends on the country in which the main property is located. All other items are assigned geographically according to the country in which the commercial borrower is located. Portfolios in Switzerland are largely based on the partnership with PostFinance. Portfolios in North America refer to the discontinued business in the segment commercial foreign. The primary focus of our European business is on commercial real estate financing in France, the Benelux countries, Spain, and Great Britain.

The item "Other exposures" shown in Table 20 refers to exposure to the African Development Bank.

³ Annual average is calculated as the average of the quarterly figures.

| Portfolio Structure by Significant Countries, Regions and Exposure Classes | | | | | | |
|--|-----------------|----------------|-------------------------------------|---------------|-----------------|-----------------|
| in € m | Germany | Switzerland | Europe (ex Germany and Switzerland) | North America | Other countries | Total |
| IRBA exposure value | 24,645.6 | 4,688.3 | 3,262.3 | 36.3 | 0.0 | 32,632.5 |
| - Institutions | 574.0 | 199.0 | 1,122.6 | 31.8 | 0.0 | 1,927.4 |
| - Corporates | 5,752.2 | 0.0 | 2,139.7 | 4.5 | 0.0 | 7,896.4 |
| - of which, SME | 3,770.1 | 0.0 | 1,871.4 | 4.5 | 0.0 | 5,646.0 |
| - of which, other entities | 1,982.1 | 0.0 | 268.3 | 0.0 | 0.0 | 2,250.4 |
| - Retail business | 18,319.4 | 4,489.3 | 0.0 | 0.0 | 0.0 | 22,808.7 |
| - of which, SME | 3,078.5 | 127.8 | 0.0 | 0.0 | 0.0 | 3,206.3 |
| - of which, non-SME | 15,240.9 | 4,361.5 | 0.0 | 0.0 | 0.0 | 19,602.4 |
| KSA exposure value | 4,815.1 | 41.8 | 1,160.5 | 213.9 | 24.9 | 6,256.2 |
| - Sovereigns and central banks | 249.2 | 0.0 | 506.6 | 0.0 | 0.0 | 755.8 |
| - Regional governments or local authorities | 4,061.3 | 28.4 | 239.7 | 0.0 | 0.0 | 4,329.4 |
| - Public entities | 226.8 | 0.0 | 108.9 | 0.0 | 0.0 | 335.7 |
| - Multilateral development banks | 0.0 | 0.0 | 123.2 | 0.0 | 24.9 | 148.1 |
| - Institutions | 33.0 | 0.0 | 24.6 | 0.0 | 0.0 | 57.6 |
| - Corporates | 56.5 | 3.0 | 153.0 | 189.9 | 0.0 | 402.4 |
| - Retail business | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 |
| - Exposures secured by properties | 69.4 | 10.4 | 0.5 | 0.0 | 0.0 | 80.3 |
| - Exposures in default | 0.0 | 0.0 | 0.0 | 17.7 | 0.0 | 17.7 |
| - Items associated with particularly high risk | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 4.0 |
| - Investments | 115.7 | 0.0 | 0.0 | 0.0 | 0.0 | 115.7 |
| - Other exposure | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 6.3 |
| Total | 29,460.7 | 4,730.1 | 4,422.8 | 250.2 | 24.9 | 38,888.7 |

Table 20: Portfolio Structure by Countries/Regions and Exposure Classes

Table 21 shows the total portfolio values split by main debtor categories and exposure classes.

| Portfolio Structure by Significant Debtor Category and Exposure Classes | | | | | | | |
|---|----------------|----------------|---|---|----------------|------------|-----------------|
| in € m | Banks | Corpo-rates | Economi-cally independent private persons | Economi-cally dependent private persons | Public budgets | Other | Total |
| IRBA exposure value | 1,927.4 | 6,827.3 | 4,256.2 | 19,621.6 | 0.0 | 0.0 | 32,632.5 |
| - Institutions | 1,927.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,927.4 |
| - Corporates | 0.0 | 6,728.3 | 1,148.9 | 19.2 | 0.0 | 0.0 | 7,896.4 |
| - of which, SME | 0.0 | 4,621.2 | 1,024.8 | 0.0 | 0.0 | 0.0 | 5,646.0 |
| - of which, other entities | 0.0 | 2,107.1 | 124.1 | 19.2 | 0.0 | 0.0 | 2,250.4 |
| - Retail business | 0.0 | 99.0 | 3,107.3 | 19,602.4 | 0.0 | 0.0 | 22,808.7 |
| - of which, SME | 0.0 | 99.0 | 3,107.3 | 0.0 | 0.0 | 0.0 | 3,206.3 |
| - of which, non-SME | 0.0 | 0.0 | 0.0 | 19,602.4 | 0.0 | 0.0 | 19,602.4 |
| KSA exposure value | 631.6 | 528.9 | 61.6 | 39.2 | 4,988.6 | 6.3 | 6,256.2 |
| - Sovereigns and central banks | 246.6 | 0.0 | 0.0 | 0.0 | 509.2 | 0.0 | 755.8 |
| - Regional governments or local authorities | 0.0 | 4.5 | 0.0 | 0.0 | 4,324.9 | 0.0 | 4,329.4 |
| - Public entities | 181.2 | 0.0 | 0.0 | 0.0 | 154.5 | 0.0 | 335.7 |
| - Multilateral development banks | 148.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 148.1 |
| - Institutions | 32.7 | 24.9 | 0.0 | 0.0 | 0.0 | 0.0 | 57.6 |
| - Corporates | 0.0 | 355.5 | 42.9 | 4.0 | 0.0 | 0.0 | 402.4 |
| - Retail business | 0.0 | 0.6 | 0.1 | 2.5 | 0.0 | 0.0 | 3.2 |
| - Exposures secured by properties | 0.0 | 29.0 | 18.6 | 32.7 | 0.0 | 0.0 | 80.3 |

| | | | | | | | |
|--|----------------|----------------|----------------|-----------------|----------------|------------|-----------------|
| - Exposures in default | 0.0 | 17.7 | 0.0 | 0.0 | 0.0 | 0.0 | 17.7 |
| - Items associated with particularly high risk | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 |
| - Investments | 23.0 | 92.7 | 0.0 | 0.0 | 0.0 | 0.0 | 115.7 |
| - Other exposure | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.3 | 6.3 |
| Total | 2,559.0 | 7,356.3 | 4,317.8 | 19,660.7 | 4,988.6 | 6.3 | 38,888.7 |

Table 21: Portfolio Structure by Debtor Category and Exposure Classes

Table 22 includes a breakdown of the total exposure values (excluding derivatives) by contractual residual maturities and split by exposure classes.

| Total Exposure Value (excluding Derivatives) Split by Residual Periods and Exposure Class | | | | | | |
|---|----------------|-----------------------------|-------------------------------|--------------------|------------------|-----------------|
| in € m | to 1 year | More than 1 year to 5 years | More than 5 years to 10 years | More than 10 years | No residual term | Total |
| IRBA exposure value | 1,406.9 | 4,638.2 | 6,236.8 | 19,827.9 | 0.0 | 32,109.8 |
| - Institutions | 430.9 | 641.5 | 141.5 | 190.8 | 0.0 | 1,404.7 |
| - Corporates | 277.7 | 1,623.3 | 3,326.7 | 2,668.7 | 0.0 | 7,896.4 |
| - of which, SME | 271.5 | 1,468.2 | 2,404.6 | 1,501.7 | 0.0 | 5,646.0 |
| - of which, other entities | 6.2 | 155.1 | 922.1 | 1,167.0 | 0.0 | 2,250.4 |
| - Retail business | 698.3 | 2,373.4 | 2,768.6 | 16,968.4 | 0.0 | 22,808.7 |
| - of which, SME | 40.0 | 155.9 | 272.4 | 2,738.0 | 0.0 | 3,206.3 |
| - of which, non-SME | 658.3 | 2,217.5 | 2,496.2 | 14,230.4 | 0.0 | 19,602.4 |
| KSA exposure value | 568.7 | 1,063.9 | 1,853.7 | 2,640.5 | 126.0 | 6,252.8 |
| - Sovereigns and central banks | 249.2 | 85.7 | 274.5 | 146.4 | 0.0 | 755.8 |
| - Regional governments or local authorities | 191.9 | 619.0 | 1,200.9 | 2,315.4 | 0.0 | 4,327.2 |
| - Public entities | 5.8 | 77.4 | 207.1 | 45.4 | 0.0 | 335.7 |
| - Multilateral development banks | 69.2 | 13.0 | 24.9 | 41.0 | 0.0 | 148.1 |
| - Institutions | 0.0 | 31.7 | 22.8 | 1.9 | 0.0 | 56.4 |
| - Corporates | 51.0 | 210.4 | 96.0 | 45.0 | 0.0 | 402.4 |

| | | | | | | |
|--|----------------|----------------|----------------|-----------------|--------------|-----------------|
| - Retail business | 0.0 | 0.7 | 0.1 | 2.4 | 0.0 | 3.2 |
| - Exposures secured by properties | 1.6 | 8.3 | 27.4 | 43.0 | 0.0 | 80.3 |
| - Exposures in default | 0.0 | 17.7 | 0.0 | 0.0 | 0.0 | 17.7 |
| - items associated with particularly high risk | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 4.0 |
| - Investments | 0.0 | 0.0 | 0.0 | 0.0 | 115.7 | 115.7 |
| - Other exposure | 0.0 | 0.0 | 0.0 | 0.0 | 6.3 | 6.3 |
| Total | 1,975.6 | 5,702.1 | 8,090.5 | 22,468.4 | 126.0 | 38,362.6 |

Table 22: Portfolio Structure by Residual Maturity and Exposure Classes

5.6 RISK MITIGATION AND HEDGING

Both the IRBA and the KSA permit institutions to take the applied credit risk mitigation techniques (collateral) into account when calculating their regulatory own funds requirements. In order to take collateral into account when calculating own funds requirements, the institutions must meet minimum requirements that are explicitly regulated in the CRR and the KWG, as well as in the interpretation decisions developed by the supervisory authority and in circulars. All of the classes of collateral used to mitigate credit risk at MünchenerHyp are recognised pursuant to CRR.

MünchenerHyp's principles of collateralisation are an integral part of its business and risk strategy, and are regulated in detail by internal organisational instructions. This involves the definition of category and fundamental framework conditions for recognising, evaluating, monitoring and reviewing collateral accepted by MünchenerHyp as a Pfandbrief bank. The collateral in question is defined in detail in the internal organisational guidelines, and separated by country, property category, intended usage and other characteristics.

MünchenerHyp does not practice balance sheet netting. With regard to derivative items, net market values are offset vis-a-vis a counterparty using cash deposits that were provided. Volatility adjustments are only relevant as factors for calculating securities positions in connection with repurchase agreements.

Eligible collateral is described in Art. 194 (3) 3 CRR in association with Articles 197-200 CRR. As a general rule, the following categories of collateral are recognised at MünchenerHyp:

- Residential and commercial property⁴ secured by mortgage liens pursuant to Art. 199 CRR. Because of its strategic direction, MünchenerHyp primarily uses mortgage securities for completed security objects, or for security objects that are to be completed by the time the credit has been paid out in full.

⁴For MünchenerHyp, pure loan financing for property is relevant here in terms of the requirements defined by the supervisory authority. MünchenerHyp does not appear as a lease provider (and therefore an owner) of properties. The regulations for property leasing are thus not relevant to MünchenerHyp at this time.

- Warranties solely in the form of guarantees/bonds from central governments, per Art. 197 f. CRR. The issuers of warranties that MünchenerHyp considers to be risk-mitigating are primarily public entities.
- Pursuant to Art. 193 (4) CRR, MünchenerHyp defines financial collateral exclusively in the context of calculating cash securities (collaterals) for derivatives and repo transactions. The exposures are determined based on netting, and collateral offsetting.

MünchenerHyp monitors possible risk concentrations and cluster risks that it enters into on the basis of its strategic orientation as a mortgage bank. Here the sizes, property categories and regional distribution of the properties play a role. These risk drivers are subject to strict monitoring. In this context, the publication per Art. 28 PfandBG (German Pfandbrief Act) should be noted, which clearly explains potential cluster risks in MünchenerHyp's cover funds on a quarterly basis.

In a quantitative sense, this chapter explains collateral that has a risk-mitigating effect on regulatory capital backing requirements. Collateral is taken into consideration per CRR either in the Probability of Default (PD) or the Loss Given Default (LGD), depending on the category of collateral by using a risk weighting set that has been defined by the supervisory authority for the secured claim. For Retail business, which is subject to the advanced IRBA, mortgage collateral is implicitly taken into account via the LGD. Thus there is no separate listing for mortgage collateral in Retail business in Table 23. For the remaining exposure classes in line with quantitative disclosure at MünchenerHyp, "other securities" is understood to mean mortgage collateral. Financial collateral for derivative items and items from repo transactions have already been accounted for in the disclosed item values.

Collateral that can be taken into account for IRBA portfolios are shown in Table 23. No financial collateral are taken into account risk-mitigating.

| IRBA Exposure Classes | Eligible Collateral in € m | | |
|--------------------------|----------------------------|-------------|------------------|
| | Financial Collateral | Warranties | Other Collateral |
| 1. Institutions | 0.0 | 48.1 | 0.0 |
| 2. Corporates | 0.0 | 2.5 | 6,097.6 |
| 3. Retail business | 0.0 | 0.0 | 0.0 |
| Total | 0.0 | 50.6 | 6,097.6 |

Table 23: Eligible Collateral IRBA Positions

Collateral taken into account for KSA portfolios are shown in Table 24. As with the IRBA exposure classes, KSA exposure classes do not account risk-mitigating for any financial collateral.

| KSA Exposure Classes | Eligible Collateral in € m | | |
|--|----------------------------|--------------|------------------|
| | Financial Collateral | Warranties | Other Collateral |
| 1. Sovereigns and central banks | 0.0 | 0.0 | 0.0 |
| 2. Regional and local administrative authorities | 0.0 | 0.0 | 0.0 |
| 3. Public entities | 0.0 | 0.0 | 0.0 |
| 4. Multilateral Development Banks | 0.0 | 0.0 | 0.0 |
| 5. International Organisations | 0.0 | 0.0 | 0.0 |
| 6. Institutions | 0.0 | 23.5 | 0.0 |
| 7. Covered bonds | 0.0 | 0.0 | 0.0 |
| 8. Corporates | 0.0 | 151.0 | 0.0 |
| 9. Retail business | 0.0 | 0.7 | 0.0 |
| 10. Exposures secured by properties | 0.0 | 0.0 | 80.3 |
| 11. Positions associated with particularly high risk | 0.0 | 0.0 | 0.0 |
| 12. Investments | 0.0 | 0.0 | 0.0 |
| 13. Other positions | 0.0 | 0.0 | 0.0 |
| 14. Positions in default | 0.0 | 0.0 | 0.0 |
| Total | 0.0 | 175.2 | 80.3 |

Table 24: Eligible Collateral KSA Positions

5.7 RECOGNITION OF PROVISIONS FOR RISK

MünchenerHyp defines non-performing loans or overdue loans as credit obligations with shortfalls, or those at risk of default due to other objective risk factors (e.g. threatened or initiated insolvency proceedings). This forms the basis for recognising value adjustments for the mortgage credit business. MünchenerHyp's criteria for recognising value adjustments are considered to be conservative. Mortgage loans are examined to determine if they warrant the creation of, or an addition to, individual adjustments to value when one of following prerequisites exists:

- An individual adjustment to value was already created or maintained in the previous year
- Foreclosure or enforced receivership proceedings are pending
- The customer has been unsuccessfully dunned, and the amount owed exceeds – depending on the possibilities of using the loan as cover – certain minimal thresholds
- The loan is default-endangered due to other objective criteria (e.g. threatened, or actually applied for insolvency)

“Overdue items” are defined as claims that are overdue for payment by more than 90 days and are over € 100 or more than 2.5% of the total unpaid amount.

In general, if it is determined that the value of a loan needs to be individually adjusted in the Retail business the portion of the loan exceeding 60% of the mortgage lending value, or 70% of its current market value, plus the outstanding interest payments and charges, is value adjusted. Individual deviations from this policy must be justified.

In principle, an adjustment to value in the non-Retail business is based on the current market value of the mortgage loan less an appropriate margin of safety, or 100% of the break-up value exceeding the value of the loan plus the outstanding interest payments and charges.

The Bank has created a general adjustment to value reserve as a precautionary measure to cover latent lending risks. This general adjustment to value is calculated per the terms contained in a Federal Ministry of Finance notice dated 10 January 1994. The general adjustment to value calculated based on the average volume of defaults that took place over the last five years compared to the average volume of loans-at-risk made during this period.

Table 25 shows the distribution of non-performing and overdue claims by significant debtor categories. The total amount of non-performing and overdue claims is based on total claims before deduction of the individual adjustments to value. The remaining amount is calculated by determining the difference between the total claims and the sum of individual adjustments to value.

| Non-Performing and Overdue Claims by Debtor Category | | | | |
|--|--------------|----------------------|---|--|
| in € m | Total claims | of which, overdue | Assets with individual adjustment to value | Overdue with- out individual adjustments to value |
| Banks | 0.0 | 0.0 | 0.0 | 0.0 |
| Corporates | 65.0 | 18.0 | 35.9 | 29.1 |
| Economically independent private persons | 91.3 | 40.3 | 25.2 | 66.1 |
| Economically dependent and other private persons | 40.0 | 26.6 | 4.9 | 35.1 |
| Public budgets | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 196.3 | 84.9 | 66.0 | 130.3 |

Table 25: Non-Performing and Overdue Claims by Debtor Category

Table 26 shows the distribution of non-performing and overdue claims by significant countries and regions.

| Non-Performing and Overdue Claims by Countries and Regions | | | | |
|--|--------------|----------------------|---|--|
| in € m | Total claims | of which, overdue | Assets with individual adjustment to value | Overdue with- out individual adjustments to value |
| Germany | 84.0 | 37.9 | 22.8 | 61.2 |
| Switzerland | 3.3 | 2.5 | 0.1 | 3.2 |
| Europe (ex Germany and Switzerland) | 58.0 | 26.8 | 9.8 | 48.2 |
| North America | 51.0 | 17.7 | 33.3 | 17.7 |
| Other countries | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 196.3 | 84.9 | 66.0 | 130.0 |

Table 26: Non-Performing and Overdue Claims by Countries and Regions

Net allocations to provisions for risk, direct write-downs and recoveries of written-off claims by debtor category are shown in Table 27.

| Exposure by Debtor Category | | | |
|--|--|-------------------|----------------------------------|
| in € m | Net allocation to individual adjustment to value and general adjustment to value | Direct write-down | Recoveries of written-off claims |
| Banks | 0.0 | 0.0 | 0.0 |
| Corporates | 9.9 | 3.9 | 0.0 |
| Economically independent private persons | -0.4 | 0.1 | 0.0 |
| Economically dependent and other private persons | 0.6 | 0.5 | 0.5 |
| Public budgets | 0.0 | 0.0 | 0.0 |
| Other | 0.0 | 0.0 | 0.0 |
| Total | 10.1 | 4.5 | 0.5 |

Table 27: Exposure by Debtor Category

The development of provisions for risk for the entire loans business in the year 2016 is summarised in Table 28.

| Development of Provisions for Risk in the Lending Business | | | | | | |
|--|-----------------|-----------|-----------|-------------|---|---------|
| in € m | Opening balance | Additions | Reversals | Utilisation | Changes related to exchange rate shifts and other factors | Closing |
| Individual adjustment to value | 69.8 | 15.7 | -4.8 | -15.6 | 0.9 | 66.0 |
| General adjustment to value | 13.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13.0 |
| Reserves per Art. 340f HGB | 21.0 | 9.0 | 0.0 | 0.0 | 0.0 | 30.0 |
| Reserves | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 28: Development of Provisions for Risk in the Lending Business

5.8 RISK REPORTS AND MANAGEMENT INFORMATION SYSTEMS

Risk reports provide the foundation for management decisions. These reports are regularly prepared for various groups.

The Bank's credit risk situation is extensively presented in the Credit Risk Report, which is prepared on a quarterly basis. Particular attention is devoted to the following risk-relevant subjects in risk reporting: portfolio structure, limit utilisation, quantification of risk, cluster and concentration risks, provisions for risk, workout management's portfolio, intensive attention portfolio, as well as the development of new business. All risk-relevant key figures are reviewed within the context of the quarterly risk report, including expected and unexpected losses as applicable to both the consolidated portfolio and sub-portfolio level. In addition, for each consolidation level, each portfolio is split by rating classification, size category, loan-to-value ratio, type of property, region and broker, among other criteria. The Credit Risk Report is distributed to:

- the Supervisory Board
- Board of Management
- Various unit and department heads

The extent to which the limits are utilised for capital market purposes is measured on a daily basis and a corresponding utilisation report is submitted once a week. A separate monthly status report is reported to the Board of Management consisting of a monitoring list presenting the utilisation of limits for the capital market sector, and if they were exceeded at any time. The weekly utilisation report reviewing the limits for the capital market is distributed to the following executive bodies:

- Member of the Board of Management responsible for Transaction Management Treasury
- Head of Transaction Management Treasury
- Head of Transaction Management – Active

A report will be submitted to the above executive bodies pursuant to the escalation procedure if the limits are exceeded in the area of Capital Market – Active.

The Transaction Management units are responsible for monitoring the country limits within the context of new business decisions. Measurement of the utilisation of the country limits for mortgage business purposes takes place on a daily basis and is prepared by the Transaction Management unit. Pursuant to the escalation procedure, a report will be submitted to the Board of Management and the responsible market unit within the framework of proposed resolutions for new business purposes in the event that a country limit for mortgage business is exceeded. The Credit Risk Controlling unit is responsible for the quarterly assessment of country limits for the mortgage business within the Credit Risk Report. Country limits for municipal loans are treated similarly.

6 MARKET PRICE RISK

6.1 CONTAINMENT

Market price risks include risks to the value of items or portfolios due to changes in market parameters, e.g. interest rates or exchange rates. They are quantified as a potential present-value loss using the present-value model. We distinguish between risks associated with changes in interest rates, (credit) spreads, options, currency and stocks.

The interest change risk describes the risk that the market value of interest-rate-dependent investments or liabilities could develop negatively. It is the most important component of market price risks for MünchenerHyp.

The credit spread is defined as the difference in yield for a risky and a non-risky bond. Spread risks account for the danger that this difference in interest rates could change despite no changes taking place in creditworthiness. The reasons for changes in yield premiums are: varying estimates by market participants, actual changes in issuers' credit quality – as long as this is not already reflected in the rating – and macroeconomic factors that affect credit-worthiness categories. All bonds are affected by credit spread risk.

Among other considerations, options also include the following risks:

- Vega: the risk that increasing or declining volatility will change the value of a derivative instrument
- Theta: the risk that the value of a derivative instrument will change over time
- Rho: the risk that the option value will change if the risk-free interest rate changes
- Gamma: the risk that the option deltas will change if the price of the underlying value changes

The currency risk describes the risk that the market value of exchange-rate-dependent investments or liabilities could develop negatively due to changes in the exchange rate.

Stock risk refers to the risk of a negative development in the stock market that leads to a decline in the value of an asset. Stock risks were not relevant for MünchenerHyp in the previous year as – in addition to our existing investments – our total investments in this asset class amounted to less than € 5 million. However, a special fund was established at the beginning of 2017 that can also invest in equities.

6.2 STRATEGIES AND PROCESSES

In order to manage market price risks, all transactions at MünchenerHyp are subject to a daily present-value analysis in the risk management system. As a rule, structured transactions are secured with a micro-hedge, which is equivalent to the evaluation of a synthetic floater when valuing the interest rate risk. Deposits have not played a role for MünchenerHyp to date. However, a project has been launched with the objective of attracting a limited volume of deposits.

The Delta vector is the backbone of our interest rate risk management system and is calculated on a daily basis. This figure is determined by the change in the present value incurred per range of maturities when the mid-swap curve is raised by one basis point. MünchenerHyp uses the value-at-risk figure (VaR) to identify and limit market risks. Linear as well as non-linear risks are taken into consideration using a historic simulation containing the risk factors of interest rates, foreign exchange rates and volatility when calculating value-at-risk. Additional stress scenarios are used here to measure the effect of extreme shifts in risk factors.

The following assumptions are made to determine the VAR associated with the early amortisation of loans:

- The possibility that a borrower will repay his loan before it matures pursuant to Art. 489 BGB is modelled using an adjusted cash-flow and Bermudan Receiver-Swaptions, which are entered in the performance and risk calculation as model transactions. The currently relevant portfolio of loans is determined weekly for modelling purposes and split into interest-rate-sensitive and non-interest-rate-sensitive borrowers. The group of non-interest-rate-sensitive borrowers is further broken down into borrowers who will always repay their loans early ("Always Repay Early") regardless of the level of interest rates and those borrowers who will not repay their loans prematurely (Never Repay Early) regardless of any other circumstances. No further modelling is conducted for the Never Repay Early group. However, for the Always Repay Early group the average date of notice for premature repayments is determined using historic early repayment dates and the potential repayment date is accounted for using an adjusted cash-flow. The model used for interest-rate-sensitive borrowers uses historic repayment ratios that form a repayment matrix (when and at which Interest rate delta will a loan

be terminated) and an interest rate structure model that predicts the future development of interest rates and also involves modelling using an adjusted cash-flow and Bermudan Receiver-Swaptions.

- The possibility that a borrower will exercise his contractual right to repay his loan before it matures is modelled using an adjusted cash-flow model, whereby the historically observed premature repayment rate options exercised to repay loans before they mature is applied against the current sum of all outstanding mortgage loans to simulate the future rate at which early repayment will take place. The adjusted cash-flow model is updated regularly.
- As MünchenerHyp has thus far not engaged in the business of accepting deposits there is no need to have a model for perpetual term.
- In the case of bonds treated as assets it is assumed that the principle will be repaid upon maturity. Bonds carrying explicit call rights are included with delta-weighting in the measure of risk exposure.

The current (daily) stress scenarios for managing interest rate risk are:

- Legal regulatory requirements: The current interest rate curve is completely parallel shifted up and down by 200 basis points for every separate currency used. A floor is set at zero in the down shift scenario, which means that negative interest rates are not allowed. The worst result of the two shifts is used for calculation purposes and is added to the total value.
- Parallel shifts: The current interest rate curve is completely shifted up and down by 100 basis points across all currencies. No floor of 0 is set for the downwards shift, i.e. negative interest rates are permitted. The worst result of the two shifts is used for calculation purposes.
- Steepening/flattening: The current interest rate curve is rotated in both directions around the 5-year rate as the fixed point. Scenario permits use of possible negative interest rates.

The following events are used for historical simulation purposes:

- September 11, 2001 terror attack in New York: Changes seen in market prices between September 10, 2001 and September 24, 2001 – the immediate market reaction to the attack – are transferred using the current levels as a base level.
- The 2008 crisis in the financial markets: Changes in interest rates and foreign exchange rates noted between 12 September 2008 (last banking day before the collapse of Lehman Brothers) and 10 October 2008 are played out using the current levels.
- Euro-crisis: changes in interest rates that took place during the Euro-crisis between 21 May 2012 and 4 June 2012 are played out in this scenario.

The current (daily) credit spread stress scenarios are:

- Parallel shifts: All credit spreads are shifted up and down by 100 base points. The worst result of the two shifts is used for calculation purposes.
- Historical simulation of the collapse of the investment bank Lehman Brothers: the scenario assumes an immediate change in spreads based on the changes that occurred one working day before the collapse of the investment bank until four weeks after this date.
- Flight into government bonds: The scenario simulates a significantly visible aversion to risk that was previously seen in the markets. Spreads for riskier classes of paper widen while spreads for safer government bonds narrow.
- Euro-crisis: The scenario replicates the development of spreads that took place from October 1, 2010 to November 8, 2011.

The up and down shock (shifting up and down by 100 base points) affected the present value of the respective currencies held in the aggregate book on 31.12.2016 as follows:

| Currency | Upward shock (-100 BP) | Downward shock (+100 BP) | Exposure in € m (determined as the worst result of the two shocks) |
|----------|---------------------------|-----------------------------|--|
| EUR | 3.3 | -51.5 | -51.5 |
| CHF | 7.0 | -6.1 | -6.1 |
| USD | 0.2 | -0.2 | -0.2 |
| GBP | 1.7 | -0.5 | -0.5 |
| JPY | 0.0 | 0.0 | 0.0 |
| SEK | 0.0 | 0.0 | 0.0 |

Table 29: Rate Change Risk in the Banking Book

The Bank generally does not employ options for speculative purposes. Positions are usually entered into on an implied basis due to the debtors' option rights (e.g. the right to give legal notice of termination per Art. 489 of the German Civil Code – BGB) and are then secured by hedging transactions. Nevertheless, these risks are attentively monitored in the daily risk report as they are extensive because of the Bank's large loan portfolio.

No significant risk items exist in foreign currencies. MünchenerHyp's transactions outside of Germany are hedged against currency risks to the greatest extent possible and only margins involved in payment of interest are unhedged. Commodity risks and other underlying risks do not exist.

Stock risks are not relevant for MünchenerHyp as – in addition to our investments – our total investments in this asset class until now have amounted to less than € 5 million.

Due to the fact that MünchenerHyp is a trading book institution – only for futures – it uses a special application to control potential risks in this area on an intraday basis. Furthermore, these trades are also integrated into our normal reporting. The standard method is used to determine own funds requirements for market price risks in the trading book. The trading book, however, has contained no exposure to risk at any time for many years now.

6.3 RISK MANAGEMENT STRUCTURE AND ORGANISATION

MünchenerHyp uses a limit system to manage market risks. This limit system is based on the VaR. The limits established for market-risk management are based on the ability to bear risk and on the Bank's earning potential, and are defined as shrinking limits: a negative annual performance reduces the available limit by the same negative performance amount, whereas positive performance does not raise the limit.

The VaR limitation is based on the books defined by MünchenerHyp in the context of operational management. Limit monitoring is integrated into the process of daily performance and risk measurement. The integration of the risk drivers of foreign currency interest curves and option volatility into the value-at-risk calculation has been possible ever since the Summit trading system became operational on 1 January 2016.

Currently capital requirements solely exist for foreign exchange risks within the framework of market risk at MünchenerHyp.

6.4 RISK MITIGATION AND HEDGING

We engage in hedging activities – interest rate and currency derivatives – in order to further reduce our risks and to hedge our business activities. We do not employ credit derivatives as a matter of principle. We only occasionally insure individual loans or portfolios against counterparty risk. Asset swaps are used as micro-hedges at the level of larger individual positions. Structured fundamental transactions, such as callable securities, are hedged accordingly with structured asset swaps. Interest-currency swaps are used to hedge exchange rate risks in transactions involving foreign currencies. Interest rate swaps are the primary hedging instruments used at the portfolio level. Bermudan options on interest swaps (swaptions), swaps and interest rate options (caps and floors) are used as macro-hedges for embedded legal termination rights or for agreements limiting interest rates.

6.5 RISK REPORTS AND MANAGEMENT INFORMATION SYSTEMS

The market risk value-at-risk, as well as the market risk and credit spread stress tests, are determined and reported on every Munich banking day. The market risk limits are monitored every Munich banking day and reported within the context of the performance and risk calculation. The Market Risk Management unit is responsible for the preparation, coordination and distribution of the reports, which are distributed to the Capital Markets and Interest Rate Management Department, the Head of Risk Control/Regulatory Affairs, the Board of Management, and the Supervisory Board (quarterly).

If a limit is exceeded a report is prepared pursuant to the escalation procedure and submitted by the Market Risk Management to the entire Board of Management as well as the Heads of Risk Control/Regulatory Affairs, Capital markets and Interest Rate Management, as well as the Audit unit.

7 LIQUIDITY RISK

7.1 CONTAINMENT

Liquidity Risk includes the following risks:

- inability to fulfil payment obligations when they become due (liquidity risk in the narrow sense),
- inability to procure sufficient liquidity when needed at anticipated conditions (refinancing risk), or
- inability to terminate, extend or close out a transaction, or only be able to do so at a loss, due to insufficient market depth or market turbulence (market liquidity risk).

7.2 STRATEGIES AND PROCESSES

MünchenerHyp has classified liquidity risk as a significant risk requiring monitoring and management by means of regular, and appropriate stress testing for liquidity risk. In addition, an early-warning forecasting system is also in place to identify potential problems by anticipating key figures for the coming week, as well as forecasting end-of-month figures for the next three months.

Stricter requirements for controlling liquidity risks have been in effect since the revision of the MaRisk in late 2010. The main reasons for this were:

- the partial failure of the interbank market as a refinancing source,
- the strong increase in spread premiums for refinancing, and
- the collapse of the secondary markets (e.g. for asset-backed securities).

With the coming into force of the CRR, the requirements of MaRisk were expanded by two additional regulatory ratios. The implementation of the CRR expanded the requirements of MaRisk by two additional regulatory ratios: The Liquidity Coverage Ratio (LCR) is designed to ensure that financial institutions have sufficient short-term liquidity to cover their obligations over a 30 day period. On the other hand, the Net Stable Funding Ratio (NSFR) is focused on structural liquidity.

In addition, financial institutions must employ a process to provide early warning of liquidity requirements to enable a financial gap to be recognised in a timely manner. This is intended to ensure that a refinancing can take place at all times.

MünchenerHyp has always taken liquidity risk into consideration in its business and risk strategies. In order to account for all of the regulatory and internal requirements, MünchenerHyp distinguishes between operative liquidity disposition, short-term liquidity risk management pursuant to MaRisk BTR 3.2 to ensure payment capability, and medium-term structural liquidity planning. In the future these requirements will be expanded to ensure compliance with regulatory ratios LCR and NSFR. Effective 1 January 2017, the Bank must have an LCR ratio of 80%. This ratio will increase to 100% in 2018. Currently there is no requirement given for the NSFR. However, both of these key figures for MünchenerHyp were over 100% throughout the entire year.

The goal of operative liquidity disposition is to ensure that the Bank can fulfil its proper payment obligations in full in a timely manner. The relevant strategies and processes for operational liquidity controls are presented in the Treasury Handbook.

A technical concept for short-term liquidity risk management pursuant to MaRisk BTR 3.2 was developed to ensure payment capability, and was subsequently implemented in a separate system. The content primarily involves the technical process for preparing a capital maturity statement that can be used to evaluate the extent to which our own liquidity requirements are covered over time. Methods have been defined to generate corresponding additional funds if our cash outflow exceeds cash inflow (including liquidity stocks), for example by selling assets; this is known as the liquidity coverage potential (LDP). The focus here is on a short-term liquidity analysis (1-year time frame). A range of parameters are used to calculate various (stress) scenarios in order to fulfil the scenario considerations required by MaRisk:

- Base case (control scenario)
- Bank stress
- Market stress
- Combined stress (MaRisk scenario)

Pursuant to MaRisk BTR 3.2 structural liquidity planning is based on short-term liquidity management, which means that both procedures use the same scenario definitions and modelling assumptions. However, due to the longer observation period, additional modelling assumptions are also taken into account as those used for managing short-term liquidity – for example, new business plans or current expenses such as salaries and taxes. This mid-term liquidity planning involves the following key liquidity figures as components for determining results across all due dates:

- accumulated total cash flow requirement,
- available uncovered and covered potential funding including planned new business and prolongations
- additional detailed data for planning and control activities.

7.3 RISK MANAGEMENT STRUCTURE AND ORGANISATION

In order to keep refinancing risks as low as possible, MünchenerHyp strives to refinance loans with closely matching maturities and manages any deviations. The Bank continuously checks if its relevant refinancing sources (above all, those within the Cooperative Financial Network) remain available. In order to limit market liquidity risks in its business with public-sector borrowers and banks, MünchenerHyp primarily acquires securities that are acceptable as collateral by the European Central Bank, and which can be used for open market business at any time. Investments in less liquid bonds, like Mortgage Backed Securities (MBS), are no longer being made.

The limitation of liquidity risks takes place using short-term liquidity risk management pursuant to MaRisk BTR 3.2 and using the medium-term structured liquidity forecast including the herein described stress scenarios based on the Bank's unencumbered surplus liquidity. Because liquidity management for a Pfandbrief bank is closely linked to the cover requirements for Pfandbriefe, liquidity risk calculations and cover calculations are technically connected to each other via IT systems.

The objective of limiting liquidity risks is to secure short, medium and long-term liquidity, and to prevent structural liquidity gaps. Short-term liquidity risk management pursuant to MaRisk BTR 3.2 and the LiqV figure are used to limit short-term liquidity risk. The structural liquidity forecast can identify structural liquidity gaps early on and close them through appropriate refinancing measures. In the context of liquidity risk management pursuant to MaRisk BTR 3.2, a three-level limit is defined in accordance with the stress scenarios required by MaRisk. The limit consists of green, yellow and red zones that define the respective time periods up to the (theoretical) inability to fulfil payment obligations.

A limit system for all of the possible (stress-test) scenarios is defined and in place for the structural liquidity forecast. The limit system consists of a green, yellow and red zone whose boundaries change over time. The maximum time frame for limit planning is set at a standard twelve months. However, it should be noted here that, depending on the "severity" of the scenarios, different time frames must be taken into consideration if a limit is exceeded. As is the case with the short-term liquidity forecast, the results define respective time periods up to the (theoretical) inability to fulfil payment obligations.

In addition, an escalation process applies if a limit is exceeded or in the event of poor market liquidity (based on the early warning indicators). When a limit is exceeded, the causes are first clarified. Next, a plan is prepared for the funding mix to cover the increased liquidity needs. The exceeded limit and the corresponding solution are communicated to the respective Management Board members responsible for the affected areas, and to the affected division or department heads.

7.4 RISK MITIGATION AND HEDGING

MünchenerHyp strives to make its funding as diversified as possible at all times by placing a mix of Pfandbriefe, uncovered long-term bank titles and various money-market instruments on the market. At the same time, we try to obtain refinancing with matching maturities in order to limit the respective funding gaps.

The Treasury department has an emergency plan that will be implemented during times of reduced liquidity.

7.5 RISK REPORTS AND MANAGEMENT INFORMATION SYSTEMS

The liquidity risk calculations pursuant to the German Solvency Regulation are prepared on a monthly basis. The Accounting Department is responsible for preparing, coordinating and distribution of the liquidity risk calculations pursuant to the Solvency Regulation. The Treasury department is responsible for ensuring compliance with requirements. The recipients of these liquidity risk calculations pursuant to the Solvency Regulation are the BaFin (on a monthly basis) and the Treasury department (weekly forecast and monthly key figures). In addition, LCR data is reported on a monthly basis to the EBA, while NSFR data is sent to the supervisory authority on a quarterly basis.

Liquidity risk reports for short-term liquidity risk management pursuant to MaRisk BTR 3.2, and for the structural liquidity forecast, and the LCR, as well as the related forecasts, are prepared and reported on a weekly basis, and can also be prepared on a daily basis if needed. Liquidity risk management is responsible for preparing, coordinating, monitoring and distribution of the reports. The Treasury Department is responsible for daily operational liquidity disposition and the related necessary evaluations. The liquidity risk reports are distributed to:

- the Supervisory Board (short-term and structural liquidity risks, as well as LCR/NSFR on a quarterly basis)
- Board of Management (short-term and structural liquidity risks, and LCR on a weekly basis, as well as NSFR on a monthly basis)
- Treasury department (short-term and structural liquidity risks, and LCR on a weekly basis and ad hoc)

The liquidity risk limit is monitored at least on a weekly basis and reported within the respective liquidity risk reports. Liquidity risk management is responsible for monitoring the liquidity risk limit. The utilisation of the liquidity risk limit is reported to the following recipients:

- the Supervisory Board (quarterly)
- Board of Management (weekly)
- Treasury department (weekly)

8 OPERATIONAL RISKS

8.1 CONTAINMENT

Operational Risks refers to possible losses caused by personal misconduct, weaknesses in procedural or project management, technical failure or negative outside influences. Personal misconduct also includes unlawful actions, improper sales practices, unauthorised actions and transaction errors. Accordingly, legal risks are included under operational risks.

8.2 STRATEGIES AND PROCESSES

MünchenerHyp minimises its operational risks by qualifying its employees, by using transparent procedures, automating standard procedures, and by having fixed working instructions, comprehensive functional testing, as well as appropriate emergency plans and preventive measures.

MünchenerHyp has established a programme to manage its operational risks. This programme is documented in the Operational Risk Handbook and is based on three pillars:

- Implementation of a periodic self-assessment for the purpose of determining, evaluating, and examination of all potential risks
- Operation of a complete loss database, (including so-called "near misses")
- Establishment of an early-warning system with the help of risk indicators

MünchenerHyp uses a self-assessment method as an ex-ante procedure to record and evaluate potential operational risks within the Bank. The risk officer in each unit estimates the frequency of occurrence and evaluates the possible damages in terms of their financial dimensions. In this procedure, the classification of operational risks (loss events) is based on legal recommendations and represents minimum content for the annually conducted self-assessment. The result is taken into consideration when assessing risk-bearing capacity.

In addition, for supervisory purposes, the basic indicator approach is used to determine operational risk.

8.3 RISK MANAGEMENT STRUCTURE AND ORGANISATION

It is mandatory to use a standard form to document in detail operational risks that have materialised. The completed form must then be submitted to the Operational Risk Officer. This statement must also include potential countermeasures to prevent a reoccurrence. Larger loss events must be immediately reported to the Board of Management.

All departments within MünchenerHyp, e.g. including staff units, which regularly discover cases of operational risk as a result of their reports, are also obligated to report them.

8.4 RISK MITIGATION AND HEDGING

MünchenerHyp has purchased appropriate insurance policies to cover certain kinds of operational risks. Examples of these policies are pecuniary damage liability insurance, and fidelity insurance including hacker coverage. The insurance coverage is regularly compared with the risks reported by the specialist departments as part of their self-assessment process.

8.5 RISK REPORTS AND MANAGEMENT INFORMATION SYSTEMS

The Board of Management and the Supervisory Board are also informed about operational risks within the context of the MaRisk Report on a quarterly basis. An evaluation of risks based on the self-assessment is submitted to the Board of Management once a year. Pursuant to the terms of the MaRisk, additional potential operational risks noted during the year are reported in the periodic overall risk report. Major risks are addressed immediately. The Risk Control department is responsible for preparing, coordinating and distributing the reports, which are distributed to the Supervisory Board and the Board of Management.

9 INVESTMENT RISK

MünchenerHyp's investments are made primarily for strategic reasons. No sales took place in 2016. As the investments are kept in the banking book, an annual review is carried out to determine any permanent reduction in value. If such a reduction occurs, it is written off at current fair value. The investments carried in the MünchenerHyp's banking book are not investments in publicly traded companies nor are they investments in diversified portfolios. The book value was € 115.7 million as of the end of 31 December 2016. Fair values are not shown. The investments are permanently taken out of the Internal Ratings Based Approach (IRBA) and allocated to the credit risk standardised approach. MünchenerHyp's investments are not a significant risk driver with regard to counterparty risks.

10 DERIVATIVE COUNTERPARTY RISK EXPOSURE AND NETTING POSITIONS

A limit system is used to restrict counterparty risks for all of the counterparties carried in the Treasury area of business. In doing so, limits on counterparties and issuers are made on a case-by-case basis and are approved by the entire Board of Management after a presentation to, and vote by, the Markets and the Transaction Management departments. An analysis of credit quality based on internal and external rating evaluations forms the basis for setting limits. Only banks, other financial institutions, and insurance companies located in OECD countries are accepted as counterparties for derivative deals. The risk-bearing capacity calculation contains the risks of counterparty default and the risk of a change in the credit rating arising from derivative transactions.

After netting, derivatives are offset against the counterparty limit using their market values plus add-on. The limit is monitored on a daily basis. In the event that the limit is exceeded the entire Management Board is informed immediately. Furthermore, a monitoring list is provided to the entire Management Board on a monthly basis. The creditworthiness of counterparties and the limits are examined at least once a year. In creating offset agreements (netting), MünchenerHyp orients itself according to standard market practices.

Within the framework of collateral agreements made to additionally secure net derivative positions, only cash deposits in euros are accepted as collateral. To a small extent, and depending on creditworthiness, some collateral agreements contain exempt amounts. These exempt amounts are not subject to being automatically adjusted in the event of changed credit ratings, so no liquidity risk arises because of additional funding obligations. In terms of internal risk management for the entire Bank, exposure for derivatives is taken into account using their market value plus add-on and taking netting agreements into account.

Market and counterparty risks are calculated separately at MünchenerHyp and then added conservatively, for example when determining risk-bearing abilities. Thus no diversification effects are recognised via correlations. MünchenerHyp uses the mark-to-market method to calculate the value of its positions for counterparty credit risk. Compensation effects from correlations are not taken into account in the calculations.

Table 30 shows the structure of the derivatives and netting positions on 31 December 2016.

| Derivatives and Netting Positions | in € m |
|---|---------|
| Total positive replacement values before offsetting and before collateral | 4,107.5 |
| - of which, interest-related contracts | 3,972.8 |
| - of which, currency-related contracts | 102.6 |
| - of which, swaptions (interest or currency-related) | 32.1 |
| - Forward transactions (securities, promissory notes) | 0.0 |
| Netting opportunities | 3,127.1 |
| Collateral | 923.6 |
| Sum of positive replacement values After netting and after collateral | 65.8 |
| Total add-ons | 460.3 |
| Value of receivables after netting and after collateral | 526.1 |

Table 30: Structure of Derivatives and Netting Positions

MünchenerHyp does not enter into any transactions involving CDS as either a seller or buyer.

11 ASSET ENCUMBRANCES

The purpose of the presented asset encumbrances is to ensure cross-institutional uniformity in information for lenders and providers of unsecured or subordinate refinancing, and to serve as an indicator for vulnerability to refinancing problems. Encumbrances are defined as follows: An asset is deemed encumbered if it has been pledged or submitted as collateral or as additional security in another form based on an agreement, which is the reason why the institution cannot freely dispose of the asset. Assets assigned as collateral, which are subject to restriction regarding the withdrawal of the asset value, such as assets whose disposal or replacement by another asset are subject to approvals, are deemed encumbered in terms of the guidelines for the disclosure of encumbered and unencumbered assets dated 27 June 2014.

The asset encumbrance ratio (AE ratio) is calculated as the ratio from the encumbered assets and the sum of the institution's assets.

$$\text{AE ratio} = \frac{\text{encumbered assets}}{\text{encumbered and unencumbered assets}}$$

Formula 1: Calculation of AE ratio

11.1 STRATEGIES AND PROCESSES

As a safety-oriented Pfandbrief issuer, a significant portion of MünchenerHyp's business strategy is focused on adding as many high-quality assets to its portfolio as possible, which are eligible to serve as cover and can thus be used to underpin its own Pfandbrief issues. This leads to a high AE ratio, and is in keeping with the Bank's business strategy. In addition to encumbrances from the cover ratio between assets and Pfandbriefe, the following other significant sources of encumbrances are also noted in this context:

- Collateralisation of repurchase agreements
- Collateralisation of derivative transactions
- Collateralisation of open market transactions

11.2 STRUCTURE AND COMPOSITION OF THE ENCUMBRANCE RATIO

Based on its business model, MünchenerHyp's AE ratio is very constant and varies between 78.0% and 79.31%. The median value on 30.06.2016 pursuant to EBA-GL-2014-03 was 78.97%. The values shown in the following tables 31, 32 and 33 are stated as on this reporting date.

The level of the encumbrance ratio, in particular, highlights MünchenerHyp's clear focus on safety compared to other business models as the Bank strives to minimise the number of assets that cannot serve as cover for Pfandbriefe .

The following table shows the amount of encumbered and unencumbered assets by asset category in terms of the applicable financial reporting framework, in accordance with Template A of the Annex to EBA-GL-2014-03. Encumbered assets in Table 31 are on-balance sheet assets that have either been pledged or transferred without being derecognised, or are encumbered in another manner, as well as collateral received, which meets the requirements for recognition on the balance sheet of the assignment recipient in terms of the applicable financial reporting framework.

| Overview of Encumbered Assets | | | | |
|--|--|--|--|--|
| | Book value of encumbered assets (in € m) | Current fair value of encumbered assets (in € m) | Book value of unencumbered assets (in € m) | Current fair value of unencumbered assets (in € m) |
| Assets of reporting institution | 30,578.9 | | 8,124.2 | |
| Loans on demand | 1,824.2 | | 35.7 | |
| Equity instruments | | | 115.2 | 115.0 |
| Debt instruments | 1,750.4 | 1,853.8 | 2,301.4 | 2,492.9 |
| Loans | 26,951.8 | | 5,506.8 | |
| Other assets | 52.5 | | 165.1 | |

Table 31: Overview of Encumbered Assets

Collateral received is shown below by asset category, in accordance with Template B of the Annex to EBA-GL-2014-03. Encumbered and unencumbered collateral in Template B refers to collateral received that does not meet the requirements for recognition on the balance sheet of the assignment recipient in terms of the applicable financial reporting framework, and which is therefore not shown on the balance sheet. Collateral received that is shown in the balance sheet is disclosed in Template A. MünchenerHyp does not take in such collateral.

| Overview of Encumbered Collateral | | |
|--|---|--|
| | Current fair value of encumbered collateral received and issued own debt instruments (in € m) | Current fair value of collateral received and issued own debt instruments, which may be considered for encumbrance purposes (in € m) |
| Collateral received from reporting institution | 0.0 | 0.0 |
| Equity instruments | 0.0 | 0.0 |
| Debt instruments | 0.0 | 0.0 |
| Other collateral received | 0.0 | 0.0 |
| Other issued own debt instruments as own Pfandbriefe or ABS | 0.0 | 0.0 |

Table 32: Overview of Encumbered Collateral

The liabilities associated with encumbered assets and collateral received are disclosed in accordance with Template C of the Annex to these directives. The surplus of encumbered assets shown in Table 33 primarily stems, in particular, from the surplus cover held for the Pfandbriefe in circulation.

| Selected Liabilities | | |
|---|--|--|
| | Cover of liabilities, contingent liabilities or borrowed securities (in € m) | Assets, collateral received and other issued own debt instruments as encumbered Pfandbriefe and ABS (in € m) |
| Book value of selected liabilities | 26,853.4 | 30,578.9 |

Table 33: Overview of Selected Liabilities

12 REMUNERATION POLICY

12.1 CONTAINMENT

Münchener Hypothekenbank eG must disclose information on its remuneration policy and practices pursuant to Art. 16 of the Remuneration Regulation for Institutions (InstitutsvergütungsVerordnung) from 16 December 2013. The disclosure obligations for MünchenerHyp as a CRR institution are governed by Article 450 CRR.

According to this Article, the Bank must disclose certain quantitative and qualitative information for employees whose activities have a substantial impact on the Bank's risk profile (Risk Takers).

During the year 2016, the Bank identified twelve Supervisory Board members, three Board of Management members and another 19 employees as Risk Takers pursuant to the Remuneration Regulation for Institutions; this number corresponds approximately to 6.24% of all employees. The Risk Takers were determined on the basis of the "Delegated Regulation (EU) No 604/2014 of the Commission dated 4 March 2014 to supplement the Directive 2013/36/EU of the European Parliament and the Council with regard to the technical regulation standards related to qualitative and suitable quantitative criteria for determining the employee categories whose work activities have a substantial impact on the risk profile of an institution". Within business divisions, all division heads are defined as Risk Takers. Below the division head level, two additional employees were identified and classified as Risk Takers based of their position, activities, decision-making competence or the amount and structure of remuneration.

The four members of the Supervisory Board who represent employees are defined as Risk Takers. However, they are not listed in Table 34 because their remuneration figures would distort the other values as none of them are executive employees and their remuneration is based on a different model than the one used to pay division heads. Their remuneration consists of their salaries as non-tariff employees plus the fixed remuneration they receive as normal members of the Supervisory Board.

12.2 REMUNERATION ACROSS THE INSTITUTION

External legal advice for redesigning the Remuneration System for the Board of Management and Risk Takers was received in 2014. These consulting services helped with the preparation of the new employment contracts for the Board of Management and the supplements to the employment contracts for Risk Takers. The changes took effect as of the year 2015, although variable remuneration could, however, not be withheld until the 2016 calendar year as MünchenerHyp always pays out these components in the following year.

The remuneration Committee met twice in 2016.

The Bank did not pay any new-hire bonuses or pay any severance payments.

The Bank does not expect to make any major changes independently to the remuneration systems in 2017. Naturally the new Remuneration Regulation for Institutions will be implemented.

12.3 REMUNERATION SYSTEM FOR THE BOARD OF MANAGEMENT

It is likely that the current arrangement will no longer meet the requirements of the new Remuneration Regulation for Institutions. The following description only presents the system used in 2016 and will be altered as necessary.

Members of the Board of Management receive a maximum bonus of 30% of the amount of their individual total remuneration. The variable remuneration for the Board of Management is based on a maximum achievable bonus. To calculate the bonus, quantitative and qualitative targets in the form of bank and individual targets are derived from the corporate strategy. The maximum bonus is fixed based on full achievement of the respective targets.

Variable remuneration is paid out as follows:

- A sum of 50% of the achieved bonus is paid out over several years, while the remaining 50% is invested in "other instruments" in terms of Article 52 or 63 CRR, which are linked to sustainable enterprise value. These instruments are created specifically for the purpose of complying with the requirements of the Remuneration Regulation for Institutions, because MünchenerHyp is a cooperative and cannot implement the actual intention of a stock option.
- 20% of the achieved bonus is paid out directly in the following year following the approval of the annual financial statements and adoption by the Supervisory Board.
- The remaining 80% of the bonus defined for the preceding business year is paid out over a period of four years, whereby components invested in instruments are also subject to a one year restriction lock-up period following the applicable waiting periods for the respective instruments.

Negative contributions to the Bank's success are taken into account at the time the bonus is calculated, and also during the entire waiting period. This may lead to a reduction or, in an extreme case, the complete loss of variable remuneration. The amount of the bonus cannot be increased over and beyond the originally defined amount; similarly, no write-ups are applied with regard to reduced payments that were made during the interim period. There is no legal claim to variable remuneration during the waiting and lock-up periods.

The Supervisory Board is responsible for defining the remuneration systems for the members of the Board of Management. The appropriateness of the remuneration systems will be assured, in particular, by the Supervisory Board's Remuneration Committee.

12.4 REMUNERATION SYSTEM FOR RISK TAKERS BELOW THE BOARD OF MANAGEMENT

The remuneration structure for Risk Takers below the Board of Management is determined by a contractually defined performance- and profit-oriented remuneration portion (target premium) in addition to the fixed salary.

An actively practised target agreement process forms the basis for a transparent and understandable performance assessment and hence also for the definition of the individual performance factors. Managers and employees jointly agree on numerous individual targets towards the end of the year.

The target agreements should contain objectives from each of the following three categories:

- Operational profit and business targets
- Organisational and strategic objectives, and projects
- Personal development and management targets

The calculation of the performance bonus takes into account individual performance, as well as the performance of the Bank and the employee's own department. Amounts are determined based on the following factors:

| | Individual factor | Department factor | Bank factor |
|----------------------|---|-----------------------------------|-----------------------------------|
| Values | 0.0–2.0 | 0.9–1.0 | 0.8–1.2 |
| Determined by | Annual assessment interview with supervisor | Determined by Board of Management | Determined by Board of Management |

The considerable range of the individual factor means that the employee plays a key role in determining the amount of the performance bonus, and may lose the entire bonus in case of misconduct, for example.

Once the target premium has been defined, the individual performance factor is calculated one year later during the assessment interview on the basis of target attainment. The departmental and bank factors are also determined at the beginning of the following year.

The following formula is used to calculate the performance bonus:

$$\text{Performance bonus} = \text{target premium} \times \text{individual factor} \times \text{department factor} \times \text{bank factor}$$

Formula 2: Calculation of the performance bonus

The bonus is paid out pursuant to the terms of the Remuneration Regulation for Institutions, and is also liable to being blocked by BaFin in the future. If a Risk Taker (below the level of the Board of Management) receives more than € 50,000 in variable remuneration (currently the valid threshold pursuant to the BaFin's guidance), that person's bonus will be paid out over many subsequent years analogous to remuneration for the Board of Management. To date this has not been necessary.

Due to restrictions in the remuneration system, variable remuneration can never exceed the fixed remuneration component. With regard to other non-cash benefits, Risk Takers receive the same as those received by other employees, such as subsidies for lunch or health care, supplemental insurance, or company cars, etc. In this context, each benefit in kind depends partly on the hierarchy level or duration of employment, although the criteria are identical for all employees.

The Board of Management is responsible for defining the remuneration system. Changes to the business strategy will result in reviews to determine if these changes require the remuneration system to be adjusted.

The appropriateness of the remuneration systems will be monitored by the Supervisory Board's the Remuneration Committee in collaboration with the Remuneration Officer.

12.5 QUANTITATIVE INFORMATION

| | Market | Transaction Management | Staff Units | Board of Management | Total |
|---|--------|------------------------|-------------|---------------------|-------|
| Total remuneration (in € m) | 1.34 | 0.88 | 1.29 | 2.17 | 5.68 |
| Fixed remuneration | 1.13 | 0.75 | 1.06 | 1.67 | 4.61 |
| Variable remuneration | 0.22 | 0.13 | 0.22 | 0.50 | 1.07 |
| Variable remuneration (in € m) | | | | | |
| of which paid out | 0.22 | 0.13 | 0.22 | 0.10 | 0.67 |
| of which withheld | - | - | - | 0.40 | 0.40 |
| of which in cash | - | - | - | 0.15 | 0.15 |
| of which in other instruments | - | - | - | 0.25 | 0.25 |
| Withheld remuneration from previous years (in € m) | | | | | |
| Paid out | - | - | - | 0.07 | 0.07 |
| Approved | - | - | - | 0.14 | 0.14 |
| Reduced | - | - | - | 0.00 | 0.00 |
| Total outstanding | - | - | - | 0.29 | 0.29 |
| of which vested | - | - | - | 0.07 | 0.07 |
| of which unvested | - | - | - | 0.21 | 0.21 |
| Number of individuals affected | 6 | 5 | 9 | 3 | 23 |
| Number of new hire premiums | 0 | 0 | 0 | 0 | 0 |
| Number of severances | 0 | 0 | 0 | 0 | 0 |
| Persons with remuneration exceeding € 1 m | 0 | 0 | 0 | 0 | 0 |

Table 34: Overview of Remuneration Across the Institution

13 LEVERAGE

13.1 CONTAINMENT AND STRUCTURE

Pursuant to Art. 429 CRR institutions have to calculate a leverage ratio to increase transparency and comparability. The leverage ratio shall be calculated as the capital measure divided by the total exposure measure and shall be expressed as a percentage.

The leverage ratio is defined as follows:

$$\text{Leverage ratio} = \frac{\text{Tier 1 Capital}}{\text{Total Exposure Measure}}$$

Formula 3: Calculation of the leverage ratio

For the purposes of Article 429 CRR, the capital measure shall be Tier 1 capital. The total exposure measure consists of amounts shown as on-balance sheet assets, derivatives, securities financing transactions, and off-balance sheet assets. The total exposure measure for assets (excluding derivatives and securities financing transactions) contains the balance sheet value of the individual positions, as well as regulatory adjustments for positions which are deducted to determine regulatory Tier 1 capital. Derivatives are calculated using the total exposure measure of the leverage ratio based on the mark-to-market method for derivatives. The portfolio does not contain any credit derivatives. The total exposure measure for securities financing transactions is equal to the gross balance sheet values plus the assessment basis used for counterparty credit risk. The total exposure measure for off-balance sheet exposures is calculated while taking into consideration the conversion factors from the standardised approach for credit risk.

The following detailed information regarding the leverage ratio is hereby disclosed pursuant to the Implementing Regulation (EU) 2016/200 of the EU Commission dated 15 February 2016 laying down implementing technical standards with regard to the disclosure of the leverage ratio according to the terms of the CRR.

13.2 QUANTIFICATION

As at 31.12.2016 MünchenerHyp's leverage ratio was 3.35%. MünchenerHyp points out that the leverage ratio currently does not represent a binding minimal requirement. The reason for the difficulty in meeting the discussed leverage Ratio of 3% is that the leverage ratio does not take any risk weighting into consideration. As a result the leverage ratio represents a special challenge for MünchenerHyp as its business model – financing property – focuses on the particularly low-risk retail area of business.

Due to the current lack of a binding leverage ratio figure, the leverage ratio only represents one – albeit a particularly one – observed ratio for MünchenerHyp. Changes in the observed ratio are continuously monitored and analysed.

In accordance with its business model the Bank manages the required amount of own funds using the risk-weighted capital ratios as defined by the supervisory authorities and the risk-bearing capacities that must be observed.

The Table LRSum presents the detailed reconciliation of MünchenerHyp's on-balance sheet assets as publicly published and exposures for the leverage ratio. The total exposure measure in the leverage ratio is presented in Table LRCom. MünchenerHyp's on-balance sheets exposures are presented in detail in Table LRSqI, in order to present the key components of the leverage ratio as well as the on-balance sheet exposures. Furthermore, Table LRQua describes the procedures used by MünchenerHyp to monitor the risk of excessive indebtedness, as well as factors that influenced the leverage ratio during the reporting period to which the disclosed leverage ratio refers to.

13.3 QUANTITATIVE AND QUALITATIVE DISCLOSURE OF THE LEVERAGE RATIO AS SHOWN IN THE DISCLOSURE TABLES

| CRR leverage ratio – Disclosure Template | |
|---|--------------------------|
| Reference date | 31.12.2016 |
| Entity name | Münchener Hypothekenbank |
| Level of application | Individual |

The following table presents the reconciliation of MünchenerHyp's on-balance sheet assets and exposures for die leverage ratio as at 31.12.2016 for the purposes of Article 451 Para 1 (b) CRR.

| Table LRSum: Summary reconciliation of accounting assets and leverage ratio exposures | | Applicable Amounts |
|--|--|---------------------------|
| 1 | Total assets as per published financial statements (excluding own holdings) | 38,509.0 |
| 2 | Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation | 0.0 |
| 3 | (Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure according to Art. 429 (13) CRR) | 0.0 |
| 4 | Adjustments for derivative financial instruments | 517.0 |
| 5 | Adjustment for securities financing transactions (SFTs) | 0.0 |
| 6 | Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures) | 1,557.5 |
| EU-6a | (Adjustment for intragroup exposures excluded from the leverage ratio total exposure measure in according to Art. 429 (7) of Regulation (EU) No 575/2013) | 0.0 |
| EU-6b | (Adjustment for exposure excluded in the leverage ratio exposure according to Art. 429 (14) of Regulation (EU) No 575/2013) | 0.0 |
| 7 | Other adjustments | -3,222.6 |
| 8 | Leverage ratio total exposure measure | 37,360.9 |

Table 35: Summary Reconciliation of Accounting Assets and Leverage Ratio Exposures

The following table presents the split of the leverage ratio total exposure measure of MünchenerHyp as at the 31.12.2016 date of reference per Art. 451 (1) (b) CRR.

| Table LRCom: Leverage ratio common disclosure | | |
|---|---|-------------------------------------|
| | | CRR leverage ratio exposures |
| On-balance sheet exposures (excluding derivatives and SFT) | | |
| 1 | On-balance sheet items (excluding derivatives and SFTs, but including collateral) | 35,292.8 |
| 2 | Asset amounts deducted in determining Tier 1 capital | 6.4 |
| 3 | Total on-balance sheet exposures (excluding derivatives and SFTs) and fiduciary assets) (sum of lines 1 and 2) | 35,286.4 |
| Derivative exposures | | |
| 4 | Replacement cost associated with all derivatives transactions (i.e. except eligible margin deposits received in cash) | 56.7 |
| 5 | Add-on amount for potential future exposure associated with derivatives transactions (mark-to-market method) | 460.3 |
| EU-5a | Exposure determined under Original Exposure Method | |
| 6 | Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework | 0.0 |
| 7 | (Deductions of receivables assets for cash variation margin provided in derivatives transactions) | 0.0 |
| 8 | (Exempted CCP leg of client-cleared trade exposures) | 0.0 |
| 9 | Adjusted effective notional amount of written credit derivatives | 0.0 |
| 10 | (Adjusted effective notional offsets and add-on deductions for written credit derivatives) | 0.0 |
| 11 | Total derivatives exposures (sum of lines 4 to 10) | 517.0 |
| Securities financing transactions (SFTs) exposure | | |
| 12 | Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions | 0.0 |
| 13 | (Netted amounts of cash payables and cash receivables of gross SFT assets) | 0.0 |
| 14 | Counterparty credit risk exposure for SFT assets | 0.0 |
| EU-14a | Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429b (4) and 222 of Regulation (EU) No 575/2013 | 0.0 |
| 15 | Agent transaction exposures | 0.0 |

| | | |
|---|---|------------------------|
| EU-15a | (Exempted CCP leg of client-cleared SFT exposure) | 0.0 |
| 16 | Total SFT exposures (sum of lines 12 to 15a) | 0.0 |
| Other off-balance sheet exposures | | |
| 17 | Off-balance sheet exposures at gross notional amount | 3,223.4 |
| 18 | (Adjustments for conversion to credit equivalent amounts) | 1,665.9 |
| 19 | Other off-balance sheet exposures (sum of lines 17 and 18) | 1,557.5 |
| Exempted exposures in accordance with Article 429 (7) and (14) of Regulation (EU) No 575/2013 (on and off-balance sheet) | | |
| EU-19a | (Intragroup exposures (solo basis) exempted in accordance with Article 429 (7) of Regulation (EU) No 575/2013 (on and off balance sheet)) | 0.0 |
| EU-19b | (Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet)) | 0.0 |
| Equity capital and total exposure measure | | |
| 20 | Tier 1 capital | 1,251.2 |
| 21 | Leverage ratio total exposure measure (sum of lines 3, 11, 16, 19, EU-19a and EU-19b) | 37,360.9 |
| Leverage ratio | | |
| 22 | Leverage ratio | 3.35% |
| Choice on transitional arrangements and amount of derecognised fiduciary items | | |
| EU-23 | Choice on transitional arrangements for the definition of the capital measure | Transitional provision |
| EU-24 | Amount of derecognised fiduciary items in accordance with Article 429 (11) of Regulation (EU) No 575/2013 | 0.0 |

Table 36: Split of Total Exposure Measure

The following Table LRSpl presents the split-up of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) of MünchenerHyp as at the 31.12.2016 date of reference in accordance with Art. 451 (1) (b) b CRR.

| Table LRSpl: Split-up of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) | | |
|---|---|-------------------------------------|
| | | CRR leverage ratio exposures |
| EU-1 | Total on-balance sheet exposures (excluding derivatives and SFTs and excluded exposures), of which | 35,286.4 |
| EU-2 | Trading book exposures | 0.0 |
| EU-3 | Banking book exposures, of which: | 35,286.4 |
| EU-4 | Covered bonds | 900.3 |
| EU-5 | Exposures treated as sovereigns | 5,759.5 |
| EU-6 | Exposures to regional governments, MDB, international organisations and PSE NOT treated as sovereigns | 33.0 |
| EU-7 | Institutions | 490.3 |
| EU-8 | Secured by mortgages of immovable properties | 26,152.3 |
| EU-9 | Retail exposures | 1.6 |
| EU-10 | Corporate | 1,516.2 |
| EU-11 | Exposures in default | 122.0 |
| EU-12 | Other exposures (e.g. equity, securitisations, and other non-credit obligations assets) | 311.2 |

Table 37: Split-up of On-Balance Sheet Exposures

The following Table LRQua presents the procedures used by MünchenerHyp to include the leverage ratio in its internal measurement and management processes, as well as the methods used to monitor the risk of excessive indebtedness.

Table LRQua: Free format text boxes for disclosure on qualitative items

| | | |
|---|--|--|
| 1 | <p>Description of the processes used to manage the risk of excessive leverage</p> | <p>The Bank monitors the risk of excessive indebtedness by quantifying the leverage ratio and reporting it to the Board of Management on every reporting reference date – and as required.</p> <p>The business divisions have been made fully aware of the need to consider the effects a potential new business activity may have on the leverage ratio.</p> <p>Along with the leverage ratio, MünchenerHyp employs additional key figures to evaluate the risk of excessive indebtedness, as the leverage ratio does not take into consideration the key risk driver of maturity matched refinancing and the actual exposure of the assets. The factors influencing the leverage ratio are thoroughly analysed and reciprocal dependencies with MünchenerHyp's main controlling ratios, like the LCR as well as the equity capital ratio are evaluated, and – if needed – lead to a review of measures that should be taken.</p> <p>Mismatched maturities arising from the short-term refinancing of lending operations represent a major cause of excessive indebtedness. As a Pfandbrief bank, MünchenerHyp's business model is explicitly aware of this risk and monitors it closely.</p> <p>MünchenerHyp has set itself a leverage ratio exceeding 3% as an internal minimum requirement. In order to meet this non-binding ratio MünchenerHyp further increased its common equity Tier 1 capital in 2016 by raising additional paid-up capital. Currently, no internal minimum requirements have been set for the leverage ratio. The leverage ratio is taken in consideration over a five year planning horizon within the capital planning process used for regulatory own funds and the risk-weighted capital ratios in order to take appropriate measures at an early time when planning Tier 1 capital, as well as the components of the total exposure measure.</p> |
| 2 | <p>Description of the factors that had an impact on the leverage ratio during the period to which the disclosed leverage ratio refers</p> | <p>On 31 December 2016 MünchenerHyp's leverage ratio per the terms of the CRR, and in connection with the Delegated Resolution 2015/62, was 3.35%. The leverage ratio was calculated using Tier 1 capital of € 1,251.2 million divided by a Total Exposure Measure of € 37,360.9 million. In comparison, the leverage ratio on the 30.06.2016 date of reference was 2.71%.</p> <p>The change in the figure is mainly due to an increase in common equity Tier 1 capital resulting from the € 250.6 million in additional paid-up capital raised in the second half of 2016. This measure resulted in a substantial improvement in the Leverage Ratio.</p> |

Table 38: Disclosure of Qualitative Items

ANNEX – MANAGEMENT BODIES

SUPERVISORY BOARD

Konrad Irtel ... Griesstätt
Spokesman of the Board of Management
Volksbank Raiffeisenbank Rosenheim-Chiemsee eG
Chairman of the Supervisory Board
Number of mandates: 5 (stepped down effective 23.04.2016)

HSH Albrecht Prince of Oettingen-Spielberg ... Oettingen
Deputy Chairman of the Supervisory Board
Number of mandates: 4 (stepped down effective 23.04.2016)

Wolfhard Binder ... Grafing
Chairman of the Board of Management
Raiffeisen-Volksbank Ebersberg eG
Chairman of the Supervisory Board (as of 23.04.2016)
Number of mandates: 2

Dr. Hermann Starnecker ... Marktobendorf (as of 23.04.2016)
Spokesman of the Board of Management
VR Bank Kaufbeuren-Ostallgäu eG
Deputy Chairman of the Supervisory Board
Number of mandates: 2

Heinz Fohrer ... Esslingen
Member of the Board of Management
Volksbank Esslingen eG
Number of mandates: 3

Jürgen Hölscher ... Lingen
Member of the Board of Management
Volksbank Lingen eG
Number of mandates: 2

Rainer Jenniches ... Bonn
Chairman of the Board of Management
VR-Bank Bonn eG
Number of mandates: 3

Dr. Peter Ramsauer ... Traunwalchen
Master Craftsman (Miller)
Number of mandates: 3

Gregor Scheller ... Forchheim
Chairman of the Board of Management
Volksbank Forchheim eG
Number of mandates: 5 (as of May 2016: 2)

Kai Schubert ... Trittau
Member of the Board of Management
Raiffeisenbank Südstormarn Mölln eG
Number of mandates: 2

Barbara von Grafenstein ... Munich (as of 12.07.2016)
Employee representative

Reimund Käsbauer ... Munich (as of 12.07.2016)
Employee representative

Michael Schäffler ... Munich (as of 12.07.2016)
Employee representative

Frank Wolf-Kunz ... Munich (as of 12.07.2016)
Employee representative

BOARD OF MANAGEMENT

Dr. Louis Hagen, Chairman
Bernhard Heinlein
Michael Jung

Mandates

Dr. Louis Hagen, Chairman
Bau- und Land-Entwicklungsgesellschaft Bayern GmbH
Member of the Supervisory Board (until 06.06.2016)
HypZert GmbH
Chairman of the Supervisory Board (until 31.12.2016)



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