

# **Disclosure Report**

In accordance with EU Regulation (EU) No. 575/2013  
(CRR)

As of 31 December 2015

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## 1 Introduction

This Disclosure Report as of 31 December 2015 is the first Disclosure Report of Deutsche Pfandbriefbank Group (pbb Group) publicised independently after the privatisation of Deutsche Pfandbriefbank AG (pbb) in July 2015 and the separation of pbb Group and Hypo Real Estate Holding AG.

### **pbb Deutsche Pfandbriefbank**

Deutsche Pfandbriefbank Group (pbb Group) is headed by Deutsche Pfandbriefbank AG (pbb) with its headquarters in Munich, Germany. pbb is a leading European specialist bank for real estate financing and public investment finance. pbb is one of Europe's largest Pfandbrief issuer in terms of outstanding volume and a major issuer of covered bonds. pbb's business is focused on Germany as well as France, Great Britain, the Nordic countries and selected central and eastern European countries.

In its core markets, pbb offers customers a strong local presence along with expertise across all functions of the financing process. Thanks to its proficiency in structuring loans, its international approach and the co-operation with financing partners, pbb is able to realise both complex finance deals and cross-border transactions.

Deutsche Pfandbriefbank AG is listed on the Frankfurt Stock Exchange (FWB). On 16 July 2015 pbb's share started in the Prime Standard (regulated market). Since 21 September 2015 it has been listed in the MDAX index. This means that pbb is one of the 50 largest traditional sector stocks in the Prime Standard of Frankfurt Stock Exchange (FWB) by market capitalisation and order book sales after the DAX companies. By going public, pbb's privatisation as well as the unbundling of pbb Group and Hypo Real Estate Holding AG have been successfully completed.

### **Objectives of the Disclosure Report**

pbb is the parent company of the regulatory group as defined in Section 10a of the German Banking Act (Kreditwesengesetz, "KWG") in conjunction with Article 11 et seq. CRR and is responsible for regulatory disclosure requirements. With its first independent Disclosure Report, pbb Group complies with the disclosure requirements of Part 8 of Regulation (EU) No. 575/2013 (Capital Requirements Regulation; CRR) as of 31 December 2015. The disclosure requirements are defined in Articles 431 to 455 CRR, additional requirements can be found in Section 26a (1) sentence 1 of the KWG.

The Disclosure Report, together with the Annual Report, provides a comprehensive picture of the current risk profile and risk management of pbb Group. The Disclosure Report is mainly focused on the regulatory perspective and specifically includes information on:

- the regulatory and commercial structure of pbb Group
- the capital structure and capital base
- risk positions and capital requirements
- the general risk management system of pbb Group as well as
- the risk management with respect to specific exposure types.

According to Article 431 (2) CRR, compliance with the disclosure requirements is a precondition to apply certain instruments and methodologies to calculate capital requirements, e.g. the internal ratings-based (IRB) approach for counterparty default risk positions or credit risk mitigation techniques.

In line with Article 432 CRR, institutions may refrain from disclosing one or more items as specified in Part 8, Title II/III of CRR provided that these are not significant or are classified as business secret or sensitive information. pbb however fully complies with all disclosure requirements.

## Disclosure Report as of 31 December 2015

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### Scope

According to Article 13, (1) CRR, the Disclosure Report is based on the consolidated situation of pbb Group. There are no significant subsidiaries as defined in Article 13 (1) CRR. According to Article 13 CRR, pbb as parent company of the Group is not required to provide a disclosure at institution level.

This Report is based on the regulatory scope of consolidation according to Articles 18 to 24 CRR. As at the reporting date, there was no difference between the regulatory scope and the commercial scope of consolidation used for pbb's consolidated financial statement (IFRS). For the disclosure based on the consolidated situation, business relationships within the consolidation scope must be set off against each other and group-internal business must be eliminated. Since 1 January 2014 regulatory key figures have been determined based on IFRS. Generally pbb Group discloses numbers for the financial year; any comparative values for the previous year in the Disclosure Report are provided on a voluntary basis. Unless expressly indicated the numbers are generally based on the legal provisions applicable at the reporting date (including transitional provisions).

### Waiver regulation as per Article 7 CRR

In the reporting period and up until the privatisation in July 2015, pbb as a fully-owned subsidiary of Hypo Real Estate Holding AG benefited from the simplifications according to the so-called "Waiver" regulation as set out in Article 7 CRR (previously Section 2a KWG). Since the beginning of July 2015, the conditions as defined in Article 7 (1), Point (b) CRR for the use of the Waiver regulation are not given any longer. Thus pbb did not apply the Waiver regulation as at the reporting date.

### Disclosure frequency

According to Article 433 CRR institutions must verify whether it is necessary for them to disclose the relevant information more than once a year in full or in part. On 8 June 2015, Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) publicised circular letter 05/2015 (BA) regarding the need for a more frequent disclosure. This circular formally implements Guidelines EBA/GL/2014/14 of the European Banking Authority (EBA) of 23 December 2014. pbb Group meets the criterion of "the consolidated assets of the institution exceed € 30 billion" as per Title VI 18 b) of the BaFin circular, and since reporting year 2015 it is therefore subject to a semi-annual disclosure, i.e. on 30 June and 31 December of any financial year. pbb Group's consolidated assets as of 31 December 2015 amounted to € 66.8 billion.

### Means of Disclosures

According to Article 434 (1) CRR, the Disclosure Report is publicised as an independent report on the website of pbb ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under Investor Relations / Mandatory Publications. European Central Bank (ECB), Deutsche Bundesbank and BaFin are informed of the time and the medium of the publication.

### Methods and Regulations to Comply with Disclosure Requirements

According to Article 431 (3) CRR, pbb Group has adopted formal policies which are documented in a disclosure policy in order to comply with the disclosure requirements. This policy describes all material, inherent principles of disclosure as defined by Regulation (EU) 575/2013 (CRR), e.g. the kind and scope of disclosure including the use of so-called disclosure waivers, the adequacy of information, the disclosure medium and disclosure terms, the frequency of disclosure including decision criteria for the "appropriate" disclosure cycle, responsibilities as well as the integration of the disclosure process into bank-internal work processes and structures. Furthermore, the policy contains directives on the regular verification of the adequacy and practicality of disclosure practices applied at pbb Group, as well as defined disclosure standards and processes. The disclosure policy is verified and aligned with market requirements on a regular basis.

While the business processes and regulations implemented for the purpose of disclosure are subject to regular reviews by the internal audit function and to an external audit, the Disclosure Report is not verified by pbb Group's auditors. However the Disclosure Report contains data which are also quoted in the publicised 2015 Annual Report of pbb Group.

**Note:**

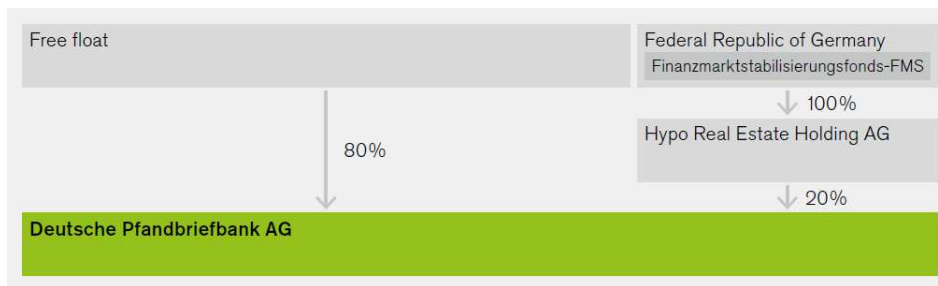
Numbers provided in the Disclosure Report are commercially rounded to millions. Thus the sums shown in the tables may slightly differ from the arithmetic total of the individual amounts shown.

## 1.1 Organisational and legal structure

Deutsche Pfandbriefbank AG (pbb) is the parent company of Deutsche Pfandbriefbank Group (pbb Group) and the ultimate parent company as per Article 4 (1) CRR of the regulatory group of institutions as defined in Section 10a KWG in conjunction with Article 11 et seq. CRR, and it is responsible for the compliance with regulatory disclosure requirements. pbb is a stock corporation registered in the Commercial Register of the Local Court of Munich, Germany (HRB 41054).

The free float is 80%. The remaining 20% are held by the Federal Republic of Germany, indirectly via the Financial Market Stabilisation Fund (Finanzmarktstabilisierungsfonds – “FMS”) and Hypo Real Estate Holding AG (HRE Holding), with a holding obligation until 16 July 2017. The shareholder structure is shown on pbb’s website ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under Investor Relations / Shares / Shareholder Structure, the voting rights notification provided by the shareholders pursuant to Section 21 of the German Securities Trading Act (Wertpapierhandelsgesetz, “WpHG”) can be found under Investor Relations / Mandatory Publications / Notifications on Voting Rights. Until the listing, pbb was fully owned by the Federal Republic of Germany (indirectly via the FMS and HRE Holding).

Figure 1: Shareholder structure



pbb has nine sales locations; five in Germany, and four in its other core markets. The bank’s headquarters are in Unterschleißheim, near Munich, Germany.

Figure 2: Sales Locations



## **Business Model and Strategy**

The strategic business segments of pbb Group are Real Estate Finance and Public Investment Finance; the focus is on Pfandbrief eligible business. The geographic focus is on Germany, France, the United Kingdom, the Nordic countries as well as some Central and Eastern European countries. While pbb regularly reviews business opportunities outside the markets it currently serves, especially in the context of major pan-European portfolio transactions and the USA, it remains committed to its core markets.

pbb's core business is medium- to long-term lending: pbb Group plays an important role in this area, supplying credit to the real estate sector and supporting the public sector with project financings for the provision and improvement of public infrastructure. pbb Group's focus is on primary client business. Besides traditional financing solutions tailored to clients' needs, the Group offers its clients derivatives for hedging risks associated with lending. pbb does not maintain a trading book for securities portfolios held to realise short-term gains.

In the lending business, pbb Group either acts as a sole lender or, particularly for large-volume transactions, works together with financing partners. In this regard, the Group has a wide network of banking and other partners, including insurance companies and private equity firms. In this syndicate business, when acting as Arranger, the Group sometimes takes over the complete coordination between the syndicate and the borrower or, in the role of an Agent, deals with tasks in connection with the management of syndicated loans.

In addition, the Group acts as an underwriter, initially being the sole provider of financing and then selling parts of this loan to interested partners in the context of syndication. pbb Group is planning to expand these activities in the future.

## **Strategic Orientation**

Following the successful flotation and exchange listing, and the related waiver of conditions imposed under the European Commission's state aid proceedings, pbb Group's strategy continues to focus on sustainable business success. Both the assessment and appropriate pricing of credit risk in the lending business, and access to the funding markets at adequate terms are crucial to success. Managing the existing portfolio – so as to identify changing risks at an early stage and mitigate them by taking appropriate measures – is another important factor of success.

The Management Board has committed itself to further increasing profitability. It is intended to grow the strategic portfolios through profitable new business, while the non-strategic portfolio volume will be reduced further. At the same time, pbb will engage in further syndication and placement activities. Further business opportunities outside the markets it currently serves are reviewed on a regular basis. The Bank does not plan, however, to change the geographical scope of its core markets.

pbb plans to hold its operative cost base down by applying strict cost discipline.

## **Control System**

pbb Group's internal management system is pursuing a sustainable enhancement in value of the Group considering aspects of risks and regulatory requirements. The key objective is to achieve a balanced risk/return ratio. Risks should be compatible with external and internal risk-bearing capacity guidelines generating an adequate return on capital.

Monitoring and steering at pbb Group are based on a consistent and integrated key performance indicator system (KPI system), which assists executives in the management of the Group. The KPI system comprises the dimensions of profitability, growth in the strategic real estate finance and public investment finance portfolios, risk limitation and capital. Regular plan-actual comparisons and related analyses disclose the reasons for any deviations in the key performance indicators. Current market developments, such as the change on interest rate levels, are also displayed. In addition to strategic planning for the Bank as a whole, regular medium-term projections of profitability indicator and (stress) scenario forecasts ensure the management has a comprehensive overview of the Group's future business development.

## Disclosure Report as of 31 December 2015

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No changes were made to the internal management system year-on-year. Non-financial key performance indicators are not explicitly managed. The following financial key performance indicators have been defined:

### Return on Equity After Tax

One key profitability indicator is the return on equity after tax. It is calculated by dividing IFRS net income/loss by the average IFRS equity available in the financial year excluding the revaluation reserve. Profit or loss before tax is a further financial key performance indicator. The aim is to increase it both by generating higher revenues and through strict cost discipline. Cost discipline and efficiency are monitored using the cost-income ratio, i.e. the ratio of general and administrative expenses to operating income.

### Nominal Amount of Financing

The notional amount of the funding in the strategic Real Estate Finance (REF) and Public Investment Finance (PIF) segments is a significant factor influencing the future earning power and has therefore been redefined as an additional financial key performance indicator. The financing volume can be controlled, above all, by the volume of new business including prolongations with maturities of more than one year, which also represent a financial key performance indicator. A present value approach is used for managing and calculating new business. In line with the management of the Bank as a whole, each new business transaction should make a positive value contribution to the Bank's overall income after the deduction of all costs (full cost approach).

### Risk Management

Risk management is based on two risk-bearing capacity approaches, the going-concern approach and gone-concern approach. Management using the going-concern approach ensures that pbb Group can still meet the regulatory minimum capital ratios even after an adverse economic scenario, which occurs at a maximum of once every 20 years. The gone-concern approach, on the other hand, is based on the assumption that pbb Group, in the hypothetical event of the institute being liquidated, is able to fully service its unsubordinated debt instruments even in an extreme loss event. A precondition for demonstrating the risk-bearing capacity in both cases is that the risk covering potential exceeds the required economic risk capital. The methods and results of the risk-bearing capacity assessment and the methods used are described in detail in the opportunity and risk report.

### Common Equity Tier 1 Ratio

The CET1 ratio, a key management parameter, is determined on a regular basis; it is calculated by dividing Common Equity Tier 1 (CET1) by risk-weighted assets (RWAs). The Advanced Internal Rating Based Approach (Advanced IRBA) is used to determine regulatory capital requirements for all material portfolios.

## 1.2 Corporate Governance Principles

As the Company was not listed on the stock exchange before 15 July 2015, it was not subject to the German Corporate Governance Code. Until that date, the Company applied the Federal Public Corporate Governance Code instead which differs from the German Corporate Governance Code on a number of points. The compliance statement concerning the Federal Public Corporate Governance Code dated 5 March 2015 as well as the first compliance statement concerning the German Corporate Governance Code dated 14 August 2015 can be found on the Company's website ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under Investor Relations / Mandatory Publications / Corporate Governance Kodex (only on German website available). Any updates of the statement filed after the reporting date can be found on pbb's website as well.

Furthermore, please refer to the report of the Supervisory Board publicised in pbb's 2015 Annual Report as well as the "Corporate Governance Statement pursuant to Section 289a HGB" which can also be found on pbb's website ([www.Pfandbriefbank.com](http://www.Pfandbriefbank.com)) under The Company / Corporate Governance. These sources are particularly relevant for disclosure requirements as per Article 435 (2), Points (d) and (e) CRR regarding the risk committee and the information provided to the Management Board and the Supervisory Board, which is also described in Chapter 3.1 "General Organisation and Risk Management Principles".



## Management Board and Supervisory Board Executive or Supervisory Functions

As at the reporting date, pbb's Management Board members hold 4 and pbb's Supervisory Board members hold 19 executive or supervisory functions. For details on the functions and mandates, please refer to Note 87 of pbb Group's 2015 Annual Report ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)).

## Selection of Management Board and Supervisory Board Members

As to the appointment of Management Board or Supervisory Board members, pbb has established lists of criteria which are described hereafter. The bank considers that the current officeholders meet these criteria, and the knowledge, skills and expertise of the Management Board and Supervisory Board members are published in the form of CVs on pbb's website ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under The Company / Management and The Company / Supervisory Board respectively.

### List of Criteria for the Management Board

According to Section 25c KWG, managers of an institution must display technical qualifications and reliability, and they must dedicate sufficient time to their tasks. Technical qualifications mean that managers must have sufficient theoretical and practical knowledge in the business area concerned and must have managerial experience.

- Functional competencies

Candidates must have a high standard of experience in at least one business area of the bank, e.g. Public Investment Finance or Real Estate Finance (front or back office), alternatively in Corporate or Commercial Banking and ideally in selected Corporate Centre functions.

Knowledge of the refinancing of banks is an asset.

Potential candidates for a CFO or CRO position must have acquired professional knowledge in key areas obtained from board positions or important line management functions. This also applies to the capital market/treasury division.

- Industry competencies

Candidates must have several years of experience in the finance industry, preferably in commercial or asset based banking.

- Tenure

Candidates must be admitted as a manager of a bank or, when they are first appointed to the Management Board, their authorisation must be available without any extended waiting time.

They must have long-term managerial experience obtained from board positions or important line management functions including long-term and broad managerial experience as well as experience in process and restructuring management respectively.

They must display a strong entrepreneurial spirit as well as experience in dealing with entrepreneurial tasks including e.g. developing the business model and the strategy and/or performing business management tasks (preferably for a bank).

- Technical competencies

According to Section 25c KWG Management Board members are required to have competencies in particular in the areas of strategic management, company development, loan responsibility, bank management, sales.

In terms of loans, a sound judgment of loan decisions is of the essence. In this context, long-standing, qualified and responsible loan decision-making practice is required.

As to bank management, knowledge and experience in the context of profit and risk control as well as methodological knowledge in the various bank management areas is highly relevant.

- Interpersonal skills
  - High degree of persuasiveness and determination based on a thoughtful argumentation.
  - Respectful and team-oriented leadership approach.
  - Strong ability to establish and maintain sustainable, trust-based relationships with employees, peers as well as external stakeholders.
  - Strong commitment to develop the company along with the ability to identify, implement and communicate required changes.
  - Be a credible and integer representative of the bank in public, including relevant (customer) markets.

#### List of Criteria for the Supervisory Board

According to Section 25d KWG, the members of a Supervisory Board of an institution must be reliable, have the expertise required to control, assess and monitor the transactions carried out by the company concerned, and must dedicate sufficient time to their tasks. Candidates shall have the following competencies:

- Functional competencies
  - Very good knowledge of the banking business as well as extensive, broad entrepreneurial experience.
  - In-depth understanding of Annual Reports and reports provided to the Supervisory Board as well as of the regulatory environment of banks.
- Industry competencies
  - Long-term experience in the financial industry, financial administration or control; several years of experience in a division of a bank are an asset.
- Tenure
  - Long-standing practice in managing a company or an internationally operating bank/organisation/corporation.
  - Alternatively, many years of practical experience in a leading position of a large company or a leading public authority position.
- Interpersonal skills
  - Very good advisory skills, persuasiveness as well as diplomatic skills. Ability to build confidence along with a responsible performance of supervisory tasks.
- Other
  - At least five members of the Supervisory Board, thereof at least three shareholder representatives, shall be independent as set out in clause 5.4.2 of the German Corporate Governance Code. As recommended by this Code, a member of the Supervisory Board shall not be considered to be independent if he/she has a personal or business relationship with pbb, its boards, a controlling shareholder or an affiliated company which may give rise to a material conflict of interest on a more than temporary basis. As to employee representatives, it is assumed that their independence is not affected by the fact that they hold the position of employee representatives and have an employment relationship at the same time.
  - Chairman of the Supervisory Board
    - Candidates must be admitted as a manager of a bank as defined by KWG and must have bank management experience acquired as a Chairman of the Board or have long-term experience as a Board member
  - Chairman of the Audit Committee
    - Special expertise in auditing or annual accounts auditing as defined by Section 100 (5) AktG
  - Chairman of the Risk Management and Liquidity Strategy Committee
    - Special expertise in the field of loans.

### **Member Diversity Strategy**

Both Supervisory Board and Management Board consider that diversity matters when filling management positions, and they aim at an appropriate representation of women (as required by Sections 76 (4), 111 (5) AktG). For this purpose, the Supervisory Board has defined the following targets:

- Target percentage of women in the Supervisory Board: 30%
- Target percentage of women in the Management Board: 20%

At present women account for 37.5% of the Supervisory Board. In order to ensure that the target percentage is maintained for the Supervisory Board and achieved for the Management Board, a sufficient number of suitable female candidates shall be considered within the framework of succession planning.

### **1.3 Remuneration Policy**

Information on the remuneration policy and remuneration practice as per Article 450 CRR can be found in the "Vergütungsbericht 2015" which is publicised on the website of pbb Group ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under The Company / Corporate Governance / Compensation Reports as well as in Section "Remuneration Report" of the 2015 Annual Report of pbb Group ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)).

### **1.4 Regulatory and Commercial Consolidation**

According to Part 8 of CRR, companies which form part of the Group as defined in Section 10a KWG in conjunction with Article 11 et seq. CRR (regulatory consolidation scope) must be considered in the Disclosure Report. By contrast, the commercial consolidation scope is based on international accounting standards as shown in the Annual Report of pbb Group. As of 31 December 2015, there is no difference between the regulatory scope of consolidation according to Articles 18 to 24 CRR and the commercial scope of consolidation for pbb's consolidated financial statement.

As at the reporting date, the regulatory consolidation scope comprised pbb as parent company of the group of institutions as well as 9 subordinate companies. The total regulatory capital and the consolidated risk positions according to CRR are determined based on the IFRS financial statement as per Section 10a (5) KWG.

pbb prepared its consolidated financial statement as of 31 December 2015 in line with Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002 based on international financial reporting standards (IFRS). The separate financial statements of consolidated German and foreign companies are included in the consolidated financial statement based on uniform accounting and valuation principles.

According to Article 436, Points (a) and (b) CRR, the following Table "Regulatory and Commercial Consolidation Scope" shows the regulatory and commercial consolidation scope of pbb. The various subsidiaries are divided according to the company type in line with the definitions provided in Article 4 CRR in conjunction with Section 1 KWG.

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Table 1: Regulatory and Commercial Consolidation Scope

Companies	Consolidation according to regulatory treatment			Consolidation according to the accounting standard
	Full	Deduction	Risk-weighted equity holdings	Full
<b>Credit institutions</b>				
<b>Domestic</b>				
Deutsche Pfandbriefbank AG, Munich, Germany	x			x
<b>International</b>				
Hypo Real Estate Capital India Corp. Private Ltd. i.L., Mumbai, India	x			x
Hypo Real Estate Capital Japan Corp., Tokyo, Japan	x			x
<b>Financial services institutions</b>				
<b>Domestic</b>				
none				
<b>International</b>				
none				
<b>Financial enterprises</b>				
<b>Domestic</b>				
none				
<b>International</b>				
Hypo Real Estate International LLC I, Wilmington, USA	x			x
Hypo Real Estate International Trust I, Wilmington, USA	x			x
<b>Ancillary banking services enterprises</b>				
<b>Domestic</b>				
IMMO Immobilien Management GmbH & Co. KG, Munich, Germany	x			x
Immo Invest Real Estate GmbH, Munich, Germany	x			x
Ragnarök Vermögensverwaltung AG & Co. KG, Munich, Germany	x			x
<b>International</b>				
RPPSE Espacio Oviedo S.L.U., Madrid, Spain	x			x
Hayabusa Godo Kaisha i.L., Tokyo, Japan	x			x
<b>Other enterprises</b>				
<b>Domestic</b>				
none				
<b>International</b>				
none				

Derogation provided for in Article 19 (1) CRR

pbb Group avails itself of the derogation provided for in Article 19 (1) CRR in conjunction with Section 31 (3) KWG for two companies, i.e. one provider of ancillary services and one financial company. These companies are not part of the regulatory consolidation scope:

- GfI-Gesellschaft für Immobilienentwicklung and -verwaltung mbH i.L., Stuttgart, Germany
- Immo Immobilien Management Beteiligungsgesellschaft mbH, Munich, Germany.

Against the background of their secondary financial significance, these companies are not part of the regulatory or the commercial consolidation. From a regulatory perspective, they are either subject to the deduction method or to risk weighting. The effects of the contractual relationships of group companies with non-consolidated subsidiaries have been taken into consideration in the consolidated financial statement as required by the Commercial Code. The shares in non-consolidated companies are shown as AfS (Available for Sale) financial assets.

pbb as the ultimate parent company of pbb Group informs both German Bundesbank and BaFin on an annual basis of companies which are not part of the regulatory consolidation.

### Changes in the Financial Year

RPPSE Espacio Oviedo S.L.U., Madrid, a special-purpose vehicle in connection with a salvage acquisition, was first subject to regulatory consolidation in financial year 2015. According to the Commercial Code, the company has been consolidated since 2013.

### Special-purpose Vehicles

As in the previous year, pbb Group had the following four special-purpose vehicles as of 31 December 2015. In financial year 2015 no new special-purpose vehicle was actively used.

- Hypo Real Estate International LLC I, Wilmington, USA
- Hypo Real Estate International Trust I, Wilmington, USA
- RPPSE Espacio Oviedo S.L.U., Madrid, Spain
- Hayabusa Godo Kaisha i.L., Tokyo, Japan

In general special-purpose vehicles are used to isolate assets from operational companies so as to be (largely) insolvency-proof and to allow a more convenient use of these assets when they are needed as they often serve as collateral. Within the framework of its business activities, pbb Group uses special-purpose vehicles in particular to mitigate risks. The active special-purpose vehicles mainly have the following objectives:

- group refinancing
- salvage acquisitions of mortgaged property

The 4 special-purpose vehicles are part of both the regulatory and the commercial consolidation scopes.

### Subsidiaries with Capital Deficits

A capital deficit is the amount by which the own funds of a subsidiary which is not consolidated fall below the regulatory capital as per Article 92 CRR in conjunction with Article 465 CRR. As in the previous year, pbb Group did not hold shares in any subsidiaries as of 31 December 2015 which were deducted from liable equity (deduction method) where these subsidiaries were subject to capital deficits as defined in Article 436 (d) CRR and were not included in the consolidation.

### Transfer of Own Funds or Repayment of Liabilities

Within pbb Group, there are no obvious legal or factual barriers to the transfer of own funds or the repayment of liabilities by the parent company. pbb, which is critical for the financial stability of the group, is headquartered in Germany. As in the previous year, no transfer of own funds and no repayment of liabilities as defined by Article 7 (1), Point (a) CRR took place in reporting year 2015.

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## 2 Own Funds and Assets

### 2.1 Structure of Own Funds

Regulatory own funds are decisive for the compliance with regulatory capital requirements and thus for capital requirements for counterparty default risks, market risks, operational risks, settlement risks as well as CVA risks, and they are determined according to Part 2 of CRR. Regulatory own funds are composed of Common Equity Tier 1 (CET1) capital, additional Tier 1 (AT1) capital as well as Tier 2 (T2) capital.

The following paragraphs deal with own funds for pbb Group on a consolidated basis according to Article 437 CRR in conjunction with the transitional provisions of Article 492 CRR.

According to Article 437 (1), Point (d) CRR in conjunction with Article 492 (3) and (4) CRR, the following Table showing the structure of own funds displays the type and amount of own funds of pbb Group as at the reporting date 31 December 2015 (including 2015 net profit and after deduction of the proposed dividend subject to the approval of the Annual General Meeting). Own funds are calculated according to CRR. The amounts shown are based on the IFRS consolidated financial statement of pbb Group including regulatory adjustments. pbb is the direct or indirect main shareholder of shareholdings which are part of the consolidation scope.

Table 2: Structure of Own Funds

in € million		(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE-REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
<b>Nr.</b>	<b>Capital instruments pbb Group</b>			
<b>Common Equity Tier 1 (CET1) capital: Instruments and reserves</b>				
1	Capital instruments and the related share premium accounts	2,017	26 (1), 27, 28, 29, EBA list 26 (3)	
	of which: Subscribed capital	380	EBA list 26 (3)	
	of which: Capital reserve	1,637	EBA list 26 (3)	
2	Retained earnings	655	26 (1) (c)	
3	Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	16	26 (1)	
3a	Funds for general banking risk	-	26 (1) (f)	
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)	
4a	Public sector capital injections grandfathered until 1 January 2018	-	483 (2)	
5	Minority Interests (amount allowed in consolidated CET1)	-	84, 479, 480	
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	-	26 (2)	
<b>6</b>	<b>Common Equity Tier 1 (CET1) capital before regulatory adjustments</b>	<b>2,688</b>		
<b>Common Equity Tier 1 (CET1) capital: regulatory adjustments</b>				
7	Additional value adjustments (negative amount)	-14	34, 105	
8	Intangible assets (net of related tax liability) (negative amount)	-8	36 (1) (b), 37, 472 (4)	-13
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)	-7	36 (1) (c), 38, 472 (5)	-10
11	Fair value reserves related to gains or losses on cash flow hedges	-87	33 (a)	

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in € million				
Nr.	Capital instruments pbb Group	(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE- REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
12	Negative amounts resulting from the calculation of expected loss amounts	-31	36 (1) (d), 40, 159, 472 (6)	-43
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	-10	33 (b)	-15
15	Defined-benefit pension fund assets (negative amount)	-3	36 (1) (e), 41, 472 (7)	-4
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-	36 (1) (f), 42, 472 (8)	
17	Holdings 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, 472 (9)	
18	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)	-	36 (1) (h), 43, 45, 46, 49 (2) (3), 79, 472 (10)	
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 (amount above 10% threshold and net of eligible short positions) (negative amount)	-	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79, 470, 472 (11)	
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 38 (3) are met) (negative amount)	-	36 (1) (c), 38, 48 (1) (a), 470, 472 (5)	
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), 470, 472 (11)	
24	Empty Set in the EU	-		
25	of which: deferred tax assets arising from temporary differences	-	36 (1) (c), 38, 48 (1) (a), 470, 472 (5)	
25a	Losses for the current financial year (negative amount)	-	36 (1) (a), 472 (3)	
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	5		
26aa	thereof: Deductions and adjustment items for not realised losses from exposures to central governments categorised as Available for Sale (AFS) according to IAS 39	6	467	

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in € million		(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE-REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
<b>Nr.</b>	<b>Capital instruments pbb Group</b>			
26ab	thereof: Deductions and adjustment items for other not realised losses	-1	467	
26b	Amount to be deducted from or added to Common Equity Tier 1 capital with regard to additional filters and deductions required pre CRR	-	481	
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	-	36 (1) (j)	
<b>28</b>	<b>Total regulatory adjustments to Common equity Tier 1 (CET1)</b>	<b>-155</b>		
<b>29</b>	<b>Common Equity Tier 1 (CET1) capital</b>	<b>2,533</b>		
<b>Additional Tier 1 (AT1) capital: instruments</b>				
30	Capital instruments and the related share premium accounts	350	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	-105	486 (3)	
	Public sector capital injections grandfathered until 1 January 2018	-	483 (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, 480	
35	of which: instruments issued by subsidiaries subject to phase out	-	486 (3)	
<b>36</b>	<b>Additional Tier 1 (AT1) capital before regulatory adjustments</b>	<b>245</b>		
<b>Additional Tier 1 (AT1) capital: instruments</b>				
37	Direct and indirect holdings by an institution of own AT1 Instruments (negative amount)	-	52 (1) (b), 56 (a), 57, 475 (2)	
38	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, 475 (3)	
39	Direct and indirect holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)	-	56 (c), 59, 60, 79, 475 (4)	
40	Direct and indirect 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, 475 (4)	
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)	-36		
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	-36	472, 472 (3) (a), 472 (4), 472 (6), 41a, 41b, 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a)	
41aa	of which: intangibles	-13		
41ab	of which: shortfall of provisions to expected losses calculated according to the IRB-Approach	-23		



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in € million		(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE-REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
<b>Nr.</b>	<b>Capital instruments pbb Group</b>			
41b	Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Tier 2 capital during the transitional period pursuant to article 475 of Regulation (EU) No 575/2013	-	477, 477 (3), 477 (4) (a)	
41c	Amount to be deducted from or added to Additional Tier 1 capital with regard to additional filters and deductions required pre- CRR	-	467, 468, 481	
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	-	56 (e)	
<b>43</b>	<b>Total regulatory adjustments to Additional Tier 1 (AT1) capital</b>	<b>-36</b>		
<b>44</b>	<b>Additional Tier 1 (AT1) capital</b>	<b>209</b>		
<b>45</b>	<b>Tier 1 capital (T1 = CET1 + AT1)</b>	<b>2,742</b>		
<b>Tier 2 (T2) capital: instruments and provisions</b>				
46	Capital instruments and the related share premium accounts	230	62, 63	
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2	190	486 (4)	
	Public sector capital injections grandfathered until 1 January 2018	-	483 (4)	
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, 480	
49	of which: instruments issued by subsidiaries subject to phase out	-	486 (4)	
50	Credit risk adjustments	-	62 (c) & (d)	
<b>51</b>	<b>Tier 2 (T2) capital before regulatory adjustments</b>	<b>421</b>		
<b>Tier 2 (T2) capital: regulatory adjustments</b>				
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	63 (b) (i), 66 (a), 67, 477 (2)	
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, 477 (3)	
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, 477 (4)	
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, 477 (4)	
56	Regulatory adjustments applied to tier 2 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)	-23		
56a	Residual amounts deducted from Tier 2 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	-23	472, 472(3)(a), 472 (4), 472 (6), 472 (8)(a), 472 (9), 472 (10)(a), 472 (11)(a)	
56aa	of which: shortfall of provisions to expected losses calculated according to the IRB-Approach	-23		

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in € million				
Nr.	Capital instruments pbb Group	(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE- REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
56b	Residual amounts deducted from Tier 2 capital with regard to deduction from Additional Tier 1 capital during the transitional period pursuant to article 475 of Regulation (EU) No 575/2013	-	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 filters and deductions required pre CRR	-	467, 468, 481	
<b>57</b>	<b>Total regulatory adjustments to Tier 2 (T2) capital</b>	<b>-23</b>		
<b>58</b>	<b>Tier 2 (T2) capital</b>	<b>398</b>		
<b>59</b>	<b>Total capital (TC = T1 + T2)</b>	<b>3,140</b>		
59a	Risk weighted assets 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)	-		
<b>60</b>	<b>Total risk weighted assets</b>	<b>13,402</b>		
<b>Capital ratios and buffers</b>				
61	Common Equity Tier 1 (as a percentage of risk exposure amount)	18.9%	92 (2) (a), 465	
62	Tier 1 (as a percentage of risk exposure amount)	20.5%	92 (2) (b), 465	
63	Total capital (as a percentage of risk exposure amount)	23.4%	92 (2) (c)	
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 the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	-	CRD 128, 129, 130	
65	of which: capital conservation buffer requirement	-		
66	of which: countercyclical buffer requirement	-		
67	of which: systemic risk buffer requirement	-		
67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	-	CRD 131	
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	-	CRD 128	
69	[non relevant in EU regulation]	-		
70	[non relevant in EU regulation]	-		
71	[non relevant in EU regulation]	-		
<b>Amounts below the thresholds for deduction (before risk weighting)</b>				
72	Direct and indirect holdings of the capital 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)	-	36 (1) (h), 45, 46, 472 (10) 56 (c), 59, 60, 475 (4) 66 (c), 69, 70, 477 (4)	
73	Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-	36 (1) (i), 45, 48, 470, 472 (11)	
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)	66	36 (1) (c), 38, 48, 470, 472 (5)	
<b>Applicable caps on the inclusion of provisions in Tier 2</b>				

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in € million		(A) AMOUNT AT DISCLOSURE DATE	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE	(C) AMOUNTS SUBJECT TO PRE-REGULATION (EU) NO 575/2013 TREATMENT OR PRESCRIBED RESIDUAL AMOUNT OF REGULATION (EU) NO 575/2013
Nr.	Capital instruments pbb Group			
76	Credit risk adjustments included in T2 in respect of exposures subject to standardized approach (prior to the application of the cap)	-	62	
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	3	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)	-	62	
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	71	62	
<b>Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)</b>				
80	Current cap on CET1 instruments subject to phase out arrangements	-	484 (3), 486 (2) & (5)	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	484 (3), 486 (2) & (5)	
82	Current cap on AT1 instruments subject to phase out arrangements	245	484 (4), 486 (3) & (5)	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	105	484 (4), 486 (3) & (5)	
84	Current cap on T2 instruments subject to phase out arrangements	190	484 (5), 486 (4) & (5)	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	65	484 (5), 486 (4) & (5)	

Own funds as shown in the Table are based on COREP reporting of pbb Group as at the reporting date 31 December 2015 (including 2015 net profit and after deduction of the proposed dividend subject to the approval of the Annual General Meeting).

### Tier 1 capital

Tier 1 capital as per CRR generally consists of Common Equity Tier 1 (CET1) capital and Additional Tier 1 (AT1) capital. Common equity Tier 1 capital consists of equity according to the IFRS financial statements adjusted for regulatory adjustments. In addition, under certain conditions hybrid capital issues may be included in the Additional Tier 1 capital. The composition of the balance sheet equity according to IFRS is described in pbb Group's 2015 Annual Report ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)).

### Common Equity Tier 1 capital

As of 31 December 2015, the conditions for Common Equity Tier 1 capital according to Articles 26 to 50 CRR were applicable.

The subscribed capital of pbb as of 31 December 2015 still amounted to € 380 million and was divided into 134,475,308 no-par value ordinary bearer shares with a computed share in the subscribed capital of € 2.83 per share.

In July 2015, pbb fully paid back the silent participation of Financial Market Stabilisation Fund FMS with a nominal value of € 1.0 billion (€ 999 million IFRS carrying value), meaning that this was not part of the Common Equity Tier 1 capital as of 31 December 2015.

Common Equity Tier 1 capital is based on the components of the IFRS balance sheet equity which includes capital reserve, retained earnings and other reserves as well as the net profit of € 230 million. As of 31 December 2015, this amounted to € 2,746 million. From this amount, the suggested dividend pay-out of € 58 million is deducted, resulting in Common Equity Tier 1 capital of € 2,688 million.

### Regulatory Adjustments

According to CRR, various items are deducted from Common Equity Tier 1 (CET1) capital before regulatory adjustments amounting to € 2,688 million:

- According to Article 34 CRR, the AfS reserve is part of the regulatory Tier 1 capital, irrespective of its sign. However due to the Grandfathering provisions of Articles 467 and 468 CRR, the amount as of 31 December 2015, i.e. € - 4 million is almost fully attributed except for a remainder of € - 1 million (40% of AfS reserve items which do not refer to central governments).  
Articles 467 and 468 CRR contain a special provision concerning exposures to central governments classified as "Available for Sale". Until the abolition of IAS 39, these items may be set off completely provided that this special provision is applied by the national banking supervision authorities. The German banking supervision authorities do apply this special provision. The adjustment items for the AfS reserve according to the Grandfathering provisions are composed as follows: € - 1 million (60% of the positive amount of AfS reserve items not related to central government exposures) and € + 6 million (100% of the negative portion of AfS reserve items related to central government exposures).
- The cash flow hedge reserve of € 87 million is fully set off according to Article 33 CRR.
- According to Article 37 CRR, intangible assets amounting to € 21 million are fully deductible from the Tier 1 capital, however based on the Grandfathering provisions applicable as of 31 December 2015 only 40%, i.e. € 8 million, will be deducted.
- Defined benefit pension fund assets are deducted from Common Equity Tier 1 capital based on Article 41 CRR. In this context, it has to be noted that according to the definition of this item in Article 4 (1), no. 109 CRR the fund liabilities must be deducted from the related assets. Of the net value of € 7 million, 40%, i.e. € 3 million, are deducted from the Common Equity Tier 1 capital due to the Grandfathering provisions.
- Of fair value gains and losses arising from the institution's own credit risk related to derivative liabilities amounting to € 25 million (DVA adjustment) 40%, i.e. € 10 million, are deducted from the Common Equity Tier 1 capital due to the Grandfathering provisions. This deduction is based on Article 33 (1), Point (c) CRR.
- If loss allowances display a value adjustment deficit as compared with the expected loss according to Basel III, this has to be deducted from the Common Equity Tier 1 capital provided that the bank concerned applies the Internal Ratings-Based Approach (IRBA) according to Basel III (cf. Article 159 CRR). Of the deficit of € 78 million as of 31 December 2015, 40%, i.e. € 31 million, are deducted from the Common Equity Tier 1 capital due to the Grandfathering provisions. Half of the remainder of € 47 million is deducted from Additional Tier 1 capital and Tier 2 capital, i.e. € 23 million each.
- Value adjustments based on prudent valuation requirements amounting to € 14 million are fully deducted from Common Equity Tier 1 capital. However at the same time they serve as additional value adjustments as defined in Article 159 CRR, thereby reducing the value adjustment deficit.  
Prudent valuation is required based on Article 34 CRR. Institutions with fair valued items up to a limit of € 15 billion (after deducting items which are not relevant for equity) may use, according to Article 4 of EBA/RTS/2014/06, a simplified approach. pbb benefits from this scheme. According to Article 6 of this operating standard, a flat amount of 0.1% of fair valued portfolios is deducted (again after deducting items which are not relevant for equity).
- As of 31 December 2015 deductions of deferred tax assets amounted to € 7 million, i.e., 40% of € 17 million of deferred tax assets according to the Grandfathering provisions. These do not result from temporary differences after offsetting deferred tax liabilities. Deferred tax assets of € 66 million resulting from temporary differences are risk weighted at 250% according to Article 48 (4) CRR.

Altogether, Common Equity Tier 1 (CET1) capital of pbb Group as of 31 December 2015, including the 2015 net profit and after deducting the proposed dividend, subject to the approval of the Annual General Meeting, amounted to € 2,533 million (31 December 2014: € 3,364 million). The main features of Common Equity Tier 1 instruments issued by pbb Group according to Article 437 (1), Point (b) CRR are described in Chapter 9 "Notes".

### Additional Tier 1 capital

The Tier 1 capital of pbb Group consists of Common Equity Tier 1 (CET1) capital as well as Additional Tier 1 (AT1) capital as far as the provisions of Articles 52 to 54 CRR are met. These are hybrid capital instruments. The term hybrid capital instrument specifically means the issuance of so-called “preferred securities” by special-purpose vehicles which have been specifically established for this purpose. As in the previous year, preferred securities of € 350 million were issued by a special-purpose vehicle as of 31 December 2015.

**Table 3: Additional Tier 1 (AT1) capital – Capital Instruments**

Issuer	Parent company	Year of issue	Type	Nominal amount in € million	Interest rate in %	Maturity	first call date Issuer
Hypo Real Estate International Trust I	Deutsche Pfandbriefbank AG	2007	Preferred Securities	350	5.864	indefinite	2017 <sup>1)</sup>
<b>Total</b>				<b>350</b>			

1) The bonds of Deutsche Pfandbriefbank AG on their emission vehicle issued emission is - after the first call date - terminable at any other interest payment date by the Deutsche Pfandbriefbank AG, subject to approval by BaFin / Bundesbank.

The so-called hybrid capital has characteristics of both equity and debt. Using a suitable combination of these features, the capital can be optimally aligned with investors' and borrowers' interests, thereby allowing for an ideal structuring.

Hybrid instruments differ from classical Tier 2 capital in that they are subject to more stringent maturity requirements. What is more, in the event of bankruptcy, hybrid Tier 1 capital instruments may only be satisfied once the Tier 2 capital (longer-term subordinated liabilities) has been paid back. Other than traditional Tier 1 capital instruments, hybrid instruments have a profit entitlement in the form of a fixed or variable interest, based on the existence of a net profit. Furthermore, hybrid capital may be issued for an indefinite period or as long-term issues.

The securities were issued in 2007 and are subject to a fixed interest rate in line with market rates up until the possible date of termination by the bank. Thereafter they are subject to a floating interest rate including an interest step up. The issued securities meet the following requirements according to the Sydney Declaration of the Basle Committee for Banking Supervision, i.e.

- they do not contain any interest accumulation provisions
- under a bankruptcy, they are only satisfied once the Tier 2 capital (subordinated liabilities) has been paid back
- they have an unlimited term and cannot be terminated by the investor
- they are subject to just one moderate interest rate adjustment provision in conjunction with a termination right in favor of the debtor which can be first used 10 years after the issue date
- they are issued and fully paid in
- they are available for the company on an ongoing basis in order to cover for losses.

In light of pbb's net loss, the bank failed to pay interest of € 20.5 million (31 December 2014: € 205 million) on the hybrid capital. For the interest period from June 2015 until June 2016 however interest will be paid as a result of the repayment of the silent participation of Financial Market Stabilisation Fund FMS (distribution to the shareholder).

pbb's issue of € 350 million is subject to a right of termination on the part of the bank in 2017 in conjunction with a step up. According to the transitional provisions in Article 489 CRR, a certain percentage of the amount of € 350 million qualifies as Additional Tier 1 capital and this percentage falls by 10% annually, i.e. as of 31 December 2015, 70% of the amount qualified as Additional Tier 1 capital. The non-qualifying portion can be applied to the Grandfathering stock of the Tier 2 capital as far as the limit of 70% of the recognisable amount was not used as of 31 December 2012.

Thus the Additional Tier 1 (AT1) capital before regulatory adjustments of pbb Group is calculated as follows: € 350 million multiplied by 70% = € 245 million (as described above, € 105 million are set off against the Tier 2 capital).

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### Regulatory Adjustment

Of these € 245 million, the following items are deducted. Based on the Grandfathering provisions, these items must not be deducted from the Common Equity Tier 1 capital but partly from Additional Tier 1 capital:

- € 13 million (60% of intangible assets of € 21 million)
- € 23 million (30% of the value adjustment deficit of € 78 million).

Altogether the Additional Tier 1 (AT1) capital of pbb Group as of 31 December 2015 amounted to € 209 million (31 December 2014: € 195 million). The main features of Additional Tier 1 capital issued by pbb Group according to Article 437 (1), Point (b) CRR are described in Chapter 9 "Notes".

### Tier 2 capital

Tier 2 capital of pbb Group consists of long-term subordinated loans less regulatory adjustments to Common Equity Tier 1 capital which have to be applied to the Tier 2 capital due to transitional provisions. These adjustments imply a 30% deduction for the value adjustment deficit. The provisions for the recognition of long-term subordinated loans according to Article 63 CRR are mostly complied with. For a few security issues the Grandfathering clause according to Article 490 CRR is applied.

Tier 2 instruments are subject to interest in line with market rates. The reduction of € 87 million as compared with the previous year mainly results from long-term subordinated loans which became due in 2015 as well as from the daily amortisation over the last five years as provided for by Basel III.

The subordinated loans consist of the following issues (listed according to maturity).

**Table 4: Tier 2 (T2) capital – Capital Instruments**

Issuer	Year of issue	Type	Nominal amount in € million	Interest rate in %	Maturity
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.030	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	4.010	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	13	4.035	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	19	4.030	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.030	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	16	4.000	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.000	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.000	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	20	4.000	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.065	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	4.060	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	30	4.112	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	4.195	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	2	4.250	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	21	4.260	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	3	4.350	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	4.350	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	3	4.440	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	3	4.635	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	1	4.660	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	3	4.730	2016

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Issuer	Year of issue	Type	Nominal amount in € million	Interest rate in %	Maturity
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	2	4.270	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	2	4.725	2016
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	4.625	2016
Deutsche Pfandbriefbank AG	2006	Registered bond	15	4.245	2017
Deutsche Pfandbriefbank AG	2007	Borrowers' note loan	10	4.795	2017
Deutsche Pfandbriefbank AG	2007	Borrowers' note loan	10	4.810	2017
Deutsche Pfandbriefbank AG	2006	Registered bond	10	4.050	2018
Deutsche Pfandbriefbank AG	2008	Borrowers' note loan	1	variable	2018
Deutsche Pfandbriefbank AG	2008	Registered bond	60	variable	2018
Deutsche Pfandbriefbank AG	2008	Borrowers' note loan	10	7.515	2018
Deutsche Pfandbriefbank AG	2008	Bearer bond	25	8.000	2018
Deutsche Pfandbriefbank AG	2008	Borrowers' note loan	75	8.000	2018
Deutsche Pfandbriefbank AG	2008	Bearer bond	10	7.496	2018
Deutsche Pfandbriefbank AG	2006	Registered bond	5	4.520	2019
Deutsche Pfandbriefbank AG	2000	Bearer bond	15	variable	2020
Deutsche Pfandbriefbank AG	2006	Registered bond	1	4.900	2020
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	10	4.350	2021
Deutsche Pfandbriefbank AG	2006	Registered bond	10	4.570	2021
Deutsche Pfandbriefbank AG	2006	Bearer bond	7	4.560	2021
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	1	4.910	2021
Deutsche Pfandbriefbank AG	2002	Borrowers' note loan	4	6.550	2022
Deutsche Pfandbriefbank AG	2002	Borrowers' note loan	6	6.550	2022
Deutsche Pfandbriefbank AG	2002	Bearer bond	10	6.570	2022
Deutsche Pfandbriefbank AG	2003	Bearer bond	10	variable	2023
Deutsche Pfandbriefbank AG	2003	Borrowers' note loan	5	6.330	2023
Deutsche Pfandbriefbank AG	2003	Borrowers' note loan	5	6.330	2023
Deutsche Pfandbriefbank AG	2008	Bearer bond	10	8.060	2023
Deutsche Pfandbriefbank AG	2005	Borrowers' note loan	10	4.650	2025
Deutsche Pfandbriefbank AG	2001	Bearer bond	10	6.550	2026
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	3	4.530	2026
Deutsche Pfandbriefbank AG	2006	Registered bond	5	5.125	2026
Deutsche Pfandbriefbank AG	2006	Borrowers' note loan	5	5.040	2026
Deutsche Pfandbriefbank AG	2003	Loan	60	6.540	2028
Deutsche Pfandbriefbank AG	2007	Loan	90	5.099	2032
<b>Total</b>			<b>719</b>		

None of the subordinated loans may lead to a premature repayment obligation on the part of the issuer. These loans are subordinated to all creditors' claims unless these are subordinated as well (in case of liquidation, insolvency or in the event of other insolvency or other proceedings). No subsequent limitation of subordination, maturity or notice period can be made. Debtors' termination rights are subject to defined contractual conditions. The original term is at least five years and is usually between 10 and 20 years.

The Tier 2 (T2) capital before adjustments is calculated as follows: € 105 million of € 350 million of Additional Tier 1 capital going beyond the limit of 70% of the Additional Tier 1 capital (according to the Grandfathering provision of 31 December 2015) plus € 719 nominal value of Additional Tier 2 capital issues = nominal value of € 824 million.

### Regulatory Adjustments

The following items are deducted from the Tier 2 (T2) capital before regulatory adjustments with a nominal value of € 824 million:

- Amortisation of Tier 2 instruments of € 339 million according to Article 64 CRR
- Limitation of Tier 2 instruments to 70% of the qualifying stock as of 31 December 2012 (Article 486 CRR): This limit is exceeded by a total amount of € 65 million.
- Deduction of € 23 million from the value adjustment deficit of € 78 million (30%).

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After these regulatory adjustments, the Tier 2 (T2) capital amounts to a total of € 398 million (31 December 2014: € 483 million). The main features of Tier 2 instruments issued by pbb according to Article 437 (1), Point (b) CRR are described in Chapter 9 "Notes".

### Own Funds

pbb Group's own funds totalling € 3,140 million (31 December 2014: € 4,042 million) consist of Common Equity Tier 1 (CET1) capital of € 2,533 million, Additional Tier 1 (AT1) capital of € 209 million as well as Tier 2 (T2) capital of € 398 million.

The main features of CET1, AT1 and T2 instruments issued by pbb according to Article 437 (1), Point (b) CRR are described in the Notes. The following Table displays the development of regulatory own funds in financial year 2015.

**Table 5: Own Funds Development**

in € million

	31.12.2015 <sup>3)</sup>	30.09.2015 <sup>2)</sup>	30.06.2015 <sup>2)</sup>	31.03.2015 <sup>2)</sup>	31.12.2014 <sup>1)</sup>
Common Equity Tier 1 (CET1) capital	2,533	2,350	3,337	3,319	3,364
Additional Tier 1 (AT1) capital	209	202	193	189	195
<b>Tier 1 (T1) capital</b>	<b>2,742</b>	<b>2,552</b>	<b>3,530</b>	<b>3,508</b>	<b>3,559</b>
Tier 2 (T2) capital	398	414	429	451	483
<b>Own funds</b>	<b>3,140</b>	<b>2,966</b>	<b>3,959</b>	<b>3,959</b>	<b>4,042</b>

1) After approved annual financial statements 2014 and after result distribution 2014.

2) Divergence to the value in the disclosure report in 2014 due to a retroactive adjustment.

3) After approved annual financial statements 2015 and after result distribution 2015.

The reduction of pbb Group's own funds by € 902 million as compared to 31 December 2014 was mainly driven by the full repayment of the silent participation of Financial Market Stabilisation Fund FMS with a nominal value of € 1.0 billion (€ 999 million IFRS carrying value) in July 2015. Other reductions in qualifying hybrid capital and long-term subordinated loans resulting from repayments, daily amortisation according to Basel III and a reduction of grandfathered items were over-compensated by the good result for financial year 2015.

### Reconciliation of Regulatory Own Funds and Financial Position Equity

According to Article 437 (1), Point (a) CRR, the following Table shows a reconciliation of regulatory own funds and financial position equity according to IFRS for pbb Group. pbb Group's financial position equity amounted to € 2,746 million (31 December 2014: € 3,512 million).

**Table 6: Balance Sheet Reconciliation**

in € million

Capital Instruments pbb Konzern	Total equity according to commercial IFRS-consolidation scope	Total equity according to regulatory CRR-consolidation scope	Regulatory own funds according to CRR
<b>Common Equity Tier 1 (CET1): Instruments and reserves</b>			
Capital instruments and the ralted share premium accounts	2,017	2,017	2,017
of which: Instrument type 1	380	380	380
of which: Instrument type 2	1,637	1,637	1,637
of which: Instrument type 3	-	-	-
Retained earnings	483	483	483
Accumulated other comprehensive income (and other reserves)	16	16	16
thereof: AIS-Reserve	-4	-4	-4



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in € million

Capital Instruments pbb Konzern	Total equity according to commercial IFRS-consolidation scope	Total equity according to regulatory CRR-consolidation scope	Regulatory own funds according to CRR
thereof: Cashflow-Hedge-Reserve	87	87	87
thereof: Gains / losses from pension commitments	-71	-71	-71
thereof: Foreign currency reserve	4	4	4
Consolidated result from 1 January to 31 December 2015	230	230	230
Distribution	-	-	-58
<b>Common Equity Tier 1 (CET1): before regulatory adjustments</b>	<b>2,746</b>	<b>2,746</b>	<b>2,688</b>
Additional value adjustments (negative amount)	-	-	-14
Intangible assets (net of related tax liability) (negative amount)	-	-	-8
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)	-	-	-7
Defined-benefit pension fund assets (negative amount)	-	-	-3
DVA-Adjustment for derivatives	-	-	-10
Value adjustment deficit	-	-	-31
Elimination of CF-Hedge-Reserve	-	-	-87
Elimination of unrealised losses 60 % (without Exposures to central governments)	-	-	-1
Elimination of unrealised losses 100 % (only Exposures to central governments)	-	-	6
Total regulatory adjustments to Common Equity Tier 1 (CET1)	-	-	-155
<b>Common Equity Tier 1 (CET1)</b>	<b>2,746</b>	<b>2,746</b>	<b>2,533</b>
Additional Tier 1 (AT1) capital: instruments	361	361	245
Capital instruments and the related share premium accounts of which: classified as equity under applicable accounting standards	350	350	350
Accrued interest in balance sheet	11	11	-
Amount of qualifying items referred to in article 484 (4) and the related share premium accounts subject to phase out from AT1	-	-	-105
<b>Additional Tier 1 (AT1) capital before regulatory adjustments</b>	<b>361</b>	<b>361</b>	<b>245</b>
<b>Additional Tier 1 (AT1) capital: regulatory adjustments</b>	<b>-</b>	<b>-</b>	<b>-</b>
Balance, which is deducted from the Additional Tier 1 (AT1) capital and not from CET1 during transitional period according to Article 472 CRR	-	-	-36
thereof: Intangible assets	-	-	-13
thereof: value adjustment deficit	-	-	-23
Total regulatory adjustments of Additional Tier 1 (AT1) capital	-	-	-36
<b>Additional Tier 1 (AT1) capital 1)</b>	<b>361</b>	<b>361</b>	<b>209</b>
<b>Tier 1 capital (T1 = CET1 + AT1)</b>	<b>3,107</b>	<b>3,107</b>	<b>2,742</b>
Tier 2 capital (T2): Instruments and reserves	764	764	824
Capital instruments and the related share premium accounts	719	719	719
Amount of qualifying items referred to in article 484 (5) and the related share premium accounts subject to phase out from T2	-	-	105
Deferred interests within the balance sheet	27	27	-
Hedge Adjustments within the balance sheet	18	18	-
<b>Tier 2 (T2) capital before regulatory adjustments</b>	<b>764</b>	<b>764</b>	<b>824</b>
<b>Tier 2 (T2) capital: regulatory adjustments</b>	<b>-</b>	<b>-</b>	<b>-427</b>
Amortisation of Tier 2 capital instrument according to Article 64 CRR	-	-	-339
Amortised Tier 2 capital additionally exceeding AT1 nominal	-	-	485

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in € million

Capital Instruments pbb Konzern	Total equity according to commercial IFRS-consolidation scope	Total equity according to regulatory CRR-consolidation scope	Regulatory own funds according to CRR
Cut back of Grandfathering instruments to 70 % of the latest Basel II-value	-	-	-65
Additional deduction and adjustment items from Tier 2 capital to be deducted or added according to pre-CRR-treatment required deductions	-	-	-65
thereof: Not eligible as Additional Tier 1 capital (AT1) according to Article 52 CRR, but as Tier 2 capital (T2) according to Article 63 CRR	-	-	-65
Balance, which is deducted from the Additional Tier 1 (AT1) capital and not from CET1 during transitional period according to Article 472 CRR	-	-	-23
thereof: value adjustment deficit	-	-	-23
<b>Tier 2 capital (T2) 1)</b>	<b>764</b>	<b>764</b>	<b>397</b>
<b>Total capital (TC = T1 + T2)</b>	<b>3,871</b>	<b>3,871</b>	<b>3,140</b>

1) The instruments of additional Tier 1 capital und Tier 2 capital are part of the liabilities within the IFRS balance sheet.

More information on the financial position equity based on IFRS can be found in the Group Management Report of pbb Group's 2015 Annual Report which is publicised on the website of pbb ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)).

## 2.2 Capital Requirements

### Methods to Determine the Own Funds Requirement

Since 1 January 2014 pbb Group has been applying the provisions of CRR (Basel III) and is therefore subject to the disclosure requirements according to Part 8 of CRR. The provisions of CRR/CRD IV define the minimum amount of own funds as well as the calculation of capital requirements. In order to meet the capital requirements, the counterparty default risk (credit risk), market risk, operational risk, settlement risk as well as the credit value adjustment risk (CVA risk) must be supported with capital. The regulatory key figures are calculated based on IFRS accounting standards.

### Counterparty Default Risk

According to Article 142 et seq. CRR, pbb uses the Advanced IRB Approach, which is based on internal rating procedures, for the calculation of capital requirements to support counterparty default risks. The following Table displays the coverage for IRBA exposure at default (EAD) as well as for risk-weighted IRBA assets (RWA) according to Section 11 SolvV.

**Table 7: IRB Approach Coverage**

	Degree of coverage IRB-Approach	
	EAD	RWA
31. December 2014	95%	99%
31. December 2015	96%	99%

In pbb Group's credit portfolio the Advanced IRB Approach covers approx. 96% of the exposure at default (EAD). The remaining 4% of EAD which are subject to the standard approach according to CRR regulations include e.g. counterparty default exposure to public sector borrowers (i.e. amounts due from German municipalities) and the non-strategic remaining portfolio which consists of smaller retail customer real estate loans.

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For the calculation of capital requirements for counterparty credit risk according to Part 3, Title II, Chapter 6 CRR, pbb Group applies the mark-to-market method as per Article 274 CRR.

### Market Risk

According to Part 3, Title IV CRR, pbb Group calculates own funds required for market risk based on the standardised approach as defined in Articles 325 et seq. CRR.

### Operational Risk

According to Part 3, Title III CRR, pbb group calculates own funds required for operational risk based on the standardised approach as defined in Articles 317 et seq. CRR.

### Settlement Risk

According to Part 3, Title V CRR, own funds required for settlement and advance performance risk are calculated based on the rules laid down in Articles 378 and 379 CRR.

### CVA Risk

According to Part 3, Title VI CRR, pbb uses the standardised approach as defined in Article 384 CRR to calculate own funds required for the credit valuation adjustment (CVA) risk. This is based on the effective maturity, a rating-based weight and the EAD, where the EAD of the transactions concerned is determined using the mark-to-market method according to Article 274 CRR.

## Capital Requirements

The capital requirement for the risk categories mentioned above amounts to 8% of risk-weighted assets (RWA).

**Table 8: Risk-weighted Assets**

in € million

	31.12.2015 <sup>3)</sup>	31.12.2014 <sup>1) 2)</sup>	Change
Risk-weighted assets	13,402	15,185	-12%

1) After approved annual financial statements 2014 and after result distribution 2014.

2) Divergence to the value in the disclosure report in 2014 due to a retroactive adjustment.

3) After approved annual financial statements 2015 and after result distribution 2015.

As of 31 December 2015, RWAs of pbb Group amounted to € 13,402 million (31 December 2014: € 15,185 million), i.e., 12% less than at the end of the previous year. RWA distribution among risk categories is as follows:

- Counterparty default risk           € 12,163 million           (31. December 2014: € 13,817million)
- CVA risk                                   € 374 million               (31. December 2014: € 445 million)
- Market risk                               € 70 million                 (31. December 2014: € 217million)
- Operational risk                         € 795 million               (31. December 2014: € 706 million)

According to Article 438, Points (c), (d), (e) and (f) CRR, the following Tables show the regulatory own funds requirement as well as the risk-weighted assets for pbb Group, listed by risk categories.

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Table 9: Capital Requirements and Risk-weighted Assets for Counterparty Default Risks

in € million

Credit risk	Capital requirement and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
<b>IRB-Approach</b>					
Exposures to central governments and central banks	219	2,739	414	5,179	-47%
Exposures to institutions	234	2,926	130	1,621	80%
Exposures to corporates	494	6,180	529	6,611	-7%
Thereof to SME	295	3,692	280	3,501	5%
Thereof to specialised lending exposures	-	-	-	-	-
Thereof: Other	199	2,488	249	3,111	-20%
Retail exposures	-	-	-	-	-
Thereof secured by mortgages on immovable property / SME	-	-	-	-	-
Thereof secured by mortgages on immovable property / not SME	-	-	-	-	-
Thereof for qualifying revolving retail exposures	-	-	-	-	-
Thereof other retail exposures / SME	-	-	-	-	-
Thereof other retail exposures / not SME	-	-	-	-	-
Other non credit-obligation assets	5	59	18	222	-73%
<b>Total</b>	<b>952</b>	<b>11,904</b>	<b>1,091</b>	<b>13,634</b>	<b>-13%</b>

in € million

Credit risk	Capital requirement and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
<b>Standardised approach</b>					
Exposures to central governments and central banks	-	-	-	-	-
Exposures to regional governments and local authorities	-	-	-	-	-
Exposures to other public sector entities	-	-	-	-	-
Exposures to multilateral development banks	-	-	-	-	-
Exposures to international organisations	-	-	-	-	-
Exposures to institutions	1	10	1	11	-6%
Exposures to corporates	3	42	10	121	-65%
Retail exposures	0.1	1	0.1	2	-30%
Items secured by mortgages on immovable property	2	29	3	37	-21%
Exposures in default	1	8	1	11	-21%
Items associated with particular high risk	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-
Other items	13	166	-	-	100%
<b>Total</b>	<b>21</b>	<b>258</b>	<b>15</b>	<b>181</b>	<b>42%</b>

1) Subject to future profitability, from or not from temporary differences resulting from deferred tax assets.

in € million

Securitisations	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Standard approach	-	-	0.04	0.5	-100%
Thereof re-securitisation	-	-	-	-	-
IRB approach	-	-	-	-	-
Thereof re-securitisation	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0.04</b>	<b>0.5</b>	<b>-100%</b>

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in € million

Risk from equity holdings	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
<b>Standard approach</b>					
Thereof equity investments if method retained/grandfathered	0.02	0.2	0.02	0.2	-2%
<b>Total</b>	<b>0.02</b>	<b>0.2</b>	<b>0.02</b>	<b>0.2</b>	<b>-2%</b>
<b>IRB approach</b>					
Internal model approach	-	-	-	-	-
PD/LGD approach	-	-	-	-	-
Simple risk-weighting approach	0.01	0.1	-	-	-
Thereof exchange-traded equity investments	-	-	-	-	-
Thereof unlisted, but part of a sufficiently deversified portfolio	-	-	-	-	-
Thereof other investments	0.01	0.1	0.01	0.1	-20%
<b>Total</b>	<b>0.01</b>	<b>0.1</b>	<b>0.01</b>	<b>0.1</b>	<b>-20%</b>

in € million

Counterparty credit risk	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Own funds requirements for pre-funded contributions to the default fund of central counterparties (CCP)	0.02	0.3	0.02	0.2	35%
<b>Total</b>	<b>0.02</b>	<b>0.3</b>	<b>0.02</b>	<b>0.2</b>	<b>35%</b>

Table 10: Capital requirements and Risk-weighted Assets for CVA Risks

in € million

CVA risk 1)	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Advanced method	-	-	-	-	-
Standardised method	30	374	36	445	-16%
Alternative method, based on the original exposure method	-	-	-	-	-
<b>Total</b>	<b>30</b>	<b>374</b>	<b>36</b>	<b>445</b>	<b>-16%</b>

1) Credit Value Adjustments; risk positions for the adjustment of credit valuation

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Table 11: Capital Requirements and Risk-weighted Assets for Market Risks

in € million

Market risk	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Standard approach	6	70	17	217	-68%
Position risk	-	-	-	-	-
Thereof debt issues	-	-	-	-	-
Thereof debt issues	-	-	-	-	-
Foreign-exchange risk	6	70	17	217	-68%
Commodity risk	-	-	-	-	-
Internal model approach	-	-	-	-	-
<b>Total</b>	<b>6</b>	<b>70</b>	<b>17</b>	<b>217</b>	<b>-68%</b>

Table 12: Capital Requirements and Risk-weighted Assets for Settlement Risks

in € million

Settlement risk	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Settlement risk not included in the trading book	-	-	-	-	-
Settlement risk included in the trading book	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0%</b>

Table 13: Capital Requirements and Risk-weighted Assets for Large Loans in the Trading Book

in € million

Large exposures in the trading book	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Additional own funds requirements due to excess of large exposures in the trading book	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0%</b>

Table 14: Capital Requirements and Risk-weighted Assets for Operational Risks

in € million

Operational risk	Capital requirements and risk-weighted assets				
	31.12.2015		31.12.2014 <sup>1)</sup>		Change Capital requirement
	Capital requirement	Risk-weighted assets	Capital requirement	Risk-weighted assets	
Basic indicator approach	-	-	-	-	-
Standard approach	64	795	56	706	13%
Advanced measurement approach (AMA)	-	-	-	-	-
<b>Gesamt</b>	<b>64</b>	<b>795</b>	<b>56</b>	<b>706</b>	<b>13%</b>

1) Divergent to the value in the disclosure report in 2014 due to a retroactive adjustment.

As at the reporting date, the capital requirement for pbb Group's risk-weighted assets of € 13,402 million totals € 1,072 million (31 December 2014: € 1,215 million). Due to pbb Group's business model which is focused on commercial real estate and public investment finance, 93% of capital requirements are for counterparty default and CVA risk, 1% is for market risk and 6% for operational risk.

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The decrease in risk-weighted assets and the related capital requirements are mainly due to a focused further reduction of the non-strategic portfolios which was achieved as a result of maturities and an active portfolio reduction (sales), thereby leading to a capital relief. At the same time, pbb Group was able to increase the strategic Real Estate Finance and Public Investment Finance portfolio volumes by a nominal amount of € 2.2 billion (REF) and € 0.7 billion (PIF) respectively.

### Surplus Own Resources

As of 31 December 2015, pbb Group's surplus own resources (own resources less capital requirements) including the 2015 net profit and after deduction of the proposed dividend subject to the approval of the Annual General Meeting amounted to € 2,068 million (31 December 2014: € 2,827 million).

## 2.3 Capital Ratios

Since 1 January 2014 Regulation (EU) No. 575/2013 (Capital Requirements Regulation; CRR) as well as Directive 2013/36/EU (Capital Requirements Directive; CRD IV) have been in place. They form the basis for the calculation of regulatory capital and capital ratios.

According to these provisions, the Common Equity Tier 1 Ratio (CET1 Ratio; Common Equity Tier 1 divided by risk-weighted assets) must not fall below 4.5%, the Tier 1 Ratio (T1 Ratio, Tier 1 divided by risk-weighted assets) must not fall below 6.0% and the Own Funds Ratio (own funds divided by risk-weighted assets) must not fall below 8.0% in financial year 2015.

**Table 15: Capital Ratios**

in %

	Common Tier 1 equity ratio		Tier 1 capital ratio		Total Capital ratio	
	31.12.2015 <sup>3)</sup>	31.12.2014 <sup>1) 2)</sup>	31.12.2015 <sup>3)</sup>	31.12.2014 <sup>1) 2)</sup>	31.12.2015 <sup>3)</sup>	31.12.2014 <sup>1) 2)</sup>
pbb Group	18.9	22.2	20.5	23.4	23.4	26.6

1) After approved annual financial statements 2014 and after result distribution 2014.

2) Divergence to the value in the disclosure report in 2014 due to a retroactive adjustment.

3) After approved annual financial statements 2015 and after result distribution 2015.

pbb Group has a sufficient capital base. As in the previous year, the provisions in terms of regulatory capital ratios were complied with at any point in time during the financial year.

## 2.4 Unencumbered and Encumbered Assets

As of 31 December 2015, pbb Group's assets, based on the average of quarterly data for the financial year, amounted to € 70.3 billion, of which € 47.7 billion (67.8%) were encumbered. pbb Group's asset encumbrance mainly results from its business model using Pfandbriefe as most important refinancing instrument. pbb Group specialises in commercial real estate and public investment finance. Most of its loans are refinanced on the Pfandbrief market.

According to the Commission Implementing Regulation (EU) 2015/79, Annex III, 1.7, an asset shall be treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn. An asset encumbrance results from the requirement to provide collateral, usually caused by a transaction on the liabilities side of the balance sheet (refinancing side). As in the previous year, in 2015 Pfandbriefe accounting for 82% were the main source of asset encumbrances for pbb Group. In addition to the issue of mortgage Pfandbriefe and public Pfandbriefe leading to an encumbrance of loans and securities in the mortgage and public cover pools, derivative financing instruments (16%) and securities lending transactions (repo transactions, 2%) also contributed to asset encumbrances. Throughout financial year 2015, pbb Group's asset encumbrances remained largely unchanged.

## Pfandbriefe

As a specialist bank for real estate and public investment finance, pbb issues mortgage Pfandbriefe as well as public Pfandbriefe. These are regularly issued on the international capital market in the benchmark format or as private placements. Private placements are designed to meet investors' needs, i.e. either as bearer instruments or registered instruments; both the maturity and the interest rate structure can be tailored to suit individual requirements. In line with the loan business, pbb Group offers Pfandbriefe in different currencies with a focus on the Euro and the British pound.

The issue of Pfandbriefe is subject to the stringent provisions of the German Covered Bond Act (Pfandbriefgesetz, PfandBG) which places high demands on investor protection. These high standards mean that Pfandbriefe are as safe as German government bonds. The guarantee mechanisms provided for by the German Covered Bond Act work through the so-called preferential right in insolvency granted to bond creditors. In the event of an insolvency of a Pfandbriefbank, the cover pool for Pfandbriefe is completely at bond creditors' disposal to settle their claims. Thus, the cover pool would not be affected by an insolvency of a Pfandbrief bank. Pfandbrief banks are required to report on the composition and structure of their cover pools on a quarterly basis.

### Over Collateralisation of Pfandbriefe

The German Covered Bond Act (PfandBG) provides for a net present over collateralisation of 2% for Pfandbriefe, thereby ensuring at all times that the net present value of the cover pool is at least 2% higher than the net present value of all Pfandbriefe issued for this cover pool. Furthermore, the nominal cover must be ensured. This means that the total nominal value of all cover assets must at least cover the total nominal value of Pfandbriefe issued for this cover pool.

Depending on the cover pool quality and the Pfandbrief rating the bank wants to achieve, Rating agencies request pbb to ensure an additional surplus cover. As of 31 December 2015, Moody's rated pbb's mortgage Pfandbriefe and public Pfandbriefe Aa1. To maintain this rating, pbb must provide a minimum net present value surplus cover of 11.0% (mortgage Pfandbriefe) and 7.0% (public Pfandbriefe) respectively.

In fact the surplus cover of mortgage Pfandbriefe as of 31 December 2015 amounted to 23.12% (nominal value) and 23.17% (net present value). For public Pfandbriefe, pbb provided a surplus cover of 24.93% (nominal value) and 17.95% (net present value) as of 31 December 2015. The over collateralisation thereby exceeded the requirements of both rating agencies and the legislator.

As to mortgage Pfandbriefe, pbb is under a contractual obligation to ensure a surplus cover which goes beyond the legal requirements. A contract for the benefit of third parties ensures that pbb mortgage Pfandbrief holders are offered a surplus cover in addition to the voluntary surplus cover which allows for a Moody's Aa1 rating. The contractual surplus cover starts at 3% and can go up to 6% if Moody's so wishes. Without a contractual surplus cover, Moody's rated pbb's mortgage Pfandbriefe Aa2 stable.

pbb's current surplus cover as well as the contractual and voluntary surplus covers as requested by Moody's can be found on pbb's website ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under Investor Relations / Mandatory Publications / Publications according to section 28 PfandBG.

In order to control the bank's liquidity position and to optimise both quality and cash flows of cover pools, pbb can provide more surplus cover than required by law or by the rating agencies.

## Derivatives and Security Lending Transactions

pbb Group uses derivatives mainly to hedge market risks resulting e.g. from changed interest and exchange rates. Derivative transactions are usually made using standardised mutual netting agreements which help minimise legal risks as well as economic and regulatory counterparty default risks. These allow for netting of mutual risks and this means that positive and negative market values of derivative contracts subject to a netting agreement can be offset against one another and future regulatory risk premiums for these products can be reduced. Within the framework of the netting process, the counterparty default risk is reduced to one single net claim due from the contracting party.

The use of repos/reverse repos allows for short-term liquidity planning and is a key source for pbb's secured refinancing. Bilateral master agreements between pbb and the contracting banks or the European Exchange form the legal basis for such repo transactions.



## Disclosure Report as of 31 December 2015

### Hedging of Liabilities

In the context of its derivatives and repo business, pbb uses common framework contracts including the related collateral agreements. While for bilateral repo transactions, usually cash securities are provided, repo transactions cleared by a central counterparty are normally based on securities. In the bilateral interbank business derivatives are secured using marketable credit support annexes (e.g. German DRV Credit Support Annex, ISDA Credit Support Annex). In this case, pbb provides or receives cash securities, usually in Euros. Securities are provided via title transfer. Transactions are usually valued on a daily basis. Most collateral agreements do not provide for an allowance threshold (any longer), but do provide for so-called minimum transfer amounts. In some few cases these amounts depend on the rating. The framework contracts used for derivatives and repo transactions contain a netting provision in the event of an early termination of the transaction, e.g. due to default of payment or insolvency (close-out-netting). As far as derivatives are cleared by a central counterparty, securities are furnished by a pledge of securities and by providing cash securities via title transfer.

According to Article 443 CRR, the following Tables show pbb Group's asset encumbrance. The amounts are based on median values of quarterly data for the financial year.

**Table 16: Assets**

in € million

Assets	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of non-encumbered assets	Fair value of non-encumbered assets
<b>Assets of the reporting institution</b>	47,679	—	22,613	—
Equity instruments	-	-	-	-
Debt securities	11,206	10,233	6,312	6,246
Other assets	6,869	—	809	—

**Table 17: Collateral Received**

in € million

Collateral received	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
<b>Collateral received by the reporting institution</b>	-	-
Equity instruments	-	-
Debt securities	-	-
Other assets	-	-
<b>Own debt securities issued other than other covered bonds or ABS</b>	-	-

**Table 18: Sources of Encumbrances**

in € million

Encumbered assets and encumbered collateral received and matching liabilities	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued, other than own covered bonds or ABS encumbered
Carrying amount of selected financial liabilities	41,882	47,679

Other assets shown in Table 16 mainly comprise derivative assets (92%), most of which are subject to encumbrances. Furthermore, they comprise unencumbered assets such as tax claims (7%) as well as other tangible and intangible assets (real estate from salvage acquisitions, operating and business equipment, software).

## Disclosure Report as of 31 December 2015

### 2.5 Leverage Ratio

According to Article 429 (2) CRR, the leverage ratio is calculated as an institution's capital measure divided by that institution's total exposure measure and is expressed as a percentage. This figure is not risk sensitive and complements the risk-based perspective of capital requirements and capital ratios.

The calculation of the ratio is based on the provisions of Commission Delegated Regulation (EU) 2015/62 of 10 October 2014 amending Regulation (EU) No. 575/2013 of the European Parliament and of the Council on leverage ratios.

According to Article 451 CRR, the following Tables show the leverage ratio factors for pbb Group. So far there is no binding upper limit applicable to the leverage ratio. However within the framework of Basel III, a maximum leverage ratio reference value of > 3% is being tested and observed until 1 January 2017. As of 31 December 2015 the leverage ratio of pbb Group was 4.5% (30 June 2015: 5.6%) which is significantly above the minimum requirements.

**Table 19: Leverage Ratio I**

in € million		
Summary reconciliation of accounting assets and leverage ratio exposures		Applicable Amounts
1	Total assets as per published financial statements	66,761
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-
3	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429 (13) of Regulation (EU) No 575/2013 "CRR"	-
in € million		
Summary reconciliation of accounting assets and leverage ratio exposures		
4	Adjustments for derivative financial instruments	-5,663
5	Adjustments for securities financing transactions "SFTs"	199
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	1,589
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	-62
7	Other adjustments	-1,546
<b>8</b>	<b>Total leverage ratio exposure</b>	<b>61,278</b>

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Table 20: Leverage Ratio II

in € million

Leverage ratio common disclosure		
		<b>CRR leverage ratio exposures</b>
	<b>On-balance sheet exposures (excluding derivatives and SFTs)</b>	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	60,195
2	(Asset amounts deducted in determining Tier 1 capital)	-62
<b>3</b>	<b>Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)</b>	<b>60,133</b>
	<b>Derivative exposures</b>	
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	426
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	471
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	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-1,546
8	(Exempted CCP leg of client-cleared trade exposures)	-
9	Adjusted effective notional amount of written credit derivatives	-
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-
<b>11</b>	<b>Total derivative exposures (sum of lines 4 to 10)</b>	<b>-649</b>
	<b>Securities financing transaction exposures</b>	
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	6
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-
14	Counterparty credit risk exposure for SFT assets	199
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-
15	Agent transaction exposures	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-
<b>16</b>	<b>Total securities financing transaction exposures (sum of lines 12 to 15a)</b>	<b>205</b>
	<b>Other off-balance sheet exposures</b>	
17	Off-balance sheet exposures at gross notional amount	3,557
18	(Adjustments for conversion to credit equivalent amounts)	-1,968
<b>19</b>	<b>Other off-balance sheet exposures (sum of lines 17 to 18)</b>	<b>1,589</b>
	<b>Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)</b>	
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	0
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	0
	<b>Capital and total exposures</b>	
<b>20</b>	<b>Tier 1 capital</b>	<b>2,742</b>
<b>21</b>	<b>Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)</b>	<b>61,278</b>

## Disclosure Report as of 31 December 2015

in € million

Leverage ratio common disclosure		CRR leverage ratio exposures
	<b>Leverage ratio</b>	
22	<b>Leverage ratio</b>	<b>4.5</b>
<b>Choice on transitional arrangements and amount of derecognised fiduciary items</b>		
EU-23	Choice on transitional arrangements for the definition of the capital measure	-
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	-

**Table 21: Leverage Ratio III**

in € million

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, SFTs, and exempted exposures), of which:	58,649
EU-2	Trading book exposures	-
EU-3	Anlagebuchgeschäfte, davon:	58,649
EU-4	Covered bonds	2,145
EU-5	Exposures treated as sovereigns	23,380
EU-6	Exposures to regional governments, MDB, international organisations and PSE NOT treated as sovereigns	3,277
EU-7	Institutions	1,622
EU-8	Secured by mortgages of immovable properties	17,855
EU-9	Retail exposures	2
EU-10	Corporate	9,455
EU-11	Exposures in default	797
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	116

The leverage ratio is part of pbb Group's capital and multi-year planning. The ratio is determined on a monthly basis and integrated into the group's risk management and risk controlling systems. pbb's Management Board is informed on the leverage ratio on a regular basis within the framework of the Management Report. Furthermore, this report is made available to the risk management and liquidity strategy committees of the Supervisory Board.

According to Article 521 (2), Point (a) CRR, pbb Group's leverage ratio was first publicised on 30 June 2015. Compared to that date, the ratio fell to 4.5% as of 31 December 2015 (30 June 2015: 5.6%). The reduction is mainly due to the repayment of the silent participation of Financial Market Stabilisation Fund FMS with a nominal value of € 1.0 billion in July 2015. This effect was mitigated by retention of earnings (net profit of € 230 million less dividend pay-out of € 58 million) which helped strengthen the bank's capital base. The Tier 1 (T1) capital as of 31 December 2015 amounted to € 2,742 million (30 June 2015: € 3,530 million). Furthermore, the measure of total risk exposure fell to € 61,278 million (30 June 2015: € 63,191 million), which is mainly due to a focused reduction of the non-strategic portfolios.

### 3 Risk Management and Risk-Oriented Bank Management

After the privatisation of Deutsche Pfandbriefbank AG, pbb Group had implemented a Group-wide risk management and risk control system, which provides for uniform risk identification, measurement and limitation in accordance with section 25 a of the German Banking Act (Kreditwesengesetz, "KWG"). Before that, pbb was part of HRE Group's risk management.

The requirements for the waiver option under Article 7 of the Capital Requirements Regulation (CRR, previously section 2 a of the KWG) no longer applied as from early July 2015. Thus, the bank is subject to extended reporting and monitoring obligations at individual institute level.

Pursuant to section 12 (1) of the German Restructuring and Resolution Act (Sanierungs- und Abwicklungsgesetz, "SAG"), every institution [subject to the Act] must prepare a recovery plan and submit it to the supervisory authorities. Recovery plans must be drawn up in accordance with section 14 of the SAG as well as the Regulatory Technical Standards issued by the European Banking Authority (EBA).

Following privatisation, pbb Group was obliged to prepare an own recovery plan for the Group, in accordance with IFRS. This is based on the recovery plan for HRE Group which involved pbb. In such a plan, pbb Group outlines now for itself the measures through which the institution might be restored, in scenarios which potentially threaten its continued existence as a going-concern, observing the laws and guidelines set out above. Recovery planning and the related governance are rooted in pbb Group's organisational and governance structure.

Going forward, the recovery plan will generally be updated annually, taking applicable regulatory requirements into account. The recovery plan would also be adjusted in the event of any material changes to the Group's strategy during the course of the year.

#### Declarations of the Management Board

The disclosure requirements according to Article 435 (1), Points (a) to (f) CRR concerning risk management strategy, risk management processes and risk management policy are complied with by this Disclosure Report as well as by the Risk and Opportunity Report in pbb Group's Annual Report 2015. The Annual Report is publicised on pbb's website ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) under Investor Relations / Financial Reports. The Risk and Opportunity Report shows risks and opportunities identified for the various risk categories within the framework of the implemented risk management and risk controlling systems. Concerning cross-functional and general company-specific risks and opportunities please refer to the information provided in the Report on Future-oriented Statements.

The Management Board of pbb considers the existing risk management system according to Article 435 (1), Point (e) CRR to be generally adequate for pbb Group's risk profile and risk strategy. pbb assumes that the methods, models and processes implemented at pbb Group are suitable to ensure that a risk management and risk controlling system aligned with the business strategy and risk profile of the bank is available at all times.

The Management Board's risk declaration according to Article 435 (1), Point (f) CRR concerning the general risk profile of pbb Group associated with its business strategy and the related key ratios and figures is contained in both the Disclosure Report and the Risk and Opportunity Report of pbb Group's Annual Report 2015. pbb's Management Board confirms to the best of their knowledge that the internal risk management processes used at pbb Group are suitable to achieve a comprehensive picture of pbb Group's risk profile and to sustainably ensure the bank's risk-bearing capacity at all times.

### 3.1 General Organisation and Risk Management Principles

#### Organisation

##### Management Board

The Management Board of pbb is responsible for the risk management system, and decides on the strategies and material issues of risk management and risk organisation at pbb Group.

The principles, methods and processes of the risk management system of pbb Group are specified centrally by risk management and controlling of pbb and are applied in pbb Group. The risk management system comprises the plausible and systematic identification, analysis, valuation, management, documentation, monitoring and communication of all major risks.

The following are major components of the risk management system:

- Defining, updating and communicating business and risk strategies as the basis of business activities and risk acceptance within pbb Group
- Defining and improving organisation structures within pbb Group and in particular for risk management which ensures that all major risks of pbb Group are managed and monitored
- Adopting credit competences as a decision-making framework along the credit processes within pbb Group
- Taking decisions regarding (portfolio) management measures outside the delegated competences.

The Management Board of pbb notifies the Supervisory Board of pbb with regard to significant changes in the business and risk strategies as well as the risk profile of pbb Group. The Risk Management and Liquidity Strategy Committee (RLA) of the Supervisory Board is mainly responsible for controlling the overall risk situation and for monitoring, establishing and improving an efficient risk management system, and is also responsible for the liquidity management and assurance of pbb Group and resolves upon necessary credit approvals for credit decisions. The Management Board notifies this committee of all increases to specific allowances and the creation of new specific allowances in excess of € 5 million and also notifies this committee at regular intervals of major exposures with higher levels of risk.

The committees detailed in the following have been set up at pbb Group level with the involvement of the respective decision-makers.

##### Risk Committee

The Risk Committee (RC), consists of the Chief Risk Officer (CRO; Chairman), the Chief Financial Officer (CFO; Deputy Chairperson), the Chief Credit Officers REF/PIF (CCO) as well as the Head of Risk Management & Control. In general, the committee meets on a monthly basis and discusses the risk development, adopts guidelines/policies, methods for risk measurement, the related parameters as well as methods of monitoring for all risk types. The Risk Committee is responsible for the development of standard guidelines of risk management and risk controlling across the Group and also monitors the development of the risk-bearing capacity, economic capital, the risk cover funds as well as the credit portfolio and the compliance with limits. The Risk Committee discusses the portfolios of pbb Group.

##### Credit Committee

The Credit Committee is chaired by the CRO. As a general rule, the committee meets at least once a week and takes credit decisions on new business, prolongations and material changes that fall within the scope of its authority. It also votes on all credit decisions which are in the responsibility of the Management Board and which have to be approved by the Risk Management and Liquidity Strategy Committee. The responsible decision-makers ensure that the credit decisions are consistent with the prevailing business and risk strategy.

##### Watchlist Committee

The Watchlist Committee is chaired by the CCOs and meets every month. All exposures identified by the early warning system are discussed and, if appropriate, individual measures are decided there; these measures have to be subsequently implemented by the relevant departments. Where necessary, the committee takes decisions regarding the need to transfer exposures to CRM Workout, which then takes the necessary steps for restructuring and workout on the basis of an exposure strategy. All necessary credit decisions are taken by the key personnel in line with the allocation of credit powers or in the Credit Committee.

### Risk Provisioning Committee

If there are any indications of an objective impairment of an exposure, the extent of the impairment is first determined and the result is presented in the Risk Provisioning Committee (RPC). It is chaired by the CRO. The RPC takes decisions within the framework of a predefined set of allocated powers and in line with the IFRS/HGB regulations, and provides recommendations regarding the creation and reversal of provisions for losses on loans and advances as well as any necessary salvage acquisitions. The recommendations made by the committee have to be decided by the Management Board in line with the relevant set of rules governing powers.

### New Product Process Committee

The New Product Process Committee ensures that, before business commences with new products or in new markets, the resultant risks as well as the related impact on processes, controls and the infrastructure are systematically analysed and addressed. The recommendations made by the committee form the basis of decisions to be made by the pbb Management Board in line with the relevant set of rules governing powers.

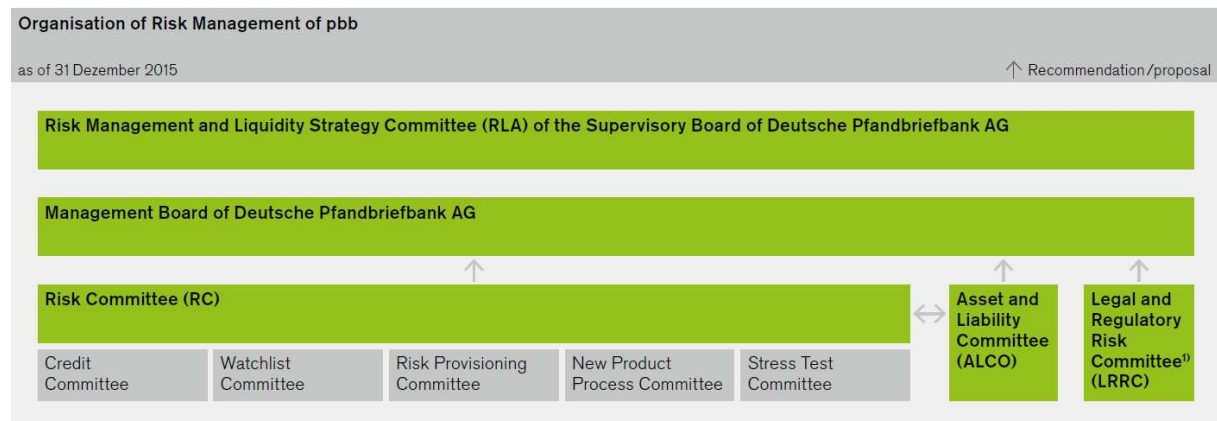
### Stress Test Committee

The Stress Test Committee, which is a sub-committee of the Risk Committee, is responsible for the methodology, performance and monitoring of the internal stress tests. It is chaired by the CRO.

### Asset and Liability Committee and Legal and Regulatory Risk Committee

Besides the Risk Committee, there are the Asset and Liability Committee (ALCO) as well as the Legal and Regulatory Risk Committee (LRRRC). The tasks of the ALCO are: managing liquidity as well as pbb Group's balance sheet structure, defining long-term financing strategies, managing capital, regulatory capital ratios, as well as market risk exposure. The LRRRC advises on legal and regulatory requirements, and may assign responsibility for implementation to business divisions, following consultation.

Figure 2: Risk Management Organisation



<sup>1)</sup> Reporting via Compliance

### Chief Risk Officer (CRO)

Chief Risk Officer (CRO) In addition to the above-mentioned committees, the following organization units of the CRO form an integral part of the risk management system of pbb Group:

**Figure 3: Chief Risk Officer Organisation**



The organisation of the CRO function comprises the following monitoring and back-office units at pbb Group level:

- The unit Risk Management & Control, which is amongst others responsible for monitoring market, credit, operational and liquidity risks as well as the risk-bearing capacity of pbb Group and which is also responsible for Group-wide uniform risk measuring methods and risk reports.
- The units of the Chief Credit Officers REF/PIF of pbb Group, which are each responsible for the analysis of new business and portfolio management. In addition to the traditional loan departments, CRM REF also comprises the Workout (Real Estate) unit, which is responsible for the recovery and workout of all critical exposures in the Real Estate Finance segment, and the central unit Credit Processes, which is responsible in particular for the organisation of the Credit Committee and implementation of regulatory requirements in the credit processes.
- The unit Property Analysis & Valuation, which is responsible for the analysis and uniform valuation of properties serving as collateral, using market valuation and loan-to-value methods, was placed under control of the CRO during the period under review.
- The unit Operations, which is responsible for the global servicing and administration of the loan portfolio (including technical implementation of loan agreements), settlement of capital markets transactions, administration and processing of the Group's securities and derivatives portfolios, as well for handling domestic and international payments, also formed part of the CRO function during the reporting period.

In addition to the CRO function, the Corporate Office/Compliance entity and the Group Internal Audit entity (independent) complement the risk management system of pbb Group. The area of responsibility of Group Internal Audit comprises risk-oriented regular as well as event-driven audits of processes and systems. This also includes the revision of the risk management system. Regarding legal issues Risk Management is also supported by the Legal department.

### Risk Strategy and Policies

The risk strategy of pbb Group is based on the business strategy, risk inventory and the results of a Group-wide financial planning process. It is applicable for the operating segments and legal entities of pbb Group, and reflects the strategic focus of pbb Group as a specialist for real estate finance and public investment finance in Germany and selected countries in Europe, with a focus on Pfandbrief funding. The strategy is reviewed at least annually, and updated if applicable.

After the regular annual revision of the risk strategy in February 2015, it was most recently updated in June 2015 as part of preparations for pbb's privatisation. It has been effective since 15 July 2015. The risk strategy was presented to the Risk Management and Liquidity Strategy Committee of pbb's Supervisory Board for acknowledgement, and approved by the Supervisory Board plenum.

The operationalisation of the risk strategy is carried out via risk policies for the individual operating segments as well as for all major risk types (credit risk, market risk, liquidity risk, business risk, property risk and operational risk); these risk policies describe risk measurement, risk monitoring, risk management, the limit process as well as the escalation process if a limit is exceeded. The policies are regularly reviewed and updated where necessary.



## Risk Reporting

Risk reporting reflects the structure of the operating segments. The Management Board of pbb receives regular risk reports which include an extensive overview as well as detailed information concerning the risk situation for each risk type and company as well as other management-relevant information. The supervisory bodies are also notified of risk-relevant issues at regular intervals. In addition, special reports are prepared on an ad hoc basis or at the request of the Management Board or Supervisory Board; such special reports consider specific and acute risk issues, for instance in relation to critical markets, products or counterparties.

## Risk Quantification, Risk Control and Management

For the purposes of quantifying risk, pbb carries out a risk inventory at least once a year, to systematically identify and analyse potential risks which may arise from the bank's business model or external environment. Such risks are assessed as to their materiality for pbb and – to the extent possible – quantified using corresponding risk models or other procedures. They are then combined to form an aggregate risk exposure which is compared to available financial resources. For this purpose, an Internal Capital Adequacy Assessment Process (ICAAP) is used to determine and sustainably ascertain the appropriateness of the institution's equity, given its risk profile. Risks which cannot be quantified, or which cannot be sensibly limited by reference to available financial resources, are managed and limited using separate management tools and/or detailed regular reporting and clearly-defined requirements such as the Compliance and Corporate Governance guidelines. Liquidity risk is not incorporated in calculating the risk-bearing capacity, since it is covered by separate management tools.

As part of its risk strategy, pbb Group has implemented four approaches to risk and capital management, which incorporate risk models as well as scenario analyses and stress tests. Within these strategic management approaches, pbb Group defines its risk tolerance, which in turn defines the scope within which pbb Group is prepared to take risks.

pbb Group's risk management is based on the following approaches or objectives:

- to ensure internal capital adequacy via the primary going-concern ICAAP management approach, with the objective of safeguarding the Bank's continued existence as a going-concern and hence, compliance with regulatory minimum ratios;
- to ensure internal capital adequacy via the accompanying gone-concern ICAAP management approach, with the objective of protecting senior creditors in the event of liquidation;
- to ensure the regulatory capital base, in order to monitor the own funds ratio as well as the CET1 ratio; and
- to monitor the liquidity status, in order to ascertain pbb's ability to meet its payment obligations at all times.

On an operating level, material types of risk are managed within the management approaches referred to above, based on the defined risk tolerance. Risks are managed, at a portfolio and single transaction level, by way of:

- daily monitoring of credit risk;
- daily monitoring of market risk;
- daily monitoring of liquidity risk;
- ongoing monitoring of operational risk;
- monitoring business, property, and equity investment risk on a regular basis.

Limit and early warning systems have been implemented, in line with the risk tolerance, for each type of risk as well as across risk types, at the level of capital management circuits. The strategy underlying the respective type of risk, together with the associated risk definition, risk calculation methods, and risk reporting systems are described in detail in the following chapters.

## Internal Audit Function as Part of the Risk Management System

The need for an internal audit function is based on specific legal provisions, e.g. Section 25a (1), Sentence 2 No. 3 KWG in conjunction with MaRisk (Minimum Requirements for Risk Management according to BaFin; in particular AT 4.4.3 in conjunction with BT2) and Section 91 (2) AktG.

For this purpose, the internal audit function is an integral part of the internal control systems. The internal control system ("IKS") comprises all types of control activities which are directly or indirectly integrated into the workflows to be monitored (= process-oriented control). The internal audit function is the Management Board's instrument for risk-based monitoring of operating and business procedures, risk management, risk controlling as well as the internal control system IKS (= process-independent control).

The Management Board confers on the internal audit function the right of initiative including the authorisation to directly communicate with every employee so as to audit any activity or business unit and get access to all documents, files or data of the bank, including management information and minutes of all advisory and decision-making bodies whenever this appears to be relevant within the framework of their task. This includes (physical) access to all rooms as well as technical access to IT systems.

In line with the institutions salary regulation, the internal audit function is independently involved in the compensation system monitoring process.

The internal audit function directly reports to pbb's Management Board. The Chairman of the Supervisory Board/Audit Committee may request information directly from the head of the internal audit function by involving the Management Board. Furthermore the head of the internal audit function regularly reports audit results to the Audit Committee.

Generally the audit activities must cover all operating and business procedures, activities and processes based on a risk-oriented audit approach, taking account of the potential amount of damage and the probability of occurrence. Specifically the following items are subject to auditing as defined in MaRisk (Minimum Requirements for Risk Management according to BaFin):

- internal control system (IKS)
- risk management and controlling processes
- reporting system and information systems
- finance and accounting
- compliance with applicable legal and regulatory provisions and other provisions
- compliance with company guidelines, rules and regulations
- security of assets.

Audits also include outsourced functions. Furthermore, the tasks of the internal audit function comprise special audits commissioned by the Management Board. The internal audit function also has to accompany major projects while ensuring its independence and it must be informed upfront of any major projects so as to be able to define the type and scope of project support in good time.

The internal audit function has a complete and unlimited information right which must be guaranteed at all times. The requested information and documents have to be promptly delivered to the internal audit function, and the internal audit function must be allowed to view the activities and processes as well as the IT systems.

In addition, all organisational units must inform the internal audit function without being solicited when serious defects or considerable damage have occurred in their area of competence or in the event of an initial suspicion.

In particular any important risk-related information must be immediately communicated to the head of the internal audit function as well as to the management team and the responsible staff.

## 3.2 Economic Capital and Risk-Bearing Capacity

### Internal Capital Adequacy Assessment Process (ICAAP)

Pursuant to section 25 a (1) of the German Banking Act, credit institutions are obliged to set up adequate and effective internal procedures to determine and sustainably maintain their risk-bearing capacity. The Internal Capital Adequacy Assessment Process (ICAAP) is the subject of regulatory reviews (within the “Supervisory Review and Evaluation Process” – SREP); it complements the regulatory procedures under Pillar 1 of the Basel III framework, as laid down in the Capital Requirements Regulation (“CRR”) and the Capital Requirements Directive IV (“CRD IV”).

The risk inventory has identified market risk, credit risk, business risk, operational risk and property risk as material risks having an impact on capital. Accordingly, these five individual types of risk have been incorporated in the ICAAP, and backed by capital.

pbb Group has implemented a risk-bearing capacity analysis based on the ICAAP. This analysis uses the concept of economic capital to quantify risk. Economic capital is defined as the quantity of capital required by a bank in order to cover the potential losses with a defined probability (the confidence level) over a time horizon of one year. It is calculated for all relevant types of risk, and aggregated to form total economic capital (after diversification effects). Evidence of the bank’s risk-bearing capacity is provided by comparing aggregate diversified economic capital to the corresponding available financial resources: If the latter exceed the former, this is deemed evidence of the bank’s risk-bearing capacity.

To verify its risk-bearing capacity, pbb Group applies a going-concern approach as a primary management approach. This is explicitly based on the assumption that business will continue and the regulatory minimum capital ratios under Regulation (EU) 575/2013 (Capital Requirements Regulation – “CRR”) will be complied with; it thus ensures that pbb Group will still comply with the required minimum capital ratios upon occurrence of an adverse economic scenario and associated losses.

In addition, pbb Group has also implemented a gone-concern approach as an additional management approach. The objective of the gone-concern approach is to protect senior creditors in a hypothetical liquidation scenario, after the bank has incurred extreme losses. Besides a markedly higher confidence interval, compared to the going-concern approach, the gone-concern approach also encompasses a different level of available financial resources and different risk exposures in the liquidation scenario: given assumed liquidation, hidden encumbrances as well as credit spread risks on securities in the banking book are particularly important in this scenario.

The methods of calculating the economic capital for the individual risk types as well as current parameters are described in greater detail in the chapter “Result of Risk-bearing Capacity Analysis”. Over and above the risk-bearing capacity analysis, the ICAAP comprises additional management tools, including a system of limits and early-warning thresholds, as well as a comprehensive monitoring and reporting process. Moreover, stress tests are employed to analyse the impact of hypothetical developments on the risk-bearing capacity.

The results of the ICAAP and of the stress tests are regularly presented to the Management Board and the Group Risk Committee. The results are discussed there and if necessary management measures are defined.

### Result of the Risk-Bearing Capacity Analysis

#### Going-Concern

The going-concern approach explicitly focuses on protecting regulatory minimum capitalisation, and hence, on the continuation of pbb Group’s business activities during periods of difficult economic downturns. In order to prove the risk-bearing capacity the first step is to calculate the economic capital, using a confidence level of 95%. This includes the risk types which pbb Group defines as being material, namely credit risk, market risk, operational risk, funding risk (as part of the business risk), and property risk.

Disclosure Report as of 31 December 2015

Table 22: Risk-Bearing Capacity based on a Going-Concern Approach

in € million

Risk types	Going-Concern: Economic capital		
	31.12.2015	31.12.2014	Change
Counterparty default risk	221	219	2
Market risk	155	256	-101
Operational risk	41	39	2
Business risk	-	3	-3
Property risk	4	10	-6
<b>Total before diversification effect</b>	<b>420</b>	<b>527</b>	<b>-107</b>
<b>Total after diversification effect</b>	<b>390</b>	<b>488</b>	<b>-98</b>
<b>Free capital</b>	<b>1,610</b>	<b>1,464</b>	<b>146</b>
Surplus cover (+) / shortfall (-)	+ 1.220	+ 976	244

The decline in total economic capital (after diversification effects) was largely shaped by lower market risk, reduced as a result of the sale of a state-guaranteed UK security, and the related reversal of inflation, interest rate, and foreign exchange risks. Moreover, credit spread risk was reduced by sales of Italian public-sector securities. To a lesser extent, the reduction was also due to methodological enhancements of the market risk model.

Despite further developments in the operational risk model, the related contribution to risk did not change materially compared to 2014.

Besides the sale of a property in Japan during the first half of 2015, some properties (salvage acquisitions) were written down to fair value (Teilwert); as a result, the property risk also declined. Credit risk increased only slightly during the course of the year.

This is opposed by available financial resources in the form of so-called free capital, largely comprising available CET1 capital, plus accrued profits, less the CET1 capital necessary for covering the regulatory minimum ratios (in accordance with Regulation (EU) No 575/2013 – the “CRR”) and additional adjustment items. In accordance with the principle of prudence, an additional charge in relation to risk-weighted assets is taken into account in order to determine the CET1 capital necessary for covering the regulatory minimum ratios. The free capital is calculated both on the basis of current figures, as well as on planned values over a time horizon of one year. The lower free capital arising from these calculations is used as available financial resources in the going-concern approach. The significant increase in free capital was predominantly due to profits accrued during 2015.

Excess coverage increased further, thanks to the decline in economic capital (including diversification effects) and the simultaneous increase in available financial resources. Proof of pbb's risk-bearing capacity as at the reporting date was thus evident in this approach.

### Gone-Concern

Supplementing the going-concern approach, pbb Group uses a gone-concern approach (liquidation perspective) as an additional, parallel management approach. The objective of the gone-concern approach is to guarantee protection of senior lenders in a hypothetical liquidation scenario, with a very high probability. pbb Group has selected a confidence level of 99.91% that is harmonised with the generally conservative parametrisation of the models. However, this liquidation scenario does not assume an opportunistic winding up of portfolios as postulated by the German Pfandbrief Act, and instead assumes an immediate sale of assets recognised at fair value and of securities in the investment book. According to this assumption, besides the already mentioned material risks identified in the going-concern approach, it also takes account of credit spread risks arising from securities in the investment book for calculating economic capital for market risk, and simultaneously deducts net hidden losses attributable to these securities for determining available financial resources.

Disclosure Report as of 31 December 2015

Table 23: Risk-Bearing Capacity based on a Gone-Concern Approach

in € million

Risk types	Gone-Concern: Economic capital		
	31.12.2015	31.12.2014	Change
Counterparty default risk	1,249	1,437	-188
Market risk	1,072	1,356	-284
Operational risk	86	84	2
Business risk	35	65	-30
Property risk	6	23	-17
<b>Total before diversification effect</b>	<b>2,448</b>	<b>2,965</b>	<b>-517</b>
<b>Total after diversification effect</b>	<b>2,221</b>	<b>2,647</b>	<b>-426</b>
Capital for risk coverage before hidden reserves	3,243	4,147	-904
Hidden liabilities	-	-	-
<b>Capital for risk coverage</b>	<b>3,243</b>	<b>4,147</b>	<b>-904</b>
Surplus cover (+) / shortfall (-)	+ 1.021	+ 1.500	-479

The decline in diversified economic capital during the reporting period was largely attributable to lower market risk and credit risk.

Market risk declined, largely due to the same developments as in the going-concern approach. Both the sale of Italian government bonds from the VP segment and the sale of a state-guaranteed UK security (and the related reversal of inflation, interest rate, and foreign exchange risks) had a significant impact upon risk reduction.

The decrease in credit risk was largely due to sales of securities issued by Italian public-sector borrowers; this had a positive effect upon credit risk exposure, thanks to a reduction in risk concentrations. In addition, credit risk was lower due to improved parameters related to realisation rates, a recalibration of the share of systematic risk attributed to real estate borrowers within the credit portfolio model, as well as lower conversion factors applied to certain undrawn credit lines.

Business risk was also lower compared to the previous year, due to a decline in funding risk (which is included in business risk), caused by lower excess coverage requirements for Mortgage Pfandbrief cover assets pools.

Property risk declined, due to the sale of a Japanese property in April 2015 and write-downs of salvage acquisitions to fair value (Teilwert).

Despite further developments in the operational risk model, the related contribution to risk did not change materially compared to 2014.

Aggregate diversified economic capital after diversification effects decreased significantly as a result of the changes outlined above.

The repayment of the silent partnership contribution in the third quarter of 2015 led to a significant decline in available financial resources, compared with the figure as at 31 December 2014. Overall, the decrease in available financial resources exceeded the decline in economic capital; accordingly, excess capital fell in 2015 but was nonetheless significant, evidencing the Bank's risk-bearing capacity as at the reporting date in the gone-concern approach as well.

In the event of any renewed escalation of the European sovereign debt crisis, which would once again lead to widening credit spreads of numerous European borrowers, it is fair to expect increasing credit spread risks as well as net hidden losses, regardless of any countermeasures.

## Opportunities

pbb Group observed relief on European bond markets during the course of 2015, as a result of the ECB's crisis management. If trust in European public finances was fully restored, systematic rating upgrades for public-sector issuers might lead to lower risks, thus further increasing excess coverage in the ICAAP.

## Methodology of Exposure Categories

Economic capital for each risk type is determined using a quantitative approach, and is aggregated to form an overall bank risk, with due consideration being given to specific correlations. In line with the common market standard, figures for the various risk types are calculated for a period of one year and in relation to a defined confidence level (99.91% in the gone-concern, 95% in the going-concern approach).

The methods of calculating economic capital for the individual material risk types for 2015 are explained below:

### Counterparty Default Risk

For calculating the counterparty default risk at the portfolio level, pbb Group uses a credit portfolio model which is based on the approach of a so-called asset value model. As the fundamental underlying concept, repeated simulation of correlated rating migrations and borrower defaults, together with a calculation of resulting value changes (via a corresponding revaluation of the portfolio) allows for probability statements to be made with regard to potential losses from the lending business. The loss distribution calculated in this way can then be used to calculate the economic credit risk capital as an unexpected loss. This defines the maximum unexpected loss calculated for a defined confidence level, which may be incurred within one year, due to rating migrations and defaults in the lending business. Besides the loss distribution of the credit portfolio, as a significant result of this process, credit risk capital can be assigned to individual borrower units in line with the risks involved, using the so-called expected shortfall principle. This ensures a fair, risk-adequate allocation to borrowers, and thus constitutes a major cornerstone in the risk-oriented management of the credit portfolio.

### Market Risk

The purpose of calculating economic capital for market risk is to identify potential financial losses resulting from price changes affecting all positions. In this process, the potential non-systematic losses are derived from an analysis of historical time series of specific influencing factors (risk factors), including interest rates, exchange rates and credit spreads, over the preceding seven years. The seven-year horizon ensures that economic phases which were not favourable for the bank are also taken into account in the model. The annual loss distribution of the portfolio market value is then determined by means of a simulation procedure and using the linear sensitivities of the financial instruments; this can then be used to determine the economic capital in relation to a confidence level of 95% and 99.91%, respectively.

The market risk methodology was further developed during the second quarter of 2015 – firstly, to better reflect negative interest rates observed in the market, and secondly, to more precisely capture changes in the value of bonds caused by large market movements. Moreover, the calculation of sensitivity parameters for the gone-concern approach was consistently adapted to the liquidation view in this management approach.

### Operational Risk

The procedure for incorporating operational risk into the ICAAP was reviewed during the second half of 2015, and also brought into line with the Supervisory Review and Evaluation Process (SREP). As a matter of principle, data from both internal and external historical loss databases as well as scenario data and expert estimates are used to quantify operational risks. The model's mathematical core is based on a standardised approach where a loss distribution is calculated via separate estimates of loss amount and loss frequency, using a Monte Carlo simulation. The distribution is additionally enhanced by expert information, especially in order to capture sub-risks which cannot be fully mapped using models – legal risk, for example. Furthermore, sub-risks of operational risk which cannot be quantified (or only partially), such as reputational risk or behavioural risk, are covered by a capital buffer. When reporting economic capital for operational risk, the Bank also ensures that this amounts to at least 90% of the capital requirement calculated via the standardised approach for operational risks pursuant to Articles 317 et seq. of the "CRR".

### Business Risk

pbb Group generally defines business risk as the risk of reductions in profit, due to changes in the external business environment which affect the Bank's economic conditions. Alongside non-quantifiable risks, such as regulatory risk and strategic risk, these include risks arising from increased funding costs and/or higher funding requirements, as well as earnings risk. Economic capital for business risk is calculated using a scenario-based increase in funding costs due to higher funding requirements, and a simultaneous increase in the unsecured funding rate. One way in which earnings risk is taken into account is the exclusion of planned income from new business from available financial resources.

### Property Risk

pbb Group's property risk is calculated using a mathematical-statistical model that enables the Bank to make statements on the probability of potential declines in the value of properties in its portfolio. The input parameters for the model are mainly based on time series of real estate indices which are representative of the portfolio.

### Liquidity Risk

Liquidity risk in the narrower sense cannot be covered by capital. Liquidity risks in a broader sense – i.e. higher funding costs for potential funding gaps – are recognised in economic capital for business risk.

### Stress Tests

Stress tests play an important role, both from a supervisory perspective and for the Bank's internal management. All activities, developments and decisions relating to stress tests are brought together within the Stress Test Committee, which reports directly to the Risk Committee. As part of an integrated approach, the impact of macro-economic stress scenarios on all material risks and on available financial resources under stressed market parameters was calculated for a horizon of several years during the period under review. These scenarios focus on an escalation of the sovereign debt crisis and on unfavourable developments on the real estate markets.

Furthermore, stress tests relating to economic capital and available financial resources are used to obtain a deeper understanding of the sensitivity of risk-bearing capacity to adverse changes in economic factors. In addition, inverse stress tests are conducted regularly. The results of these tests describe specific constellations of parameters under which the risk-bearing capacity would be at risk.

### SREP

On 19 December 2014, the EBA published its final guideline (EBA/GL/2014/13) on the Supervisory Review and Evaluation Process ("SREP"), following a consultation process. The objective of the SREP is a holistic analysis of institutions; amongst other factors, this includes a comprehensive analysis of the business model, of risk and corporate governance, the risk situation, as well as capitalisation and liquidity status. In keeping with the proportionality principle, intensity and frequency of audits are linked to a classification of institutions with regard to size, importance, and business activities. The key result of the SREP is the institution's differentiated credit quality score – the SREP score, which is in turn the result of individual scores assigned regarding the issues mentioned (business model, governance, capital and liquidity). Supervisors are not bound to use a simple average of these single scores. The SREP is thus targeted upon a holistic evaluation of an institution, culminating in a five-level overall credit quality grading of an institution. Besides grades 1 to 4, the lowest result is "F" ("failing" or "likely to fail"). SREP is therefore the bridge between the former Pillar II (in accordance with Articles 76–87, 97 of Capital Requirements Directive - "CRD IV") and the EU Bank Recovery and Resolution Directive (2014/59/EU – "BRRD"), which focuses on winding up and reorganisation.

Based on the results of the analysis as well as using benchmark comparison, the ECB may impose minimum capitalisation or liquidity requirements, over and above existing regulatory requirements. As a key SREP result, a minimum CET1 ratio was prescribed for pbb Group, which the Group complied with as at 31 December 2015. Continued compliance with the SREP ratio is ensured by a limit system. A "traffic light" system and regular reporting within the Group Risk Report ensure that pbb is able to detect any potential shortfall at an early stage, and that senior management can be informed accordingly.

### 3.3 Exposure Categories

pbb Group distinguishes the following major risk types for its business activities:

- Counterparty default risk
- Market risk
- Liquidity risk
- Operational risk (including legal risk)
- Business risk (partial consideration within the scope of the risk-bearing capacity analysis)
- Property risk

The following are major risk types of pbb Group which are not quantified but which are limited by means of suitable reports, guidelines and policies:

- Strategic risks
- Regulatory risks



## **4 Counterparty Default Risk**

### **4.1 Management of Counterparty Default Risk**

#### **Definition**

The credit risk in general is defined as the risk of an unexpected default or decline in the fair value of a receivable or a derivative, resulting from a deterioration in the hedging situation or deterioration in the creditworthiness of a country or a counterparty.

The credit risk comprises the loan risk, counterparty default risk, issuer risk, country risk, concentration risk, fulfilment risk, tenant risk and realisation risk (related to defaulted clients), which are defined as follows in pbb Group's risk strategy:

#### **Loan Risk**

Loan risk is defined as the risk which considers loans and traditional credit products. A major factor determining the loan risk is the ability of the borrower to fulfil his financial obligations as well as the value of collateral in the case of a borrowers' default. Declines in the fair value as a result of rating changes are taken into consideration for calculating the loan risk.

#### **Counterparty default risk**

Counterparty default risk is defined as the risk of a potential unexpected default or decline in the fair value of a claim or a derivative. This is due to a deterioration in the creditworthiness of a counterparty or a deterioration of the hedging situation. The counterparty default risk includes the replacement risk and the repayment risk.

#### **Issuer Risk**

Issuer risk is defined as the risk in relation to bonds and other securities. In particular, it refers to the ability of the issuer to meet his financial obligations and also relates to the value of collateral in the event of the default of an issuer. Declines in the fair value as a result of rating changes are taken into consideration for calculating the issuer risk.

#### **Country Risk**

Country risk arises from changes in the values of international exposures due to country-specific political and economic conditions. It essentially comprises the risk that arises in connection with business activities in certain countries. The country risk includes the conversion risk, transfer risk and sovereign default risk.

#### **Concentration Risk**

Concentration risk is defined as the risk of cluster formation in relation to a risk factor or counterparties, or a strongly correlated group of risk factors or counterparties.

#### **Fulfillment Risk**

Fulfillment risk is defined as the risk that the Bank makes a payment or delivers an asset which has been sold to a counterparty but does not receive a payment or the purchased asset.

#### **Tenant Risk**

Tenant risk describes the risk that losses in rental income for properties will negatively influence the respective borrowers' debt service capacity. In addition, it includes the secondary concentration risk (tenant cluster risk), which arises when one and the same tenant is involved in multiple properties funded by the bank.

### Realisation Risk

Realisation risk is defined as the risk, related to defaulted clients, that specific and portfolio-based allowances recognised may change over the observation period, or that actual realisation rates differ, should collateral need to be realised.

### Risk Strategy and Principles

pbb Group has broken down the overall credit portfolio into the segments Real Estate Finance (REF), Public Investment Finance (PIF), Value Portfolio (VP) and "Consolidation & Adjustments" (C&A). The strategic business is attributable to Real Estate Finance (REF) and Public Investment Finance (PIF). The risk strategy of pbb Group also reflects this structure.

### Real Estate Financing

New business in the REF segment largely focuses on Pfandbrief-eligible financing of commercial real estate with sustainable cash flow in selected European countries. The main target customers of these operations are professional investors, institutional clients, real estate funds or selected developers.

### Public Investment Financing

In the PIF segment, new business focuses on public investment financings eligible for inclusion in Pfandbrief cover, in selected European countries. Financings outside Europe may also be eligible, but are limited to export financings where the export credit insurer (or agency) is domiciled in Europe.

### Value Portfolio

The Value Portfolio (VP) segment bundles the remaining non-strategic portfolios and activities. This segment specifically comprises expiring budget finance transactions which are classified as non-strategic public investment financing transactions as well as a few structured products.

### Refinancing

New business is to be refinanced with matching maturities where possible, mainly using Pfandbrief issues.

### Risk Reporting

The credit risk reports of pbb Group provide information about the following main components:

#### Group Risk Report

The pbb Group Risk Report contains the development in volumes as well as relevant credit risk management indicators such as the development of the expected loss as well as the unexpected loss via value at risk (VaR). The report shows the credit risk at the level of pbb Group in the context of the overall bank risk and the risk-bearing capacity, it reports limit utilisations and violations of existing limits, and also identifies risk concentrations. Key indicators, such as the development of the exposure at default (EaD), the expected loss (EL), the credit value at risk (Credit VaR) as well as problem loans are integrated in this report and are discussed by the Management Board.

The report is also submitted to the Risk Management and Liquidity Strategy Committee (RLA) of the Supervisory Board to be noted.

#### New Business

For decisions relating to new business and adjustments of terms, major parameters, contents and analyses are presented to the Credit Committee and discussed.

#### Active Business

In the active business, further regular reports support operational management with regard to the management and timely recognition of risks at the sub-portfolio level.

### Unusual Developments

Unusual developments which might result in a major deterioration in the risk position of an individual exposure are reported to a wider group up to the CRO by way of so-called "Credit Issue Notes".

### Risk Quantification

#### Credit Portfolio Model

For calculating the economic capital for credit risk pbb Group uses a credit portfolio model. For details concerning this model and economic credit risk quantification, please refer to the section "Result of Risk-bearing Capacity Analysis".

#### Stress Tests

The stress tests for economic capital in credit risk are described in greater detail in the section "Result of Risk-bearing Capacity Analysis".

In addition to the stress tests for economic capital, there are also RWA reverse stress tests. They investigate the extent to which a certain risk parameter (e.g. rating, loss-given default (LGD), currency) can change before the minimum common equity (CET1) of 9% is no longer met. Tolerance change levels have been defined for all tested risk parameters; these levels must not be violated if the test of pbb Group is to be successfully completed.

#### Risk Quantification according to CRR

The Basel III Framework Agreement of the Basel Committee was implemented in the European context by means of the Capital Requirements Regulation ("CRR"). pbb Group applies the so-called Advanced Internal Ratings-Based Approach (Advanced IRBA) for determining the regulatory capital backing.

### Risk Management

At the portfolio level, the intended portfolio structure is defined in the risk strategy by means of structure components. The limits are also based on the available financial resources, and include for pbb Group for example:

- Limiting of country risks
- Definition of strategic risk parameters (e.g. regions, financing duration)

The following reports and measures are key elements for monitoring compliance with the defined limits and the intended risk and return parameters at the portfolio level and also at the level of individual transactions:

- Analysis of portfolio developments in the Risk Committee
- Determining the credit-VaR at the portfolio level by way of a credit portfolio model and partly limiting at the segment level; analysis of concentration risks and various stress tests
- Central Group-wide monitoring of risk concentrations by way of special, regular and ad hoc evaluations, such as regional or product-specific evaluations
- Continuous analysis of the portfolio and the relevant markets by the local Credit Risk Management units
- Regular evaluation of the collateral
- Special reports for exposures which are potentially at risk (e.g. "credit issue notes")
- Calculation of a risk-adjusted margin using a defined RaRoC for new business

Depending upon the counterparty group, Expected Loss class or exposure size at GCC (Group of connected clients) level, the lending authority regulations determine the approval powers of individual Credit Officers for new or existing exposures.

## **Risk Management and Risk Control**

### **Risk Assessment at an Individual Deal Level**

At the level of individual transactions, the credit process guidelines define the necessary steps of assessing risk for new business, prolongations as well as the procedures for transferring exposures to the watchlist or workout.

Core processes of credit risk management and monitoring as well as the relevant areas of the CRO function which are involved are described in the following:

### **Risk Analysis for New and Portfolio Business**

The CRM entities carry out the initial risk analysis for new business and annual risk analysis for existing business. Probability of default (PD) and loss given default (LGD) rating tools, which are developed by Credit Risk as part of Risk Management and Control (RMC) and annually validated and calibrated, are used for valuation purposes and for preparing the credit decision in new and prolongation business. Property Analysis & Valuation (PAV) provides support for analysing and valuing the securities.

### **Contract and Collateral Structure**

The Legal department, where appropriate together with external lawyers/lawyers' offices, is responsible for the contract and collateral organisation.

### **Ongoing Monitoring of Early-Warning Indicators**

Defined early warning indicators are constantly monitored by CRM. If essential problems are identified, an exceptional test is performed on the credit default risk (including a review of the value of collateral) and appropriate alternative actions are identified. Such cases are also included in a mostly monthly, at least quarterly monitoring cycle and presented in the Watchlist Committee.

### **Review of Impairment**

If there are any objective indications of an impairment, the extent of such an impairment is determined. In the Risk Provisioning Committee, the results are discussed and, where necessary, decisions are taken with regard to creating or reversing impairments.

### **Watchlist, Restructuring or Winding-up**

A restructuring plan or a workout plan for critical or impaired exposures is drawn up. The decision regarding restructuring or workout takes account of scenario analyses for the potential development of the borrower, the collateral or the relevant market. These are presented and approved in the Credit Committee, if necessary.

Critical exposures (watchlist) as well as restructuring and workout cases (non-performing loans) are reported on an aggregate basis monthly in the Group Risk Report and in the Risk Committee and also, upon request, in special analyses to the Management Board and Supervisory Board.

## Risk Hedging and Risk Mitigation

### Real Estate Finance

In the REF segment, financing arrangements are normally backed by property charges. On the occasion of the regular credit reports for existing financing arrangements or as part of the decision making process in the case of new financing, the LTVs (loan-to-value) as well as the property (micro and macro location, rental situation, condition of property) and market circumstances are discussed and are also taken into consideration as part of the assessment process for individual loans.

In addition to the property charge, the financing security in the REF segment also generally comprises rent assignment and the assignment of insurance claims, accompanied by extensive notification and consultation obligations of the borrowers. Apart from the property charges, only a few more selected securities are considered to be of value in the credit assessment process or in the calculation of LGD, and in particular this is applicable for cash security, bank guarantees, other credit protections as well as guarantees of public-sector institutions. Corresponding haircuts are recognised in relation to foreign currency security in order to take account of potential exchange rate risks.

Properties in the Real Estate Finance business are valued using strict quality criteria. Property collateral values are determined when the loan is initially granted, and reviewed on an annual basis. pbb maintains a separate department of real estate analysts and surveyors (reporting directly to the CRO); the majority of staff members in this department have either passed the HypZert examination or comparable foreign qualifications (such as RICS certification). This department is always involved in the initial valuation (when a new loan is granted) or regular revaluations, as well as in the valuation reviews which are carried out at least once a year. Depending on the type and location of the property involved, market developments and other risk indicators, such valuations may also be carried out, in some cases, by specially qualified credit department staff, based on defined parameters and processes.

For development financings, project monitoring regularly comprises the monitoring of planning progress, budget, procurements, construction schedules, as well as sales or letting progress. As a rule, for complex developments, such monitoring is carried out by renowned external construction controllers on a monthly basis, on the Bank's behalf and coordinated by PAV. For less complex residential real estate developments, construction progress is generally monitored, every three months, by experienced internal property analysts. CRM monitors costs, ensuring a daily forecast of cost developments for development projects, which is reconciled against the results of external and/or internal monitoring. This approach ensures that any deviations from project planning (and hence, project risks) which may occur during construction are identified as early as possible.

### Public Sector Finance

In the PIF segment, guarantees are often accepted as collateral (including contractual guarantees from public-sector authorities, export guarantees, etc.). Moreover, Public Investment Finance exposures often involve a specific legal framework, such as the support obligation (Anstaltslast) of public-sector entities, or other (direct and indirect) cover mechanisms which allow for recourse to a public-sector institution in the case of borrowers organised under public law.

### Treasury

In Treasury, deposits and securities are made available or accepted as collateral when trading with other banks. The collateralisation is based on standard agreements, which can be amended in individual cases if required or which can be subjected to individual review by the legal department.

## Opportunities

The parameters for the risk dimensions for the credit risk are defined using statistical methods on the basis of numerous historical observations. The risk measures also depend on assumptions relating to future developments of macro-economic factors as well as developments on the credit markets. It is in the nature of things and is also in line with historical experience that there is a certain probability that such economic conditions perform more positively than originally assumed and that the potential losses arising from the credit risk therefore tend to be less than originally quantified by the risk measures. Such potentially positive developments then represent opportunities for pbb Group which can be utilised for reducing risk.

In specific terms, there are opportunities if fewer loans in future are affected by a default in performance than had originally been assumed as part of the risk quantification process.

There are also opportunities if there are in future fewer migrations to less positive rating categories than originally assumed.

There are also opportunities if the loss ratios of non-performing loans in future are lower than was originally assumed as part of the risk quantification process. Lower loss ratios may be triggered by various positive developments. Firstly, it is possible that the process of disposing of collateral might generate higher proceeds than was originally assumed in the risk quantification process. Secondly, it is possible that a higher percentage of non-performing loans subsequently become performing loans again without any losses than had been the case in the past.

Besides positive developments in terms of default or LGD rates, opportunities may also arise in the context of credit risk in the event of falling exposure values in the portfolio. For instance, this may occur if borrowers redeem or repay their loans faster than anticipated, given contractual agreements or historical data. Exposure values in the derivatives portfolio may decline where the market values of positions associated with replacement risk decrease, due to changes in certain market parameters such as interest rates or exchange rates.

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### 4.2 General Information on Counterparty Default Risks

The Information provided in Chapters 4.2.1 "Credit Portfolio Structure" and 4.2.2 "Risk Provisioning" show pbb Group's exposures and credit risk adjustments based on various breakdowns according to Article 442 CRR.

#### 4.2.1 Credit Portfolio Structure

As of 31 December 2015 the exposures before credit risk mitigation techniques stood at a total of € 61,508 million (31 December 2014: € 65,177 million), of which € 58,881 million (31 December 2014: € 61,920 million) were for the internal ratings-based approach (IRB) and € 2,627 million (31 December 2014: € 3,257 million) were for the Credit Risk Standardised Approach (CRSA).

According to Article 442, Points (c), (d), (e) and (f) CRR, the following Tables show the exposures at default (EAD) before credit risk mitigation techniques, separated into IRBA and CRSA exposure classes as well as split by main regions, industries (NACE Code) and remaining maturities.

**Table 24a: IRBA Exposures before Credit Risk Mitigation Techniques**

in € million

Exposure classes IRB-Approach	IRB-Approach risk positions <sup>1)</sup>	
	Total	Average <sup>2)</sup>
Exposures to central governments and central banks	22,138	24,452
Exposures to institutions	8,198	8,281
Exposures to corporates	28,546	28,081
Thereof to an SME	17,610	15,109
Thereof to specialised lending exposures	-	-
Thereof: Other	10,936	12,972
Retail exposures	-	-
Thereof secured by mortgages on immovable property / SEM	-	-
Thereof secured by mortgages on immovable property / not SEM	-	-
Thereof for qualifying revolving retail exposures	-	-
Thereof other retail exposures / SME	-	-
Thereof other retail exposures / not SME	-	-
Equity exposures	0.01	0.02
Other non credit-obligation assets	-	-
<b>Total</b>	<b>58,881</b>	<b>60,814</b>

1) Risk positions after deduction of individual allowances and before credit risk mitigation.

2) Based on a quarterly determination of the risk position value.

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### Table 24b: CRSA Exposures before Credit Risk Mitigation Techniques

in € million

Exposure classes CRSA	CRSA risk positions <sup>1)</sup>	
	Total	Average <sup>2)</sup>
Exposures to central governments and central banks	-	-
Exposures to regional governments and local authorities	115	149
Exposures to other public sector entities	0.5	0.2
Exposures to multilateral development banks	1,470	1,534
Exposures to international organisations	-	-
Exposures to institutions	36	73
Exposures to corporates	829	1,024
Retail exposures	2	2
Items secured by mortgages on immovable property	84	51
Exposures in default	13	5
Items associated with particular high risk	-	-
Exposures in the form of covered bonds	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-
Exposures in the form of units or shares in CIUs	-	-
Equity exposures	0.2	0.2
Other items	77	19
<b>Total</b>	<b>2,627</b>	<b>2,858</b>

1) Risk positions after deduction of individual allowances and before credit risk mitigation.

2) Based on a quarterly determination of the risk position value.

3) Subject to future profitability, from or not from temporary differences resulting from deferred tax assets.

### Table 25a: IRBA Exposures by Main Regions

in € million

Exposure classes IRB-Approach	Europe <sup>1)</sup>				Others <sup>1)</sup>			
	Germany	European Monetary Union (EMU)	Other EU countries	Rest of Europe	Africa	America	Asia	Oceania
Exposures to central governments and central banks	9,267	11,725	674	136	-	-	336	-
Exposures to institutions	1,769	5,835	259	137	-	184	14	-
Exposures to corporates	10,378	9,331	5,694	1,688	62	1,394	-	-
Thereof to an SME	6,928	4,803	4,109	1,182	62	526	-	-
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	3,450	4,528	1,585	506	-	867	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
Other non credit-obligation assets	-	-	-	-	-	-	-	-
<b>Total</b>	<b>21,414</b>	<b>26,890</b>	<b>6,627</b>	<b>1,961</b>	<b>62</b>	<b>1,577</b>	<b>350</b>	<b>0</b>

1) The criterion for the regional breakdown is the country of domicile of the borrower, counterparty or issuer.

The country breakdown corresponds to the "List of countries for regional breakdown" ("Länderverzeichnis zur regionalen Gliederung") of the Deutsche Bundesbank.



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Table 25b: CRSA Exposures by Main Regions

in € million

Exposure classes CRSA	Europe <sup>1)</sup>				Others <sup>1)</sup>			
	Germany	European Monetary Union (EMU)	Other EU countries	Rest of Europe	Africa	America	Asia	Oceania
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to regional governments and local authorities	115	-	-	-	-	-	-	-
Exposures to other public sector entities	0.5	-	-	-	-	-	-	-
Exposures to multilateral development banks	-	922	86	-	-	200	263	-
Exposures to international organisations	-	-	-	-	-	-	-	-
Exposures to institutions	36	-	-	-	-	-	-	-
Exposures to corporates	67	763	0.1	-	-	-	-	-
Retail exposures	2	0.4	-	-	-	-	-	-
Items secured by mortgages on immovable property	83	1	-	-	-	-	0.02	-
Exposures in default	13	-	0.3	-	-	-	-	-
Items associated with particular high risk	-	-	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-	-	-
Equity exposures	0.2	-	-	-	-	-	-	-
Other items	77	-	-	-	-	-	-	-
<b>Total</b>	<b>393</b>	<b>1,685</b>	<b>86</b>	<b>0</b>	<b>0</b>	<b>200</b>	<b>263</b>	<b>0</b>

1) The criterion for the regional breakdown is the country of domicile of the borrower, counterparty or issuer.  
The country breakdown corresponds to the "List of countries for regional breakdown" ("Länderverzeichnis zur regionalen Gliederung") of the Deutsche Bundesbank.

Table 26a: IRBA Exposures by Industries

in € million

Exposure classes IRB-Approach	Economic activities according NACE-Codes <sup>1)</sup>					
	A Agriculture, forestry and fishing	B Mining and quarrying	C Manufacturing	D Electricity, gas, steam and air conditioning supply	E Water supply	F Construction
Exposures to central governments and central banks	-	180	-	-	-	-
Exposures to institutions	-	-	-	-	568	77
Exposures to corporates	-	-	20	16	-	396
Thereof to an SME	-	-	19	-	-	186
Thereof to specialised lending exposures	-	-	-	-	-	-
Thereof: Other	-	-	2	16	-	209
Retail exposures	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other non credit-obligation assets	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>180</b>	<b>20</b>	<b>16</b>	<b>568</b>	<b>472</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.

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in € million

Exposure classes IRB-Approach	G Wholesale and retail trades	H Transport and storage	I Accommodation and food service activities	J Information and communication	K Financial and insurance activities	L Real estate activities
Exposures to central governments and central banks	-	-	-	-	2,727	129
Exposures to institutions	-	-	-	-	4,761	68
Exposures to corporates	47	520	370	77	2,205	23,487
Thereof to an SME	35	-	361	0.1	1,039	15,824
Thereof to specialises lending exposures	-	-	-	-	-	-
Thereof: Other	12	520	9	77	1,166	7,663
Retail exposures	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other non credit-obligation assets	-	-	-	-	-	-
<b>Total</b>	<b>47</b>	<b>520</b>	<b>370</b>	<b>77</b>	<b>9,692</b>	<b>23,684</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.

in € million

Exposure classes IRB-Approach	M Professional, scientific and technical activities	N Administrative and support service activities	O Public administration and defence, compulsory social security	P Education	Q Human health services and social work activities	R Arts, entertainment and recreation
Exposures to central governments and central banks	-	146	18,403	-	515	-
Exposures to institutions	-	30	2,558	-	136	-
Exposures to corporates	507	483	42	1	91	3
Thereof to an SME	121	8	-	-	11	-
Thereof to specialises lending exposures	-	-	-	-	-	-
Thereof: Other	385	474	42	1	80	3
Retail exposures	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other non credit-obligation assets	-	-	-	-	-	-
<b>Total</b>	<b>507</b>	<b>659</b>	<b>21,003</b>	<b>1</b>	<b>742</b>	<b>3</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.

in € million

Exposure classes IRB-Approach	S Other services	T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
Exposures to central governments and central banks	40	-
Exposures to institutions	-	-
Exposures to corporates	1	282
Thereof to an SME	-	5
Thereof to specialises lending exposures	-	-
Thereof: Other	1	277
Retail exposures	-	-
Equity exposures	-	-
Other non credit-obligation assets	-	-
<b>Total</b>	<b>41</b>	<b>282</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.

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Table 26b: CRSA Exposures by Industries

in € million

Exposure classes CRSA	Economic activities according NACE-Codes <sup>1)</sup>					
	A Agriculture, forestry and fishing	B Mining and quarrying	C Manufacturing	D Electricity, gas, steam and air conditioning supply	E Water supply	F Construction
Exposures to central governments and central banks	-	-	-	-	-	-
Exposures to regional governments and local authorities	-	-	-	-	-	-
Exposures to other public sector entities	-	-	-	-	-	-
Exposures to multilateral development banks	-	-	-	-	-	-
Exposures to international organisations	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-
Exposures to corporates	-	-	-	5	-	12
Retail exposures	-	-	-	-	-	-
Items secured by mortgages on immovable property	0.1	-	0.1	-	-	1
Exposures in default	-	-	-	-	-	0.4
Items associated with particular high risk	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other items	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>14</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.  
2) Subject to future profitability, from or not from temporary differences resulting from deferred tax assets.

in € million

Exposure classes CRSA	G Wholesale and retail trades	H Transport and storage	I Accommodation and food service activities	J Information and communication	K Financial and insurance activities	L Real estate activities
	Exposures to central governments and central banks	-	-	-	-	-
Exposures to regional governments and local authorities	-	-	-	-	-	-
Exposures to other public sector entities	-	-	-	-	-	-
Exposures to multilateral development banks	-	-	-	-	1,470	-
Exposures to international organisations	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	35	0.3
Exposures to corporates	-	-	-	0.3	738	69
Retail exposures	0.1	0.1	-	-	-	-
Items secured by mortgages on immovable property	1	0.3	0.2	0.5	-	63
Exposures in default	-	-	-	-	0.3	10
Items associated with particular high risk	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	0.2
Other items	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2,244</b>	<b>143</b>

1) NACE regulation; Statistical classification of economic activities in the European Community; allocation on the basis of the principal activity of the counterparty.  
2) Subject to future profitability, from or not from temporary differences res

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in € million

Exposure classes CRSA	M Professional, scientific and technical activities	N Administrative and support service activities	O Public administration and defence, compulsory social security	P Education	Q Human health services and social work activities	R Arts, entertainment and recreation
Exposures to central governments and central banks	-	-	-	-	-	-
Exposures to regional governments and local authorities	-	-	115	-	-	-
Exposures to other public sector entities	-	-	0.5	-	-	-
Exposures to multilateral development banks	-	-	-	-	-	-
Exposures to international organisations	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-
Exposures to corporates	-	-	-	-	-	-
Retail exposures	-	-	-	-	-	-
Items secured by mortgages on immovable property	0.1	1	-	-	0.3	-
Exposures in default	-	1	-	-	-	-
Items associated with particular high risk	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other items	-	-	77	-	-	-
<b>Total</b>	<b>0</b>	<b>2</b>	<b>192</b>	<b>0</b>	<b>0</b>	<b>0</b>

1) NACE regulation; Statistical classification of economic activities in the European Community, allocation on the basis of the principal activity of the counterparty.  
2) Subject to future profitability, from or not from temporary differences res

in € million

Exposure classes CRSA	S Other services	T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
Exposures to central governments and central banks	-	-
Exposures to regional governments and local authorities	-	-
Exposures to other public sector entities	-	-
Exposures to multilateral development banks	-	-
Exposures to international organisations	-	-
Exposures to institutions	-	-
Exposures to corporates	-	4
Retail exposures	-	2
Items secured by mortgages on immovable property	0.1	16
Exposures in default	0.1	1
Items associated with particular high risk	-	-
Exposures in the form of covered bonds	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-
Exposures in the form of units or shares in CIUs	-	-
Equity exposures	-	-
Other items	-	-
<b>Total</b>	<b>0</b>	<b>23</b>

1) NACE regulation; Statistical classification of economic activities in the European Community, allocation on the basis of the principal activity of the counterparty.  
2) Subject to future profitability, from or not from temporary differences res

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Table 27a: IRBA Exposures by Contractual Remaining Maturities

in € million

Forderungsklassen IRBA	Repayable on demand	With agreed maturities				Unspecified terms
		up to 3 months	3 months to 1 year	1 year to 5 years	5 years and over	
Exposures to central governments and central banks	-	768	2,797	5,030	13,543	-
Exposures to institutions	84	158	224	2,365	5,367	-
Exposures to corporates	446	620	1,966	15,832	9,682	-
Thereof to an SME	444	428	1,668	10,417	4,654	-
Thereof to specialises lending exposures	-	-	-	-	-	-
Thereof: Other	3	192	298	5,415	5,028	-
Retail exposures	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-
Other non credit-obligation assets	-	-	-	-	-	-
<b>Total</b>	<b>530</b>	<b>1,545</b>	<b>4,987</b>	<b>23,227</b>	<b>28,592</b>	<b>0</b>

Table 27b: CRSA Exposures by Contractual Remaining Maturities

in € million

Exposure classes CRSA	Repayable on demand	With agreed maturities				Unspecified terms
		up to 3 months	3 months to 1 year	1 year to 5 years	5 years and over	
Exposures to central governments and central banks	-	-	-	-	-	-
Exposures to regional governments and local authorities	-	0.1	2	52	61	-
Exposures to other public sector entities	-	-	-	-	0	-
Exposures to multilateral development banks	-	-	355	368	747	-
Exposures to international organisations	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	36	-
Exposures to corporates	-	4	0	36	790	-
Retail exposures	-	-	-	1	1	-
Items secured by mortgages on immovable property	0.1	0.4	5	11	68	-
Exposures in default	3	0	0.1	1	9	-
Items associated with particular high risk	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-
Equity exposures	0.2	-	-	-	-	-
Other items	77	-	-	-	-	-
<b>Total</b>	<b>80</b>	<b>4</b>	<b>362</b>	<b>468</b>	<b>1,713</b>	<b>0</b>

1) Subject to future profitability, from or not from temporary differences resulting from deferred tax assets.

The reduction in exposures to € 61,508 million (31 December 2014: € 65,177 million) mainly results from a focused further reduction of the non-strategic portfolios which was achieved as a result of maturities as well as an active portfolio reduction (sales). At the same time, pbb Group was able to increase the strategic Real Estate Finance and Public Investment Finance portfolio volumes by a nominal amount of € 2.2 billion (REF) and € 0.7 billion (PIF) respectively.

As at the reporting date, pbb Group's exposures are still focused on Germany and the members of the European Monetary Union. The largest part of exposures, i.e. € 21.8 billion (35%) still exists in Germany. Exposures in the member states of the European Monetary Union amount to € 28.6 billion (46%) and in other EU countries to € 6.7 billion (11%).

In terms of industries based on NACE Codes, most counterparties are active in the "Real estate and renting" industry (€ 23.8 billion/39%), followed by "Public administration and defence, compulsory social security" (€ 21.2 billion/34%) and the "Provision of banking, financial and insurance services" (€ 11.9 billion/19%).

## 4.2.2 Risk Provisioning

### Impairment

According to IAS 39.58 a financial asset must be tested for impairment. At least at each balance sheet date pbb Group assesses on a case-by-case basis whether there is objective evidence for impairment. The criteria used to determine if there is such objective evidence included:

- significant financial difficulties of the borrower
- overdue contractual payments of either principal or interest or other breaches of contract
- increased probability that the borrower will enter bankruptcy or other financial reorganisation
- renegotiations due to economic problems
- a decline in the fair value of a financial asset below its (amortised) cost

Receivables at risk of default are restructured by pbb Group if the borrower's financial position has deteriorated but a positive going-concern forecast for the loan exposure can still be carried out. This is carried out by changing the underlying terms and conditions or side agreements by means of a unilateral or mutual declaration of intent. Restructuring agreements should maximise opportunities for pbb Group to realise its outstanding receivables or at least minimise the risk of default of the loan exposure. These generally include inter alia standstill agreements, changed interest payment/repayment terms, interest/repayment reductions or the suspension of contractual agreements (e.g. financial covenants) so that the borrower is again able to meet their payment obligations. The credit risk associated with restructured loans is managed by the Group's Credit Risk Management units.

pbb Group impairs loans and advances as well as financial investments whose terms have been renegotiated if there is objective evidence for impairment.

### Reporting in the Balance Sheet and in the Profit and Loss Account

Two types of allowances are in place at pbb group: specific allowances and portfolio-based allowances.

Allowances for loans and advances are recognised in a separate account (allowances for losses on loans and advances) instead of directly reducing the carrying amount of the assets. The expense is recognized in provisions for losses on loans and advances through profit or loss. Changes in an impairment already recognised are recorded as a change in the allowance and also disclosed in profit or loss as a component of loan loss provisions.

Specific allowances on AfS financial investments as well as specific allowances and portfolio-based allowances on LaR financial investments are deducted directly from the carrying amount of the asset. The expense is recognised in net income from financial investments through profit or loss. Where subsequent measurement of financial assets is based on fair value through profit or loss, impairment is implied in the fair value.

### Amount of Value Adjustment

To measure the impairment loss, the following factors are especially considered:

- pbb Group's aggregate exposure to the customer
- the amount and timing of expected interest and redemption payments
- the realisable value of collateral and likelihood and time of successful repossession
- the likely deduction of any costs involved in recovering amounts outstanding
- the market price of the asset if available

If there is no reasonable prospect for a repayment of the loan or advance and the collateral were realised or transferred to pbb Group, the respective loan or advance and the associated allowance is written off.

For the purpose of calculating portfolio-based allowances, financial assets measured at amortised cost for which no impairment has been identified on an individual basis are grouped in portfolios according to their credit risk. The portfolio-based allowances cover impairments which have been incurred but not yet been identified. The parameters used to determine portfolio-based allowances are checked regularly and adjusted if necessary. The allowances are determined after taking into account the following factors:

- historical loss experience in portfolios of similar credit risk characteristics
- a judgement whether current economic conditions and credit conditions improved or deteriorated compared to the past
- the estimated period between impairment occurring and the impairment being identified

- state of the current economic cycle.

Portfolio-based allowances are calculated using risk parameters which are compliant with Basel III, such as probability of default (PD) and loss-given default (LGD). The resultant expected loss in relation to a time horizon of one year is scaled using an IFRS-compliant conversion factor to the period which on average is required for identifying the impairment event in the pbb.

If differences are identified between long-term average values for the parameters PD and LGD on the one hand and the current figures on the other as a result of the market environment in some portfolios of the operating segments, these are taken into consideration accordingly.

### Risk Provisioning Approval

The specific allowances are approved in the Risk Provisioning Committee.

The RPC takes decisions within the framework of a predefined set of allocated powers and in line with the IFRS/HGB regulations, and provides recommendations regarding the creation and reversal of provisions for losses on loans and advances as well as any necessary salvage acquisitions. The recommendations made by the committee have to be decided by the Management Board in line with the relevant set of rules governing powers.

### Types of Risk Provisioning

As explained, allowances for losses on loans and advances are recognised if there is objective evidence that it will not be possible for the entire amount which is due in accordance with the original contractual conditions to be recovered. Allowances for loans and advances are measured mainly on the basis of expectations with regard to loan defaults, the structure and quality of the loan portfolio as well as macroeconomic parameters on a specific and portfolio basis.

In this sense, allowances for losses on loans and advances are broken down into allowances relating to loans and advances and provisions for contingent liabilities and other commitments like irrevocable loan commitments.

### Individual Value Adjustments

For all recognisable default risks, the extent of the allowance for losses on loans and advances is calculated as the difference between the carrying amount of the asset and the present value of the expected future cash flows. The latter is calculated on the basis of the initial effective interest rate. Market interest rate changes do not have any effect in this respect. The increase in the present value of an adjusted receivable (so-called unwinding) which occurs over a period of time is recognized as an interest income.

### Portfolio-based Value Adjustments

Under IAS 39.64, loans which were not specifically impaired are pooled in risk-inherent portfolios. Portfolio-based allowances are recognised for these portfolios; these allowances are measured in respect of current events and information with regard to significant changes with detrimental consequences which have occurred in the technology, market, economic or legal environment, as well as historical default rates.

### Provisions for Contingent Liabilities and Other Obligations

The provisions for contingent liabilities and other commitments mainly comprise provisions for guarantee risks, letters of credit, irrevocable loan commitments and litigation risks in the lending business.

An allowance relating to loans and advances is disclosed as a negative item on the assets side of the statement of financial position, whereas a provision for contingent liabilities and other commitments is disclosed on the liabilities side of the statement of financial position. In profit or loss, all effects are disclosed as loan loss provisions apart from time-related increases in the present value of impaired receivables which are disclosed in net interest income.

### Risk Provisioning Items

According to Article 442, Points (g), (h) and (i) CRR, the following Tables show the distribution of “past due” and “non-performing” exposures by counterparty type (debtor groups) and main regions including associated amounts of individual value adjustments, portfolio-based value adjustments and provisions in the lending business.

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The figures comprise value adjustments and provisions according to International Financial Reporting Standards (IFRS), which is in accordance with the accounting standards applicable to pbb Group's consolidated financial statement. Furthermore, the terms "past due" and "non-performing" are based on the provisions of IFRS/IAS.

### Past Due and Non-Performing Exposures

The categorisation of exposures as "past due" according to IFRS 7 applies to defaulting receivables if the debtor has failed to meet his/her contractual payments of interest or principal in due time.

Contrary to non-performing items, "past due" receivables are not classified as "non-performing" yet, i.e., no individual value adjustment has been recognised as pbb Group considers that it has no problems concerning the intrinsic value of the amounts concerned and the collaterals for these loans. Within the framework of normal business activity, debt repayment delays of up to 3 months are not unusual and therefore are not automatically an indication of limited intrinsic value.

Accordingly, the classification of receivables as "non-performing" ("impaired" according to IAS 39.59) is based on the recognition of an individual value adjustment, i.e., receivables are classified as "non-performing" when they are subject to an impairment as at the reporting date.

**Table 28: Risk Provisioning by Main Regions**

in € million

Significant geographic areas <sup>1)</sup>	Utilisation due to non-performing and past due loans	Individual allowances	Portfolio-based allowances	Provisions in lending	Past due loans (excl. Impairment requirement)
Germany	92	16	—	1	19
Europe					
European Monetary Union (EMU)	110	28	—	-	5
Other EU countries	451	51	—	-	-
Andere Europa	-	—	—	-	-
Others					
Africa	-	—	—	-	-
America	-	—	—	-	-
Asia	-	—	—	-	-
Oceania	-	—	—	-	-
<b>Total</b>	<b>653</b>	<b>95</b>	<b>32</b>	<b>1</b>	<b>24</b>

1) The criterion for the regional breakdown is the country of domicile of the borrower, counterparty or issuer. The country breakdown corresponds to the "List of countries for regional breakdown" ("Länderverzeichnis zur regionalen Gliederung") of the Deutsche Bundesbank.



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Table 29: Risk Provisioning by Debtor Groups

in € million

Counterparty types <sup>1)</sup>	Utilisation due to non-performing and past due loans	Individual allowances	Portfolio-based allowances	Provisions in lending	Allocation to/ reversals of individual allowances and provisions in lending	Direkt write-offs	Amounts received in relation to previously written-off receivables	Past-due loans (exclusive impairment requirement)
Central governments and central banks	-	-	-	-	-	-	-	-
Regional governments and local authorities	-	-	-	-	-	-	-	-
Other public sector entities	-	-	-	-	-	-	-	-
Multilateral development banks	-	-	-	-	-	-	-	-
International organisations	-	-	-	-	-	-	-	-
Institutions	45	14	-	-	-	-	-	-
Corporates	608	81	-	1	7	-	3	24
thereof: SME	548	70	-	-	6	-	-	14
Retail exposures	-	-	-	-	-	-	-	-
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-
Associated with particular high risk	-	-	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
<b>Total</b>	<b>653</b>	<b>95</b>	<b>32</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>24</b>

1) The "counterparty types" correspond to the exposure classes (KSA); overdue positions are assigned to their primary exposure class guarantees and warranties (e.g. from governments and other public sector entities) are not considered for the allocation

Table 30: Risk Provisioning Changes

in € million

Risk provisions	Balance 31.12.2014	Allocations	Reversals	Consumption / utilisation	Exchange-rate related and other changes <sup>1)</sup>	Balance 31.12.2015
Individual allowances	93	25	-9	-13	-1	95
Portfolio-based allowances	45	1	-14	-	-	32
Provisions	11	-	-9	-1	-	1
<b>Total</b>	<b>149</b>	<b>26</b>	<b>-32</b>	<b>-14</b>	<b>-1</b>	<b>128</b>

1) Increase of the present value due to passage of time (Unwinding)

In financial year 2015, € 6 million of net credit risk provisioning (additions ./ releases) were released (2014: net additions of € 6 million). These risk provisioning items include individual value adjustments, portfolio-based value adjustments and provisions for contingent liabilities and other obligations. For written-off claims, payments of € 3 million were received (2014: € 6 million) which were recognised in the income statement.

As of 31 December 2015 the amount of value adjustments on accounts receivable (individual value adjustments and portfolio-based value adjustments) amounted to € 127 million (31 December 2014: € 138 million).

In 2015, net additions to individual value adjustments (additions ./ releases) amounted to € 16 million (2014: € 32 million). Net additions to individual value adjustments of € 10 million were made for a few exposures in the Real Estate Finance (REF) segment, the remaining € 6 million were for loan notes to Heta in the Value Portfolio (VP) segment (most value adjustments for Heta were attributable to the income from financial investments). As in the previous year, no individual value adjustments were required for Public Investment Finance (PIF) loans.

Portfolio-based allowances are only recognised for receivables in the absence of indications to an individual impairment. In 2015, portfolio-based allowances with a net amount (additions ./ releases) of € 13 million were released (2014: € 27 million net release). Net releases were possible among other things because of an improved debtor rating.

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As of 31 December 2015, the stock of provisions for contingent liabilities and other obligations was € 1 million (31 December 2014: € 11 million). This mainly includes provisions for guarantee risks, letters of credit, irrevocable credit commitments and litigation risk associated with the loan business.

### **Early Warning System**

The early warning system of pbb Group has defined triggers (= criteria) for including loans in the watchlist and for being classified as workout loans (e.g. past due payments, failure to meet covenants – e.g. loan-to-value [LTV], interest service coverage [ISC]). The system constantly monitors whether a trigger has been set off. In the event of any problems being identified, the counterparty is analysed and, where appropriate, promptly transferred to restructuring or workout loans. Watchlist and non-performing loans (restructuring and workout loans) are defined as follows:

#### **Watchlist Loans**

Payments past due by more than 60 days or another defined early warning signal is triggered (for instance insolvency of a main tenant in the REF segment).

#### **Restructuring Loans**

Payments past due by more than 90 days or another defined early warning signal is triggered (for instance insolvency of a borrower).

#### **Workout Loans**

There are no indications that the loan can be restructured. Enforcement measures have been/will be introduced, respectively specific allowances have been created or are planned.

Non-performing loan processing is also responsible for carrying out an impairment test in line with the relevant accounting regulations.

### 4.3 General Information on CRSA Items and Selected IRBA Items

pbb Group identifies capital requirements for counterparty default risks based on both the bank-internal rating procedures based Advanced IRB Approach as well as the standardised approach. For details, please refer to Chapter 2.2 "Capital Requirements". Some clearly defined sub-portfolios are exempt from the application of IRBA and are subject to CRSA instead. These include:

- Counterparty default risk positions associated with German municipalities according to Article 150, Point (d) CRR
- Counterparty default risk positions which are part of a segment which is being phased out according to Article 150, Point (c) CRR in conjunction with Section 14 of the German Solvency Regulation (SolVV) (e.g. small-volume retail loans where customer creditworthiness is assessed using retail scoring)
- Equity exposures held according to Article 495 (1) CRR prior to 1 January 2008
- Receivables from central counterparties (Eurex)
- Other counterparty default risk positions which are not subject to any rating procedure according to the IRB Approach approved by the German financial regulation authorities.

According to Article 444, Point (e) CRR, the following Table shows exposures at default (EAD) subject to the standardised approach (CRSA) before and after credit risk mitigation, sorted by exposure classes and risk weights (credit quality steps).

**Table 31a: CRSA Exposures before Credit Risk Mitigation**

in € million

Exposure classes CRSA	Counterparty credit risk exposure before reduction of credit risk - by risk weighting <sup>1)</sup>									
	0%	2%	20%	35%	50%	75%	100%	150%	250%	1250%
Exposures to central governments and central banks	-	-	-	-	-	-	-	-	-	-
Exposures to regional governments and local authorities	115	-	-	-	-	-	-	-	-	-
Exposures to other public sector entities	0.5	-	-	-	-	-	-	-	-	-
Exposures to multilateral development banks	1,470	-	-	-	-	-	-	-	-	-
Exposures to international organisations	-	-	-	-	-	-	-	-	-	-
Exposures to institutions	-	35	-	-	0.3	-	-	-	-	-
Exposures to corporates	-	-	641	-	-	-	188	-	-	-
Retail exposures	-	-	-	-	-	2	-	-	-	-
Items secured by mortgages on immovable property	-	-	-	78	6	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	9	4	-	-
Items associated with particular high risk	-	-	-	-	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	0.2	-	-	-
Other items	10	-	-	-	-	-	-	-	66	-
<b>Total</b>	<b>1,596</b>	<b>35</b>	<b>641</b>	<b>78</b>	<b>6</b>	<b>2</b>	<b>197</b>	<b>4</b>	<b>66</b>	<b>0</b>

1) pbb Group discloses no risk positions (CRSA) in the risk weighting classes 4%, 10%, 70%, 370% or others.

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Table 31b: CRSA Exposures after Credit Risk Mitigation

in € million

Exposure classes CRSA	Counterparty credit risk exposure after reduction of credit risk - by risk weighting <sup>1)</sup>									
	0%	2%	20%	35%	50%	75%	100%	150%	250%	1250%
Exposures to central governments and central banks	97	-	-	-	-	-	-	-	-	-
Exposures to regional governments and local authorities	1,004	-	-	-	-	-	-	-	-	-
Exposures to other public sector entities	0.5	-	-	-	-	-	-	-	-	-
Exposures to multilateral development banks	1,470	-	-	-	-	-	-	-	-	-
Exposures to international organisations	-	-	-	-	-	-	-	-	-	-
Exposures to institutions	-	35	0.1	-	18	-	-	-	-	-
Exposures to corporates	-	-	-	-	-	-	42	-	-	-
Retail exposures	-	-	-	-	-	2	-	-	-	-
Items secured by mortgages on immovable property	-	-	-	78	6	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	7	1	-	-
Items associated with particular high risk	-	-	-	-	-	-	-	-	-	-
Exposures in the form of covered bonds	-	-	-	-	-	-	-	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-	-	-	-	-	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	0.2	-	-	-
Other items	10	-	-	-	-	-	-	-	66	-
<b>Total</b>	<b>2,582</b>	<b>35</b>	<b>0</b>	<b>78</b>	<b>24</b>	<b>2</b>	<b>49</b>	<b>1</b>	<b>66</b>	<b>0</b>

1) pbb Group discloses no risk positions (CRSA) in the risk weighting classes 4%, 10%, 70%, 370% or others.

The increase of EAD after credit risk mitigation by a total of € 212 million is mainly due to the offset of suretyships and guarantees (substitution approach). Guarantors are mostly financial institutions and public customers. Substitution effects resulting from suretyships/guarantees mean that the secured portion of an IRBA claim (e.g. of a company) is recognised, according to the standardised approach, with the lower risk weight of the guarantor (e.g. a public body) or that guaranteed CRSA receivables are assigned to the more favourable risk weight of the guarantor. At pbb Group counterparty default exposures to German municipalities are subject to the standardised approach.

#### Simple IRBA Risk Weights for Specialised Lending

pbb Group does not hold any loan receivables from IRBA positions which are subject to simple IRBA risk weights for specialised lending exposures according to Article 153 (5) CRR.

#### Simple IRBA Risk Weights for Shareholdings

pbb Group applies the simple IRBA risk weight according to Article 155 (2) CRR to non-key shareholdings in two companies acquired after 31 December 2007, i.e. one financial company and one other company according to Article 4 CRR in conjunction with section 1 KWG. The total book value of these shareholdings amounts to € 13.4 thousand.

For shareholdings held before 1 January 2008 as set out in Article 495 (1) CRR, pbb makes use of the so-called grandfathering. These shareholdings are temporarily exempt from the requirements of IRBA and are subject to CRSA; their risk weight amounts to 100%.

### Use of Rating Agencies

#### Nominated Rating Agencies

For the assessment of the credit rating based on the standardised approach, pbb Group only works with external ratings provided by Standard & Poor's and Moody's. These rating agencies are nominated for all CRSA exposure classes.

#### Transfer of Credit Ratings

Issue ratings are not transferred to comparable receivables of equal or higher rank.

**Assignment of External Credit Ratings**

For the assignment of external rating agencies' ratings to Credit Quality Steps of the standardised approach, pbb Group uses the method provided by the European Banking Authority (EBA) according to CRR.

## 4.4 Special Information on Counterparty Default Risks

### 4.4.1 Derivative Counterparty Default Risk Positions and Netting Positions

pbb Group uses derivatives mainly to hedge market risks resulting e.g. from interest rate or exchange rate changes. These hedging transactions are reflected in underlying transactions on the assets or the liabilities side. The hedged underlying transactions are mostly receivables, securities and liabilities, e.g. real estate financing, Pfandbriefe, bearer bonds or loan notes. Thus, the hedging of interest and exchange rate risks is intended to avoid risks.

In the derivatives business counterparties are primarily OECD banks and OECD financial institutions. Furthermore, pbb Group provides derivatives for real estate customers and public law entities (e.g. companies and private individuals) for them to hedge market risks related to e.g. commercial real estate financing.

#### Netting Agreements

The derivatives business is usually based on standardised mutual netting agreements which enable a minimisation of legal risks as well as economic and regulatory counterparty default risks and allow for netting of mutual risks. This means that positive and negative market values of derivative contracts subject to a netting agreement can be offset against one another and future regulatory risk premiums for these products can be reduced. Within the framework of the netting process, the counterparty default risk is reduced to one single net claim due from the contracting party.

These risk mitigating techniques are used for the purpose of regulatory reporting and internal measurement and monitoring of credit commitments only if they are considered to be enforceable in the relevant jurisdiction in the event of a business partner's insolvency. To check enforceability legal opinions are used.

In this context the German Master Agreement for Financial Futures based on German law as well as the ISDA Master Agreement of the International Swaps and Derivatives Association (ISDA) are used.

Since 2015 pbb is a direct clearing member of Eurex, which allows pbb Group to handle defined types of contracts through the intermediary of a central counterparty so as to reduce the bilateral default risk.

#### Collateral Management

With defined business partners pbb Group concludes Collateral Service Agreements (CSA) in addition to netting agreements so as to secure any net receivables/net liabilities which may be due after netting (receipt or provision of collateral). These Collateral Service Agreements help limit the counterparty default risk using a timely assessment and adjustment of customer commitments (limit relief), thereby creating scope for new business transactions within the granted counterparty lines.

Collateral is mostly provided in the form of cash collateral and sometimes as securities via title transfer. Collateral received is subject to a systematic documentation.

The hedging requirements are determined on a daily or weekly basis within the framework of mark-to-market valuation and aligned with the counterparties. If threshold amounts have been agreed, collateral will be requested only once the threshold for the contractor concerned has been reached. The same goes for minimum transfer amounts. Only once the agreed minimum transfer amount has been reached or exceeded will a call be made. If a change of the mark-to-market valuation below the threshold value occurs, no call is made so as to limit processing costs. Incoming payments are monitored and the counterparty is sent a reminder when needed.

A Collateral Service Agreement is also in place with the central Eurex counterparty. Collateral is mostly provided in the form of securities using a specific securities portfolio built for this purpose. However cash collateral can be provided as well.

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### Derivative Counterparty Default Risk Positions

Within the framework of its over the counter (OTC) business, pbb Group is exposed to counterparty default risks resulting from derivatives.

### Potential Replacement Cost

According to Article 439, Point (e) CRR, the following Table shows the extent of pbb Group's commitment by contract types as well as the volume of the use of derivative netting agreements and collateral eligibility. Netting agreements and eligible collateral refer to all contract types across products within a framework agreement. For this reason, these items are not listed according to the type of contract.

**Table 32: Positive Replacement Values by Type of Contract**

in € million

Types of contract	Positive replacement values before netting and collateral		Netting possibilities	Eligible collateral	Positive replacement values after netting and collateral
	31.12.2015	31.12.2014			
Interest risk rate	6,472	8,411			
Foreign exchange rate risk	88	54			
Exchange/ index-related risk	-	-			
Credit derivatives	-	-			
Commodity-based risk	-	-			
Others	-	-			
<b>Total</b>	<b>6,560</b>	<b>8,465</b>	<b>4,751</b>	<b>1,421</b>	<b>388</b>

Derivative positions not only lead to market risks, but also to counterparty default risks if a claim due from a contractor arises in the form of positive market values. From pbb Group's perspective these positive replacement values (gross fair values) are determining when assessing the risk as they correspond to the additional expenses or reduced income which would result from a restoration of an equivalent item following the counterparty default. Therefore from a regulatory perspective positive fair value is understood as replacement cost.

Positive replacement values (before netting and collateral) from derivative transactions dropped as of 31 December 2015 to € 6,560 million (31 December 2014: € 8,465 million), i.e. a reduction of approx. € 1.9 billion as compared with the previous year. This reduction is due to changes induced by market interest rates.

The amount of € 6.5 billion corresponds to the expenses which pbb Group would incur for the replacement of originally concluded contracts by transactions of equal commercial significance. Thus, from pbb Group's perspective this amount indicates the maximum potential counterparty default risk. From a regulatory point of view, these expenses are seen as replacement cost. The major portion is for interest rate swaps.

By concluding mutual netting agreements allowing for netting out positive and negative market values within a framework contract across products, the counterparty default risk is reduced to one single net claim due from the contracting party. pbb Group used derivative netting with an amount of € 4.8 billion (31 December 2014: € 6.0 billion).

For hedging the net receivables remaining after netting, pbb Group has signed Collateral Service Agreements with its business partners. Most of the eligible collateral received of € 1.4 billion is in the form of cash collateral. By hedging, the counterparty default risk and the net default risk respectively (positive replacement values after netting and collateral) is reduced to € 388 million (31 December 2014: € 630 million).

### Counterparty default risk

The counterparty default risk from derivative transactions according to Article 439, Point (f) CRR is shown in Table 30. The calculation of regulatory receivables (risk-weighted assets) for the counterparty default risk resulting from derivative positions is based on so-called credit equivalent amounts and not on the replacement values as described above. Credit equivalent amounts correspond to exposures at default (EAD) of the balance sheet counterparty default risk positions.

For determining the credit equivalent amounts, pbb Group uses the mark-to-market method according to Article 274 CRR.

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**Table 33: Counterparty Default Risk**

in € million

	Maturity method	Market value method	Standard method	Internal model
Counterparty default risk exposures	-	954	-	-

The counterparty default risk determined using the mark-to-market method fell by € 227 million to € 954 million at the end of 2015 (31 December 2014: € 1,181 million Euro). The reduction is due to changes induced by market interest rates.

The credit equivalent amounts are determined based on the current potential replacement cost (positive market value of derivative contracts) and an expected future increase in current potential replacement cost, the potential future replacement cost (regulatory add-on).

### Credit Derivatives

As in the previous year, pbb Group did no hedging transactions using credit derivatives (collateral-taker or collateral provider) in 2015. Furthermore, pbb Group is not active in prime brokerage. Thus the Tables according to Article 439, Points (g) and (h) CRR are not relevant.

### Ratings-based Collateral Service Agreements

With some counterparties pbb Group has concluded ratings-based Collateral Service Agreements (CSA) which provide for an adjustment of the threshold amount or a reduction of the minimum transfer amount in the event of a rating downgrade. The scope of the adjustment has been explicitly agreed with the contracting party within the framework of the collateral agreement.

In the event of a threshold amount adjustment, the related cash flow would become immediately due as the bank would have to provide a higher collateral contribution in this case. If the minimum transfer amount was revised, cash flows would occur earlier but no additional payment would become due. This is related to the fact that the minimum transfer amount, unlike the threshold, is no additional collateral but just defines the amount from which payments must be made. If the minimum transfer amount is reduced, payments must be made from a lower threshold onwards. This does not affect the collateral amount itself but only the amount from which changes in value must be compensated in the CSA portfolio. For smaller minimum transfer amounts changes in value are compensated earlier.

**Table 34: Threshold Amounts and Minimum Transfer Amounts in the Derivatives Business**

in € million

	Threshold Amounts	Minimum Transfer Amounts
Deutsche Pfandbriefbank AG	0	151
<b>Total</b>	<b>0</b>	<b>151</b>

The numbers in the Table above show the threshold amounts and minimum transfer amounts agreed within the framework of the Collateral Service Agreements at current ratings. Most Collateral Service Agreements do not provide for threshold amounts (any longer) but only for minimum transfer amounts. In some few cases these amounts depend on the rating. As can be seen, the downgrading of a rating does not have any material impact on pbb Group's liquidity.

This is due to the fact that most long-term ratings for pbb's Collateral Service Agreements (CSA) are already in the lowest category. The following Table shows senior unsecured ratings commissioned by pbb as at the reporting date.



**Table 35: Senior Unsecured Ratings**

		Standard & Poor's	DBRS
Deutsche Pfandbriefbank AG	Long-term	BBB	BBB
	Outlook	stable	stable
	Short-term	A-2	R-2 (high) <sup>2)</sup>

In the year under review, pbb decided to consolidate their credit rating mandates. In this context, the Bank has terminated the mandates for unsecured ratings by Fitch Ratings and Moody's. Simultaneously, the Bank commissioned the rating agency DBRS with the issue of bank ratings.

### Internal Capital Allocation and Credit Limits

Capital allocation and the limitation of default risks for counterparties with derivative positions is part of pbb Group's general allocation and limitation process applicable to counterparty default risks. Limits are primarily based on the counterparty's credit rating for which the rating methods used play an important role. For details of capital allocation to risk categories, please refer to the chapter addressing ICAAP and the monitoring of the risk-bearing capacity (Chapter 3.2 "Economic Capital and Risk-Bearing Capacity"). In all other respects, the methods of regulatory large credit management apply. Ongoing monitoring of counterparty limit usage is ensured by Risk Management & Control on a daily basis.

### Correlations of Market and Counterparty Risks

The requirements of Article 439 Point (c) CRR concerning a discussion of policies with respect to wrong-way risk exposures are not relevant for pbb Group. For the calculation of receivable values pbb Group uses the mark-to-market method according to Article 274 CRR an.

### Accounting and Valuation Methods for Derivatives

Derivatives are measured at fair value. Changes in fair value are recognised in profit or loss if the derivatives are not part of cash flow hedge accounting. The measurement gains and losses from stand-alone derivatives are recognised in net trading income and from hedging derivatives in net income from hedging relationships. In the statement of financial position, stand-alone derivatives are disclosed as trading assets and trading liabilities. Hedging derivatives are disclosed as other assets and other liabilities.

Outside the held-for-trading and dFVTPL category, embedded derivative financial instruments within a structured product and which are required to be separated are separated from the host contract and recognised as stand-alone derivative financial instruments. Thereafter, the host contract is measured in accordance with its classification. The change in value arising from the separated derivatives that are measured at fair value is recognised in profit or loss.

To account for counterparty default risks applying to OTC derivatives, pbb Group determines credit value adjustments (CVA), i.e. valuation adjustments of OTC derivatives within the framework of accounting. CVAs indicate the loss which would occur in the event of a counterparty default. CVA losses are recognised in profit or loss. pbb Group uses the standardised method according to Article 384 CRR to calculate the own funds requirement related to the credit value adjustment (CVA risk).

#### 4.4.2 Investments in the Banking Book

##### Purpose

For strategic reasons, pbb Group makes targeted investments aimed at achieving the company's goals. Thus, pbb Group's shareholdings are an essential element of its business model as described in Chapter 1.1 "Organisational and Legal Structure". The companies under pbb are legally and operationally separate but pursue objectives which are co-ordinated at group level.

##### Accounting and Valuation Methods

pbb's shareholdings are described in the Notes to pbb Group's Annual Report 2015 (Note 88 "Holdings of pbb"). In this note the subsidiaries are categorised on the basis of their consolidation within the framework of the IFRS consolidated financial statement. Furthermore, other shareholdings are shown as well. As compared with the previous year, the assumptions and valuation techniques used have not been subject to major changes.

##### Consolidated Companies

All fully consolidated companies prepared their annual financial statements as of 31 December 2015. The separate financial statements of the consolidated domestic and foreign companies are incorporated in the consolidated financial statements of pbb Group using uniform accounting and measurement principles.

At the acquisition date the costs of a business combination are allocated by recognising the acquiree's identifiable assets, liabilities and contingent liabilities that satisfy the recognition criteria according to IFRS 3.10 at their fair values at that date. Any difference between the cost of the business combination and the acquirer's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities so recognised are accounted as goodwill or as an excess of acquirer's interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities in accordance with IFRS 3.32–36. If the interest in net fair value of the identifiable assets, liabilities and contingent liabilities exceeds the costs of business combination the acquirer shall reassess the identifiable assets, liabilities and contingent liabilities and the measurement of the cost of the combination, and recognise immediately in profit or loss any excess remaining after reassessment.

Business relations within the group of consolidated companies are netted with respect to each other. Intercompany results attributable to internal transactions are eliminated.

##### Non-Consolidated Companies

The effects of the contractual relations between the Group companies and the subsidiaries which are not consolidated are set out in the consolidated financial statements. pbb Group was unable to reliably determine a fair value for two interests in subsidiaries (31 December 2014: 2) that are not included as they are of minor importance to the Group. Interests in these companies in the legal form of a limited company (GmbH) are not traded in an active market and are therefore measured at cost and accounted for in the AfS financial investments.

Net gains and net losses generated by the disposal of AfS financial instruments as well as by changes in value as a result of impairment or reversals to be recognised in profit or loss are recognised in net income from financial investments.

The total amount of the book values of the company's interests in subsidiaries individually regarded as minor amounted to € 0 million (31 December 2014: € 0 million).

##### Associated Companies

An associated company is of significance to the Group due to the book values of the company's interest and the share in the profits of the investment company.

As of 31 December 2015 and as of previous year, there are no material interests in associated companies or joint ventures. The holdings are accounted as AfS financial instruments.

The total amount of the book values of the company's interests in associated companies individually regarded as minor amounted to € 0 million (31 December 2014: € 0 million).

## Values of Shareholdings

In the following Table, the shareholdings of pbb Group are shown based on their accounting classification according to Article 447, Points (b) and (c) CRR. The Table only shows shareholdings which are part of the regulatory consolidation scope. Items which are subject to the deduction method or are subject to regulatory risk-weighting are not shown.

**Table 36: Values of Shareholdings based on their Accounting Classification**

in € million

Equity instruments by groups	Carrying amount	Comparison	
		Fair value	Market value (stock-market price)
<b>Subsidiaries</b>	<b>54</b>	<b>54</b>	<b>-</b>
<b>Consolidated subsidiaries under accounting law</b>			
Thereof: exchange-trade equity instruments	-	-	-
Thereof: unlisted, but part of a sufficiently diversified portfolio	-	-	-
Thereof: other investments	54	54	-
<b>Non-consolidated subsidiaries under accounting law</b>			
Thereof: exchange-trade equity instruments	-	-	-
Thereof: unlisted, but part of a sufficiently diversified portfolio	-	-	-
Thereof: other investments	-	-	-
<b>Associated companies</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Associated companies of minor significance</b>			
Thereof: exchange-trade equity instruments	-	-	-
Thereof: unlisted, but part of a sufficiently diversified portfolio	-	-	-
Thereof: other investments	-	-	-

In addition to pbb as parent company, the regulatory consolidation scope of pbb Group comprises 9 companies which are all consolidated according to the Commercial Code (IFRS). Accordingly, no fair value must be determined for these 9 companies. The fair value is equal to the book value.

Altogether the book values of the companies within the regulatory consolidation scope amount to € 54 million (31 December 2014: € 214 million). None of the companies is stock listed.

## Realised and Unrealised Gains and Losses from Shareholdings

Realised and unrealised gains and losses from shareholdings according to Article 447, Points (d) and (e) CRR are disclosed based on the provisions of IFRS 12.

For two shareholdings in subsidiaries which are not considered due to their minor importance to pbb Group (31 December 2014: 2), pbb Group was unable to reliably determine a fair value. The shareholdings in these companies in the legal form of a limited company (GmbH) are not traded in an active market and are therefore measured at cost and shown under AfS financial investments. The total book value of shareholdings in subsidiaries which are insignificant when taken individually was € 0 million (31 December 2014: € 0 million). As in the previous year, no financial assets for which the fair value could not be reliably determined were written off in financial year 2015.

pbb Group held three shareholdings in associated companies (31 December 2014: 3). In light of their subordinate significance, none of pbb Group's shares in associated companies must be recognised in accordance with the at-equity method. The shareholdings in these companies, which have the legal form of partnerships, are valued at acquisition cost and shown under AfS financial investments. As in the previous year, the total book value of shareholdings in associated companies which are insignificant when taken individually was € 0 million.

As in the previous year, pbb Group did not hold any shareholdings in companies as of 31 December 2015 for which the fair value could be reliably determined but which were not fully consolidated or not recognised in ac-

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cordance with the equity method. Thus pbb Group did not see any unrealised gains or losses from revaluations in 2015 resulting from changes in the fair value based on a subsequent fair value measurement (31 December 2014: € 0 million).

In financial year 2015 no consolidated subsidiaries were disposed; the effects of the first consolidation amounted to € 0 million (31 December 2014: gains of € 21 million).

#### 4.4.3 Securitisations

##### Objectives, Functions and Activities of the Securitisation Process

In reporting year 2015, as in the previous year, pbb Group did not place own securitisations and did not invest in securitisation positions of third-party receivables. However pbb Group still acts as regulatory originator based on the securitisation business done in the past but is not an investor or a sponsor.

The following Table provides an overall view of the existing activities in the various functions according to Article 449 CRR, which are described in more detail below.

**Table 37: Overall Securitisation Activities**

in € million

	Securitisation activities							
	Originator				Investor		Sponsor	
	with significant credit risk transfer <sup>1)</sup>		without significant credit risk transfer <sup>2)</sup>		securitisation positions purchased <sup>3)</sup>			
	31.12.2015	31.12.2014	31.12.2015	31.12.2014	31.12.2015	31.12.2014	31.12.2015	31.12.2014
Bankin book	306	323	-	-	-	2	-	-
Trading book	-	-	-	-	-	-	-	-
<b>Total</b>	<b>306</b>	<b>323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>

1) Sum total of securitisation positions created (without consideration of credit risk mitigation technique)

with recognition of capital considerations according to Basel III due to essential and significant risk transfers according to Article 244 section 2 CRR.

2) Exposure at Default (CRSA-/IRB-Approach position value) of the underlying receivables for securitisation positions

without recognition of capital considerations according to Basel III due to essential and significant risk transfers according to Article 244 section 2 CRR.

3) Exposure at Default (CRSA-/IRBA-exposure amounts) of purchased securitisation positions.

To determine the Securitisation risk weight of originator transactions in the banking book, pbb Group uses the IRB Approach, the ratings-based approach according to Article 261 CRR.

##### Originator

As in the previous year, pbb Group held one own securitisation transaction dated back to 2007 as at the reporting date, i.e. a synthetic securitisation transaction called "Estate UK-3". In the past, pbb Group used to securitise its own sub-portfolios in its role as originator. These securitisation transactions involved a complete or partial transfer of own credit risks to the capital market for selected, precisely defined credit portfolios. The primary motivation behind the bank's own securitisation programmes was to achieve a risk relief (reduction of counterparty default risks and capital relief) and to manage the credit portfolio by limiting or removing risk concentrations.

Generally securitisations are divided into securitisation transactions with claim transfer (so-called traditional or true sale securitisations) and securitisation transactions without claim transfer (so-called synthetic securitisations). For synthetic securitisations, the transfer of risk is ensured by collaterals in the form of guarantees or credit derivatives and for traditional (true sale) securitisations by selling balance sheet assets.

The two following Tables according to Article 449, Points (i) and (p) CCR show own receivables securitised by pbb Group in its role as originator for which risk-weighted securitisation positions are determined according to Articles 245 to 266 CRR.

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**Table 38: Total Amount of Securitised Receivables**

in € million

Underlying portfolio	Originator				Sponsor	
	Banking book		Trading book		Banking book	Trading book
	True sale securitisations	Synthetic <sup>1)</sup> securitisations	True sale securitisations	Synthetic <sup>1)</sup> securitisations		
Real Estate loans	-	306	-	-	-	-
Thereof commercial real estate loans	-	306	-	-	-	-
Thereof residential real estate loans	-	-	-	-	-	-
Thereof commercial and residential real estate loans	-	-	-	-	-	-
Public sector investment finance	-	-	-	-	-	-
Resuritisation	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>306</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

1) Total amount of generated securitisation positions.

The total amount of securitisation positions as of 31 December 2015 (without taking into consideration Credit Risk Mitigation Techniques) amounted to € 306 million (31 December 2014: € 323 million). The reduction in volume is due to planned repayments as well as changes in exchange rates between the issue currency (British pound, GBP) and the Euro. The transaction was closed in February 2007 for a term of 15 years (due date 2022). The originally securitised total volume amounted to € 813 million. pbb is the collateral taker of the commercial real estate loan transactions.

The securitisation transactions usually provided for retaining a small portion of risks in the form of a junior tranche (first loss piece) of the collateral provider. The synthetic Estate UK-3 securitisation transaction contains junior tranches of € 20 million (31 December 2014: € 19 million). The increase is due to changes in the exchange rate with the British pound. pbb Group did not retain any risks by an acquisition, and all credit linked notes (including junior tranches) were sold to investors.

pbb Group was not able to achieve a relief of risk-weighted assets according to CRR (RWA of real estate loans less RWA of securitisation positions) using the synthetic securitisation transaction. The saving on expected loss amounts to € 168 million (31 December 2014: € 147 million).

Based on the previous Table "Total Amount of Securitised Receivables", the following Table shows non-performing and defaulting receivables of loans securitised by pbb Group as originator as well as the related actual losses which incurred in financial year 2015.

**Table 39: Non-performing/Defaulting Receivables and Losses from Securitised Receivables**

in € million

Underlying portfolio	Securitised receivables as Originator			
	Banking book		Trading book	
	Non-performing / past due	Losses	Non-performing / past due	Losses
Real Estate loans	239	-	-	-
Thereof commercial real estate loans	239	-	-	-
Thereof residential real estate loans	-	-	-	-
Thereof commercial and residential real estate loans	-	-	-	-
Public sector investment finance	-	-	-	-
Resuritisation	-	-	-	-
<b>Total</b>	<b>239</b>	<b>0</b>	<b>0</b>	<b>0</b>

The classification "non-performing/defaulting" applies to underlying past due receivables where the debtor failed to meet their contractual payment of interest or principal in good time or where another default event as defined by Basel III occurred or an individual value adjustment was recognised as at the reporting date.

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Other than non-performing and defaulting receivables, "losses" show the use of individual value adjustments for underlying receivables, i.e. write-downs on capital, interest or cost recognised in the financial year under consideration.

A real estate loan underlying the Estate UK-3 securitisation transaction with an exposure at default (EAD) of € 239 million is subject to a default event as well as to payment arrears as the loan had not been paid back by the due date.

pbb Group did not provide support beyond contractual obligations according to Article 248 (1) CRR.

### Securitisation positions from Revolving Counterparty Default Risk Positions

pbb Group was not involved in securitisation positions featuring a securitised portfolio of revolving counterparty default risk positions (early amortisation approach) according to Article 265 CRR. Thus a disclosure according to Article 449, Point n(iv) CRR is not relevant.

### Securitisation Transactions without Effective Risk Transfer

As in the previous year, pbb Group did not hold any own securitisation transactions without effective risk transfer according to Article 243, Point (f) CRR as at year end 2015.

### SSPEs (Securitisation Special-Purpose Entities)

As in the previous year, pbb Group did not use any SSPEs as of 31 December 2015 as defined in Article 449, Point (i) CRR which invested in securitisation positions of securitisation transactions for which pbb Group is considered originator. Furthermore pbb Group does not work with SSPEs serving as sponsors to securitise third-party positions.

### Investor

As at the reporting date, pbb Group did not hold any purchased securitisation positions of third-party receivables in its portfolio where pbb Group acted as an investor. The three investor positions remaining as of 31 December 2014 (CDOs Europe) with outstanding receivables of € 2 million were sold in July 2015. The sale contributed gains of € 3.9 million.

### Risk-weighted Securitisation Position Values and Commissioned Rating Agencies

To determine the securitisation risk weight of originator and investor transactions in the asset ledger, pbb Group uses the ratings-based method according to Article 261 CRR within the framework of the IRB Approach. The ratings-based method is used for all securitisation positions within a securitisation tranche.

pbb Group does not use the internal assessment approach to determine the securitisation risk weight of an IRBA securitisation position according to Article 259 (4) CRR. Unassessed IRBA and CRSA securitisation positions, i.e. positions which have not been subject to a third-party rating by a qualified rating agency, are assigned a risk weight of 1,250% or are deducted from the capital as the case may be.

In its role as originator, pbb Group works with well-known rating agencies to determine the credit rating of the individual tranches of a portfolio to be securitised. pbb Group commissioned Standard & Poor's and Moody's. The credit rating of a securitisation position is based on the second best rating achieved. The rating agencies mentioned above are selected for a transaction independently of the type of securitised receivables.

As of 31 December 2015, the capital required for retained or acquired securitisation positions was € 0 (31 December 2014: € 40 thousand).

## **Risk Management for Securitisation Positions**

### **Counterparty Default and Market Risk**

The ongoing monitoring of investments in securitisations as defined by Article 449, Point (f) CRR, i.e. changes in the credit and market risk of securitisation and re-securitisation positions is not relevant for pbb Group as at the reporting date.

### **Liquidity Risk**

The liquidity risk in connection with securitisations comprises both investor activities and originator activities of so-called Special-Purpose Vehicles (SPVs). As of 31 December 2015 pbb Group was not subject to such a liquidity risk any longer (31 December 2014: € 2 million). pbb Group's business strategy does not allow for new investments in SSPVs being made so that no liquidity risks may arise from these types of transactions. Thus disclosure according to Article 449, Point (b) CRR is not relevant.

## **Accounting and Valuation Policies Applicable to Securitisations (according to IFRS)**

### **Originator**

pbb Group generally divides securitisations into securitisation transactions with claim transfer (so-called traditional or true sale securitisations) and securitisation transactions without claim transfer (so-called synthetic securitisations).

For traditional (true sale) securitisations the risk transfer and the capital relief are achieved by selling balance sheet assets ("true sale"). Generally the assets are derecognised according to the provisions of IAS 39 once essentially all opportunities and risks have been transferred to a third party. Any differences between the book value and the sales price, e.g. gains or losses resulting from a disposal are recognised in the income statement.

In the event of synthetic securitisations however IFRS specifies that the securitised portfolio is not derecognised. The transferred assets must not be derecognised as the criteria for a disposal according to IAS 39 are not met. The underlying receivables are continued to be recognised in the relevant IFRS category and thus stated in the group's balance sheet. Accounting and valuation of these receivables are still based on the provisions of the applicable IFRS category.

### **Investor**

As of 31 December 2015 pbb Group did not hold any investor securitisation positions in its portfolio.

### **Securitisation Transactions using Special Purpose Vehicles**

As of 31 December 2015 pbb Group did not use any Special Purpose Vehicles.

### **Derivatives in Connection with Securitisations**

pbb Group analyses securitisation transactions in order to identify any embedded derivatives which have to be separated. That is the case e.g. where the credit risk of receivables underlying a securitisation is transferred to a special purpose vehicle using a derivative and this special purpose vehicle does not become the owner of the assets.

According to IAS 39.11 embedded derivatives must be separated from the underlying contract and valued separately if the economic features and risks of the embedded derivative, along with other criteria, are not closely linked to the economic features and risks of the underlying contract. In order to verify whether a separation obligation exists, the economic risks of both the underlying transaction and the embedded derivative are assessed.

Embedded derivatives of a securitisation product which must be separated are recognised as individual derivative financial instruments separately from the underlying contract. The underlying contract is then recognised depending on the applicable category. The change in value of separated derivatives measured at the fair value is recognised in the income statement.



**Securitisation Activities in the Reporting Period**

As in the previous year, pbb Group did not make any new securitisation transactions with risk transfer in 2015 as defined in Article 244 (2) CRR; therefore a disclosure according to Article 449, Point (n)(vi) CRR is not relevant.

**Assets for Securitisation**

According to pbb Group's business strategy, new securitisations are no company objective. Accordingly, pbb Group did not plan any new securitisations of own receivables for financial year 2016 and there is no need for a disclosure according to Article 449, Points n(iii) and j(v) CRR.

## 4.5 General Information about IRBA Positions

For the Advanced IRB Approach pbb Group uses the following PD rating and LGD methods:

- PD rating methods used for commercial real estate financing:
  - SPV investors
  - SPV developers
  - Developer drawing up its balance sheet
  - Investor drawing up its balance sheet
  - Investor not drawing up its balance sheet
  - Housing associations
  - Partnerships under civil law ("Gesellschaften bürgerlichen Rechts")
- Other PD rating methods:
  - States
  - Local Authorities
  - Multinational corporate customers
  - Banks
  - Public sector entities
  - Project financing operations
  - Asset based financing operations (aircraft financing, leasing)
  - Private customers
  - Small and medium sized corporate customers
- LGD methods:
  - LGD calculator for German and international real estate financing operations
  - Bank LGD model
  - Corporate LGD model
  - State LGD model
  - Local authorities LGD model
  - Project financing LGD model
  - Asset Based Finance LGD model (for aircraft financing).

Otherwise, the standardised approach only covers pbb Group's largely intangible segments.

### 4.5.1 Internal Rating Systems

Internal rating systems must meet the minimum requirements on the use of the IRB Approach according to Articles 143 and 144 CRR. In addition to methodological and procedural/organisational requirements, the rating systems must have proven their suitability for risk classification concerning both portfolio and new business. According to Article 142 CRR, the term rating systems refers to all of the methods, processes, controls and monitoring procedures as well as data collection and IT systems.

#### PD Rating Methods and LGD Models

pbb Group's PD rating systems are methods where defined quantitative and qualitative risk factor levels of a debtor or guarantor are assigned to scores based on a mathematical-statistical historical data analysis as well as on forward-looking expert opinions. By weighting the risk factors, the scores are combined to form a total score which is then translated into a rating class.

pbb Group's LGD models result in estimated loss percentages of the exposure at default (EAD). The LGD calculator for international commercial real estate financing operations is based on a Monte Carlo simulation approach. For LGD estimates of real estate financing operations in Germany, pbb Group uses statistic recovery rates and handling times which are drawn from a German pool project of the Association of German Pfandbrief banks.

The classification of a debtor of an IRBA counterparty default risk position according to the PD rating systems and LGD models is governed by pbb Group's scope of application as defined in the rating process.

pbb Group uses a uniform master rating scale of 27 grades which is the same across rating methods and exposure classes meaning that the rating is consistent for all counterparty default risk positions. The 27 grades of the master rating scale are assigned unambiguous probabilities of default so that the internal rating classifications can be related to third-party credit ratings.

### **Other Application Fields of Internal Estimates**

The internal estimations of Probability of Default (PD) and Loss Given Default (LGD) are important parameters for risk management and credit decisions. Within the framework of preliminary calculations these risk parameters help determine risk and capital cost which form the basis for risk adjusted pricing.

Furthermore, ratings and loss ratios play an important role in loan approval and processing where each counterparty default risk position must be classified based on its risk content. The PD and LGD risk parameters allow the derivation of expected loss classes which form the basis of the allocation of competencies.

Furthermore, the results of internal rating systems are used to prepare the economic risk-bearing capacity calculation.

### **Recognition of Credit Risk Mitigation Techniques**

Within the framework of counterparty default risk mitigation, pbb Group recognises the following collateral:

- real estate
- financial securities
- suretyships and guarantees

Mostly mortgages of commercial real estate financing operations are used as physical collateral to estimate the risk mitigating loss ratios for the LGD models. Within the framework of the EAD, cash collateral which is frequently used for derivative counterparty default risk positions based on Collateral Service Agreements with counterparties is considered as credit risk mitigating factor. In addition, suretyships and guarantees are taken into account as a risk-reducing factor.

The value of collateral is verified on an event-driven basis and within the framework of the regular annual credit rating assessment of borrowers by the loan officers; for real estate, third-party or internal opinions are considered as well. Any additional information on recognisable collateral including valuation and administration can be found in Chapter 4.5.2 "Credit Risk Mitigation Techniques".

### **Implemented Rating System Control Mechanisms**

For the purpose of checking the completeness and validating the input data for the rating systems, technical control mechanisms have been implemented including e.g. a release based on a dual control principle.

All PD and LGD rating methods are subject to an annual validation by Risk Management & Control. Within this framework, the selectivity, stability and calibration of methods, the data quality as well as the model design are checked based on statistical analyses and user feedback. For the German real estate financing LGD model, pbb Group is part of the pool validation by the Association of German Pfandbrief Banks. Where possible the PD values are measured using long-term default rates of the Group's portfolio. For portfolio segments featuring historically low default rates, e.g. states, local authorities and banks, the PD values are derived from S&P's long-term observation of defaults.

Risk Management & Control is independent of other business areas. The counterparty default risk monitoring unit which is located in this division is responsible for the development, implementation, maintenance, monitoring and optimisation of all PD and LGD methods across the group. The results of these validation and monitoring activities are integrated into the internal audit function's activities.

The internal audit function acts as a process-independent organisation and is responsible for regularly checking whether the internal rating systems are appropriate and meet the minimum requirements for rating systems.

## IRBA Exposure Classes

pbb Group attributes debtors of IRBA counterparty default risk positions to PD rating systems and LGD models based on the scope of application as defined in the rating process. All rating systems are attributed to a regulatory asset class without any overlaps.

### Exposures to States and Central Banks, Institutions, Companies

The rating systems used for the central states and central banks, institutions and companies exposure classes are made up of statistical cores, complemented by expert model components so as to incorporate qualitative and other information into the risk classification. The customer base covered by these rating systems is subject to an initial rating followed by at least one follow-up rating per year. Where material information influencing the credit rating is found, a re-rating is carried out during the year.

The LGD calculator for international commercial real estate financing operations attributed to the companies exposure class is based on a Monte Carlo simulation approach.

For the purpose of data processing, all relevant input factors and the rating results are stored in order to ensure a complete rating history for every debtor and every guarantor as well as every transaction which is prone to counterparty default risks.

Debtors are assigned to rating classes based on the default probability on a master rating scale of 27 grades.

### Retail Business Exposures

The Retail Business exposure class according to IRBA does not apply to pbb Group.

### Equity Exposures

According to Article 495 (1) CRR, equity exposures which were held by pbb Group prior to 1 January 2008 are exempt from the IRBA treatment. Holdings acquired after 31 December 2007 – non-significant holdings of pbb in two companies, one financial company and one other company in accordance with Article 4 CRR in conjunction with Section 1 KWG – are treated as IRBA equity exposures and taken into account using the simple IRBA risk weight as set out in Article 155 (2) CRR.

## IRBA Exposures

The exposure at default (EAD) in line with Basel III shows the outstanding receivables in the event of a default. For most products this is the IFRS accounting value (including accrued interest). In the event of a committed credit line, this value is multiplied by a product-specific credit conversion factor (CCF) and forms part of the EAD. The credit conversion factor (CCF) expresses the expected utilisation in per cent of an existing undrawn credit line within one year until the event of a default.

The EAD is determined for all receivables, whether or not a default has occurred. Basically the EAD is composed of the following:

- capital (capital EAD)
- interest (interest EAD)
- cost (cost EAD)
- liabilities (liabilities EAD)

Specific features applicable to the EAD for derivatives are described in Chapter 4.4.1 “Derivative Counterparty Default Risk Positions and Netting Positions”. The EAD (credit equivalent amount) results from the current market value and the regulatory add-on which is a cushion for future potential increases of the market value.

The following Tables according to Article 452, Points (d) and (e) (i, ii) CRR show the IRBA exposures at default by PD and exposure classes as well as the average PDs, LGDs and risk weights in percent weighted by the exposures.

As required by Article 452, Point (j)(i) CRR, the information is shown altogether and additionally by geographic region of the credit exposures, i.e. for credit exposures in Germany where pbb is authorised and in states where pbb Group is active through branches or subsidiaries. pbb runs credit institutions in Japan and India as well as branches in London, Madrid, Paris, and Stockholm. IRBA credit risk positions totalling € 58,820 million are distributed as follows:

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- Germany € 45,355 million or 77%
- France € 5,926 million or 10%
- Great Britain € 4,938 million or 8%
- Sweden € 1,816 million or 3%
- Spain € 773 million or 1%

The credit institutions in Japan and India (Hypo Real Estate Capital India Corp. Private Ltd. i.L., Mumbai, is being liquidated) represent receivables of € 12 million or 0.02% of IRBA credit risk positions. Due to lack of significance the Tables according to Article 452, Point (j)(i) CRR are not shown for these two states.

**Table 40a: Total IRBA Credit Risk Positions**

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	Ø LGD	Ø PD	Ø RW	EAD in € million	Ø LGD	Ø PD	Ø RW
Exposures to central governments and central banks	25,077	28%	0.03%	10%	481	28%	1.00%	62%
Exposures to institutions	6,073	31%	0.17%	32%	738	11%	1.33%	42%
Exposures to corporates	11,871	11%	0.34%	16%	13,505	12%	1.58%	29%
Thereof to SME	7,095	10%	0.36%	13%	10,047	12%	1.66%	26%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	4,776	13%	0.30%	21%	3,458	14%	1.35%	39%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>43,021</b>	<b>23%</b>	<b>0.13%</b>	<b>15%</b>	<b>14,725</b>	<b>13%</b>	<b>1.55%</b>	<b>31%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	Ø LGD	Ø PD	Ø RW	EAD in € million	Ø LGD	Ø PD	Ø RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	239	58%	10.00%	3	241	6%	100%	0%
Exposures to corporates	301	21%	10.28%	86%	294	59%	100%	0%
Thereof to SME	150	23%	12.65%	90%	249	59%	100%	0%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	151	18%	7.92%	82%	45	58%	100%	0%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>540</b>	<b>37%</b>	<b>10.16%</b>	<b>178%</b>	<b>535</b>	<b>35%</b>	<b>100%</b>	<b>0%</b>

Exposure classes IRB-Approach	Total (excl. Default)			
	EAD in € million	Ø LGD	Ø PD	Ø RW
Exposures to central governments and central banks	25,558	28%	0.05%	11%
Exposures to institutions	7,050	30%	0.62%	42%
Exposures to corporates	25,677	12%	1.11%	24%
Thereof to SME	17,292	11%	1.22%	21%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	8,385	14%	0.87%	30%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	370%
<b>Total</b>	<b>58,286</b>	<b>21%</b>	<b>0.58%</b>	<b>20%</b>

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Table 40b: IRBA Credit Risk Positions – Germany

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	22,783	27%	0.03%	10%	481	28%	1.00%	62%
Exposures to institutions	4,364	28%	0.22%	34%	733	11%	1.33%	41%
Exposures to corporates	8,763	12%	0.32%	17%	7,264	16%	1.63%	39%
Thereof to SME	5,186	11%	0.35%	15%	5,226	16%	1.74%	36%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	3,578	13%	0.28%	21%	2,039	16%	1.35%	48%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>35,911</b>	<b>24%</b>	<b>0.12%</b>	<b>15%</b>	<b>8,479</b>	<b>16%</b>	<b>1.57%</b>	<b>41%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	239	58%	10%	294%	241	6%	100%	0%
Exposures to corporates	192	20%	9.21%	79%	293	59%	100%	0%
Thereof to SME	102	31%	10.38%	122%	248	59%	100%	0%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	89	7%	7.87%	30%	45	58%	100%	0%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>431</b>	<b>41%</b>	<b>9.65%</b>	<b>199%</b>	<b>534</b>	<b>35%</b>	<b>100%</b>	<b>0%</b>

Forderungsklassen IRBA	Total (excl. Default)			
	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	23,265	27%	0.05%	11%
Exposures to institutions	5,337	27%	0.81%	47%
Exposures to corporates	16,219	14%	1.01%	28%
Thereof to SME	10,514	13%	1.14%	26%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	5,706	14%	0.78%	31%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>44,821</b>	<b>22%</b>	<b>0.49%</b>	<b>21%</b>

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Table 40c: IRBA Credit Risk Positions – France

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	1,322	28%	0.00%	0%	-	-	-	-
Exposures to institutions	1,612	41%	0.03%	25%	-	-	-	-
Exposures to corporates	1,054	13%	0.34%	17%	1,939	7%	1.70%	18%
Thereof to SME	611	8%	0.36%	9%	1,513	6%	1.79%	13%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	443	20%	0.31%	27%	426	11%	1.41%	37%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>3,987</b>	<b>29%</b>	<b>0.10%</b>	<b>15%</b>	<b>1,939</b>	<b>7%</b>	<b>1.70%</b>	<b>18%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-	-	-
Exposures to corporates	-	-	-	-	-	-	-	-
Thereof to SME	-	-	-	-	-	-	-	-
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	-	-	-	-	-	-	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Exposure classes IRB-Approach	Total (excl. Default)			
	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	1,322	28%	0.00%	0%
Exposures to institutions	1,612	41%	0.03%	25%
Exposures to corporates	2,993	9%	1.22%	18%
Thereof to SME	2,124	6%	1.38%	12%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	869	16%	0.85%	32%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>5,926</b>	<b>22%</b>	<b>0.63%</b>	<b>16%</b>

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Table 40d: IRBA Credit Risk Positions – Great Britain

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	321	11%	0.00%	0%	-	-	-	-
Exposures to institutions	84	10%	0.04%	3%	-	-	-	-
Exposures to corporates	1,282	5%	0.40%	8%	3,141	6%	1.58%	14%
Thereof to SME	865	5%	0.38%	7%	2,514	6%	1.61%	12%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	417	6%	0.45%	12%	627	8%	1.48%	22%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,687</b>	<b>7%</b>	<b>0.31%</b>	<b>6%</b>	<b>3,141</b>	<b>6%</b>	<b>1.58%</b>	<b>14%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-	-	-
Exposures to corporates	110	22%	12.16%	98%	-	-	-	-
Thereof to SME	48	5%	17.50%	20%	-	-	-	-
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	62	35%	8.00%	158%	-	-	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>110</b>	<b>22%</b>	<b>12.16%</b>	<b>98%</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Exposure classes IRB-Approach	Total (excl. Default)			
	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	321	11%	0.00%	0%
Exposures to institutions	84	10%	0.04%	3%
Exposures to corporates	4,533	6%	1.50%	15%
Thereof to SME	3,427	6%	1.52%	11%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	1,106	8%	1.46%	26%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>4,938</b>	<b>7%</b>	<b>1.38%</b>	<b>13%</b>



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Table 40e: IRBA Credit Risk Positions – Sweden

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	72	31%	0.00%	0%	-	-	-	-
Exposures to institutions	0.0	14%	0.10%	8%	-	-	-	-
Exposures to corporates	587	10%	0.35%	17%	1,156	15%	1.03%	29%
Thereof to SME	249	6%	0.42%	8%	790	16%	1.04%	32%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	338	13%	0.30%	24%	366	12%	1.00%	23%
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>660</b>	<b>12%</b>	<b>0.31%</b>	<b>16%</b>	<b>1,156</b>	<b>15%</b>	<b>1.03%</b>	<b>29%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-	-	-
Exposures to corporates	-	-	-	-	-	-	-	-
Thereof to SME	-	-	-	-	-	-	-	-
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	-	-	-	-	-	-	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Exposure classes IRB-Approach	Total (excl. Default)			
	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	72	31%	0.00%	0%
Exposures to institutions	3%	14%	0.10%	8%
Exposures to corporates	1,744	13%	0.80%	25%
Thereof to SME	1,039	14%	0.89%	26%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	704	12%	0.66%	24%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>1,816</b>	<b>14%</b>	<b>0.77%</b>	<b>24%</b>

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Table 40f: IRBA Credit Risk Positions – Spain

Exposure classes IRB-Approach	PD ≤0,5%				PD >0,5% ≤5%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	579	41%	0.06%	29%	-	-	-	-
Exposures to institutions	1	22%	0.33%	29%	5	25%	1.50%	64%
Exposures to corporates	184	13%	0.45%	22%	4	5%	1.50%	8%
Thereof to SME	184	13%	0.45%	22%	4	5%	1.50%	8%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	-	-	-	-	-	-	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>764</b>	<b>34%</b>	<b>0.16%</b>	<b>27%</b>	<b>9</b>	<b>16%</b>	<b>1.50%</b>	<b>39%</b>

Exposure classes IRB-Approach	PD >5% <100%				Default PD = 100%			
	EAD in € million	∅ LGD	∅ PD	∅ RW	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	-	-	-	-	-	-	-	-
Exposures to institutions	-	-	-	-	-	-	-	-
Exposures to corporates	-	-	-	-	0.4	71%	100%	0%
Thereof to SME	-	-	-	-	0.4	71%	100%	0%
Thereof to specialised lending exposures	-	-	-	-	-	-	-	-
Thereof: Other	-	-	-	-	-	-	-	-
Retail exposures	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0.4</b>	<b>71%</b>	<b>100%</b>	<b>0%</b>

Exposure classes IRB-Approach	Total (excl. Default)			
	EAD in € million	∅ LGD	∅ PD	∅ RW
Exposures to central governments and central banks	579	41%	0.06%	29%
Exposures to institutions	5.7	25%	1.34%	59%
Exposures to corporates	188	13%	0.47%	22%
Thereof to SME	188	13%	0.47%	22%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	-	-	-	-
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>773</b>	<b>34%</b>	<b>0.17%</b>	<b>27%</b>

The loss given default (LGD) indicates the loss ratio suffered by the bank if a customer failed to pay. For non-defaulting IRBA exposures this is 21% on average (31 December 2014: 21%).

The probability of default (PD) which, irrespective of the exposure amount and the collateral provided, indicates the probability that a borrower/counterparty will be unable in the future to service their debt is 0.58% on average for non-defaulting IRBA exposures (31 December 2014: 0.50%).

The probabilities of default (PD) and loss given defaults (LGD) used by pbb Group are defined as so-called through-the-cycle risk parameters representing multiannual average values. The current default and loss rates (so-called point-in-time risk parameters) may differ from through-the-cycle values depending on the current position in the economic cycle.

The average risk weight for non-defaulting IRBA exposures across all IRBA exposure classes is 20% (31 December 2014: 22%). Risk weights are important factors when determining risk-weighted assets (RWA) which must be backed with own funds in a risk-oriented manner; RWAs are calculated by multiplying the risk weight with the IRBA exposure at default (EAD).

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As described in Chapter 4.3 “General Information on CRSA Items and Selected IRBA Items” the retail business (e.g., small volume retail loans where the customer credit rating is determined based on a retail scoring but which are phased out as set out in Article 150, Point (c) CRR in conjunction with Section 14 SolvV) as well as shareholdings which were held prior to 1 January 2008 according to Article 495 (1) CRR are exempt from the IRB approach.

### Undrawn IRBA Credit Commitments

According to Article 452, Point e (iii) CRR, the following Tables show the exposure for undrawn credit commitments. According to the regulatory disclosure requirements, pbb Group shows the total amount of undrawn credit commitments (including their assessment basis) as well as the commitment-weighted average exposure value (Ø EAD) for every IRBA exposure class. In addition, the exposure of undrawn credit commitments (the sum of undrawn credit commitments, weighted by a credit conversion factor (CCF)) as well as the weighted average CCF (Ø CCF) per IRBA exposure class are shown.

As required by Article 452, Point (j) (i) CRR, the information is shown altogether and additionally by geographic region of the credit risk positions. Undrawn credit commitments totalling € 3,547 million are distributed as follows:

- Germany € 2,527 million or 71%
- France € 621 million or 17%
- Great Britain € 375 million or 11%
- Sweden € 23 million or 1%
- Spain € 0.4 million or < 1%

There are no undrawn credit commitments from transactions of credit institutions in Japan and India.

**Table 41a: Total Undrawn IRBA Credit Commitments**

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	124	124	35	100%
Exposures to institutions	299	299	34	100%
Exposures to corporates	3,124	1,384	15	44%
Thereof to SME	1,982	875	15	44%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	1,142	509	14	45%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>3,547</b>	<b>1,807</b>	<b>98</b>	<b>51%</b>

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Table 41b: Undrawn IRBA Credit Commitments – Germany

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	90	90	46	100%
Exposures to institutions	1	1	0.3	100%
Exposures to corporates	2,437	1,100	14	45%
Thereof to SME	1,527	691	15	45%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	909	409	13	45%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>2,527</b>	<b>1,191</b>	<b>74</b>	<b>47%</b>

Table 41c: Undrawn IRBA Credit Commitments – France

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	35	35	9	100%
Exposures to institutions	298	298	34	100%
Exposures to corporates	288	124	13	43%
Thereof to SME	243	99	15	41%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	45	25	7	54%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>621</b>	<b>456</b>	<b>65</b>	<b>74%</b>

Table 41d: Undrawn IRBA Credit Commitments – Great Britain

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	-	-	-	-
Exposures to institutions	-	-	-	-
Exposures to corporates	375	150	17	40%
Thereof to SME	189	75	15	40%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	187	75	19	40%
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>375</b>	<b>150</b>	<b>34</b>	<b>40%</b>

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Table 41e: Undrawn IRBA Credit Commitments – Sweden

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	-	-	-	-
Exposures to institutions	-	-	-	-
Exposures to corporates	23	9	5	40%
Thereof to SME	23	9	5	40%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	-	-	-	-
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>23</b>	<b>9</b>	<b>5</b>	<b>40%</b>

Table 41f: Undrawn IRBA Credit Commitments – Spain

in € million

Exposure classes IRB-Approach	Total value of undrawn commitments	Position value of undrawn commitments	Ø EAD	Ø CCF
Exposures to central governments	-	-	-	-
Exposures to institutions	-	-	-	-
Exposures to corporates	0.4	0.4	0.2	100%
Thereof to SME	0.4	0.4	0.2	100%
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	-	-	-	-
Retail exposures	-	-	-	-
Equity exposures	-	-	-	-
<b>Total</b>	<b>0.4</b>	<b>0.4</b>	<b>0.2</b>	<b>100%</b>

pbb Group calculates the exposure at default (EAD) of undrawn credit commitments based on the following credit conversion factors (CCF): 40% for mortgage loans and 100% for all other products (e.g. guarantees and public sector financing).

As at the reporting date 31 December 2015, credit commitments of € 3,547 million (31 December 2014: € 2,878 million) were undrawn, the related weighted average CCF was 51% (31 December 2014: 77%).

### Expected and Actual Losses

According to Article 452, Points (g) and (i) CRR, the following Tables 42 and 43 show the expected losses for commercial real estate financing loans of the Real Estate Finance (REF) segment without problem loans for which a value adjustment was already recognised and without losses incurred in the financial year. The Tables apply to receivables where pbb Group calculates the risk-weighted exposures based on the Advanced IRB Approach.

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**Table 42: Losses Incurred in the Lending Business – Development**

in € million

Exposure classes IRB-Approach	Incurred loss (IFRS)		Incurred loss (IFRS)	
	31.12.2015	change to previous year	31.12.2014	change to previous year <sup>1)</sup>
Central governments	-	-	-	-
Institutions	-	-	-	-
Corpoarets	7	-11	18	k.A.
Thereof to an SME	6	-4	10	k.A.
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	1	-7	8	k.A.
Equity exposures	-	-	-	-
Retail exposures	-	-	-	-
<b>Total</b>	<b>7</b>	<b>-11</b>	<b>18</b>	<b>k.A.</b>

1) The Disclosure Report 2015 is the first independent disclosure report of pbb Group after privatisation of pbb in July 2015.  
Insofar, only the realised losses in 2015 and 2014 are opposed in accordance with CRR article 452 (i)

Incurred losses are defined as the sum of additions and releases of individual value adjustments in the lending business, additions and releases of provisions in the lending business, direct write-downs and recoveries on loans previously written off.

The expected loss (EL) over a period of one year is determined for all exposures except for problem loans for which an individual value adjustment has already been recognised. The EL is calculated based on the parameters defined by Basel III, i.e. the annual probability of default (PD) multiplied by the loss given default (LGD) and the exposure at default (EAD).

**Table 43: Expected and Incurred Losses in the Lending Business**

in € million

Exposure classes IRB-Approach	Loss 12/2015 <sup>2)</sup>		Loss 12/2014	
	Expected loss <sup>1)</sup>	Incurred loss (IFRS)	Expected loss <sup>1)</sup>	Incurred loss (IFRS)
Central governments	-	-	-	-
Institutions	-	-	-	-
Corpoarets	45	7	96	18
Thereof to an SME	34	6	56	10
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	11	1	40	8
Equity exposures	-	-	-	-
Retail exposures	-	-	-	-
<b>Total</b>	<b>45</b>	<b>7</b>	<b>96</b>	<b>18</b>

1) Expected loss for real estate financings (mortgage loans and current account loans),  
excl. problem loans, for which an allowance exists.

2) The Disclosure Report 2015 is the first independent disclosure report of pbb Group after privatisation of pbb in July 2015.  
Insofar, only the realised losses in 2015 and 2014 are opposed in accordance with CRR article 452 (i)

The loss incurred on real estate financing loans according to the IRB approach amounted to net additions of € 7 million (2014: € 18 million). Individual value adjustments and provisions in the loan business were limited to a few credit exposures and amounted to net additions of € 10 million (2014: € 24 million). The additions were reflected in recoveries on written-down loans of € 3 million (2014: € 6 million).

As of 31 December 2015, the expected loss for real estate financing loans without problem loans for which a value adjustment had already been recognised totalled € 45 million (31 December 2014: € 96 million). The decrease in expected losses was mainly due to the successful restructuring of three major financing transactions in the Real Estate Finance segment. The recognition of an individual value adjustment for another major REF financing transaction also contributed to this decline.

Generally it should be noted that future cyclical swings or changes to individual risks may lead to changes in the expected loss as well. Furthermore, incurred losses may differ from expected losses.

Over time, pbb Group's default and loss history may lead to adjustments of estimated risk parameters within the framework of annual checks to identify the need for a re-calibration. The loss given default rate (LGD) for non-defaulting real estate loans was 12% on average (31 December 2014: 13%). For the complete Real Estate Finance portfolio, the average LGD was 13% (31 December 2014: 15%). The probability of loss (PD) for non-defaulting real estate loans was 1.1% on average (31 December 2014: 1.1%). This improvement of the average parameter values was, among other things, due to improvements on an individual transaction level (continuous repayments, major partial repayments) as well as a decrease in the problem loan volume which tends to have a higher LGD than the performing portfolio.

As of 31 December 2015, problem loans in the REF segment were covered by 40% (31 December 2014: 24%). This improvement is due to the successful restructuring and winding-up of problem loans. With the collateral provided, the problem loans are fully covered. The cover is the ratio between the risk provisioning for problem loans and the exposure at default (EAD).

#### 4.5.2 Credit Risk Mitigation Techniques

According to Article 453 CRR this chapter describes the credit risk mitigation techniques used by pbb Group. The strategic business of pbb Group includes commercial real estate financing and public investment financing with a focus on Pfandbrief-eligible transactions. Within the framework of counterparty default risk mitigation, pbb Group accepts the following collateral:

- real estate
- financial securities
- suretyships and guarantees

In this context, particularly mortgages (commercial real estate financing operations) play an important role. Furthermore pbb Group accepts financial securities (cash collateral and fixed-interest securities) as well as suretyships and guarantees as collateral.

Cash collateral is mainly used for derivative counterparty default risk positions. In the derivatives business counterparties are mostly OECD banks and OECD financial institutions. Guarantors are mostly financial institutions as well as public-sector customers. The guarantors and the credit derivative counterparties have a very good credit rating. The most important guarantors are addressed in pbb Group's risk reporting on a regular basis.

For estimating the loss at default within the framework of the LGD calculation, impersonal securities are considered as credit risk mitigating and for calculating the EAD (exposure at default), financial securities are considered as credit risk mitigating. Suretyships and guarantees are considered as credit risk mitigating by way of a regular PD substitution. This ensures that the secured portion of an exposure is attributed the lower risk weight of the guarantor.

At pbb Group, the procedures for accepting collateral are governed by internal processing guidelines for every type of collateral. In order to ensure legal enforceability, usually standard contracts are used. Against the background of changing legislative environments these contracts are continuously reviewed. For this purpose, a group-wide process has been implemented in cooperation with an international law firm to ensure that all CRR related collateral is subject to an ongoing legal enforceability monitoring. The calculation and fixing of the collateral values is transparently documented. Expert opinions used to estimate a liquidation value provide information on the marketability of collateral.

According to Article 453, Points (f) and (g) CRR, the two following Tables show the exposures secured using eligible collateral, separately for the two approaches applied by pbb Group to determine the capital requirements relating to the counterparty default risk (Advanced IRB approach based on internal ratings and CRSA Approach).

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**Table 44a: Secured IRBA Credit Risk Positions**

in € million

Exposure classes IRB-Approach	Financial Securities	Other/ physical Securities	Guarantees and Credit Derivatives	Life insurances
Exposures to central governments and central banks	-	-	779	-
Exposures to institutions	-	-	1,522	-
Exposures to corporates	-	-	2,775	-
Thereof to an SME	-	-	70	-
Thereof to specialised lending exposures	-	-	-	-
Thereof: Other	-	-	2,704	-
Retail exposures	-	-	-	-
Equity exposure	-	-	-	-
Other non credit-obligation assets	-	-	-	-
<b>Total</b>	<b>0</b>	<b>-</b>	<b>5,076</b>	<b>0</b>

**Table 44b: Secured CRSA Credit Risk Positions**

in € million

Exposure classes CRSA	Financial Securities	Guarantees and Credit Derivatives	Life insurances
Exposures to central governments and central banks	-	-	-
Exposures to regional governments and local authorities	-	-	-
Exposures to other public sector entities	-	-	-
Exposures to multilateral development banks	-	-	-
Exposures to international organisations	-	-	-
Exposures to institutions	-	-	-
Exposures to corporates	-	787	-
Retail exposures	-	0.5	-
Items secured by mortgages on immovable property	-	-	-
Exposures in default	-	5	-
Items associated with particular high risk	-	-	-
Exposures in the form of covered bonds	-	-	-
Exposures to institutions and corporates with short-term credit assessment	-	-	-
Exposures in the form of units or shares in CIUs	-	-	-
Equity exposures	-	-	-
Other items	-	-	-
<b>Total</b>	<b>0</b>	<b>793</b>	<b>0</b>

Most guarantors are financial institutions and public customers with a very good credit rating.

### Valuation and Administration of Collateral

Depending on the type of collateral, pbb Group uses different valuation, control and verification methods. These are a substantial part of the event-driven and annual credit commitment assessment and credit approval processes mentioned above.

For the valuation of the various types of collateral, pbb Group has established processing principles. The value of collateral is reviewed either within the framework of the credit approval, within the regular annual review of borrowers or in the event of material changes. Collateral subject to major value fluctuations demands for more frequent monitoring as specified in the contract, however at least on a quarterly basis.



The valuation of mortgage is generally based on a written valuation opinion and is documented in writing. Value fluctuations are monitored by pbb Group on an ongoing basis using defined parameters (e.g. loan to value).

### Real Estate

Each property used as collateral is subject to a written market value opinion prepared by a property valuer or an independent expert. For real estate collateral intended for the Pfandbrief cover pool (for refinancing using Pfandbrief issues) an additional loan value report is prepared. Third-party opinions are subject to a plausibility check carried out by an internal real estate expert.

The regular monitoring and review of real estate collateral is directed towards the market value of the property:

- Monitoring is aimed at identifying property types and/or markets (or combinations of both) where a potential loss in value may have occurred, the identification is carried out based on the records and available information. For this purpose, a rough analysis is sufficient without taking into consideration individual properties.
- Reviews are carried out in order to further check properties identified within the framework of the monitoring process. Independent of the monitoring outcome, real estate collateral with a loan sum exceeding € 3 million and a market value exceeding € 5 million is reviewed at least every three years.
- Revaluations apply to properties which have seen a market price decline of over 10% as well as for properties which, according to Article 208 (3), Point (b) CRR are subject to a mandatory revaluation at least every three years. In these cases, the current market value and, as the case may be, the current loan value are determined by an independent property valuer.

For more information on quality aspects in connection with the valuation of real estate by pbb Group, please refer to "Risk Hedging and Risk Mitigation" of Chapter 4.1 "Management of Counterparty Default Risk".

### Suretyships/guarantees

pbb Group accepts suretyships and guarantees as collateral for the purpose of risk management as well as for risk mitigation according to Articles 213 to 215 CRR. For a recognition as credit risk mitigating collateral both the guarantees/deposits and the guarantors must meet the regulatory requirements. Suretyships and guarantees are accounted for as credit risk mitigating by way of a regular PD substitution.

### Financial Collateral

pbb Group uses financial collateral (cash collateral and securities) within the framework of netting agreements in the context of derivative or securities lending (repo) transactions.

While cash collateral is usually provided for bilateral repo transactions, repo transactions cleared by a central counterparty are typically subject to securities. pbb provides or receives cash collateral usually in Euro. The collateral is provided via title transfer. As far as derivatives are cleared by a central counterparty, collateral is provided either by pledges for securities or by providing cash collateral via title transfer.

Collateral must meet the regulatory requirements for being eligible for credit risk mitigation purposes in line with CRR.

### Eligible Netting Agreements

pbb Group uses netting agreements within the framework of security lending transactions (repo transactions) and mainly for derivative financial instruments as far as contractual agreements meet the requirements of Article 206 CRR.

Usually derivatives transactions are carried out using standardised mutual netting agreements as described in Chapter 4.4.1 "Derivative Counterparty Default Risk Positions and Netting Positions". This allows for netting of mutual exposure, thereby reducing the counterparty default risk to one single net claim due from the contracting party.

As at the reporting date, pbb Group used derivative netting of € 4,751 million (31 December 2014: € 6,018 million). According to IFRS accounting standards, derivatives are reported in the balance sheet. Within the framework of security lending transactions, pbb Group used € 374 million (31 December 2014: € 3,062 million).

### **Risk Concentrations**

Real estate mortgage deeds, as a part of the eligible hedging instruments, may present major risk concentrations due to the natural correlation of these impersonal securities with the general development of the real estate market in a given country. The Risk and Opportunity Report of the Annual Report 2015 ([www.pfandbriefbank.com](http://www.pfandbriefbank.com)) shows a split of the loan portfolio by regions as well as by loan and property types. pbb Group limits risk concentrations as described above through the management of country-related limits.

Depending on the results of the internal rating process, each country or country group is assigned a limit within defined rating corridors which governs pbb Group's business activities. All country ratings and limits are reviewed by Credit Risk Management at least once per year.

## 5 Market Risk

### 5.1 Market Risk Management

#### Definition

Market risk is defined as the risk of a loss of value resulting from the fluctuation of the market prices of financial instruments. Transactions entered into by pbb Group are mainly exposed to the following types of market risk:

- Credit spread risk (risk from changes in credit spreads)
- General interest rate risk (risk from changes in market interest rates)
- Volatility risk (risk from changes in implied volatility)
- Foreign currency risk (risk from changes in foreign exchange rates)
- Basis risk (risk from changes in OIS spreads, tenor spreads, and cross-currency basis spreads)
- Concentration risk (risk of additional losses due to a non-diversified portfolio mix; accounted for by using correlations between risk factors when determining value at risk)

#### Risk Strategy

pbb Group adheres to the following fundamental principles in relation to market risks:

- Transactions may be conducted exclusively in financial instruments which have successfully passed the new product process, and which are measured independently via a model or for which market prices are observable.
- All positions entered into are subject to daily monitoring, in terms of risk and performance, by the unit Risk Management & Control (RMC).

#### Organisation

Positions are monitored by the RMC unit, which is separated from trading in the structural organisation, right through to senior management.

#### Risk Reporting

RMC prepares detailed market risk reports for various recipients, on a daily basis:

- The daily Market Risk Report is addressed to the Management Board of pbb Group in particular. It outlines value-at-risk (VaR) attributable to market risk, limit utilisations and economic performance figures across all levels of the portfolio structure.
- Daily sensitivity reports comprise analyses for the main risk factors, at various levels of detail. They are also made available to the Management Board.

#### Risk Quantification – Market Risk Measurement and Market Risk Limitation

##### Market Risk – Value-at-Risk

RMC determines VaR attributable to market risk, at an overall as well as partial portfolio level, on a daily basis, using a simulated model based on historical data. All positions are taken into account for determining VaR, whereby the credit spread VaR from items classified under IFRS category Loans & Receivables is not taken into consideration within market risk, but in credit risk.

- The simulation model is based on historical market data of the past seven years, which is incorporated in the simulation with an equal weighting.
- Individual types of market risk are aggregated to form a total VaR, which forms the basis of limit monitoring.
- For the purposes of daily operational risk management, VaR is determined using a holding period of ten days and a one-sided 99% confidence interval.

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In the third quarter of 2015, pbb Group introduced a new method for calculating VaR; this approach is based on a seven-year market data history, which is fed into a VaR simulation model. Some of the VaR figures increased due to the longer data history. Simultaneously, the valuation of volatility risks (non-linear interest rate risks) was partly adjusted to the current interest rate environment, with low or even negative interest rates.

Market risk VaR as at 31 December 2015 amounted to €67 million, taking diversification effects between the individual market risk types into consideration (31 December 2014: € 57 million). The comparison with previous year's figures is only possible to a limited extent given the recent change of models. Increases are due mainly to the model changes as described before. There were no breaches of market risk VaR limits at pbb Group level during the period under review. The market risk limit of pbb Group was cut from € 120 million to € 90million at the beginning of 2015.

Besides the conversion to a seven-year market data history, as outlined above, and shifts in credit spread volatility, market-risk-induced VaR was largely influenced during the course of 2015 by the sale of an inflation-linked bond from the bank's capital investment book. Given largely unchanged VaR attributable to market risk, this led to a marked reduction in VaR induced by interest rate and inflation risks.

### Sensitivity Analyses

Overnight yield curves are used for the purposes of measurement relevant to sensitivity analyses. Sensitivity analyses quantify the impact of changes in individual market parameters upon the value of positions. For instance, the credit spread sensitivity provides an indication of the change in economic present value which results from a one basis point change (all other factors remaining unchanged) in the credit spreads which are relevant for measurement purposes.

### Stress Tests

Whilst VaR measures market risk in "normal" market conditions and does not provide a measure for potential maximum losses, stress scenarios are used to show market risk in extreme conditions. pbb Group employs hypothetical stress scenarios for key risk drivers, on a monthly basis, to determine the impact of extreme changes in yield curves, foreign exchange rates, credit spreads, inflation rates and volatility on the economic present value of pbb Group's overall portfolio. Historical stress scenarios are simulated additionally. The 200 basis point parallel upwards shift in the yield curve – as required by regulatory authorities – would have resulted in market value losses of € 116 million as at 31 December 2015 (31 December 2014: € 509 million) on the aggregate exposure of pbb Group. Conversely, a 200 basis point parallel downwards shift in the yield curve would have resulted in market value profits of € 19 million (31 December 2014: € 245 million). The asymmetry between potential profits and losses is due, in particular, to the fact that the 200 basis point shift is capped at an interest rate of zero per cent. An extreme increase in relevant credit spreads would have resulted in market value losses of € 298 million as at 31 December 2015. The Management Board and the relevant executive bodies are informed about the results of stress test scenarios on a regular basis.

### Back Testing

The quality of the risk measurement methods in use is checked on an ongoing basis by comparing one-day VaR figures to the actual changes occurring in the portfolio's present value on a daily basis; these methods are reviewed on an ongoing basis. pbb Group has adopted the Basel Capital Accord's "traffic light" system for the qualitative analysis of its risk model. For this purpose, the number of outliers detected in backtesting within a period of 250 trading days is counted. Overall, two outliers were observed within the new VaR model as at 31 December 2015, based on a data history of 250 trading days. Both outliers were attributable to extraordinarily strong fluctuations of credit spreads. The risk model employed by pbb Group therefore has "green" status, as defined in the "traffic light" system of the Basel Capital Accord.

### Economic Market Risk Capital

The chapter “Result of Risk-bearing Capacity Analysis” provides details concerning the calculation as well as the quantification of economic capital for market risk.

### Mapping of Economic Hedge Relationships as Hedge Accounting

The concept of hedge accounting refers to specific accounting rules applicable to hedge relationships in accordance with IAS 39, entered into for the purpose of neutralising the change in value of the hedged underlying transaction against the change in value of the hedging instrument to a large extent. The criteria set out in IAS 39 must be satisfied for a hedge to be recognised accordingly. To a certain extent, these criteria – such as the requirements relating to hedge effectiveness – are inconsistent with the methods applied to bank management. As a result, there may be differences between economic hedges and hedge relationships recognised on the balance sheet.

### Risk Management and Monitoring, Risk Mitigation

pbb Group uses a three-pillar approach for managing and monitoring market risk:

- management of positions maintained by the Treasury
- risk measurement and monitoring compliance with limits by RMC and
- escalation processes across all decision-making bodies, right through to the Management Board.

For all positions, market risk is monitored through a combination of value-at-risk (VaR) limits and monitoring of sensitivities by RMC, which is independent from trading units.

### General Interest Rate Risk

General interest rate risk declined significantly to € 21 million as at 31 December 2015, compared to € 36 million as at 31 December 2014. Excluding the capital investment portfolio, general interest rate risk exposure remained at a low level throughout 2015.

### Volatility Risks

VaR used for the measurement of volatility risk (defined as non-linear interest rate risk) increased to € 9 million as at 31 December 2015 (31 December 2014: € 49,000). The increase was mainly due to the recognition of legal interest rate floors linked to variable-rate PIF financings: these floors are used to prevent interest coupon payments to the respective borrowers in the event of negative interest rates.

### Credit Spread Risk

Credit spread risk reflects potential changes in the present value of exposures as a result of changes in the corresponding credit spread. The majority of credit spread risk is attributable to assets eligible as cover for Pfandbriefe. The Bank has risk measurement systems in place for calculating credit spread risk for all relevant exposures. Only credit spread risks of holdings classified as available for sale (AfS) are subject to VaR limitation. Positions classified as Loans and Receivables (LaR), however, are not subject thus.

The credit spread VaR for the AfS portfolio amounted to € 82 million at the end of December 2015; the year-on-year increase (31 December 2014: € 56 million) was primarily due to the model change during the third quarter of 2015, as outlined above.

### Other Market Risks

The present value of foreign currency risk was € 2 million as at 31 December 2015 (31 December 2014: € 5 million). There was no more inflation risk at the record date, due to the sale of a position from the capital investment portfolio, as mentioned above.

Basis risks include OIS, cross-currency spread and tenor spread basis risks (including Libor/Euribor basis risks); these are quantified and recognised within the framework of the VaR model. All basis risks are included in aggregate VaR and are therefore subject to market risk limitation. The bank reported overnight index risks of € 7 million, tenor spread risks of € 1 million, and cross-currency spread risks of € 4 million on the reporting date. The bank is not exposed to share price or commodity risks. Financial derivatives are mainly used for hedging purposes.

## Opportunities

As detailed above, the sensitivities result in value at risk: a possible future (economic) loss in the event of an unfavourable market development. The very same sensitivities may also result in economic gains, in the event of a positive market development. For instance, as described above, high negative credit spread sensitivities represent a risk. In the event of a narrowing of the relevant credit spreads, however, these credit spread sensitivities will yield economic profits, constituting an opportunity. Within the framework of the stress scenarios required by supervisory authorities, for example, a 200 basis point parallel downwards shift of the interest rate curve (subject to a floor of 0%) provides the opportunity for a market value gain of € 19 million.

## 5.2 Capital Requirements for Market Risk

According to Part 3, Title IV CRR, market risk must be backed with own funds. pbb Group does not have a trade book for portfolios with short-term profit taking, meaning that pbb Group's business is subject to capital requirements on foreign currency risks of the banking book as shown in Table 48 according to Article 445 CRR. There are no position risks or commodity risks. pbb Group uses the standardised approach according to Article 325 et seq. CRR to calculate the own funds requirement for market risks.

**Table 45: Own Funds Requirement for Market Risk**

in € million

Market risk	Own funds requirements		
	31.12.2015	31.12.2014	Change
Position risk	-	-	-
Thereof general and specific risk of debt securities and stock instruments (net position)	-	-	-
Thereof specific risk for securitisation positions that are part of the CTP <sup>1)</sup>	-	-	-
Thereof particular risk for securitisation positions of the trading book that are not part of the CTP <sup>1)</sup>	-	-	-
Foreign exchange risk	6	17	-68%
Commodity price risk	-	-	-
<b>Total</b>	<b>6</b>	<b>17</b>	<b>-68%</b>

1) Correlation Trading Portfolio (CTP)

As at the reporting date, the own funds required to cover market risks amounted to € 6 million (31 December 2014: € 17 million).

### 5.3 Interest Rate Risk in the Banking Book

Unlike counterparty default risks, other market risks (foreign exchange risks) or operational risks, interest rate risks in the banking book are not subject to any regulatory capital requirements. Notwithstanding the above, pbb Group applies the same methods and processes to interest rate risks in the asset ledger as for market risk measurement. These are described in more detail in Chapter 5.1 above "Market Risk Management".

At pbb Group the interest rate risk in the banking book is determined by Risk Management & Control on a daily basis, independently of trading. For this purpose all interest sensitive positions of the banking book are considered. The compliance with VaR limits is verified and reported to the Management Board of pbb. According to regulatory provisions, any equity components which are not interest-bearing (liabilities side) are not considered (cf. circular 11/2011 of BaFin "Zinsänderungsrisiken im Anlagebuch; Ermittlung der Auswirkungen einer plötzlichen und unerwarteten Zinsänderung"). However the assets of these means are shown. Furthermore, assumptions concerning the retention period of value adjustments as well as their period of interest rate fixation are made. No specific assumptions concerning premature repayment of loans are made.

According to Article 448, Point (b) CRR, the following Table shows the interest rate risk in the banking book, i.e. the increase or decrease of the net present value in the event of an interest rate shock as well as the change of the net present value as a percentage of eligible own funds. The net present value change in stress situations is not split by currencies but the interest rate curves of all currencies are put under stress at the same time and the total value changes are shown.

Table 46: Interest Rate Risks in the Banking Book

	Interest rate risk in the banking book					
	Cash value before interest shock		Change in cash value in € million		Change in cash value in % of own funds <sup>1)</sup>	
	31.12.2015	31.12.2014	31.12.2015	31.12.2014	31.12.2015	31.12.2014
Interest shock + 200 Bp			-116	-509	-3.7%	-12.6%
	n/a	n/a				
Interest shock - 200 Bp			19	245	0.6%	6.1%

1) Regulatory capital as of 31. December 2014: 4.042 € million  
Regulatory capital as of 31. December 2015: 3.140 € million

For interest stress scenarios of + 200 basis points / - 200 basis points, pbb Group had a negative net present value change potential in the banking book of € 116 million as of 31 December 2015, and this equals 3.7% of regulatory capital. This net present value change would occur in the event of an interest rate change of + 200 basis points and it is clearly less than in the previous year (31 December 2014: € - 509 million). The reduced net present value loss potential is mainly due to the sale of one position in the equity book which occurred in March 2015.

## 6 Liquidity Risk

### 6.1 Liquidity Risk Management

#### Definition

Liquidity risk is defined as the risk of not being able to meet the amount and/or due dates of existing or future payment obligations, in full or on time.

#### Risk Strategy

The liquidity risk strategy is a key component of pbb Group's risk strategy. It is broken down into various modules (comprising various liquidity scenarios, given certain market conditions and stress parameters). This ensures that the Group's short- and medium-term funding is monitored and managed by means of a limit system, whereby the limits are defined as part of the annual business planning process.

#### Organisation

RMC identifies, measures, reports and monitors liquidity risk. The Treasury department, which is independent from RMC, is responsible for managing liquidity risk. The processes and methods employed are reviewed on a regular basis by the Risk Committee and the Asset Liability Committee. Liquidity Risk cannot be calculated and reported at a business segment level.

#### Risk Reporting

Liquidity management reports are prepared daily and submitted to the entire Management Board, as well as to the ECB's Joint Supervisory Teams (JSTs), and to national competent authorities. The reports contain up-to-date information on the day's liquidity situation as well as forecasts made using contractual cash flows and in recognition of future events that could potentially influence liquidity developments.

#### Risk Quantification – Liquidity Risk Measurement and Limitation

To manage liquidity risks, pbb has established a system for measuring and limiting short-term and medium-term variances within cash flows. This incorporates both contractual as well as optional cash flows. The data is subject to regular back-testing.

The liquidity position resulting from the liquidity reserve as well as contractual and optional cash flows is measured in different scenarios, with three liquidity positions being projected on a daily basis. The projections assume:

- unchanged market and funding conditions (base scenario)
- a risk scenario (modified [historical] stress scenario) and
- liquidity stress ([historical] stress scenario).

For instance, the risk and the (historical) stress scenario simulate possible client behaviour in stress situations. Historical time series are used to calculate 95% and 99% quantiles.

Liquidity risk triggers have been defined for 12-month and 24-month horizons in the base scenario. Limits in the risk and the (historical) stress scenario are applicable for a six-month horizon.

The limit system consists of:

- limits relating to the liquidity stress profile (risk scenario and (historical) stress scenario); and
- triggers for the base scenario

In addition to reporting, pbb Group uses stress tests, conducted at regular intervals, for investigating the impact of additional stress events on the liquidity position.



Scenario analyses are performed to simulate the potential impact of crises attributable to macroeconomic, monetary policy or political crises on the liquidity situation.

The scenarios are reported to the Management Board, as well as to external bodies such as the ECB's Joint Supervisory Teams (JSTs) and national competent authorities.

### **Risk Monitoring and Risk Management**

Monitoring of liquidity risks is ascertained through daily reporting of the liquidity situation and a defined escalation process. A liquidity emergency plan has also been adopted in this context; this plan forms the factual and organisational framework for the handling of any liquidity shortages.

Liquidity risk management is based on various interconnected components (daily and monthly liquidity reports), which are based on a "liquidity risk tolerance" defined by the Management Board. This ensures that pbb Group has adequate liquidity reserves at its disposal.

### **Risk Hedging and Risk Mitigation**

A risk tolerance system is in place, to limit liquidity risk. Risk tolerance is integrated in the liquidity management process by means of triggers (limit system), in order to safeguard a "survival period" for pbb Group in stressed conditions.

The limits applicable for risk tolerance are determined in line with stress scenarios, and adjusted at regular intervals.

### **Opportunities**

pbb Group's cumulative liquidity position of € 6.0 billion in the base scenario over a 12-month horizon, which is detailed in the section "Development of pbb Group's Risk Position", as at 31 December 2015 provides the Group with scope for a flexible response, particularly with regard to possible new business.

If the external factors specified in the section "Forecast Liquidity Requirement" were to develop favourably for pbb Group, this would result in a lower future liquidity requirement.

## **6.2 Liquidity Risk Development**

### **pbb Group Exposure Development**

The cumulative liquidity position (liquid assets plus projected net cash flows) determined as part of the liquidity risk measurement process as at 31 December 2015 amounted to € 6.0 billion for a 12-month horizon in the base scenario – a € 1.7 billion increase compared to the previous year (based on the same projection horizon). As at 31 December 2015, the cumulative liquidity position for a six-month horizon amounted to € 4.0 billion in the risk scenario (2014: € 1.8 billion).

pbb's liquidity ratio in accordance with the German Liquidity Ordinance was 2.9 as at 31 December 2015, thus exceeding the statutory minimum of 1.0.

### **Regulatory Liquidity Coverage Ratio (LCR) Requirements**

A minimum Liquidity Coverage Ratio (LCR) of 60% has applied to regulatory liquidity reports since 1 October 2015; this minimum value will rise to 100% by 1 January 2018.

The figures determined (internally) for pbb Group were clearly above 100%.

## Refinancing Markets

Following the trend seen in previous years, interest rates continued to decline during the first quarter of 2015. This development only came to a halt after the start of the ECB's two quantitative easing policy measures – the Public-Sector Purchase Programme ("PSPP") and the Covered Bond Purchase Programme 3 ("CBPP3") – in March. In the absence of any indications for a sustained turnaround towards higher interest rates, capital markets remained in a conflict between exuberant liquidity searching for investments and low yields. From an investor's perspective, the situation once again exacerbated considerably, compared to previous years. Besides the decline in overall interest rate levels, credit spreads on covered issues narrowed further, driven by CBPP3, whilst unsecured issues were burdened by uncertainty with regard to the implementation of the EU Bank Recovery and Resolution Directive (BRRD) into national law. The Directive defines the seniority of covered bond issues and deposits covered by deposit guarantee schemes; depending on how this is enshrined in national law, uncovered issues might no longer be eligible for repo transactions with the relevant national central bank.

An unusual number of geopolitical risks and changes materialised during the course of 2015 – with the crises in Greece and the Ukraine, the conflict in Syria and the fight against IS and Islamic terrorists being only a number of examples. Nonetheless, markets were driven by interest rate and monetary policies of the major central banks – the US Federal Reserve (Fed) and the ECB. Whilst the Fed's communications concerning its first interest rate hike for many years caused uncertainty and reticence with investors, the ECB's quantitative easing policy and a further interest rate cut in December pushed investors further out on the maturity or risk curves.

During the 2015 financial year, new long-term funding was raised in the amount of € 4.5 billion (2014: € 6.0 billion). € 2.6 billion, more than half of long-term funding was issued in senior unsecured form; Pfandbriefe contributed about € 1.9 billion. Early repayments on the assets side and adequate liquidity allowed for a reduction in covered funding.

€ 2.2 billion (2014: € 2.6 billion) was attributable to new benchmark issues, as well as to increases of existing issues. The remaining funding volume was raised via private placements. At the end of July, pbb successfully placed a € 500 million Mortgage Pfandbrief – its first benchmark issue following privatisation. Most issues were placed as fixed-rate bonds. Unhedged interest rate exposures are usually hedged by swapping fixed against floating interest rates.

In addition to capital markets funding, pbb Group has extended its unsecured funding base through overnight and term deposits from retail investors. As at 31 December 2015, the volume of deposits taken via "pbb direkt" totalled € 2.6 billion (31 December 2014: € 1.5 billion).

## Anticipated Liquidity Requirement

In addition to the forecast liquidity requirement for new business activities, the extent of future liquidity requirements also depends on numerous external factors:

- further developments in the context of the European financial crisis, and possible effects on the real economy;
- future developments of haircuts applied to securities for repo funding on the market, and with central banks;
- possible additional collateral requirements as a result of changing market parameters (such as interest rates and foreign exchange rates);
- developments in requirements for hedges;
- changed requirements from rating agencies regarding the necessary over-collateralisation in the cover pools;
- refinancing requirements of real estate investors

## Refinancing Risk

Please refer to the description of business risk in the "Result of Risk-bearing Capacity Analysis" in chapter 3.2 for details concerning funding risk.

### **Market Liquidity Risk**

For financial instruments measured at fair value, quantitative details for a better assessment of market liquidity risk can be obtained from the presentation of the three levels of the fair value hierarchy in the notes. Generally, there is no intention to sell LaR holdings for liquidity management purposes, as liquidity for these holdings can mainly be generated by way of including them in the cover pool, using the funding opportunities provided by the central bank, or using them in repo transactions. Market liquidity risk is included in the internal risk management process as part of market risk.

## 7 Operational Risk

### 7.1 Operational Risk Management

#### Definition

pbb Group defines operational risk as the risk of loss resulting from inadequate or failed internal processes, human error, technological failure, or from external events. The definition includes legal, model, conduct, reputational, and outsourcing risks.

#### Risk Strategy

In the context of operational risk management, the top priority of pbb Group is to minimise financial losses from potential operational risk events. Key cornerstones of this strategy are the early recognition, recording, assessment as well as monitoring, prevention and limiting of operational risks, as well as early and meaningful management reporting.

#### Organisation

Within RMC, the Operational Risk unit is responsible for coordinating consistent, Group-wide processes, tools and practices for the recording, assessment, monitoring and reporting of operational risks throughout pbb Group.

#### Specificities of Organizing the Legal Risk Management

In accordance with MaRisk, material risks in financial institutions must be evaluated by a unit that is independent from the front office and trading areas.

As the legal risk is regarded as material, the Legal department is responsible for managing legal risks, and is therefore a fixed component of risk management within pbb Group.

The primary objective of the Legal department in managing legal risks is to structure transactions so that they are legally enforceable and certain. This includes protecting the integrity and reputation of pbb Group. Accordingly, the Legal department supports the transactions of pbb Group by providing active and business-oriented advice.

The Legal department also assists pbb Group's business divisions by monitoring developments in the relevant legislation and case law, and reviews the effects of such developments on new and existing business. The results are discussed with the responsible divisions and/or in the Legal and Regulatory Risk Committee. The Legal Policy describes the roles and responsibilities of the Legal department within pbb Group and serves as a guideline for pbb Group staff.

Legal risk is included and monitored in the context of the existing OpRisk Framework. This includes the Key Risk Indicator Report, the Operational Risk Self-Assessment, and an analysis of risk events.

The legal risk is also taken into account and described in all the important risk documents. It is regarded as being material for the Group, partially included in the ICAAP and backed by capital. Besides expert estimates, legal risk is also quantified for the purposes of Pillar II via the internal operational risk model within the ICAAP. In addition to the management, follow-up and capital backing of legal risks, the Legal and Finance departments meet quarterly to discuss pending legal cases, to determine whether provisions need to be recognised, or such cases disclosed.

The Legal department indicates the probability of successful conclusion for each legal case. Provisions for legal risks are recognised in accordance with IAS 37. Provisions are recognised for liabilities whose payment date or amount is uncertain. Provisions must be recognised if a present obligation has arisen for an entity from an event from which an outflow of resources with economic benefit for meeting this obligation is sufficiently probable, given a reasonable assessment of all circumstances, and the amount of the obligation can be reliably estimated. In accordance with IAS 37.15 there are isolated cases for which it is unclear whether a present obligation exists. In these cases, a past event leads to a present obligation if, taking into account all the available substantial indications for the existence of a present obligation as at the balance sheet date, there are more indications in favour than against the obligation. For exceptions, such as a legal dispute, the issue of whether certain events have occurred or whether these have led to a present obligation can be debated. In such cases, pbb determines

whether a present obligation exists as at the balance sheet date, taking into account all the available substantial indications – including the opinion of, for instance, experts.

### **Risk Reporting, Risk Monitoring and Risk Management, Risk Mitigation**

Operational risks are monitored by means of a network of controls, procedures, reports and responsibilities. Within pbb Group, each individual business area and management level takes on responsibility for its own operational risks, and provides appropriate resources and processes for limiting such risks. The focus is on active identification, management and mitigation of risks rather than on just risk monitoring, measurement and risk response.

Consolidated information is used in order to determine pbb Group's operational risk profile, and any measures required to mitigate identified risks. Annual operational risk scenario analyses are also used in this context.

Regular reports are prepared for the Chief Risk Officer (CRO) and the Group Risk Committee. The monthly Group Risk Report includes details concerning operational risk events and losses, as well as key risk issues affecting pbb Group. In addition, a quarterly risk report regarding key risk indicators informs the Management Board of potential risk sources. An Annual Operational Risk Report is produced, which includes a summary of important events during the year, plus the results of the operational risk self-assessment process. This report is circulated to pbb's Management Board, and presented to the Group Risk Committee.

### **Risk Quantification**

Chapter 3.2 "Result of Risk-bearing Capacity Analysis" provides details concerning the calculation as well as the quantification of economic capital for operational risk.

In line with the Standardised Approach, the regulatory capital backing for operational risks, which is calculated at the end of each year, was € 64 million as at 31 December 2015 (31 December 2014: € 81 million).

### **Opportunities**

The annual reports published in recent years noted that pbb Group has an increased reliance on employees in key positions. Whilst pbb Group assumes that this risk is set to remain unchanged, even after privatisation, there is a chance for this risk to decline over the next quarters, also due to the introduction of the new remuneration, and given the future of pbb Group.

## 7.2 Capital Requirements for Operational Risk

For complying with the capital requirements according to CRR, operational risks must be backed with own funds. pbb Group calculates the own funds required for operational risks based on the standardised approach according to Article 317 et seq. CRR.

For each business segment the relevant indicator is determined for the last three financial years according to Article 316 CRR. The related beta factors per business segment are shown in Article 317 CRR. The business segments of pbb Group include corporate and retail business, with corporate business making the most significant contribution to the relevant indicator. The capital requirement for operational risks results from the sum of the three-year average for the relevant indicator per segment, weighted with the applicable beta factor.

The regulatory capital requirement is determined once per year at year-end. As of 31 December 2015, it amounted to € 64 million (€ 56 million as of 31 December 2014).

### Operational Risk Profile of pbb Group

pbb Group suffered financial losses of € 2.8 million from operational risks during 2015 (2014: € 10.9 million). In terms of operational losses, 54% was accounted for by the REF segment, 26% by the PIF segment, and 20% by the VP segment.

The Basel II event type "Execution, Delivery & Process Management" was the category with both the highest number of events (68%) and virtually all related financial effects (94%) during 2015. This result was also reflected in the operational risk self-assessment process, which is a detailed bottom-up risk assessment performed by all of the bank's divisions.

pbb Group's operational risk profile has improved continually over the past few years, thanks – amongst other factors – to pbb Group's successful privatisation as well as various IT projects which have contributed to stabilising and standardising the Group's IT systems.

## 8 Outlook

This Disclosure Report as of 31 December 2015 is the first independent Disclosure Report prepared by pbb Group to meet the provisions based on the regulatory requirements of the CRD IV reform package to transpose Basel III in Europe. This comprises Regulation (EU) No. 575/2013 (Capital Requirements Regulation; CRR) as well as Directive 2013/36/EU (Capital Requirements Directive, CRD IV). These regulations which entered into force on 1 January 2014 are currently being reviewed by the Basel Committee on Banking Supervision.

### Basel Disclosure Requirements, Phase 1

At the end of January 2015, the Basel Committee on Banking Supervision publicised the final standard “Revised Pillar 3 Disclosure Requirements” (BCBS 309) within the framework of the first phase of the review of Pillar 3 disclosure requirements. The new proposals include both a greater standardisation of requirements and new content, e.g. information on changes of risk-weighted assets including their drivers and reconciliation between accounting and regulatory information. Among other things, the reform is aimed at increasing the comparability and consistency of disclosed information so as to enable market participants to better assess the capital and risk position of institutions. The new requirements initially apply to international institutions. The Phase 1 proposals of the Basel Committee on Banking Supervision are applicable for the first time to the 2016 reporting period. This means that pbb Group will first apply them as at the reporting date 31 December 2016. However the proposals still need to be transposed into European/national law, and the European Banking Authority (EBA) is expected to provide recommendations or guidelines in June 2016.

### Basel Disclosure Requirements, Phase 2

In March 2016, the Basel Committee on Banking Supervision publicised additional proposals on a revision of disclosure requirements (Phase 2). Document “Pillar 3 disclosure requirements – consolidated and enhanced framework” was submitted to banks for consultation. Besides more new disclosure requirements this second phase includes proposals for additions to the existing Pillar III Framework taking into account the disclosure requirements which already exist or which have been adopted only recently. As a result, these proposals will lead to an extension of the existing disclosures and tables. The consultation period will end on 10 June 2016.

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## **9 Notes**

### **9.1 Main Features of Capital Instruments**

According to Article 437 (1), Point (b) CRR, the following Tables show the main features of Common Equity Tier 1 (CET1) capital, additional Tier 1 (AT1) capital as well as Tier 2 (T2) capital instruments issued by pbb Group.

Disclosure Report as of 31 December 2015

	Capital instruments main features template	Common Equity Tier 1 (CET1) capital 01	Additional Tier 1 (AT1) capital 02	Tier 2 (T2) capital 03	Tier 2 (T2) capital 04	Tier 2 (T2) capital 05
1	Issuer	Deutsche Pfandbriefbank AG	Hypo Real Estate International Trust I	Deutsche Pfandbriefbank AG	Deutsche Pfandbriefbank AG	Deutsche Pfandbriefbank AG
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	n/a	XS0303478118	HL_SSD_0000079614000	HL_SSD_0000079574000	HL_SSD_0000079574000
3	Governing law(s) of the instrument	german	USA	german	german	german
	<b>Regulatory treatment</b>					
4	Transitional CRR rules	CET1	AT 1	Tier 2	Tier 2	Tier 2
5	Post-transitional CRR rules	CET1	not eligible	Tier 2	Tier 2	Tier 2
6	Chargeable on level	pbb group	pbb group	pbb group	pbb group	pbb group
7	Instrument type (types to be specified by each jurisdiction)	Shares	Preferred Securities	Borrowers' note loan	Borrowers' note loan	Borrowers' note loan
8	Amount recognised in regulatory capital (currency in million, as of most recent reporting date)	380	245	0	0	0
9	Nominal amount of instrument	380	350	5	7	3
9a	Issue price	not traded	1	1	1	1
9b	Redemption price	n/a	100 % or liquidation proceeds + interest	1	1	1
10	Accounting classification	Capital stock	Liabilities carried forward at cost	Liabilities carried forward at cost	Liabilities carried forward at cost	Liabilities carried forward at cost
11	Original date of issuance	varying	14.06.2007	06.01.2006	06.01.2006	06.01.2006
12	Perpetual or dated	indefinite	indefinite	with expiry date	with expiry date	with expiry date
13	Original maturity date	no maturity	no maturity	06.01.2016	06.01.2016	06.01.2016
14	Issuer call subject to prior supervisory approval	no	yes	no	no	no
15	Option call date, contingent call dates and redemption amount	n/a	14.06.2017	n/a	n/a	n/a
16	Subsequent call dates, if applicable	n/a	annually	n/a	n/a	n/a
	<b>Coupons / dividends</b>					
17	Fixes or floating dividend/coupon	n/a	actually fix, then variable	fix	fix	fix
18	Coupon rate and any related index	n/a	0.05864	4.01	4.03	4.03
19	Existence of a dividend stopper	No	n/a	No	No	No
20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	fully discretionary	partly discretionary	obligatory	obligatory	obligatory
20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	fully discretionary	partly discretionary	obligatory	obligatory	obligatory
21	Existence of step up or other incentive to redeem	n/a	yes	no	no	no
22	Noncumulative or cumulative	n/a	not cumulative	n/a	n/a	n/a
23	Convertible or non-convertible	not convertible	not convertible	not convertible	not convertible	not convertible
24	If convertible, conversion trigger(s)	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
26	If convertible, conversion rate	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
28	If convertible, specify instrument type convertible into	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
30	Write-down features	n/a	n/a	no	no	no
31	If write-down, write-down trigger(s)	n/a	n/a	n/a	n/a	n/a
32	If write-down, full or partial	n/a	n/a	n/a	n/a	n/a
33	If write-down, permanent or temporary	n/a	n/a	n/a	n/a	n/a
34	If temporary write-down, description of write-up mechanism	n/a	n/a	n/a	n/a	n/a
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Silent participation	subordinated capital	all non-subordinated creditors	all non-subordinated creditors	all non-subordinated creditors
36	Non-compliant transitioned features	no	no	no	no	no
37	If yes, specify non-compliant features	n/a	n/a	n/a	n/a	n/a

























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