

Basel II Pillar 3 Report 2008



Index of Content

1. Introduction	3
2. Scope of Application	4
3. Capital Adequacy	5
3.1 Regulatory Capital	5
3.2 Regulatory Capital Requirements	6
3.3 Regulatory Capital Ratios	8
4. Risk and Capital Management of the Group	10
4.1 Risk and Capital Management Principles and Organization	10
4.2 Categories, Quantification and Reporting of Risk	11
4.3 Capital Management	15
4.4 Economic Capital Requirements	17
5. Counterparty Credit Risk: Strategy and Processes	18
5.1 Credit Risk Management Principles and Strategy	18
5.2 Credit Risk Ratings and Governance	18
5.3 Credit Risk Mitigation	19
5.4 Credit Risk Limit Setting and Monitoring	21
5.5 Credit Exposure	21
5.6 Counterparty Credit Risk from Derivatives	24
5.7 Asset Quality	27
6. Counterparty Credit Risk: Regulatory Assessment	33
6.1 Advanced Internal Ratings Based Approach	33
6.2 Advanced IRBA Exposure	38
6.3 Other IRBA Exposure	40
6.4 Standardized Approach	41
6.5 Regulatory Application of Credit Risk Mitigation Techniques	42
7. Securitization	45
7.1 Overview of Activities Undertaken by the Group	45
7.2 Accounting and Valuation Policies for Securitizations	46
7.3 Regulatory Securitization Framework	47
7.4 Securitization Details	49
8. Equity Investments in the Banking Book	53
9. Market Risk	56
10. Operational Risk	66
11. Interest Rate Risk in the Banking Book	70
12. Liquidity Risk	71
Glossary	76
Impressum	80

Index of Tables

Table 1	Regulatory Capital	6
Table 2	Regulatory Capital Requirements and RWA	8
Table 3	Coverage of Minimum Capital Requirements	9
Table 4	Economic Capital Requirements	17
Table 5	Credit Risk Exposure by Region	22
Table 6	Credit Risk Exposure by Industry	23
Table 7	Credit Risk Exposure by Maturity	23
Table 8	Average Credit Risk Exposure	23
Table 9	Positive Market Values of Derivatives	26
Table 10	Notional Amount of Credit Derivatives	27
Table 11	Loans Impaired or Past Due by Region	30
Table 12	Loans Impaired or Past Due by Industry	30
Table 13	Loans Impaired by Industry	31
Table 14	Loans Past Due but not Impaired	31
Table 15	Development of Allowance for Credit Losses	32
Table 16	Expected Loss and Actual Loss by IRBA Exposure Class	36
Table 17	Actual Loss by IRBA Exposure Class	37
Table 18	EAD of Advanced IRBA Credit Exposures by PD Grade	38
Table 19	EAD of Undrawn Commitments in the Advanced IRBA by Exposure Class	40
Table 20	EAD of Equity Investments, CIUs and Other Non-credit Obligation Assets by Risk Weight	41
Table 21	EAD in the Standardized Approach by Risk Weight	42
Table 22	Collateralized Counterparty Credit Risk Exposure in the Advanced IRBA by Exposure Class	43
Table 23	Collateralized Counterparty Credit Risk Exposure in the Standardized Approach by Exposure Class	44
Table 24	Outstanding Exposures Securitized by Exposure Type (Overall Pool Size)	49
Table 25	Impaired and Past Due Exposures Securitized and Losses Recognized by Exposure Type (Overall Pool Size)	50
Table 26	Securitization Positions Retained or Purchased by Exposure Type	51
Table 27	Securitization Positions Retained or Purchased by Region	51
Table 28	Securitization Positions Retained or Purchased by Risk Weight Band	52
Table 29	Securitization Activity during 2008 – Total Outstanding Exposures Securitized by Exposure Type	52
Table 30	Equity Investments According to IFRS Classification	54
Table 31	Realized and Unrealized Gains (Losses) from Equity Investments	55
Table 32	Value-at-risk of Trading Units	61
Table 33	Liquidity Risk Stress Testing	74
Table 34	Liquidity Risk Stress Testing based on Revised Methodology	75

1. Introduction

The Basel Committee on Banking Supervision recommended revised international capital adequacy standards in 2004, widely referred to as the Basel II capital framework or the revised capital framework. This framework consists of three pillars each of them concentrating on a different aspect of banking regulation.

- Pillar 1 makes recommendations for calculation of minimum capital requirements.
- Pillar 2 discusses the key principles of supervisory review and risk management guidance.
- Pillar 3 complements the first two pillars of Basel II by requiring a range of disclosures on capital and risk assessment processes, aimed at encouraging and reinforcing market discipline.

In 2006, the European Union enacted the Capital Requirements Directive, which adopted the Basel II capital framework. Germany adopted the Capital Requirements Directive into national law effective as of January 1, 2007, subject to certain transition periods. The disclosure requirements related to Pillar 3 are codified in Section 26a of the German Banking Act (“Kreditwesengesetz” or “KWG”) and in Part 5 of the German Regulation on Solvency (“Solvabilitätsverordnung”, “Solvency Regulation” or “SolvV”).

Following the application of transitional rules in 2007, the Deutsche Bank group of institutions (also referred to as “the Group”) has applied the revised capital framework on the basis of the Group’s internal models for measuring credit risk, market risk and operational risk, as approved by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, referred to as “BaFin”), as of January 1, 2008. As 2008 was the first year that the Group fully operated under the Basel II capital framework, the Basel II Pillar 3 report is being published for the first time for the financial year ending December 31, 2008, and is intended to be disclosed annually.

As it is not required by regulation, this report has not been audited by the Group’s external auditors. However, it also includes information that is contained within the audited consolidated financial statements as reported in the Group’s Financial Report 2008.

2. Scope of Application

Deutsche Bank Aktiengesellschaft (“Deutsche Bank AG”), headquartered in Frankfurt am Main, Germany, is the parent institution of the Deutsche Bank group of institutions, which is subject to the supervisory provisions of the KWG and the SolvV. Under the KWG, a regulatory group of institutions consists of a credit institution (also referred to as “bank”) or financial services institution, as the parent company, and all other banks, financial services institutions, investment management companies, financial enterprises and ancillary services enterprises which are subsidiaries in the meaning of Section 1 (7) KWG. Such entities are fully consolidated for the Group’s regulatory reporting.

The regulatory principles of consolidation are not identical to those for the Group’s financial statements, which are prepared in accordance with the International Financial Reporting Standards (“IFRS”). Nonetheless, the majority of subsidiaries according to the KWG are also fully consolidated in accordance with IFRS in the Group’s consolidated financial statements and vice versa. For more detailed information about the Group’s accounting policies on consolidation please see Note [1] “Significant Accounting Policies” in the Group’s Financial Report 2008.

The main differences between regulatory and accounting consolidation are:

- Entities which do not form part of the regulatory group of institutions because they do not belong to the banking industry, but which are controlled by the Deutsche Bank Group according to IFRS, are included in the consolidated financial statements.
- Most of the Group’s Special Purpose Entities (“SPEs”) consolidated under IFRS do not fulfill the subsidiary definition of Section 1 (7) KWG and are not consolidated within the regulatory Group. However, the risks resulting from the Group’s exposures to such entities are reflected in the Group’s regulatory capital requirements.
- Some entities included in the regulatory scope of application are not consolidated for accounting purposes but are treated differently, in particular using the equity method of accounting.

There is only one entity within the Deutsche Bank group of institutions which is jointly controlled by its owners and consolidated on a pro-rata basis. It is accounted for under the equity method in the Group’s financial statements.

Section 10 (6) No. 1 and 2 KWG requires to deduct participating interests in credit institutions, financial services institutions and financial enterprises from the Group’s own funds when an investment is greater than 10 % of capital and is not consolidated. Since the Deutsche Bank Group is classified as a financial conglomerate, investments in insurance entities amounting to at least 20 % of capital or voting rights are not deducted from the Group’s own funds as they are included in the solvency calculation at financial conglomerate level.

In the following chapters the quantitative information presented refers to the regulatory Group unless another relevant scope is explicitly stated.

3. Capital Adequacy

3.1 Regulatory Capital

A bank's total regulatory capital, also referred to as "own funds", is divided into three tiers: Tier 1, Tier 2 and Tier 3 capital, and the sum of Tier 1 and Tier 2 capital is also referred to as "regulatory banking capital".

- Tier 1 capital consists primarily of share capital (excluding cumulative preference shares), additional paid-in capital, retained earnings and hybrid capital components such as noncumulative trust preferred securities, less goodwill and other intangible assets and other deduction items such as common shares in Treasury.
- Tier 2 capital consists primarily of cumulative preference shares, cumulative trust preferred securities and long-term subordinated debt, as well as unrealized gains on listed securities (45 % eligible) and the amount by which value adjustments and allowances exceed the expected loss as measured under the bank's internal ratings based approach ("IRBA").

Certain items must be deducted half and half from Tier 1 and Tier 2 capital. Primarily these include capital components the Group has provided to other financial institutions or enterprises which are not consolidated, but where the Group holds more than 10 % of the capital, the amount by which the expected loss for exposures to central governments, institutions, corporates and retail exposures as measured under the bank's IRBA model exceeds the value adjustments and provisions for such exposures, the expected losses for certain equity exposures, securitization positions to which the Solvency Regulation assigns a risk-classification multiplier of 1,250 % and which have not been taken into account when calculating the risk-weighted assets ("RWA") for securitizations and the value of securities delivered to a counterparty plus any replacement cost to the extent the required payment by the counterparty has not been made within five business days after delivery and the transaction has been allocated to the bank's trading book.

- Tier 3 capital consists mainly of certain short-term subordinated liabilities.

The amount of subordinated debt that may be included in Tier 2 capital is limited to 50 % of Tier 1 capital. Total Tier 2 capital is limited to 100 % of Tier 1 capital.

The regulatory banking capital and Tier 3 capital (together, “own funds”) are set forth further below and summarized in the following table.

Table 1 Regulatory Capital

Regulatory capital in € m.	Dec 31, 2008
Tier 1 capital	
Common shares	1,461
Additional paid-in capital	14,961
Retained earnings, common shares in treasury, equity classified as obligation to purchase common shares, foreign currency translation, minority interest	16,724
Noncumulative trust preferred securities	9,622
Items to be fully deducted from Tier 1 capital pursuant to Section 10 (2a) KWG (inter alia goodwill and other intangible assets) ¹	(10,125)
Items to be partly deducted from Tier 1 capital pursuant to Section 10 (6) and (6a) KWG ²	(1,549)
Total Tier 1 capital pursuant to Section 10 (2a) KWG	31,094
Tier 2 capital	
Unrealized gains on listed securities (45 % eligible)	–
Cumulative trust preferred securities	300
Qualified subordinated liabilities	7,551
Items to be partly deducted from Tier 2 capital pursuant to Section 10 (6) and (6a) KWG ²	(1,549)
Total Tier 2 capital pursuant to Section 10 (2b) KWG	6,302
Total Tier 3 capital pursuant to Section 10 (2c) KWG	–
Total regulatory capital	37,396

1 These items include a part of goodwill that can be retained in the Group's reporting to the German regulatory authorities pursuant to Section 64h (3) KWG amounting to € 971 million as of December 31, 2008.

2 Total deductible items pursuant to Sections 10 (6), (6a) KWG amounted to € 3.1 billion, which included deductions pursuant to Section 10 (6a) No. 1 and 2 KWG amounting to € 997 million, both as of December 31, 2008.

3.2 Regulatory Capital Requirements

Under the Basel II framework, overall capital requirements have to be calculated and compared with the regulatory capital described above. The overall capital requirements are frequently expressed in RWA terms whereby capital requirements are 8 % of RWA.

In December 2007 the BaFin approved the use of the advanced IRBA for the majority of the Group's counterparty credit risk positions. The advanced IRBA constitutes the most sophisticated approach available under the Basel II regime. The remaining advanced IRBA eligible exposures are covered within the standardized approach either temporarily (where the Group seeks regulatory approval over time) or permanently (where exposures are treated under the standardized approach in accordance with Section 70 SolvV). More details on this topic are provided in chapters 6.1 “Advanced Internal Ratings Based Approach” and 6.4 “Standardized Approach”.

The table below shows a breakdown of the total capital requirements and risk-weighted assets by risk type. The counterparty credit risk within the advanced IRBA and the standardized approach is broken down into different regulatory exposure classes. The capital requirement for securitization positions is separately displayed and is calculated substantially using the IRBA approach; only a minor exposure portion is captured under the standardized approach. More details on the treatment of securitization positions can be found in chapter 7 “Securitization”.

For equity investments entered into before January 1, 2008, the Group uses the transitional arrangement to exempt these positions from an IRBA treatment and applies the grandfathering rule, using a 100 % risk weighting. For more recent investments in equity positions entered into since January 1, 2008, the Group applies the simple risk weight approach within the IRBA. For more details regarding equity investments please refer to chapter 8 “Equity Investments in the Banking Book”.

The calculation of regulatory market risk capital requirements (for general and specific market risk) is based on an internal value-at-risk model, which was approved by the BaFin in October 1998. More details on the internal value-at-risk model are provided in chapter 9 “Market Risk”.

In December 2007, the Group obtained approval to apply the advanced measurement approach (“AMA”) to determine its regulatory operational risk capital requirements. The table below shows the AMA-based capital requirement for operational risk. Details on the Group’s AMA model are given in chapter 10 “Operational Risk”.

Table 2 Regulatory Capital Requirements and RWA

Regulatory capital requirements and RWA	Dec 31, 2008	
	Regulatory capital requirements	RWA
in € m.		
Counterparty credit risk		
Advanced IRBA		
Central governments	286	3,578
Institutions	1,886	23,582
Corporates	10,876	135,950
Retail	1,728	21,595
Other non-credit obligation assets	104	1,298
Total advanced IRBA	14,880	186,003
Standardized approach		
Central governments	40	504
Regional governments and local authorities	3	37
Other public sector entities	8	105
Multilateral development banks	–	–
International organizations	–	–
Institutions	89	1,118
Covered bonds issued by credit institutions	17	209
Corporates	1,508	18,852
Retail	671	8,384
Claims secured by real estate property	57	704
Collective investment undertakings	–	–
Other items	167	2,087
Past due items	79	988
Total standardized approach	2,639	32,988
Risk from securitization positions		
Securitized (IRBA)	997	12,457
Securitized (standardized approach)	32	403
Total risk from securitization positions	1,029	12,860
Risk from equity positions		
Equity positions (grandfathered)	528	6,598
Equity positions (IRBA simple risk-weight approach)	730	9,121
Exchange-traded	100	1,249
Non-exchange-traded	630	7,872
Total risk from equity positions	1,258	15,719
Settlement risk	3	40
Total counterparty credit risk	19,809	247,610
Market risk in the trading book		
Internal model approach	1,880	23,496
Operational risk		
Advanced measurement approach	2,930	36,625
Total regulatory capital requirements and RWA	24,619	307,732

3.3 Regulatory Capital Ratios

The German Banking Act and the German Regulation on Solvency reflect the capital adequacy rules of Basel II and require German banks to maintain an adequate level of capital in relation to their regulatory capital requirements comprising counterparty credit risk, operational risk and market risk. Counterparty credit risk and operational risk must be covered with Tier 1 capital and Tier 2 capital (together “regulatory banking capital”). Market risk

must be covered with regulatory banking capital (to the extent not required to cover counterparty credit and operational risk) or Tier 3 capital (together with regulatory banking capital, “own funds”).

The following table shows the Group’s eligible regulatory capital available to cover the minimum capital requirements by risk type.

Table 3 Coverage of Minimum Capital Requirements

Coverage of minimum capital requirements	Dec 31, 2008	
	Regulatory capital requirements	Available regulatory capital
in € m.		
Counterparty credit risk and operational risk	22,739	37,396
Market risk	1,880	14,657

As of December 31, 2008 the Group held regulatory capital well above the required minimum standards.

Other principal measures to assess the capital adequacy of a credit institution from a regulatory perspective are regulatory capital ratios, defined as regulatory capital divided by RWA. As of December 31, 2008, the Tier 1 capital ratio and the total capital ratio for the Group amounted to 10.1 % and 12.2 %, respectively.

Basel II requires the deduction of goodwill from Tier 1 capital. However, for a transitional period the KWG allows the partial inclusion of certain goodwill components in Tier 1 capital pursuant to Section 64h (3) KWG. While such goodwill components are not included in the regulatory capital and capital adequacy ratios shown above, the Group makes use of this transition rule in its capital adequacy reporting to the German regulatory authorities. As of December 31, 2008, the transitional item amounted to € 971 million. In the Group’s reporting to the German regulatory authorities, the Tier 1 capital, total regulatory capital and the risk-weighted assets shown above were increased by this amount. Correspondingly, the Group’s reported Tier 1 and total capital ratios as of December 31, 2008 including this item were 10.4 % and 12.4 %, respectively.

Regulatory capital ratios for the Group’s significant subsidiaries, defined as those entities whose relative individual contribution to the Group’s risk-weighted assets exceeds 5 % of the Group’s overall RWA, are not disclosed as they meet the conditions of and have applied the exemptions codified in Section 2a KWG. As a result, they are exempted from the obligation to comply with certain regulatory requirements of the KWG on a standalone basis, including solvency calculations and reporting of regulatory capital ratios. The exemptions codified in Section 2a KWG apply to the Group’s only significant entities, Deutsche Bank AG and Deutsche Bank Privat- und Geschäftskunden AG, as well as two other entities, namely Berliner Bank AG & Co. KG and norisbank GmbH.

The Group’s subsidiaries which are not included in the regulatory consolidation did not report any capital deficiencies in 2008.

4. Risk and Capital Management of the Group

4.1 Risk and Capital Management Principles and Organization

Risk and Capital Management

The Group has a dedicated and integrated Legal, Risk & Capital function that is structurally aligned with, but independent of, the group divisions. The Group manages risk and capital through a framework of principles, organizational structures, and measurement and monitoring processes. Risk and capital management takes place in a coordinated manner at all relevant levels within the Group's organization and is closely aligned with the activities of the group divisions.

The Group's Management Board provides overall risk and capital management supervision for the consolidated Group. Within the Management Board, the Chief Risk Officer is responsible for the Group's credit, market, liquidity, operational, business, legal and reputational risk management as well as capital management activities. The Group's Supervisory Board regularly monitors the risk and capital profile.

The Legal, Risk & Capital function annually develops its risk and capital strategy in an integrated process together with the business units and Finance, ensuring group-wide consistent targets. The strategy is ultimately presented to, and approved by, the Management Board. Subsequently, this plan is also presented to, and discussed with, the Risk Committee of the Supervisory Board.

Targets and projections are set for various parameters and different levels of the Group. Performance against these targets is monitored regularly and a report on selected important and high-level targets is brought to the direct attention of the Chief Risk Officer and/or the Management Board. In case of a significant deviation from the targets, it is the responsibility of the divisional Legal, Risk & Capital units to bring this to the attention of their superiors and ultimately the Chief Risk Officer if no mitigation or mitigation strategy can be achieved on a subordinated level.

An amendment of the risk and capital strategy must be approved by the Chief Risk Officer or the whole Management Board, depending on its significance.

Risk and Capital Management Organizational Structure

Two functional committees are central to the Legal, Risk & Capital function. The Capital and Risk Committee is chaired by the Group's Chief Risk Officer, with the Chief Financial Officer being Vice-Chairman. The responsibilities of the Capital and Risk Committee include risk profile and capital planning, capital capacity monitoring and optimization of funding. In addition, the Chief Risk Officer chairs the Group's Risk Executive Committee, which is responsible for management and control of the aforementioned risks across the consolidated Group. The Deputy Chief Risk Officer reports directly to the Chief Risk Officer and is among the voting members of the Group's Risk Executive Committee.

Dedicated Legal, Risk & Capital units are established with the mandate to:

- Ensure that the business conducted within each division is consistent with the risk appetite that the Capital and Risk Committee has set;
- Formulate and implement risk and capital management policies, procedures and methodologies that are appropriate for the businesses within each division;
- Approve credit risk, market risk and liquidity risk limits;
- Conduct periodic portfolio reviews to ensure that the portfolio of risks is within acceptable parameters and
- Develop and implement risk and capital management infrastructures and systems that are appropriate for each division.

The Group Reputational Risk Committee (“GRRC”) is an official sub-committee of the Risk Executive Committee and is chaired by the Chief Risk Officer. The GRRC reviews and makes final determinations on all reputational risk issues, where escalation of such issues is deemed necessary by senior business and regional management, or required under other Group policies and procedures.

The Group’s Finance and Audit functions support the Legal, Risk & Capital function. They operate independently of both the group divisions and of the Legal, Risk & Capital function. The Finance department assists with the quantification and verification of the risk that the Group assumes and ensures the quality and integrity of its risk-related data. The Audit function performs risk-oriented reviews of the design and operating effectiveness of the internal control procedures and provides independent assessments to the Management Board and the Audit Committee of the Supervisory Board.

4.2 Categories, Quantification and Reporting of Risk

The most important risks the Group assumes are specific banking risks and reputational risks, as well as risks arising from the general business environment.

Specific Banking Risks

The Group’s risk management processes distinguish among four kinds of specific banking risks: credit risk, market risk, liquidity risk and operational risk.

- **Credit risk** arises from all transactions that give rise to actual, contingent or potential claims against any counterparty, borrower or obligor (which the Group refers to collectively as “counterparties”). The Group distinguishes among three kinds of credit risk:
 - **Default risk** is the risk that counterparties fail to meet contractual payment obligations.
 - **Country risk** is the risk that the Group may suffer a loss, in any given country, due to any of the following reasons: a possible deterioration of economic conditions, political and social upheaval, nationalization and expropriation of assets, government repudiation of indebtedness, exchange controls and disruptive currency depreciation or devaluation. Country risk includes transfer risk which arises when debtors are unable to meet their obligations owing to an inability to transfer assets to nonresidents due to direct sovereign intervention.

- **Settlement risk** is the risk that the settlement or clearance of transactions will fail. It arises whenever the exchange of cash, securities and/or other assets is not simultaneous.
- **Market risk** arises from the uncertainty concerning changes in market prices and rates (including interest rates, equity prices, foreign exchange rates and commodity prices), the correlations among them and their levels of volatility.
- **Liquidity risk** is the risk arising from the Group's potential inability to meet all payment obligations when they come due or only being able to meet these obligations at excessive costs.
- **Operational risk** is the potential for incurring losses in relation to employees, contractual specifications and documentation, technology, infrastructure failure and disasters, projects, external influences and customer relationships. This definition includes legal and regulatory risk, but excludes business and reputational risk.

Reputational Risk

Within the Group's risk management processes, the Group defines reputational risk as the risk that publicity concerning a transaction, counterparty or business practice involving a client will negatively impact the public's trust in the Group's organization.

Business Risk

Business risk describes the risk the Group assumes due to potential changes in general business conditions, such as the Group's market environment, client behavior and technological progress. This can affect the Group's results if the Group fails to adjust quickly to these changing conditions.

Specific Insurance Risks

The Group's exposure to insurance risks increased upon the 2007 acquisition of Abbey Life Assurance Company Limited and the 2006 acquisition of a stake in Paternoster Limited, a regulated insurance company. The Group is primarily exposed to the following insurance-related risks.

- **Mortality and morbidity risks** – are the risks of a higher or lower than expected number of death claims on assurance products and of an occurrence of one or more large claims, and the risk of a higher or lower than expected number of disability claims, respectively. The Group aims to mitigate these risks by the use of reinsurance and the application of discretionary charges. The Group investigates rates of mortality and morbidity annually.
- **Longevity risk** – is the risk of faster or slower than expected improvements in life expectancy on immediate and deferred annuity products. The Group monitors this risk carefully against the latest external industry data and emerging trends.
- **Expenses risk** – is the risk that policies cost more or less to administer than expected. The Group monitors these expenses by an analysis of the actual expenses relative to the budget. It investigates reasons for any significant divergence from expectations and takes remedial action. The Group reduces the expense risk by having in place (until 2010 with the option of renewal for two more years) an outsourcing agreement which covers the administration of the policies.
- **Persistency risk** – is the risk of a higher or lower than expected percentage of lapsed policies. The Group assesses the persistency rates annually by reference to appropriate risk factors.

Risk Management Tools

The Group uses a comprehensive range of quantitative tools and metrics for monitoring and managing risks. As a matter of policy, the Group continually assesses the appropriateness and the reliability of the Group's quantitative tools and metrics in light of the Group's changing risk environment. Some of these tools are common to a number of risk categories, while others are tailored to the particular features of specific risk categories. The following are the most important quantitative tools and metrics the Group currently uses to measure, manage and report the Group's risk:

- **Economic capital.** Economic capital measures the amount of capital the Group needs to absorb very severe unexpected losses arising from the Group's exposures. "Very severe" in this context means that economic capital is set at a level to cover with a probability of 99.98 % the aggregated unexpected losses within one year. The Group calculates economic capital for the default risk, transfer risk and settlement risk elements of credit risk, for market risk, for operational risk and for general business risk.
- **Expected loss.** The Group uses expected loss as a measure of the credit and operational risk. Expected loss is a measurement of the loss the Group can expect within a one-year period from these risks as of the respective reporting date, based on historical loss experience. When calculating expected loss for credit risk, the Group takes into account credit risk ratings, collateral, maturities and statistical averaging procedures to reflect the risk characteristics of different types of exposures and facilities. All parameter assumptions are based on statistical averages of the Group's internal default and loss history as well as external benchmarks. The Group uses expected loss as a tool of the risk management process and as part of the Group's management reporting systems. The Group also considers the applicable results of the expected loss calculations as a component of its collectively assessed allowance for credit losses included in the financial statements. For operational risk the Group determines the expected loss from statistical averages of internal loss history, recent risk trends as well as forward looking expert estimates.
- **Value-at-risk.** The Group uses the value-at-risk approach to derive quantitative measures for trading book market risks under normal market conditions. The Group's value-at-risk figures play a role in both internal and external (regulatory) reporting. For a given portfolio, value-at-risk measures the potential future loss (in terms of market value) that, under normal market conditions, will not be exceeded with a defined confidence level in a defined period. The value-at-risk for a total portfolio represents a measure of diversified market risk (aggregated using pre-determined correlations) in that portfolio.
- **Stress testing.** The Group supplements the analysis of credit, market, liquidity and operational risk with stress testing. For market risk management purposes, the Group performs stress tests because value-at-risk calculations are based on relatively recent historical data, only purport to estimate risk up to a defined confidence level and assume good asset liquidity. Therefore, they only reflect possible losses under relatively normal market conditions. Stress tests help the Group to determine the effects of potentially extreme market developments on the value of market risk sensitive exposures, both on highly liquid and less liquid trading positions as well as investments. The Group uses stress testing to determine the amount of economic capital the Group needs to allocate in order to cover market risk exposure under the scenarios of extreme market conditions the Group selects for simulations. For credit risk management purposes, the Group performs stress tests to

assess the impact of changes in general economic conditions on credit exposures or parts thereof as well as the impact on the creditworthiness of the Group's portfolio. For liquidity risk management purposes, the Group performs stress tests and scenario analysis to evaluate the impact of sudden stress events on the Group's liquidity position. For operational risk management purposes, the Group performs stress tests on its economic capital model to assess its sensitivity to changes in key model components, which include external losses. Among other things, the results of these stress tests enable the Group to assess the impact of significant changes in the frequency and/or severity of operational risk events on operational risk economic capital.

- **Regulatory risk assessment.** The Group's operations throughout the world are regulated and supervised by relevant authorities in each of the jurisdictions in which it conducts business. Such regulation covers licensing, capital adequacy, liquidity, risk concentration, conduct of business and organizational and reporting requirements. Primarily, the Group is subject to comprehensive regulation and supervision by the BaFin and the Deutsche Bundesbank (referred to as "Bundesbank"), the German central bank. The BaFin supervises the operations of German banks to ensure that they are in compliance with the Banking Act and other applicable laws and regulations. The Bundesbank supports the BaFin and closely cooperates with it. The Banking Act and the rules and regulations thereunder implement certain recommendations of the Basel Committee on Banking Supervision, as well as certain European Union directives relating to banks. It addresses issues such as regulatory capital, risk-based capital adequacy and consolidated supervision.

Risk Reporting and Measurement Systems

The Group has centralized risk data warehouses and systems supporting regulatory reporting and external disclosures, as well as internal management reporting for credit, market, operational and liquidity risk. The Group's risk infrastructure incorporates the relevant legal entities and business divisions and provides the basis for tailor-made reporting on risk positions, capital adequacy and limit utilization to the relevant functions on a regular and ad-hoc basis. Established units within Finance and Legal, Risk & Capital assume responsibility for measurement, analysis and reporting of risk while ensuring sufficient quality and integrity of risk-related data.

4.3 Capital Management

Treasury manages the Group's capital at group level and locally in each region. The allocation of financial resources, in general, and capital, in particular, favors business portfolios with the highest positive impact on the Group's profitability and shareholder value. As a result, Treasury periodically reallocates capital among business portfolios.

Treasury implements the Group's capital strategy, which itself is developed by the Capital and Risk Committee and approved by the Management Board, including the issuance and repurchase of shares. The Group is committed to maintain its sound capitalization. Overall capital demand and supply are constantly monitored and adjusted, if necessary, to meet the need for capital from various perspectives. These include book equity based on IFRS accounting standards, regulatory capital and economic capital. In October 2008, the Group's target for the Tier 1 capital ratio was revised upwards to approximately 10 % from an 8-9 % target range at the beginning of the year.

The allocation of capital, determination of the Group's funding plan and other resource issues are presented to and approved by the Capital and Risk Committee.

The Group conducts an annual planning process to determine the Group's future strategic direction, decide on key initiatives and allocate resources to the businesses. The Group's plan comprises profit and loss, capital supply and capital demand, other resources, such as headcount, and business-specific key performance indicators. This process is performed at the business division level comprising the next five years, with the first of the five years detailed by quarter (operative plan). Based upon a range of economic scenarios, the business areas discuss their strategic development with the required risk management functions in order to align their revenue potential with the Group's risk appetite/resources. Finance coordinates the planning process, presents the resulting strategic plan to the Group Executive Committee and finally receives approval for the plan from the Management Board. The final plan is also presented to the Supervisory Board at the beginning of each year.

The approved planned risk-weighted assets and capital deduction items form the basis for quarterly capital demand limits by business area as approved by the Capital and Risk Committee. The risk and performance plans feed into Treasury's capital and liquidity planning. Depending on the development of risk-weighted assets and capital deduction items, Treasury regularly updates contingency measures in light of the Group's Tier 1 ratio target. The resulting planned capital supply is allocated to the business areas driven by their economic capital, goodwill and intangibles.

Regional capital plans covering the capital needs of the Group's branches and subsidiaries are prepared on a semi-annual basis and presented to the Group Investment Committee. Most of the Group's subsidiaries are subject to legal and regulatory capital requirements. Local Asset and Liability Committees attend to those needs under the stewardship of regional Treasury teams. Furthermore, they safeguard compliance with requirements such as restrictions on dividends allowable for remittance to Deutsche Bank AG or on the ability of the Group's subsidiaries to make loans or advances to the parent bank. In developing, implementing and testing the

Group's capital and liquidity, the Group takes such legal and regulatory requirements into account. In 2008, none of the Group's legal entities experienced any impediments to transfer funds in form of cash dividends or repayment of loans or advances.

The 2007 Annual General Meeting granted to the Group's management the authority to repurchase up to 52.6 million shares from the market before October 31, 2008. Based on this authorization the share buy-back program 2007/08 was launched in May 2007 and completed in May 2008 when a new authority was granted.

During this period 7.2 million shares were repurchased (6.33 million in 2007 and 0.82 million in 2008), of which 4.1 million shares, or 57 %, were repurchased through the end of June 2007. Within the start of the crisis in July 2007, the share buy-back volume was significantly reduced and only 3.1 million shares were repurchased between July 2007 and May 2008.

The 2008 Annual General Meeting granted to the Group's management the authority to buy back up to 53.1 million shares before October 31, 2009. As of year-end 2008 no shares had been repurchased under this authorization.

In September 2008, the Group issued 40 million new registered shares without par value to institutional investors in an offering conducted as an accelerated book-build. The placement price was € 55 per share. The aggregate gross proceeds amounted to € 2.2 billion. The purpose of the capital increase was to generate the Tier 1 capital requirement for the acquisition of a minority stake in Deutsche Postbank AG from Deutsche Post AG.

Capital management sold 16.3 million of the Group's treasury shares (approximately 2.9 % of the Group's share capital) from October to November 2008.

The Group issued U.S. \$ 2.0 billion of hybrid Tier 1 capital and U.S. \$ 800 million and € 200 million of contingent capital for the year ended December 31, 2007. In 2008, the Group issued € 1.0 billion and U.S. \$ 3.2 billion of contingent capital. These contingent capital instruments issued in 2008 are Upper Tier 2 subordinated notes that can be converted into hybrid Tier 1 capital at the Group's sole discretion. In 2008, the Group converted € 1.0 billion and U.S. \$ 4.0 billion of contingent capital into hybrid Tier 1 capital, leaving only the € 200 million issued in 2007 in its original form. Total outstanding hybrid Tier 1 capital (all non-cumulative trust preferred securities) as of December 31, 2008, amounted to € 9.6 billion compared to € 5.6 billion as of December 31, 2007.

4.4 Economic Capital Requirements

The Group uses economic capital to show an aggregated management view of the risk position from individual business lines up to the consolidated Group level. The Group also uses economic capital (as well as goodwill and other nonamortizing intangibles) in order to allocate the Group's active book equity among its businesses. This enables the Group to assess each business unit's risk-adjusted profitability, which is a key metric in managing the financial resources in order to optimize the value generated for the Group's shareholders. Active book equity is defined as shareholders' equity adjusted by unrealized net gains on assets available for sale, fair value adjustments on cash flow hedges (both components net of applicable taxes) and dividends, for which a proposal is accrued on a quarterly basis and for which payments occur once a year following the approval by the Annual General Meeting. In addition, the Group considers economic capital, in particular for credit risk, when measuring the risk-adjusted profitability of the Group's client relationships.

The table below shows the Group's total economic capital at year-end 2008, following the IFRS consolidation principles, calculated for credit, market, business and operational risk. To determine the Group's overall economic capital, the Group generally considers diversification benefits across risk types except for business risk, which is aggregated by simple addition. The Group estimates the diversification benefit across risk types through application of a simulation model which combines loss distributions for credit, market and operational risk, considering the dependence of their key risk drivers.

Table 4 Economic Capital Requirements

Economic capital requirements in € m.	Dec 31, 2008
Credit risk	8,986
Market risk	8,794
Trading market risk	5,547
Nontrading market risk	3,247
Operational risk	4,147
Diversification benefit across credit, market and operational risk	(3,134)
Sub-total credit, market and operational risk	18,793
Business risk	513
Total economic capital requirements	19,306

For further detail on the Group's economic capital requirements and the effect of refinements to the Group's economic capital calculations please refer to the chapter Risk Report, "Overall Risk Position" in the Group's Financial Report 2008.

5. Counterparty Credit Risk: Strategy and Processes

5.1 Credit Risk Management Principles and Strategy

The Group manages credit risk in a coordinated manner at all relevant levels within the organization. This also holds true for complex products which the Group typically manages within a framework established for trading exposures. The following principles underpin the Group's approach to credit risk management:

- In all group divisions consistent standards are applied in the respective credit decision processes.
- The approval of credit limits for counterparties and the management of the Group's individual credit exposures must fit within the Group's portfolio guidelines and credit strategies.
- Every extension of credit or material change to a credit facility (such as its tenor, collateral structure or major covenants) to any counterparty requires credit approval at the appropriate authority level.
- The Group assigns credit approval authorities to individuals according to their qualifications, experience and training, and the Group reviews these periodically.
- The Group measures and consolidates all credit exposures to each obligor on a global consolidated basis that applies across the consolidated Group. The Group defines an "obligor" as a group of individual borrowers that are linked to one another by any of a number of criteria the Group has established, including capital ownership, voting rights, demonstrable control, other indication of group affiliation; or are jointly and severally liable for all or significant portions of the credit extended by the Group.

A portfolio management function within credit risk management oversees and monitors the divisional portfolios and defines maximum risk appetite guidelines on specific portfolio levels to ensure a diversified portfolio.

5.2 Credit Risk Ratings and Governance

Credit Risk Ratings

A primary element of the credit approval process is a detailed risk assessment of every credit exposure associated with a counterparty. The Group's risk assessment procedures consider both the creditworthiness of the counterparty and the risks related to the specific type of credit facility or exposure. This risk assessment not only affects the structuring of the transaction and the outcome of the credit decision, but also influences the level of decision-making authority required to extend or materially change the credit and the monitoring procedures the Group applies to the ongoing exposure.

The Group has its own in-house assessment methodologies, scorecards and rating scale for evaluating the creditworthiness of its counterparties. The Group's granular 26-grade rating scale, which is calibrated on a probability of default measure based upon a statistical analysis of historical defaults in the Group's portfolio, enables the Group to compare its internal ratings with common market practice and ensures comparability between different sub-portfolios of the Group. Several default ratings therein enable the Group to incorporate the potential recovery rate of defaulted exposure.

The Group generally rates all its credit exposures individually. When the Group assigns its internal risk ratings, the Group compares them with external risk ratings assigned to the Group's counterparties by Standard & Poor's and Moody's based on internal mapping tables, where possible.

Governance

All rating methodologies have to be approved by the Group Credit Policy Committee ("GCPC"), a sub-committee of the Risk Executive Committee, before the methodologies are used for credit decisions and capital calculation for the first time or before they are significantly changed. Regulatory approval might be required in addition. The results of the regular validation processes as stipulated by internal policies have to be brought to the attention of the GCPC, even if the validation results do not lead to a change.

5.3 Credit Risk Mitigation

Various risk mitigation techniques are proactively employed in order to reduce the risk in the Group's credit portfolio.

Risk mitigants are predominantly considered in two broad categories:

- **Risk transfers**, which shift the probability of default risk of an obligor to a third party, and
- **Collateral**, which improves the recovery of obligations.

Risk transfers to third parties form a key part of the Group's overall risk management process and are executed in various forms, including outright sales, single name and portfolio hedging, and securitizations. They are conducted by the respective business units and by the Group's Loan Exposure Management Group ("LEMG"), in accordance with specifically approved mandates.

LEMG focuses on managing the credit risk of loans and lending-related commitments of the international investment-grade portfolio and the medium-sized German companies' portfolio.

LEMG has two primary objectives within the credit risk framework to further enhance risk management discipline, improve returns and use capital more efficiently:

- to reduce single-name and industry credit risk concentrations within the credit portfolio, and
- to manage credit exposures actively by utilizing techniques including loan sales, securitization via collateralized loan obligations, default insurance coverage and single-name and portfolio credit default swaps.

Collateral is used in various forms in order to mitigate the inherent risk in DB's credit portfolio by reducing the loss severity of individual transactions.

The Group aims to secure its credit portfolios via collateral agreements. Divisional risk units review and approve terms and conditions of legal documentation and monitor transactions on an ongoing basis in close interaction with front and middle office.

All types of collateral are subject to frequent valuations and regular reviews. The frequency depends on the collateral type, associated risks and legal environment.

In addition or as a substitute to risk transfers or use of collateral, various other credit risk mitigation techniques are employed in order to reduce the risk in the Group's credit portfolio, in particular for illiquid assets, such as structural transaction mitigants to improve recoveries in the event of a default.

While all the above mentioned risk mitigants can be an alternative source of repayment, they do not compensate for high quality underwriting standards.

Concentrations within Credit Risk Mitigation

Concentrations within credit risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations.

The Group uses a comprehensive range of quantitative tools and metrics to monitor its credit risk mitigating activities. Limits are established across all product categories including guarantees and credit derivative exposures used as risk mitigation. Limits exist at an individual guarantor or credit derivative provider level as part of the general credit risk management process and are also monitored on a portfolio basis with regard to industries, countries, products and other factors.

Guarantees and credit derivative contracts are primarily entered into with banks and insurance companies (including exposures to monoline insurers which are discussed in more detail in the chapter Management Report, "Exposure to Monoline Insurers" in the Group's Financial Report 2008), principally in Western Europe and the United States. The majority of these exposures carry a rating within the investment grade band.

For the purpose of mitigating credit risk in its lending portfolios the Group also makes use of financial and other physical collateral. More than half of it is real estate collateral with further contributions from fixed income and equity securities, cash and deposits. The real estate collateral principally consists of residential properties in Germany.

5.4 Credit Risk Limit Setting and Monitoring

Credit Limits

Credit limits set forth the maximum credit exposures the Group is willing to assume over specified periods. The actual limits are determined taking into consideration a variety of factors such as the counterparty rating, industry assessment, market liquidity of the underlying risk, embedded country risk and macroeconomic environment. Additionally, the Group uses a variety of methods to set specific credit limits depending on the different types of products, terms and conditions precedent and takes into account the applicable legal environment and regulatory requirements.

The Group measures and consolidates globally all exposures to the same obligor (“one obligor principle”). It requires the aggregation of all facilities, direct or contingent, committed or uncommitted, to the borrower itself, its subsidiaries, parent and related affiliates.

Monitoring

The Group monitors all credit exposures on a continuing basis using the risk management tools described above. The Group aims to identify counterparties that, on the basis of the application of the Group’s risk management tools, demonstrate the likelihood of problems well in advance in order to effectively manage the credit exposure and maximize recovery. This early risk detection is a tenet of the Group’s credit culture and is intended to ensure that greater attention is paid to such exposures. In instances in which the Group has identified counterparties where problems might arise, the respective exposure is placed on a watch list.

5.5 Credit Exposure

The Group defines its credit exposure as all transactions where losses might occur due to the fact that counterparties may not fulfil their contractual payment obligations. The Group calculates the gross amount of the exposure without taking into account any collateral, other credit enhancement or credit risk mitigating transactions. In the tables below, the Group shows details about several of its main credit exposure categories, namely loans, irrevocable lending commitments, contingent liabilities, over-the-counter (“OTC”) derivatives, tradable assets and repo-style transactions following the IFRS-principles for consolidation.

- **Loans** are net loans as reported on the Group’s balance sheet at amortized cost but before deduction of the Group’s allowance for loan losses.
- **Irrevocable lending commitments** consist of the undrawn portion of irrevocable lending-related commitments.
- **Contingent liabilities** consist of financial and performance guarantees, standby letters of credit and indemnity agreements.
- **OTC derivatives** are the credit exposures from over-the-counter derivative transactions that the Group has entered into, after netting and cash collateral received.
- **Tradable assets** consist of bonds, traded loans and other fixed-income products that are recorded either in trading assets or securities available for sale for accounting purposes. From a regulatory perspective this category principally covers trading book positions.
- **Repo- and repo-style transactions** consist of repurchase transactions, as well as securities or commodities lending and borrowing transactions after application of netting as allowed for IFRS accounting purposes.

Although considered in the monitoring of credit exposures, the following are not included in the tables below: brokerage and securities related receivables, interest-earning deposits with banks, cash and due from banks, and accrued interest receivables. Excluded as well are true sale securitization positions and equity investments, which are dealt with specifically in chapters 7 “Securitization” and 8 “Equity Investments in the Banking Book”, respectively.

The following table breaks down the main credit exposure categories by geographical region. For this table, the allocation of exposures to regions is based on the country of domicile of the counterparties, regardless of any affiliations the counterparties may have with corporate groups domiciled elsewhere.

Table 5 Credit Risk Exposure by Region

Credit risk exposure by region							Dec 31, 2008
in € m.	Loans ¹	Irrevocable lending commitments	Contingent liabilities	OTC derivatives ²	Tradable assets	Repo- and repo-style transactions	Total
Eastern Europe	7,672	1,654	2,086	2,033	5,001	2,849	21,295
Western Europe	185,577	38,698	25,289	48,677	70,362	58,547	427,150
Africa	1,076	333	566	297	861	1,432	4,565
Asia/Pacific	16,887	6,156	6,223	13,225	31,176	16,750	90,417
North America	56,129	56,812	13,943	57,177	98,241	86,898	369,200
Central and South America	3,530	196	660	1,552	4,030	1,617	11,585
Other ³	348	228	48	629	546	–	1,799
Total credit risk exposure	271,219	104,077	48,815	123,590	210,217	168,093	926,011

1 Includes impaired loans amounting to € 3.7 billion as of December 31, 2008.

2 Includes the effect of master agreement netting and cash collateral received where applicable.

3 Includes supranational organizations and other exposures that the Group has not allocated to a single region.

The following table breaks down the main credit exposure categories according to the industry sectors of the Group's counterparties.

Table 6 Credit Risk Exposure by Industry

Credit risk exposure by industry							Dec 31, 2008
	Loans ¹	Irrevocable lending commitments	Contingent liabilities	OTC derivatives ²	Tradable assets	Repo- and repo-style transactions	Total
in € m.							
Banks and insurances	26,998	24,970	11,568	68,641	84,267	157,025	373,469
Manufacturing	19,043	24,889	13,669	4,550	12,018	489	74,658
Households	83,376	3,862	1,768	791	5,623	29	95,449
Public sector	9,972	819	628	7,125	52,362	668	71,574
Wholesale and retail trade	11,761	6,377	3,423	1,264	4,059	–	26,884
Commercial real estate activities	27,083	2,239	2,403	3,213	5,514	76	40,528
Other ³	92,986	40,921	15,356	38,006	46,374	9,806	243,449
Total credit risk exposure	271,219	104,077	48,815	123,590	210,217	168,093	926,011

1 Includes impaired loans amounting to € 3.7 billion as of December 31, 2008.

2 Includes the effect of master agreement netting and cash collateral received where applicable.

3 Included in the category "Other" is investment counseling and administration exposure of € 77.2 billion as of December 31, 2008.

The table below provides the residual contract maturity profile of the main credit exposure categories.

Table 7 Credit Risk Exposure by Maturity

Credit risk exposure by maturity							Dec 31, 2008
	Loans	Irrevocable lending commitments	Contingent liabilities	OTC derivatives	Tradable assets	Repo- and repo-style transactions	Total
in € m.							
< 1 year	104,643	39,876	27,202	38,601	41,229	163,894	415,445
1 year - 5 years	60,090	53,354	12,533	32,967	60,187	4,158	223,289
> 5 years	106,486	10,847	9,080	52,022	108,801	41	287,277
Total credit risk exposure	271,219	104,077	48,815	123,590	210,217	168,093	926,011

The average credit risk exposure held over the four quarters of 2008 was € 1.1 billion as shown in the table below.

Table 8 Average Credit Risk Exposure

Average credit risk exposure							2008
	Loans	Irrevocable lending commitments	Contingent liabilities	OTC derivatives	Tradable assets	Repo- and repo-style transactions	Total
in € m.							
Total average credit risk exposure	238,023	113,002	49,268	102,000	358,355	276,000	1,136,648
Total credit risk exposure at year-end	271,219	104,077	48,815	123,590	210,217	168,093	926,011

The year-end balance for loans shown above includes € 34.4 billion with regard to assets reclassified into loans due to the application of the amendments of IAS 39, of which € 23.6 billion were reclassified out of tradable assets and € 10.8 billion were reclassified out of financial assets available for sale. For more details see Note [10] "Amendments to IAS 39 and IFRS 7, 'Reclassification of Financial Assets'" in the Group's Financial Report 2008.

The lower total credit risk exposure at year-end reflects the bank's de-leveraging activities, in particular with regard to tradable assets and repo- and repo-style transactions.

5.6 Counterparty Credit Risk from Derivatives

Credit Exposure from Derivatives

Exchange-traded derivative transactions (e.g. futures and options) are regularly settled through a central counterparty (e.g. LCH.Clearnet Ltd. or Eurex Clearing AG), the rules and regulations of which provide for daily margining of all current and future credit risk positions emerging out of such transactions. To the extent possible, the Group also uses central counterparty clearing services for OTC derivative transactions ("OTC clearing"); the Group thereby benefits from the credit risk mitigation achieved through the central counterparty's settlement system.

In order to reduce the credit risk resulting from OTC derivative transactions, where OTC clearing is not available, the Group regularly seeks the execution of standard master agreements (such as the International Swaps and Derivatives Association's master agreements for derivatives or the German Master Agreement for Financial Derivative Transactions) with the Group's clients. A master agreement allows the netting of rights and obligations arising under derivative transactions that have been entered into under such master agreement upon the counterparty's default, resulting in a single net claim owed by or to the counterparty ("close-out netting"). For parts of the derivatives business (e.g. foreign exchange transactions) the Group also enters into master agreements under which the Group sets off amounts payable on the same day in the same currency and in respect to transactions covered by such master agreements ("payment netting"), reducing the Group's settlement risk.

In its risk measurement and risk assessment processes the Group applies netting only to the extent it has satisfied itself of the legal validity and enforceability of the master agreement in all relevant jurisdictions.

Also, the Group enters into collateral support annexes ("CSA") to master agreements in order to further reduce the Group's derivatives-related credit risk. These collateral support annexes generally provide risk mitigation through periodic (usually daily) margining of the covered exposure. The CSA also provides for the right to terminate the master agreement and the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when the Group believes the collateral support annex is enforceable, the Group reflects this in its exposure measurement.

As the replacement values of derivatives portfolios fluctuate with movements in market rates and with changes in the transactions in the portfolios, the Group also estimates the potential future replacement costs of the portfolios over their lifetimes or, in case of collateralized portfolios, over appropriate unwind periods. The Group measures the potential future exposure against separate limits. The Group supplements the potential future exposure analysis with stress tests to estimate the immediate impact of extreme market events on the Group's exposures (such as event risk in the Group's Emerging Markets portfolio).

The potential future exposure measure, which the Group uses, is commonly given by a time profile of simulated positive market values of each counterparty's derivatives portfolio, whereby netting and collateralization are considered. For limit monitoring the Group employs the 95th percentile of the resulting distribution of market values, internally referred to as potential future exposure ("PFE"). The average exposure profiles generated by the same calculation process are used to derive the so-called average expected exposure ("AEE") measure which the Group uses to reflect potential future replacement costs within the Group's credit risk economic capital and the expected positive exposure ("EPE") measure driving the Group's regulatory capital requirements. While AEE and EPE are generally calculated with respect to a time horizon of one year, the PFE is measured over the entire lifetime of a transaction or netting set. The Group also employs the aforementioned calculation process to derive stressed exposure results for input into its credit portfolio stress testing.

Credit Valuation Adjustment

The Group establishes a counterparty credit valuation adjustment for OTC derivative transactions to cover expected credit losses. The adjustment amount is determined at each reporting date by assessing the potential credit exposure to all counterparties, taking into account any collateral held, the effect of any master netting agreements, expected loss given default and the credit risk for each counterparty based on historic default levels.

The credit valuation adjustments are significant for certain monoline counterparties. These credit valuation adjustments are assessed name-by-name based on internally determined credit ratings and, in the case of those deemed unlikely to be able to meet their liabilities in full, an in-depth analysis of the facts and circumstances by the Group's Credit Risk Management function. The Group recorded € 2.2 billion credit valuation adjustments against its aggregate monoline exposures as of December 31, 2008.

Treatment of Default Situations under Derivatives

Unlike in the case of the standard loan assets, the Group generally has more options to manage the credit risk in its OTC derivatives when movement in the current replacement costs of the transactions and the behavior of the Group's counterparty indicate that there is the risk that upcoming payment obligations under the transactions might not be honored. In these situations, the Group is under prevailing contracts frequently able to obtain additional collateral or terminate the transactions or the related master agreement.

The master agreements executed with the Group's clients usually provide for a broad set of standard or bespoke termination rights which allow the Group to respond swiftly to a counterparty's default or to other circumstances which indicate a high probability of failure. When the Group's decision to terminate derivative transactions or the related master agreement results in a residual net obligation owed by the counterparty, the Group restructures the obligation into a non-derivative claim and manages it through its regular work-out process. As a consequence, for accounting purposes the Group typically does not show any nonperforming derivatives.

Wrong way risk occurs when exposure to a counterparty is adversely correlated with the credit quality of that counterparty. It has to be carefully considered together with the correlation between the obligor and risk mitigants and is actively monitored and reviewed on a regular basis. In compliance with Section 224 (8) and (9) SolvV the Group has established a monthly wrong way risk monitoring process, whereby transactions subject to wrong way risk are automatically selected and presented for comment to the responsible credit officer.

Certain credit support annexes to master agreements provide for rating dependent triggers, where additional collateral has to be pledged if a party's rating is downgraded. The Group also entered into master agreements that provide for an additional termination event upon a party's rating downgrade. The Group analyzes and monitors potential contingent payment obligations resulting from a rating downgrade in its stress testing approach for liquidity risk on an ongoing basis.

The following table shows the positive market values or replacement costs of the Group's OTC and exchange-traded derivative transactions entered into for trading and non-trading purposes as of December 31, 2008, following IFRS consolidation and valuation principles. The positive market values are presented gross, that is, before considering close-out netting and collateral. The benefit resulting from the application of netting and collateral is displayed separately.

Table 9 Positive Market Values of Derivatives

Positive market values of derivatives ¹	Dec 31, 2008			
	Positive market values before netting and collateral agreements	Netting agreements	Eligible collateral ²	Positive market values after netting and collateral agreements
in € m.				
Interest rate contracts	644,173	565,725	43,687	34,761
Foreign exchange contracts	181,205	134,872	16,428	29,905
Equity contracts	68,784	53,717	5,822	9,245
Credit derivative contracts	295,383	246,401	19,312	29,670
Commodity-related activities	30,410	19,576	1,227	9,607
Other contracts	4,537	3,520	187	830
Total positive market values of derivatives	1,224,492	1,023,811	86,663	114,018

¹ Excludes € 10 billion positive market values before netting and collateral or € 401 million positive market values after netting and collateral with regard to derivatives classified as other assets.

² Includes € 71.5 billion cash collateral.

The counterparty credit risk position resulting from derivative transactions in the form of the regulatory exposure value (exposure at default) amounted to € 246 billion as of December 31, 2008. The calculation builds on the regulatory principles for consolidation and netting and is therefore not directly comparable to the IFRS-related information as presented in the table above. Moreover, the Group uses the so-called internal model method ("IMM") to derive a regulatory exposure value for its derivative exposure while applying the regulatory defined alpha multiplier of 1.4 in its calculation. More details on the internal model method are presented in Section 6.1 "Advanced Internal Ratings Based Approach".

The table below lists the nominal volumes of the Group's credit derivative exposure as of December 31, 2008, based on the IFRS consolidation principles. The figures are provided on a gross level, meaning no netting has been considered. The table splits the exposure into the part held in the regulatory banking book, which is shown under the heading "used for the own credit portfolio" and the part held in the regulatory trading book, referred to as "acting as intermediary".

Table 10 Notional Amount of Credit Derivatives

Notional amount of credit derivatives	Used for own credit portfolio			Acting as intermediary		Dec 31, 2008
	Protection bought	Protection sold			Total	
in € m.						
Credit default swaps – single name	40,012	3,224		2,136,541		2,179,777
Credit default swaps – multi name	–	–		2,253,331		2,253,331
Total return swaps	–	43		16,282		16,325
Total notional amount of credit derivatives	40,012	3,267		4,406,154		4,449,433

5.7 Asset Quality

Information presented in this chapter is based upon IFRS principles of consolidation and uses financial statement values.

As described above, the Group assesses the customers' ability to fulfill their obligations on an ongoing basis by using a variety of risk management tools. This includes the Group's continuous monitoring of the population of impaired and past due loans.

Past Due Loans

The Group considers loans to be past due once contractually agreed payments on principal and/or interest remain unpaid by the borrower. Generally the Group distinguishes between loans that are less than 90 days past due and loans being more than 90 days past due.

Impairment of Loans and Allowance for Loan Losses

On a quarterly basis, the Group assesses whether there is objective evidence that a loan or a group of loans is impaired. A loan or a group of loans is impaired and impairment losses are incurred if there is:

- objective evidence of impairment as a result of a loss event that occurred after the initial recognition of the asset and up to the balance sheet date (a "loss event");
- the loss event had an impact on the estimated future cash flows of the financial asset or the group of financial assets; and
- a reliable estimate of the loss amount can be made.

The Group first assesses whether objective evidence of impairment exists individually for loans that are individually significant. It then assesses impairment collectively for loans that are not individually significant and loans which are significant but for which there is no objective evidence of impairment under the individual assessment.

To allow management to determine whether a loss event has occurred on an individual basis, all significant counterparty relationships are reviewed periodically. This evaluation considers current information and events related to the counterparty, such as the counterparty experiencing significant financial difficulty or a breach of contract, for example, default or delinquency in interest or principal payments.

If there is evidence of impairment leading to an impairment loss for an individual counterparty relationship, then the amount of the loss is determined as the difference between the carrying amount of the loan(s), including accrued interest, and the present value of expected future cash flows discounted at the loan's original effective interest rate or the effective interest rate established upon reclassification to loans, including cash flows that may result from foreclosure less costs for obtaining and selling the collateral. The carrying amount of the loans is reduced by the use of an allowance account and the amount of the loss is recognized in the income statement as a component of the provision for credit losses.

The collective assessment of impairment is principally to establish an allowance amount comprising of three components. The first component is an amount for transfer and currency convertibility risks for loan exposures in countries where there are serious doubts about the ability of counterparties to comply with the repayment terms due to the economic or political situation prevailing in the respective country of domicile. This amount is calculated using ratings for country risk and transfer risk which are established and regularly reviewed for each country in which the Group does business. The second component is an allowance amount representing the incurred losses on the portfolio of smaller-balance homogeneous loans, which are loans to individuals and small business customers of the private and retail business. The loans are grouped according to similar credit risk characteristics and the allowance for each group is determined using statistical models based on historical experience. The third component represents an estimate of incurred losses inherent in the group of loans that have not yet been individually identified or measured as part of the smaller-balance homogeneous loans. Loans that were found not to be impaired when evaluated on an individual basis are included in the scope of this component of the allowance.

Once a loan is identified as impaired, although the accrual of interest in accordance with the contractual terms of the loan is discontinued, the accretion of the net present value of the written down amount of the loan due to the passage of time is recognized as interest income based on the original effective interest rate of the loan.

On a quarterly basis, all impaired loans are reviewed for changes to the present value of expected future cash flows discounted at the loan's original effective interest rate. Any change to the previously recognized impairment loss is recognized as a change to the allowance account and recorded in the income statement as a component of the provision for credit losses.

When it is considered that there is no realistic prospect of recovery and all collateral has been realized or transferred to the Group, the loan and any associated allowance is written off. Subsequent recoveries, if any, are credited to the allowance account and recorded in the income statement as a component of the provision for credit losses.

The process to determine the provision for off-balance sheet positions is similar to the methodology used for loans. Any loss amounts are recognized as an allowance in the balance sheet within other liabilities and charged to the income statement as a component of the provision for credit losses.

If in a subsequent period the amount of a previously recognized impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the impairment loss is reversed by reducing the allowance account accordingly. Such reversal is recognized in profit or loss.

The following quantitative information on asset quality refers to the IFRS scope of consolidation. As of December 31, 2008, the Group's impaired loans totaled € 3.7 billion and were comprised of individually assessed impaired loans amounting to € 2.3 billion and collectively assessed impaired loans amounting to € 1.4 billion. More than 75 % of the Group's impaired loans were with counterparties domiciled in Western Europe, predominantly with clients domiciled in Germany, while industry concentrations were with households (33 %) and investment counseling and administration (18 %).

As of December 31, 2008, the Group's loans past due but nonimpaired totaled € 11 billion, of which almost 82 % were with counterparties domiciled in Western Europe, predominantly with clients domiciled in Germany, while industry concentrations were with households (42 %) and banks and insurances (24 %).

The Group's allowance for loan losses for impaired loans as of December 31, 2008 was € 1.5 billion, and included an individually assessed loan loss allowance for impaired loans of € 977 million and a collectively assessed loan loss allowance for impaired loans of € 517 million. More than 82 % of the Group's allowance for loan losses was with counterparties domiciled in Western Europe, predominantly with clients domiciled in Germany, while industry concentrations were with households (27 %) and manufacturing (15 %).

The following tables present the Group's impaired loans, the individually and collectively assessed loan loss allowances held in respect of these loans and other loans past due but not impaired, broken down by geographic region based on the country of domicile of the counterparties, as well as by industry sectors of the counterparties.

Table 11 Loans Impaired or Past Due by Region

Loans impaired or past due by region	Dec 31, 2008			
	Total impaired loans	Individually assessed loan loss allowance	Collectively assessed loan loss allowance	Other loans past due ¹
in € m.				
Eastern Europe	54	3	31	199
Western Europe	2,777	805	485	9,016
Africa	–	–	–	5
Asia/Pacific	72	41	–	92
North America	544	50	1	1,659
Central and South America	234	78	–	20
Other	1	–	–	8
Total loans impaired or past due	3,682	977	517	10,999

¹ These are loans in which contractual interest or principal payments are one day or more past due and which are not impaired.

Table 12 Loans Impaired or Past Due by Industry

Loans impaired or past due by industry	Dec 31, 2008			
	Total impaired loans	Individually assessed loan loss allowance	Collectively assessed loan loss allowance	Other loans past due ¹
in € m.				
Banks and insurances	156	101	3	2,625
Manufacturing	427	207	41	709
Households	1,209	32	353	4,617
Public sector	118	59	–	23
Wholesale and retail trade	200	99	30	759
Commercial real estate activities	172	71	9	408
Other ²	1,400	408	81	1,858
Total loans impaired or past due	3,682	977	517	10,999

¹ These are loans in which contractual interest or principal payments are one day or more past due and which are not impaired.

² "Other" includes impaired loans of € 645 million to investment counseling and administration, € 186 million to construction and € 104 million to oil and gas industry and individually assessed loan loss allowances amounting to € 210 million, € 74 million and € 24 million respectively.

The following table presents the Group's impaired loans, the corresponding provision for loan losses before recoveries, and recoveries, according to the industry sectors of the counterparties.

Table 13 Loans Impaired by Industry

Loans impaired by industry	Dec 31, 2008	12 month ending Dec 31, 2008	
	Total impaired loans	Provision for loan losses before recoveries	Recoveries
in € m.			
Banks and insurances	156	101	4
Manufacturing	427	110	21
Households	1,209	580	107
Public sector	118	73	–
Wholesale and retail trade	200	34	10
Commercial real estate activities	172	12	11
Other ¹	1,400	294	59
Total loans impaired	3,682	1,204	212

¹ "Other" includes impaired loans of € 645 million to investment counseling and administration, € 186 million to construction and € 104 million to oil and gas industry.

In addition to the allowances and provisions for loan losses reported in above tables, the Group has recorded € 444 million loan loss allowances and € 92 million provision for loan losses on collectively assessed loans considered performing. These amounts have been recorded in order to reflect incurred losses that have not yet been individually identified or provided for as part of the assessment of smaller-balance homogeneous loans.

As of December 31, 2008 the Group held € 1.9 billion allowance for loan losses, which was 53 % of the Group's loan exposure classified as impaired. Considering the allowance for loan losses and the collateral held against impaired loans, the impaired loan coverage was 85 % as of December 31, 2008.

The following table breaks down the nonimpaired past due loan exposure carried at amortized cost according to their past due status.

Table 14 Loans Past Due but not Impaired

Loans past due but not impaired	Dec 31, 2008
in € m.	
Loans less than 30 days past due	8,345
Loans 30 or more, but less than 60 days past due	1,308
Loans 60 or more, but less than 90 days past due	939
Loans 90 days or more past due	407
Total loans past due but not impaired	10,999

Allowance for Off-balance Sheet Positions

The Group's allowance for off-balance sheet positions totaled € 210 million as of December 31, 2008 and included € 112 million of collectively assessed and € 98 million of individually assessed allowances. 60 % of the allowance for off-balance sheet positions was with counterparties domiciled in Western Europe, predominantly with clients domiciled in Germany, while industry concentrations were with manufacturing (26 %) and construction (22 %).

The following table provides a breakdown of the movements in the Group's allowance for credit losses.

Table 15 Development of Allowance for Credit Losses

Development of allowance for credit losses					2008
	Allowance for loan losses		Allowance for off-balance sheet positions		Total
	Individually assessed	Collectively assessed	Individually assessed	Collectively assessed	
in € m.					
Balance, beginning of year	930	775	101	118	1,924
Provision for credit losses	382	702	(2)	(6)	1,076
Increases/newly approved allowances	594	–	54	–	648
Reductions/releases of allowances	(211)	–	(56)	–	(267)
Net charge-offs	(301)	(477)	–	–	(778)
Charge-offs	(364)	(626)	–	–	(990)
Recoveries	63	149	–	–	212
Allowance related to acquisitions/divestitures	–	–	–	–	–
Exchange rate-related differences/other	(34)	(39)	(1)	–	(74)
Balance, end of year	977	961	98	112	2,148

6. Counterparty Credit Risk: Regulatory Assessment

6.1 Advanced Internal Ratings Based Approach

The Group applies the advanced IRBA for the majority of its advanced IRBA eligible credit portfolios to calculate its regulatory capital requirements according to the SolvV and received initial approval for using this approach from the BaFin in December 2007 with approval extensions obtained during 2008. The advanced IRBA is the most sophisticated approach available under the regulatory framework for credit risk allowing the Group to make use of its internal rating methodologies as well as internal estimates of specific other risk parameters. While the new regulatory framework allows the first time usage of internal methods and parameters for regulatory purposes, these methods and parameters represent long-used key components of the internal risk measurement and management process supporting the credit approval process, the economic capital and expected loss calculation and the internal monitoring and reporting of credit risk. The relevant parameters include the probability of default (“PD”) and the loss given default (“LGD”) driving the regulatory risk-weight and the credit conversion factor (“CCF”) as part of the regulatory exposure at default (“EAD”) estimation.

The probability of default for customers is reflected in the Group’s internal rating systems. The Group assigns a probability of default to each relevant counterparty credit exposure as a function of a transparent and consistent 26-grid rating scale. The borrower ratings assigned are derived on the grounds of internally developed rating models which specify consistent and distinct customer-relevant criteria and assign a rating grade based on a specific set of criteria as given for a certain customer. The methods in use range from statistical scoring models to expert-based models taking into account the relevant available quantitative and qualitative information. Quantitative rating methodologies are developed based on applicable statistical modeling techniques, such as logistic regression. Although different rating methodologies are applied to the various customer segments in order to reflect properly customer-specific characteristics, they all adhere to the same risk management principles. Credit process policies provide guidance on the classification of customers into the various rating systems. For more information regarding the credit process and the respective rating methods used within that process, please refer to chapter 5.2 “Credit Risk Ratings and Governance”.

The approvals obtained from the BaFin as a result of the advanced IRBA audit processes allow the usage of 47 internally developed rating systems for regulatory capital calculation purposes out of which 37 rating systems were authorized in December 2007 and further 10 less material followed in 2008. Overall they cover all of the Group’s material exposures in the advanced IRBA eligible exposure classes “central governments”, “institutions”, “corporates”, and “retail”.

The advanced IRBA coverage ratio is about 90 % as of December 31, 2008 using an exposure measure according to Section 67 SolvV. This ratio excludes the exposures permanently assigned to the standardized approach which are discussed in chapter 6.4 “Standardized Approach”.

The few remaining advanced IRBA eligible portfolios are temporarily assigned to the standardized approach. With regard to these, an implementation plan and approval schedule have been set up and agreed with the competent authorities, the BaFin and the Bundesbank.

The Group applies internally estimated LGD factors as part of the advanced IRBA capital requirement calculation as approved by the BaFin. LGD is defined as the likely loss intensity in case of a counterparty default. It provides an estimation of the exposure that cannot be recovered in a default event and therefore captures the severity of a loss. Conceptually, LGD estimates are independent of a customer’s probability of default. The concept of the LGD models ensures that the main drivers for losses (e.g. different levels and quality of collateralization and customer or product types, seniority of facility or strength of documentation) are reflected in specific LGD factors.

As part of the application of the advanced IRBA the Group applies specific CCFs in order to calculate an EAD value. Conceptually the EAD is defined as the expected amount of the credit exposure to a counterparty at the time of its default. For advanced IRBA calculation purposes the bank applies the general principles as defined in Section 100 SolvV to determine the EAD of a transaction. In instances, however, where a transaction involves an unused limit a percentage share of this unused limit is added to the outstanding amount in order to appropriately reflect the expected outstanding amount in case of a counterparty default. This reflects the assumption that for commitments the utilization at the time of default might be higher than the current utilization. When a transaction involves an additional contingent component (e.g. guarantees) a further percentage share (usage factor) is applied as part of the CCF model in order to estimate the amount of guarantees drawn in case of default. Where required under the advanced IRBA the CCFs are internally estimated. The calibrations of such parameters are based on statistical experience as well as internal historical data and consider customer and product type specifics. As part of the approval process, the BaFin assessed the Group’s CCF models and stated their appropriateness for use in the process of regulatory capital requirement calculations.

For derivative counterparty exposures as well as securities financing transactions (“SFT”) the Group makes use of the internal model method in accordance with Section 222 et seqq. SolvV. In this respect securities financing transactions encompass repurchase transactions, securities or commodities lending and borrowing as well as margin lending transactions (including prime brokerage). The IMM is a more sophisticated approach for calculating EAD for derivatives and SFT, again requiring prior approval from the BaFin before its first application. By applying this approach, the Group builds its EAD calculations on a Monte Carlo simulation of the transactions’ future market values. Within this simulation process, interest and FX rates, credit spreads, equity and commodity prices are modeled by stochastic processes and each derivative and securities financing transaction is revalued at each point of a pre-defined time grid by the Group’s internally approved valuation routines. As the result of this process, a distribution of future market values for each transaction at each time grid point is generated. From these distributions, by considering the appropriate netting and collateral agreements, the Group derives the exposure measures potential future exposure, average expected exposure and expected positive exposure mentioned in chapter 5.6 “Counterparty Credit Risk from Derivatives”. The EPE measure evaluated on regulatory eligible netting sets defines the EAD for derivative counterparty exposures as well as for securities financing transactions within the Group’s regulatory capital calculations for the great majority of the Group’s derivative and SFT portfolio. For the small population of transactions for which a simulation cannot be computed, the EAD used within the IMM is derived from the current exposure method.

Default Definition and Model Validation

A prerequisite for the development of rating methodologies and the determination of risk parameters is a proper definition, identification and storage of the default event of a customer. The Group applies a default definition in accordance with the requirements of Section 125 SolvV as confirmed by the BaFin as part of the IRBA approval process.

As an important element of the Group’s risk management framework the Group regularly validates its rating methodologies and credit risk parameters. Whereas the rating methodology validation focuses on the discriminatory power of the models, the risk parameter validation for PD, LGD and CCF analyzes the predictive power of those parameters when compared against historical default experiences.

According to the Group’s standards, and in line with the SolvV-defined minimum requirements, the parameters PD, LGD and CCF are reviewed annually and a recalibration of specific parameter settings is triggered if required. In addition, ad hoc reviews are performed where appropriate as a reaction to quality deterioration at an early stage due to systematic changes of input factors (e.g. changes in payment behavior) or changes in the structure of the portfolio. The reviews conducted in 2008 for IRBA rating systems triggered insignificant recalibrations of rating methodologies in 2 rating systems as well as 24 additional risk parameter settings (relating to CCFs and LGDs) out of 86 which apply to various IRBA rating systems. None of the recalibrations individually nor the impact of all recalibrations in the aggregate materially impacted the capital requirements of the Group.

The comparison of regulatory expected loss (“EL”) estimates with actual losses recorded provides some insight into the predictive power of the bank’s parameter estimations and, therefore, EL calculations.

The EL used in this comparison is the forecast credit loss from counterparty defaults over a one year period and is computed as the product of PD, LGD and EAD for performing exposures as at December 31, 2007. The actual loss measure is defined by the Group as new provisions before recoveries on newly impaired exposures recorded in the Group’s financial statements through profit and loss during 2008.

While the Group believes that this approach provides some insight, the comparison has limitations as the two measures are not directly comparable. In particular, the parameters PD, LGD and EAD underlying the EL calculation represent through the cycle estimates while the actual loss as defined above represents the accounting information recorded for one particular financial year. Furthermore, EL is a measure of expected credit losses for a snapshot of the Group’s credit exposure at a certain balance sheet date while the actual loss is recorded for a fluctuating credit portfolio over the course of a financial year, including losses in relation to new loans entered into during the year.

The table below provides a comparison of EL estimates for loans, commitments and contingent liabilities as of December 31, 2007 with actual losses recorded for the financial year 2008, by regulatory exposure class.

Table 16 Expected Loss and Actual Loss by IRBA Exposure Class

Expected loss and actual loss by IRBA exposure class in € m.	Dec 31, 2007	2008
	Expected loss	Actual loss ¹
Central governments	2	–
Institutions	13	55
Corporates	320	251
Retail exposures secured by real estate property	127	125
Qualifying revolving retail exposures	2	4
Other retail exposures	226	223
Total expected loss and actual loss in the advanced IRBA	690	658

¹ Losses related to assets reclassified into loans under IAS 39 amendments are excluded from the actual loss since, as of December 31, 2007, the related assets were not within the scope of the corresponding expected loss calculation for loans.

The following table provides a year-to-year comparison of the actual loss by regulatory exposure class.

Table 17 Actual Loss by IRBA Exposure Class

Actual loss by IRBA exposure class in € m.	2008¹	2007
Central governments	–	–
Institutions	55	4
Corporates	251	135
Retail exposures secured by real estate property	125	108
Qualifying revolving retail exposures	4	4
Other retail exposures	223	179
Total actual loss in the advanced IRBA	658	430

¹ Losses related to assets reclassified into loans under IAS 39 amendments are excluded from the actual loss for 2008 as these amendments were established for first time adoption in the second half of 2008 only.

The observed increase in actual loss of € 228 million in 2008 compared to 2007 reflects the overall deterioration in credit conditions, predominantly on the Group's exposure against corporates and institutions. Increases recorded for the Group's retail exposures were mainly a result of the deteriorating credit conditions in Spain and organic growth in Poland.

6.2 Advanced IRBA Exposure

The advanced IRBA requires differentiating a bank's credit portfolio into various regulatory defined exposure classes namely central governments, institutions, corporates and retail clients. The Group identifies the relevant regulatory exposure class for each exposure by taking into account factors like customer-specific characteristics, the rating system used as well as certain materiality thresholds which are regulatory defined.

The tables below show the Group's advanced IRBA exposures distributed on a rating scale and separately for each regulatory IRBA exposure class. The EAD is presented in conjunction with exposures-weighted average PD, LGD and risk weight ("RW") information. The information is shown after credit risk mitigation obtained in the form of financial, physical and other collateral as well as guarantees and credit derivatives. The effect of double default, as far as applicable, is considered in the average risk weight. It implies that for a guaranteed exposure a loss only occurs if the originator and the guarantor fail to meet their obligations at the same time. Regarding the assignment to the regulatory exposure classes it has to be noted that the exposures covered by guarantees or credit derivatives are assigned to the exposure class of the protection seller.

Table 18 EAD of Advanced IRBA Credit Exposures by PD Grade

IRBA exposures – central governments								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	52,618	2,335	766	749	875	1	160	57,504	
Average PD in %	0.00	0.06	0.29	1.21	3.28	14.45	100.00	0.35	
Average LGD in %	46.26	49.87	42.52	47.36	11.34	49.50	33.03	45.80	
Average RW in %	2.56	29.00	51.60	115.89	32.98	234.21	12.50	6.38	

IRBA exposures – institutions								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	58,683	40,507	18,365	4,582	1,121	125	1,129	124,512	
Average PD in %	0.04	0.07	0.30	1.20	5.21	20.49	100.00	1.10	
Average LGD in %	29.71	32.59	27.66	35.00	35.88	21.02	28.94	30.58	
Average RW in %	9.62	19.09	28.04	66.14	126.58	121.19	40.01	18.94	

IRBA exposures – corporates								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	156,065	67,068	72,534	60,413	17,140	8,251	3,413	384,884	
Average PD in %	0.03	0.07	0.25	1.22	4.22	16.98	100.00	1.70	
Average LGD in %	28.98	39.54	39.16	28.09	35.28	37.86	28.06	33.06	
Average RW in %	9.23	20.95	41.75	62.66	119.97	213.77	33.94	35.32	

IRBA exposures – retail exposures secured by real estate property								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	2,014	1,973	11,683	22,412	10,403	1,483	934	50,902	
Average PD in %	0.03	0.08	0.26	1.25	4.24	16.81	100.00	3.81	
Average LGD in %	53.28	23.29	9.32	9.85	11.15	15.43	10.51	12.41	
Average RW in %	5.29	4.58	4.67	15.06	35.14	86.26	1.28	17.81	

IRBA exposures – qualifying revolving retail exposures								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	0	46	233	118	43	14	15	469	
Average PD in %	0.04	0.08	0.26	1.03	4.66	17.70	100.00	4.55	
Average LGD in %	42.00	40.53	39.77	38.09	38.91	38.98	49.96	39.65	
Average RW in %	1.24	2.17	5.56	15.56	46.50	98.60	5.46	14.27	

IRBA exposures – Other retail exposures								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	58	1,657	5,160	13,634	7,554	1,323	540	29,926	
Average PD in %	0.03	0.07	0.29	1.20	4.47	18.34	100.00	4.34	
Average LGD in %	35.96	39.04	36.14	35.10	39.70	46.07	45.69	37.34	
Average RW in %	4.50	8.39	19.42	39.16	61.16	102.26	1.24	41.64	

IRBA exposures – total								Dec 31, 2008	
	AAA – AA 0.00 – 0.04 %	A 0.04 – 0.11 %	BBB 0.11 – 0.5 %	BB 0.5 – 2.27 %	B 2.27 – 10.22 %	CCC 10.22 – 99.99 %	Default ¹	Total	
EAD in € m.	269,438	113,586	108,741	101,908	37,136	11,197	6,191	648,197	
Average PD in %	0.03	0.07	0.26	1.22	4.28	17.16	100.00	1.75	
Average LGD in %	32.70	36.98	33.89	25.48	28.88	35.67	27.29	32.29	
Average RW in %	7.98	19.98	34.38	49.54	82.31	182.53	26.64	28.51	

¹ The relative low risk weights in the column "Default" reflect the fact that capital requirements for defaulted exposures are principally considered as a deduction from regulatory capital equal to the difference in expected loss and allowances.

The table below shows the Group's undrawn commitment exposure treated within the advanced IRBA and broken down by regulatory exposure class. It also provides the corresponding exposure-weighted credit conversion factors and resulting EADs.

Table 19 EAD of Undrawn Commitments in the Advanced IRBA by Exposure Class

EAD of undrawn commitments by IRBA exposure class	Dec 31, 2008		
	Undrawn commitments in € m.	Weighted Credit Conversion Factor ("CCF") in %	Exposure value for undrawn commitments ("EAD") in € m.
Central governments	772	39	299
Institutions	1,608	45	723
Corporates	101,774	47	48,145
Retail exposures secured by real estate property	1,178	4	42
Qualifying revolving retail exposures	378	78	296
Other retail exposures	14,223	41	5,876
Total EAD of undrawn commitments in the advanced IRBA	119,933	46	55,381

6.3 Other IRBA Exposure

As an IRBA institution, the Group is required to treat equity investments, collective investment undertakings ("CIU") and other non-credit obligation assets within the IRBA. For these exposure types regulatory-defined IRBA risk weights are applied.

The Group uses the simple risk-weight approach according to Section 98 SolvV for recent investments in equity positions entered into since January 1, 2008. It distinguishes its exposure in equities which are exchange-traded and non-exchange-traded and then uses the regulatory-defined risk weights of 290 % or 370 %, respectively.

For certain CIU exposures the Group applies the "look through"-treatment which constitutes a decomposition of the CIU into its underlying investments. If such decomposition is performed the underlying investment components are assigned to their respective exposure class as if they were directly held. For the remaining collective investment undertakings the simple risk weight of 370 % is applied and assigned to the exposure class "equity investments".

Exposures which are assigned to the exposure class "other non-credit obligation assets" receive an IRBA risk weight of 100 %.

The following table summarizes the Group's IRBA exposure for equities, CIUs and other non-credit obligation assets where regulatory risk weights are applied. The volumes displayed are the regulatory exposure values. Credit risk mitigation techniques have not been applied.

Table 20 EAD of Equity Investments, CIUs and Other Non-credit Obligation Assets by Risk Weight

EAD of equity investments, CIUs and other non-credit obligation assets by risk weight	
in € m.	Dec 31, 2008
100 %	1,298
290 %	431
370 %	2,127
Total EAD of equity investments, CIUs and other non-credit obligation assets	3,856

6.4 Standardized Approach

The Group treats a small subset of its credit risk portfolio within the standardized approach. The standardized approach measures credit risk either pursuant to fixed risk weights, which are regulatory predefined, or through the application of external ratings.

The Group assigns certain credit exposures permanently to the standardized approach in accordance with Section 70 SolvV. These are predominantly exposures to the Federal Republic of Germany and other German public sector entities as well as to central governments of other European Member States that meet the required conditions. These exposures make up approximately half of the exposures carried in the standardized approach and receive predominantly a risk weight of zero percent. For internal purposes, however, these exposures are assessed via an internal credit assessment and fully integrated in the risk management and economic capital processes.

Other credit exposures are temporarily assigned to the standardized approach and the Group plans to transition them to the advanced IRBA over time. The prioritization and the corresponding transition plan is discussed and agreed with the competent authorities, the BaFin and the Bundesbank.

Equity positions entered into before January 1, 2008, are subject to the transitional arrangement to exempt them from the IRBA and a risk weight of 100 % is applied according to the standardized approach treatment.

In order to calculate the regulatory capital requirements under the standardized approach, the Group uses eligible external ratings from Standard & Poor's, Moody's and Fitch Ratings either as counterparty or country rating. These are applied to all relevant exposure classes in the standardized approach. If more than one rating is available for a specific counterparty, the selection criteria as set out in Section 44 SolvV are applied in order to determine the relevant risk weight for the capital calculation.

The following table shows the Group's exposure values in the standardized approach by risk weight. The information is shown before and after credit risk mitigation obtained in the form of eligible financial collateral, guarantees and credit derivatives.

Table 21 EAD in the Standardized Approach by Risk Weight

EAD in the standardized approach by risk weight	Dec 31, 2008	
	Before credit risk mitigation	After credit risk mitigation
in € m.		
0 %	67,347	57,876
10 %	2,089	2,089
20 %	8,744	7,247
35 %	1,957	1,952
50 %	1,093	1,066
75 %	12,132	11,179
100 %	46,925	27,067
150 %	891	841
Total EAD in the standardized approach	141,178	109,317

6.5 Regulatory Application of Credit Risk Mitigation Techniques

Risk-weighted assets and regulatory capital requirements can be managed actively by credit risk mitigation techniques. As a prerequisite for recognition in regulatory calculations, the Group must adhere to certain minimum requirements as stipulated in the SolvV regarding collateral management, monitoring processes and legal enforceability.

The range of collateral being eligible for regulatory recognition is dependent predominantly on the regulatory capital calculation method used for a specific risk position. The principle is that a higher degree of sophistication with regard to the underlying methodology generally leads to a wider range of admissible collateral and options to recognize protection via guarantees and credit derivatives. However, also the minimum requirements to be adhered to and the mechanism available to reflect the risk mitigation benefits are predominantly a function of the regulatory calculation method applied.

The advanced IRBA generally accepts all types of financial collateral, as well as real estate, collateral assignments and other physical collateral. In the Group's application of the advanced IRBA, there is basically no limitation to the range of accepted collateral as long as the Group can demonstrate to the competent authorities that reliable estimates of the collateral values can be generated and that basic requirements are fulfilled.

The same principle holds true for taking benefits from guarantee and credit derivative arrangements. Within the advanced IRBA, again there are generally no limitations with regard to the range of eligible collateral providers as long as some basic minimum requirements are met. However, collateral providers' credit quality and other relevant factors are incorporated through the Group's internal models.

In the Group's advanced IRBA calculations, financial and other collateral is generally considered through an adjustment to the applicable LGD as the input parameter for determining the risk weight. For recognizing protection from guarantees and credit derivatives, generally a PD substitution approach is applied, i.e. within the advanced IRBA risk-weight calculation the PD of the borrower is replaced by the protection seller's PD. However, for certain guaranteed exposures and certain protection providers the so-called double default treatment is applicable. The double default effect implies that for a guaranteed exposure a loss only occurs if the originator and the guarantor fail to meet their obligations at the same time.

The following table presents the exposure values to the extent they are covered by eligible collateral, guarantees and credit derivatives in the advanced IRBA, broken down into the respective exposure classes.

Table 22 Collateralized Counterparty Credit Risk Exposure in the Advanced IRBA by Exposure Class

Collateralized counterparty credit risk exposure by IRBA exposure class ¹	Dec 31, 2008		
	Eligible advanced IRBA collateral	Guarantees and credit derivatives	Total
in € m.			
Central governments	1,649	1,724	3,373
Institutions	32,147	9,060	41,207
Corporates	121,995	27,700	149,695
Retail	42,766	599	43,365
Total collateralized counterparty credit risk exposure by IRBA exposure class	198,557	39,083	237,640

¹ Excludes collateralization which is reflected in the EPE measure.

As noted above, the standardized approach sets stricter limitations with regard to the admissible scope of credit risk mitigation.

Collateral recognition is limited to eligible financial collateral, such as cash, gold bullion certain debt securities, equities and CIUs, in many cases only with their volatility-adjusted collateral value. In its general structure, the standardized approach provides a preferred (lower) risk-weight for "Claims secured by real estate property". Given this preferred risk-weight real estate is not considered a collateral item under the standardized approach. Further limitations must be considered with regard to eligible guarantee and credit derivative providers.

In order to reflect risk mitigation techniques in the calculation of capital requirements the Group applies the financial collateral comprehensive method since the higher sophistication of that method allows a broader range of eligible collateral. Within this approach, financial collateral is reflected through a reduction in the exposure value of the respective risk position, while protection taken in the form of guarantees and credit derivatives is considered by means of a substitution, i.e., the borrower's risk weight is replaced by the risk weight of the protection provider.

The following table presents the exposure values to the extent they are covered by financial collateral, guarantees and credit derivatives in the standardized approach broken down into the respective exposure classes.

Table 23 Collateralized Counterparty Credit Risk Exposure in the Standardized Approach by Exposure Class

Collateralized counterparty credit risk exposure in the standardized approach by exposure class	Dec 31, 2008		
	Financial collateral	Guarantees and credit derivatives	Total
in € m.			
Central governments	9,216	23	9,239
Regional governments and local authorities	35	–	35
Other public sector entities	–	–	–
Multilateral development banks	–	–	–
International organizations	–	–	–
Institutions	272	–	272
Covered bonds issued by credit institutions	–	–	–
Corporates	18,284	62	18,346
Retail	934	20	954
Claims secured by real estate property	4	–	4
Collective investment undertakings	–	–	–
Equity investments	3,074	–	3,074
Other items	–	–	–
Past due items	41	8	49
Total collateralized counterparty credit risk exposure in the standardized approach	31,860	113	31,973

7. Securitization

7.1 Overview of Activities Undertaken by the Group

The Group engages in various business activities that use securitization structures. The principal purposes are to provide clients with access to risk and returns related to specific portfolios of assets, to provide clients with access to funding and to manage the Group's credit risk exposure.

A participant in the securitization market is typically an originator, sponsor or investor. An originator is an institution which is involved, either itself or through its' related entities directly or indirectly, in the origination or purchase of exposures with the intention to securitize. In a sponsorship role, an institution establishes and manages an asset-backed commercial paper program ("ABCP") or other securitization transaction. All other securitization would be in the capacity as an investor.

As an originator, the Group uses securitizations primarily as a strategy to reduce credit risk. The Loan Exposure Management Group uses, amongst others, synthetic securitizations to manage the credit risk of loans and lending-related commitments of the international investment-grade portfolio and the medium-sized German companies' portfolio within the Corporate and Investment Bank group division. The credit risk is predominantly transferred to counterparties synthetically through financial guarantees and, to a lesser extent, with first loss credit derivatives. Other methods used to mitigate credit risk are the issuance of credit-linked notes and synthetic collateralized loan obligations supported by financial guarantees. Using the above mentioned techniques, LEMG transferred a risk volume of € 18.5 billion recognized for regulatory purposes.

During 2008 the Group also entered into securitization transactions with special purpose entities ("SPEs") for leveraged loans and commercial real estate loans with a notional amount of € 10.4 billion. The SPEs issued tranching notes, and the junior (equity) notes are substantially held by third parties. The Group holds all the debt notes issued by the SPEs, which are reported as loan assets, and as securitization positions for purposes of regulatory capital calculations.

On a limited basis the Group has entered into self-securitization transactions as part of an active liquidity risk management strategy. The Group's self-securitizations transferred assets with a volume of € 30 billion to SPEs, with the Group retaining all positions of the capital structure. These transactions do not transfer risk, so there is no securitization benefit for regulatory capital or financial reporting. The sole purpose of the structure is to provide a mechanism by which assets can be transformed into pledgeable securities. Self-securitization activities are therefore not disclosed in the quantitative part of this chapter.

The Group sets up, sponsors and administers a number of ABCP programs. These programs provide customers with access to liquidity in the commercial paper market and create investment products for clients. As an administrative agent for the commercial paper programs, the Group facilitates the purchase of non-Deutsche Bank Group loans, securities and other receivables by the commercial paper conduit ("conduit"), which then issues to the market high-grade, short-term commercial paper, collateralized by the underlying assets, to fund the purchase. The conduits require sufficient collateral, credit enhancements and liquidity support to maintain an investment grade rating for the commercial paper. The Group is the liquidity provider to these conduits and therefore exposed to changes in the carrying value of their assets. The collateral in the conduits includes a range of asset-backed

loans and securities, including aircraft leasing, student loans, trust preferred securities and residential- and commercial-mortgage-backed securities. The credit enhancement and liquidity facilities with these conduits are part of the Group's regulatory banking book. There are also instances in which the Group will face the conduit on foreign exchange and interest rate swaps which are recorded in the trading book.

Furthermore, the Group is an investor in third party securitizations through investments in third party issued securitizations tranches or provides liquidity/credit support to which it, and in some instances other parties, provide financing.

The Group sponsors SPEs for which it originates or purchases assets with an intention to securitize these assets, providing clients with access to assets and risks to meet their needs. These assets are predominantly commercial and residential whole loans or mortgage-backed securities. The SPEs fund these purchases by issuing multiple tranches of securities, the repayment of which is linked to the performance of the assets in the SPEs.

Additionally, the Group assists third party securitizations by providing derivatives related to securitization structures. These include currency, interest rate, equity and credit derivatives. In its securities trading capacity or as a result of current market disruptions, the Group may also retain certain tranches of an SPE's capital structure, which are recorded in the regulatory banking book and attract capital requirements according to the regulatory securitization framework.

During 2008, the Group reclassified eligible assets to loans from either trading or available for sale for financial reporting. This reclassification also resulted in some reclassifications of assets from the regulatory trading to banking book. For further detail on reclassified assets, please refer to Note [10] "Amendments to IAS 39 and IFRS 7, 'Reclassification of Financial Assets'" in the Group's Financial Report 2008. In addition, the Management Report of the Group's Financial Report 2008 includes a discussion of reclassified assets.

7.2 Accounting and Valuation Policies for Securitizations

The Group securitizes various consumer and commercial financial assets, by selling these assets to an SPE, which in turn issues securities to investors. The transferred assets may qualify for derecognition in full or in part, under the policy on derecognition of financial assets. Synthetic securitization structures typically involve derivative financial instruments. Transfers that do not qualify for derecognition may be reported as secured financing or result in the recognition of continuing involvement liabilities. The investors and the securitization vehicles generally have no recourse to the Group's other assets in cases where the issuers of the financial assets fail to perform under the original terms of those assets.

The Group may consolidate SPEs for financial statement purposes that it establishes, sponsors or with which it has a contractual relationship. The Group will consolidate an SPE when it has the power to govern the financial and operating policies, generally accompanying a shareholding, either directly or indirectly, of more than one half of the voting rights according to the Standing Interpretations Committee Interpretation No. 12 (SIC-12) "Consolidation – Special Purpose Vehicles". When the activities are so narrowly defined, or if it is not evident who controls the financial and operating policies of the SPE, a range of other factors are considered. These factors include whether (1) the activities are being conducted on the Group's behalf according to specific business needs so that benefits are obtained from the entity's operations, (2) through decision-making powers the majority of the benefits are obtained, (3) the majority of the benefits of the activities of the entity will be obtained, and (4) the majority of the residual ownership risks related to the assets is retained in order to obtain the benefits from its activities. The Group consolidates an SPE if an assessment of the relevant factors indicates that the Group controls it. The Group reassesses the treatment of SPEs for consolidation when there is a change in the SPE's arrangements or the substance of the relationship between the Group and an SPE changes.

Consistent with the valuation of similar financial instruments, fair value of retained tranches or the financial assets is initially and subsequently determined using market price quotations where available or internal pricing models that utilize variables such as yield curves, prepayment speeds, default rates, loss severities, interest rate volatilities and spreads. The assumptions used for pricing are based on observable transactions in similar securities and are verified by external pricing sources, where available.

For further detail on the Group's accounting and valuation policies please refer to Note [1] "Significant Accounting Policies" and [11] "Financial Instruments carried at Fair Value" in the Group's Financial Report 2008. In addition, the Management Report of the Group's Financial Report 2008 includes a discussion of SPEs.

7.3 Regulatory Securitization Framework

The Solvency Regulations, pursuant to Section 225 et seqq. SolvV, establish the regulatory capital calculation rules for securitization positions. The SolvV also specifically defines a securitization transaction for regulatory reporting and the capacity in which an institution could acquire a position and the appropriate capital requirement.

A securitization transaction is defined as a transaction in which payments depend on the performance of an underlying pool of exposures and investments in the securitization are subordinated. Subordination results in a ranking among investments in the securitization. This determines the order and the amount of payments or losses to be directed to the holder of the position, that is, the waterfall structure. A securitization position can be acquired in various forms including derivative transactions for hedging interest rate and currency risks included in the waterfall, liquidity facilities, credit enhancements, unfunded credit protection or collateral for securitization tranches.

The current regulatory securitization framework requires the disclosure of banking book securitization positions as well as interest rate and currency derivative transactions related to securitizations whether related to banking or trading book.

Regulatory Capital Calculation Methods

The methodologies applied to securitization positions for regulatory capital calculation purposes are defined in the SolvV. For originator transactions, an IRBA rating system must be in place for the underlying pool, in order to apply the IRBA securitization approach. If not in place, the securitization standardized approach is used. For securitization positions resulting from sponsor or investor activities, IRBA eligibility is required.

Within the securitization IRBA the Group applies the ratings based approach (“RBA”) if public external ratings are available. Eligible external issue ratings are taken from Standard & Poor’s, Moody’s and Fitch Ratings and in rare cases from DBRS. If more than one rating is available for a specific counterparty, the selection criteria following a hierarchy structure as set forth in Section 236 et seqq. SolvV are applied to determine the relevant risk weight for the capital calculation. The regulatory capital requirement for ABCP conduit securitization positions will be calculated using the internal assessment approach (“IAA”) for non-externally-rated exposure. The Group has received approval from the BaFin to apply the IAA to approximately 80 % of its ABCP conduit exposure.

For securitization positions which do not have an eligible external rating or do not qualify for the IAA, the Group applies the inferred ratings method according to Section 256 SolvV, or the supervisory formula approach, according to Section 258 SolvV. In all other cases, the exposures are deducted from the Group’s own funds.

In situations where the standardized approach is applied for the capital calculation, the Group applies the RBA using the standardized risk weights as defined in the regulatory securitization framework. Qualifying external ratings are obtained from the rating agencies, Standard & Poor’s, Moody’s or Fitch Ratings. The Group applies the alternative risk weight calculation to unrated securitization positions, as outlined in Section 243 SolvV.

Regulatory Good Practice Guidelines

On December 18, 2008, the European Banking Federation, the London Investment Banking Association, the European Savings Banks Group and the European Association of Public Banks and Funding Agencies published the “Industry good practice guidelines on Pillar 3 disclosure requirements for securitization”. The Group’s Pillar 3 disclosures are in compliance with these guidelines.

7.4 Securitization Details

The amounts reported in the following tables are based on the regulatory securitization framework. These amounts differ from, and are not directly comparable to, the amounts reported in the chapter Management Report, “Special Purpose Entities” in the Group’s Financial Report 2008, in particular due to the differences in the respective consolidation principles discussed above.

The Group is only exposed to credit risks related to the exposures securitized, as shown below, to the extent it has retained or purchased any of the related securitization positions and the risk of the retained or purchased positions depends on the relative position in the waterfall of the securitization transaction.

The following table details the total outstanding exposure the Group has securitized in its capacity as an originator through traditional or synthetic securitization transactions. The table provides information on the underlying securitization asset pool which was either originated from the Group’s balance sheet or acquired from third parties. The amounts reported are the carrying values as reported in the consolidated financial statements, which are at cost or at fair value.

For sponsor relationships, the total outstanding exposures securitized reported in the table below represent the total outstanding exposure of the third party entities issuing the securities and other receivables. The Group’s maximum exposure with regard to the € 296 billion exposures securitized shown under the “sponsor” columns below was € 35 billion; the remaining exposure is held by third parties. The carrying values reported in the table are derived using information received from servicer reports of the third parties that the conduits have the relationships with or, in certain instances, based on the Group’s best estimate of their value using a number of assumptions.

Table 24 Outstanding Exposures Securitized by Exposure Type (Overall Pool Size)

Outstanding exposures securitized by exposure type ^{1,2}	Dec 31, 2008			
	Traditional		Synthetic	
	Originator	Sponsor	Originator	Sponsor
in € m.				
Residential mortgages	24,585	19,671	–	291
Commercial mortgages	15,094	10,285	677	–
Credit card receivables	–	126,317	–	–
Leasing	–	12,522	–	–
Loans to corporates or SMEs ³ (treated as corporates)	7,232	26,320	20,810	7,768
Consumer loans	–	42,198	–	–
Trade receivables	–	1,426	–	–
Securitized (re-securitized)	6,288	6,748	–	–
Other assets	–	42,713	–	–
Total outstanding exposures securitized	53,199	288,200	21,487	8,059

1 For a regulatory assessment of the Group’s exposure to credit risk in relation to its securitization activity in the banking book see table 28.

2 Included under “sponsor” are € 8.7 billion exposures securitized, of which the Group originated € 6.6 billion, equally included under “originator”.

3 SMEs are small- or medium-sized entities.

The following table gives details for exposures for which the Group is an originator or sponsor, showing the amount of impaired or past due exposures securitized by exposure type and, hence, the credit quality of the underlying securitization asset pool. For sponsor relationships, it is the total impaired and past due assets in the asset pool of the third party entities issuing the securities and other receivables to the sponsoring conduits that are reported in the table.

Separately, the table details losses the Group recognized in 2008 for retained or purchased securitization positions as originator or sponsor by exposure type. The losses are those reported in the consolidated statement of income. The amounts are the actual losses in the underlying asset pool to the extent that these losses are allocated to the retained or purchased securitization positions held by the Group after considering any eligible credit protection. This applies to both traditional and synthetic transactions.

Table 25 Impaired and Past Due Exposures Securitized and Losses Recognized by Exposure Type (Overall Pool Size)

Impaired and past due exposures securitized and losses recognized by exposure type ¹	Dec 31, 2008		2008	
	Impaired/past due		Losses	
	Originator	Sponsor	Originator	Sponsor
in € m.				
Residential mortgages	4,796	212	43	–
Commercial mortgages	28	–	–	–
Credit card receivables	–	4,734	–	–
Leasing	–	50	–	–
Loans to corporates or SMEs ² (treated as corporates)	164	441	–	–
Consumer loans	–	3,025	–	–
Trade receivables	–	60	–	–
Securitized (re-securitized)	30	–	–	–
Other assets	–	596	–	–
Total impaired and past due exposures securitized and losses recognized	5,018	9,118	43	–

1 For a regulatory assessment of the Group's exposure to credit risk in relation to its securitization activity in the banking book see table 28.

2 SMEs are small- or medium-sized entities.

The following table provides the amount of securitization positions retained or purchased by exposure type. Amounts reported are the regulatory exposure values prior to the application of credit risk mitigation.

Table 26 Securitization Positions Retained or Purchased by Exposure Type

Securitization positions retained or purchased by exposure type ¹ in € m.	Dec 31, 2008
Residential mortgages	10,534
Commercial mortgages	6,639
Credit card receivables	2,830
Leasing	5,236
Loans to corporates or SMEs ² (treated as corporates)	38,287
Consumer loans	7,562
Trade receivables	386
Securitized (re-securitized)	3,158
Other assets	13,742
Total securitization positions retained or purchased	88,374

¹ For a regulatory assessment of the Group's exposure to credit risk in relation to its securitization activity in the banking book see table 28.

² SMEs are small- or medium-sized entities.

The following table provides a geographic breakdown of the securitization positions retained or purchased based on the country of domicile of the obligors of the exposures securitized.

Table 27 Securitization Positions Retained or Purchased by Region

Securitization positions retained or purchased by region ¹ in € m.	Dec 31, 2008
Europe	33,911
Americas	49,605
Asia/Pacific	4,690
Other	168
Total securitization positions retained or purchased	88,374

¹ For a regulatory assessment of the Group's exposure to credit risk in relation to its securitization activity in the banking book see table 28.

The table below shows the amount of securitization positions retained or purchased based on regulatory exposure values prior to application of credit risk mitigation broken down by risk weight bands. In addition the resulting capital requirements by risk weight band are provided separately for the IRBA and the standardized approach.

Table 28 Securitization Positions Retained or Purchased by Risk Weight Band

Securitization positions retained or purchased by risk weight band	Dec 31, 2008		
	Exposure amount	Capital requirements, IRBA	Capital requirements, standardized approach
in € m.			
≤ 10 %	51,882	310	–
> 10 % ≤ 20 %	23,125	254	18
> 20 % ≤ 50 %	9,934	245	2
> 50 % ≤ 100 %	2,302	145	4
> 100 % ≤ 650 %	185	43	8
> 650 % < 1250 %	–	–	–
1250 % / Deduction	946	526	32
Total securitization positions retained or purchased	88,374	1,523	64

The following table details securitization activities undertaken during 2008, the majority of which relates to renewed sponsor activity related to previously existing transactions. The table shows securitized exposure (that is, the underlying pools) separately for originator and sponsor activities, broken down by exposure type and into traditional and synthetic transactions. Gains or losses resulting from the sales of exposures from traditional securitizations are those reported in the consolidated statement of income.

Table 29 Securitization Activity during 2008 – Total Outstanding Exposures Securitized by Exposure Type

Securitization activity during 2008 – outstanding exposures securitized by exposure type ^{1,2}	Traditional			Synthetic	
	Dec 31, 2008		2008	Dec 31, 2008	
	Originator	Sponsor	Realized gains (losses) from sales/ liquidations	Originator	Sponsor
in € m.					
Residential mortgages	–	89	–	–	–
Commercial mortgages	3,130	399	–	677	–
Credit card receivables	–	75,060	–	–	–
Leasing	–	1,210	–	–	–
Loans to corporates or SMEs ³ (treated as corporates)	4,509	7,228	–	500	–
Consumer loans	–	22,190	–	–	–
Trade receivables	–	–	–	–	–
Securitized (re-securitized)	6,005	–	35	–	–
Other assets	–	11,343	–	–	–
Total outstanding exposures securitized during 2008	13,644	117,519	35	1,177	–

1 For a regulatory assessment of the Group's exposure to credit risk in relation to its securitization activity in the banking book see table 28.

2 Included under "sponsor" are € 4.9 billion exposures securitized, of which the Group originated € 4.7 billion, equally included under "originator".

3 SMEs are small- or medium-sized entities.

8. Equity Investments in the Banking Book

Equity investments which are neither consolidated for regulatory purposes nor deducted from the Group's own funds are held as equity positions in the regulatory banking book. In the Group's consolidated balance sheet, these equity investments are either classified as "Financial assets available for sale ("AFS")" or "Equity method investments". An immaterial amount of financial assets designated at fair value which are equity interests is included in the banking book. These investments are not addressed in the following sections.

Accounting and Valuation Policies for Equity Investments

AFS equity instruments are initially recognized at fair value plus transaction costs that are directly attributable to the acquisition of that financial asset. Financial assets classified as AFS are carried at fair value with the changes in fair value generally reported in equity unless the asset is subject to a fair value hedge or is impaired. At each balance sheet date, management assesses whether there is objective evidence that an individual asset is impaired. Objective evidence of impairment includes a significant or prolonged decline in the fair value of the investment below cost. The amount of impairment is the difference between the acquisition cost and current fair value of the asset less any previously recognized impairment. Impairments of equity investments cannot be reversed. Increases in their fair value after impairment are recognized in equity.

Consistent with the valuation of financial instruments, fair value of equity securities is initially and subsequently determined using, where available, quoted prices in active markets or valuation techniques, where prices quoted in active markets are not available.

The Group reports investments in associates and joint ventures under the equity method of accounting. Equity method investments are initially recorded at cost, and subsequently increased (or decreased) to reflect both the Group's pro-rata share of the post-acquisition net income (or loss) and other movements included directly in the equity of the entity. Goodwill arising on the acquisition is included in the carrying value of the investment (net of any accumulated impairment loss). Equity method losses in excess of the Group's carrying value of the investment in the entity are charged against other assets held by the Group related to the investee. If those assets are written down to zero, a determination is made whether to report additional losses based on the Group's obligation to fund such losses.

For further detail on the Group's accounting and valuation policies related to equity investments please refer to Notes [1] "Significant Accounting Policies" and [11] "Financial Instruments carried at Fair Value" in the Group's Financial Report 2008.

Equity Investments Held

The following table presents the Group's equity investments separately for AFS and equity method investments and further broken down into exchange-traded and non-exchange-traded positions based on their carrying value. A disparity between the carrying value of the investment positions and their fair value was only observable for the exchange-traded equity method investments, which had a carrying value of € 94 million and a fair value of € 87 million as of December 31, 2008.

Table 30 Equity Investments According to IFRS Classification

Equity investments according to IFRS classification ^{1,2}	Dec 31, 2008
in € m.	Carrying value
Financial assets available for sale equity instruments	4,883
Exchange-traded positions	2,799
Non-exchange-traded positions ³	2,084
Equity method investments	2,172
Exchange-traded positions	94
Non-exchange-traded positions ³	2,078
Total equity investments	7,055

1 Equity investments held by entities, which are consolidated for IFRS purposes but not consolidated for regulatory purposes, are excluded from the table. Entities holding equity investments which are considered for regulatory purposes but not consolidated according to IFRS, do not provide IFRS balance sheet and profit or loss information. Hence these equity investments are also excluded. The regulatory exposure value ("EAD") of these equity investments amounted to € 385 million as of December 31, 2008.

2 Other positions like equity underlyings resulting from derivative transactions or certain subordinated bonds which are also assigned to the exposure class "equity in the banking book" are excluded from the table. Their EAD amounted to € 437 million as of December 31, 2008.

3 The "non-exchange-traded positions" combine the two equity classes "non-exchange-traded, but belonging to an adequately diversified equity portfolio" and "other equity positions" according to Section 78 SolvV.

In addition to the above, the Group's regulatory requirements reflect € 4.2 billion EAD in respect of equity investments which are Group-internal from an IFRS perspective.

The table below summarizes the realized and unrealized gains and losses resulting from equity investments. For AFS – equity investments, the components considered are realized gains and losses from sales and liquidations as well as unrealized revaluation gains and losses and impairments. For equity method investments, the gain and loss elements consist of realized gains and losses from sales and liquidations, pro-rata share of net income (loss), impairments and unrealized revaluation gains (losses) in form of differences between carrying amounts and fair values. In this respect, the realized gains (losses) from sales or liquidations, the impairments and the pro-rata share of net income (loss) are referring to the reporting period 2008 whereas the unrealized revaluation gains (losses) as well as the difference between the carrying values and the fair values for the at equity investments represent the amounts as of December 31, 2008.

Table 31 Realized and Unrealized Gains (Losses) from Equity Investments

Realized and unrealized gains (losses) from equity investments^{1,2}	
in € m.	2008
Realized gains (losses) from sales/liquidations	1,624
Impairments	(368)
Pro-rata share of net income (loss)	53
Total realized gains (losses) from equity investments	1,309
	Dec 31, 2008
Unrealized revaluation gains (losses) ³	63
Difference between carrying value and fair value	(7)
Total unrealized gains (losses) from equity investments	56

1 Equity investments held by entities, which are consolidated for IFRS purposes but not consolidated for regulatory purposes, are excluded from the table. Entities holding equity investments which are considered for regulatory purposes but not consolidated according to IFRS, do not provide IFRS balance sheet and profit or loss information. Hence these equity investments are also excluded. The regulatory exposure value ("EAD") of these equity investments amounted to € 385 million as of December 31, 2008.

2 Other positions like equity underlyings resulting from derivative transactions or certain subordinated bonds which are also assigned to the exposure class "equity in the banking book" are excluded from the table. Their EAD amounted to € 437 million as of December 31, 2008.

3 These are revaluation gains (losses) related to equity investments. Overall the unrealized losses on listed securities as to be determined for regulatory purposes were € 108 million and fully deducted from Tier 1 capital.

The Group holds equity investments with the intent to realize profits by taking advantage of market opportunities as well as for strategic reasons. Only a smaller part of the investments are intended to support a specific business strategy of a business division as part of a complex customer transaction.

From a management point of view, the following group divisions assume responsibility for equity investments the Group entered into:

- **The Corporate Investments group division ("CI")** manages a portfolio containing certain alternative assets and other debt and equity positions. The portfolio includes the Group's industrial holdings, certain private equity and venture capital investments, private equity fund investments, certain corporate real estate investments and certain credit exposures and certain other non-strategic investments. Historically, its mission has been to provide financial, strategic, operational and managerial capital to enhance the values of the portfolio of companies in which the group division has invested. The Group believes that CI enhances the bank's portfolio management and risk management capability.
- **The group divisions Corporate and Investment Bank and Private Clients and Asset Management** mainly hold investments in the banks alternative asset portfolio for profit realization as well as for strategic reasons.

The management of these three divisions oversees activities with regard to acquisitions as well as divestments and is an integral part of the risk management framework that takes responsibility for the market risk arising in the nontrading portfolios. Details on these management principles with a special view on how the risk management activities performed are embedded in the Group's overall risk and capital management framework are outlined in the Risk Report, section "Market Risk Management Framework for Nontrading Activities" in the Group's Financial Report 2008.

9. Market Risk

Substantially all of the Group's businesses are subject to the risk that market prices and rates will move and result in profits or losses for the Group. The Group distinguishes among four types of market risk:

- Interest rate risk;
- Equity price risk;
- Foreign exchange risk; and
- Commodity price risk.

The interest rate and equity price risks consist of two components each. General risk describes value changes due to general market movements, while the specific risk has issuer-related causes (including credit spread risk).

The Group assumes market risk in both its trading and its nontrading activities. The Group assumes risk by making markets and taking positions in debt, equity, foreign exchange, other securities and commodities as well as in equivalent derivatives.

Specifics of Market Risk Reporting under German Banking Regulations

German banking regulations stipulate specific rules for market risk reporting, which concern in particular the consolidation of entities, the calculation of the overall market risk position, as well as the determination of which assets are trading assets and which are nontrading assets:

- **Consolidation.** For German bank-regulatory purposes the Group consolidates all subsidiaries in the meaning of the KWG that are classified as banks, financial services institutions, investment management companies, financial enterprises or ancillary services enterprises. The Group does not consolidate insurance companies or companies outside the finance sector.
- **Overall market risk position.** The Group does not include in market risk disclosure the foreign exchange risk arising from currency positions that German banking regulations permit the Group to exclude from market risk reporting. These are currency positions which are fully deducted from, or covered by, equity capital recognized for regulatory reporting as well as participating interests, including shares in affiliated companies that the Group records in foreign currency and value at historical cost (structural currency positions). The Group's largest structural currency positions arise from investments in entities located in the United States.
- **Definition of trading assets and nontrading assets.** The regulatory definition of trading book and banking book assets generally parallels the definition of trading and nontrading assets under IFRS. However, due to specific differences between the regulatory and accounting framework, certain assets are classified as trading book for market risk reporting purposes even though they are nontrading assets under IFRS. Conversely, the Group also has assets that are assigned to the banking book even though they are trading assets under IFRS.

Market Risk Management Framework

The Group uses a combination of risk sensitivities, value-at-risk, stress testing and economic capital metrics to manage market risks and establish limits.

The Group's Management Board, supported by Market Risk Management, which is part of the independent Legal, Risk & Capital function, sets a Group-wide value-at-risk limit for the market risks in the trading book. Market Risk Management sub-allocates this overall limit to the group divisions. Below that, limits are allocated to specific business lines and trading portfolio groups and geographical regions.

In addition to the Group's main market risk value-at-risk limits, also stress testing, economic capital and sensitivity limits are operated. The Group governs the default risk of single corporate issuers in the trading book through a specific limit structure managed by the Traded Credit Products unit. It also uses market value and default exposure position limits for selected business units.

The Group's value-at-risk disclosure for the trading businesses is based on an own internal value-at-risk model. In October 1998, the BaFin approved the internal value-at-risk model for calculating the regulatory market risk capital for general and specific market risks. Since then the model has been periodically refined and approval has been maintained. The Group is continuously analyzing potential weaknesses of its value-at-risk model using statistical techniques such as back testing but also relies on risk management expert opinion. Improvements are implemented to those parts of the value-at-risk model that relate to the areas where losses have been experienced in the recent past.

The Group's value-at-risk disclosure is intended to ensure consistency of market risk reporting for internal risk management, for external disclosure and for regulatory purposes. The overall value-at-risk limit for the Corporate and Investment Bank group division started 2008 at € 105 million and was amended on several occasions throughout the year to € 155 million as of December 31, 2008 (with a 99 % confidence level, as described below, and a one-day holding period). For consolidated Group trading positions the overall value-at-risk limit was € 110 million at the start of 2008 and was amended on several occasions throughout the year to € 160 million at the end of 2008 (with a 99 % confidence level and a one-day holding period). The increase in limits was needed to accommodate the impact of the observed market data on the Group's value-at-risk calculation.

Value-at-risk Analysis

The value-at-risk approach derives a quantitative measure for trading book market risks under normal market conditions, estimating the potential future loss (in terms of market value) that will not be exceeded in a defined period of time and with a defined confidence level. The value-at-risk measure enables us to apply a constant and uniform measure across all of the Group's trading businesses and products. It also facilitates comparisons of market risk estimates both over time and against daily trading results.

The Group calculates value-at-risk for both internal and regulatory reporting using a 99 % confidence level. For internal reporting, the Group uses a holding period of one day. For regulatory reporting, the holding period is ten days.

The Group's value-at-risk model is designed to take into account the following risk factors: interest rates (including credit spreads), equity prices, foreign exchange rates and commodity prices, as well as their implied volatilities. The model incorporates both linear and, especially for derivatives, nonlinear effects of the risk factors on the portfolio value. The statistical parameters required for the value-at-risk calculation are based on a 261 trading day history (corresponding to at least one calendar year of trading days) with equal weighting being given to each observation. The Group calculates value-at-risk using the Monte Carlo simulation technique and assuming that changes in risk factors follow a normal or logarithmic normal distribution.

To determine aggregated value-at-risk, the Group uses historically observed correlations between the different general market risk factors. However, when aggregating general and specific market risks, the Group assumes that there is zero correlation between these two categories. Within the general market risk category, the Group uses historically observed correlations. Within the specific risk category, zero or historically observed correlations are used for selected risks.

Back Testing

The Group uses back testing in trading units to verify the predictive power of the value-at-risk calculations. In back testing, the Group focuses on the comparison of hypothetical daily profits and losses under the buy-and-hold assumption (in accordance with German regulatory requirements) with the estimates from the Group's value-at-risk model.

A committee chaired by Market Risk Management and with participation from Market Risk Operations Finance meets on a quarterly basis to discuss back testing results of the Group as a whole and of individual businesses. The committee analyzes performance fluctuations and assesses the predictive power of the value-at-risk model, which in turn allows us to improve the risk estimation process. While updating volatilities and correlations will potentially reduce the number of back testing exceptions going forward, the updating in itself will not change the basic distribution assumptions and their tail properties.

Stress Testing and Economic Capital

While value-at-risk, calculated on a daily basis, supplies forecasts for potential large losses under normal market conditions, it is not adequate to measure the tail risks of the portfolios. The Group therefore also performs regular stress tests in which it values the trading portfolios under severe market scenarios not covered by the confidence interval of the value-at-risk model.

These stress tests form the basis of the assessment of the economic capital that the Group estimates are needed to cover the market risk in the Group's positions. The development of the economic capital methodology is governed by the Regulatory Capital Steering Committee, which is chaired by the Chief Risk Officer.

The quantification of economic capital, performed weekly, involves stressing underlying risk factors applicable to the different products across the portfolios under severe stress and liquidity assumptions, according to pre-defined scenarios. The resulting losses from these stress scenarios are then aggregated using correlations that are meant to reflect stressed market conditions (rather than the normal market correlations used in the value-at-risk model).

The Group derives the scenarios from historically observed severe shocks in those risk factors, augmented by subjective assessments where only limited historical data are available, or where market developments are viewed to make historical data a poor indicator of possible future market scenarios. During the course of 2008 these shocks were calibrated to reflect the market events experienced during 2007 and early 2008. Despite this recalibration, in several cases the scenarios used in the economic capital still underestimated the extreme market moves observed in the latter part of 2008 (for example the sharp moves in implied volatility observed in equity, interest rates and FX markets). Moreover, the liquidity assumption used did not adequately predict the rapid market developments of that period that severely impacted the ability to reduce risk by unwinding positions in the market or to dynamically hedge the derivative portfolios. For example, the scenario did not contemplate the severe illiquidity observed in convertible bond, loan and credit derivative markets.

As a result, the recalibration process is currently being repeated to capture the most recent market moves observed in late 2008.

The economic capital usage for market risk arising from the trading units totaled € 5.5 billion at year-end 2008 compared with € 3.2 billion at year-end 2007. The increase reflects not only the recalibration of the economic capital shocks carried out during 2008 which contributed € 1.1 billion to the increase, but also the inclusion of default risk of traded corporate credit assets of € 908 million (previously covered in the credit risk economic capital) and the inclusion of banking book assets subjected to fair value accounting (€ 958 million). The contribution from banking book assets was calculated for year-end 2008 for the first time.

Limitations of the Group's Proprietary Risk Models

The Group is committed to the ongoing development of its proprietary risk models and will make further significant enhancements with the goal to better reflect risk issues highlighted during the 2008 crisis. The Group allocates substantial resources to reviewing and improving them.

The Group's stress testing results and economic capital estimations are necessarily limited by the number of stress tests executed and the fact that not all downside scenarios can be predicted and simulated. While the risk managers have used their best judgment to define worst case scenarios based upon the knowledge of past extreme market moves, it is possible for the market risk positions to lose more value than even the economic capital estimates. The Group also continuously assesses and refines its stress tests in an effort to ensure they capture material risks as well as reflect possible extreme market moves.

The value-at-risk analyses should also be viewed in the context of the limitations of the methodology the Group uses and are therefore not maximum amounts that can be lost on the market risk positions. In particular, many of these limitations manifested themselves in 2008 which resulted in the high number of outliers discussed below. The limitations of the value-at-risk methodology include the following:

- The use of historical data as a proxy for estimating future events may not capture all potential events, particularly those that are extreme in nature.
- The assumption that changes in risk factors follow a normal or logarithmic normal distribution. This may not be the case in reality and may lead to an underestimation of the probability of extreme market movements.
- The correlation assumptions used may not hold true, particularly during market events that are extreme in nature.
- The use of a holding period of one day (or ten days for regulatory value-at-risk calculations) assumes that all positions can be liquidated or hedged in that period of time. This assumption does not fully capture the market risk arising during periods of illiquidity, when liquidation or hedging in that period of time may not be possible. This is particularly the case for the use of a one-day holding period.
- The use of a 99 % confidence level does not take account of, nor makes any statement about, any losses that might occur beyond this level of confidence.
- The Group calculates value-at-risk at the close of business on each trading day. The Group does not subject intraday exposures to intraday value-at-risk calculations.
- Value-at-risk does not capture all of the complex effects of the risk factors on the value of positions and portfolios and could, therefore, underestimate potential losses. For example, the way sensitivities are represented in value-at-risk model may only be exact for small changes in market parameters.

The Group acknowledges the limitations in the value-at-risk methodology by supplementing the value-at-risk limits with other position and sensitivity limit structures, as well as with stress testing, both on individual portfolios and on a consolidated basis.

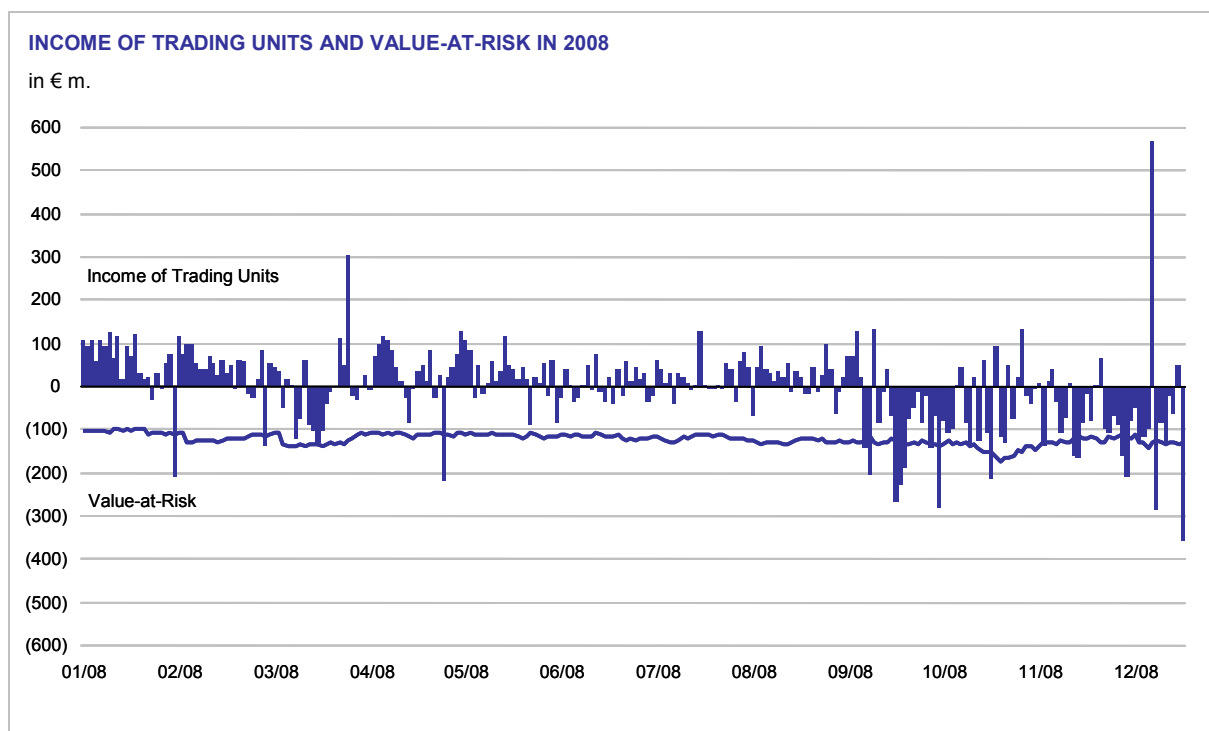
Value-at-risk of the Trading Units of the Group's Corporate and Investment Bank Group Division

The following table shows the value-at-risk (with a 99 % confidence level and a one-day holding period) of the trading units of Corporate and Investment Bank group division. The Group's trading market risk outside of these units is immaterial. "Diversification effect" reflects the fact that the total value-at-risk on a given day will be lower than the sum of the values-at-risk relating to the individual risk classes. Simply adding the value-at-risk figures of the individual risk classes to arrive at an aggregate value-at-risk would imply the assumption that the losses in all risk categories occur simultaneously.

Table 32 Value-at-risk of Trading Units

Value-at-risk of trading units in € m.	2008					
	Total	Diversification effect	Interest rate risk	Equity price risk	Foreign exchange risk	Commodity price risk
Average	122.0	(74.7)	105.4	60.7	18.4	12.2
Maximum	172.9	(104.1)	143.3	93.8	42.4	21.1
Minimum	97.5	(48.4)	83.1	31.0	8.5	7.6
Year-end	131.4	(84.5)	129.9	34.5	38.0	13.5

The following graph shows the daily aggregate value-at-risk of the Group's trading units in 2008, including diversification effects, and actual income of the trading units throughout the year.



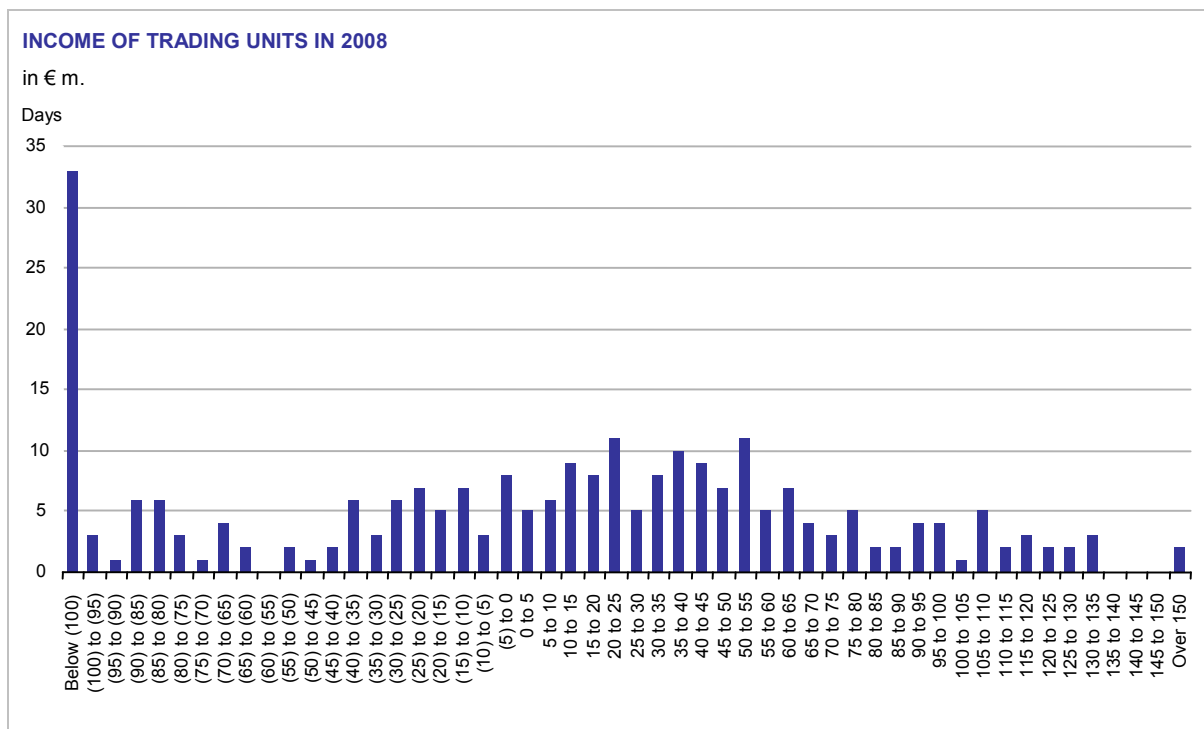
The Group's value-at-risk for the trading units remained within a band between € 97 million and € 173 million. The average value-at-risk in 2008 was € 122 million.

The increase in the value-at-risk observed in 2008 was mainly driven by an increase in the market volatility and by refinements to the value-at-risk measurement in 2008.

The Group's trading units achieved a positive actual income for over 57 % of the trading days in 2008.

In its regulatory back testing in 2008, the Group observed 35 outliers, which are hypothetical buy-and-hold losses that exceeded the value-at-risk estimate for the trading units as a whole. While the Group believes that the majority of these outliers were related to extreme market events, it is also re-evaluating the modelling assumptions and parameters for potential improvements. The Group is also working on the improvement of the granularity of its risk measurement tools to better reflect some of the idiosyncratic nature of the exposures. The Group would expect a 99 percentile value-at-risk calculation to give rise to two to three outliers in any one year and, taking into account these extreme events, the Group continues to believe that its value-at-risk model will remain an appropriate measure for its trading market risk under normal market conditions.

The following histogram illustrates the distribution of actual daily income of the trading units in 2008. The histogram displays the number of trading days on which the Group reached each level of trading income shown on the horizontal axis in millions of euro. The histogram confirms the effect on income of some of the extreme market events experienced over the month of March and during autumn of 2008.



Valuation of Market Risk Positions

A substantial percentage of the financial assets and liabilities carried at fair value are based on, or derived from, observable prices or inputs. The availability of observable prices or inputs varies by product and market, and may change over time. For example, observable prices or inputs are usually available for: liquid securities; exchange traded derivatives; OTC derivatives transacted in liquid trading markets such as interest rate swaps, foreign exchange forward and option contracts in G7 currencies; and equity swap and option contracts on listed securities or indices. If observable prices or inputs are available, they are utilized in the determination of fair value and, as such, fair value can be determined without significant judgment. This includes instruments for which the fair value is derived from a valuation model that is standard across the industry and the inputs are directly observable. This is the case for many generic swap and option contracts.

In other markets or for certain instruments, observable prices or inputs are not available, and fair value is determined using valuation techniques appropriate for the particular instrument. For example, instruments subject to valuation techniques include: trading loans and other loans or loan commitments designated at fair value through profit or loss, under the fair value option; new, complex and long-dated OTC derivatives; transactions in immature or limited markets; distressed debt securities and loans; private equity securities and retained interests in securitizations of financial assets. The application of valuation techniques to determine fair value involves estimation and management judgment, the extent of which will vary with the degree of complexity and liquidity in the market. Valuation techniques include industry standard models based on discounted cash flow analysis, which are dependent upon estimated future cash flows and the discount rate used. For more complex products, the valuation models include more complex modelling techniques, parameters and assumptions, such as volatility, correlation, prepayment speeds, default rates and loss severity. Management judgment is required in the selection and application of the appropriate parameters, assumptions and modelling techniques. Because the objective of using a valuation technique is to establish the price at which market participants would currently transact, the valuation techniques incorporate all factors that the Group believes market participants would consider in setting a transaction price.

Valuation adjustments are an integral part of the fair value process that requires the exercise of judgment. In making appropriate valuation adjustments, the Group follows methodologies that consider factors such as bid-offer spread valuation adjustments, liquidity, and credit risk (both counterparty credit risk in relation to financial assets and the own credit risk in relation to financial liabilities).

The fair value of the financial liabilities (e.g. OTC derivative liabilities and structured note liabilities designated at fair value through profit or loss) incorporates the change in the own credit risk of the financial liability. For derivative liabilities the Group considers its own creditworthiness by assessing all counterparties' potential future exposure to the Group, taking into account any collateral held, the effect of any master netting agreements, expected loss given default and the own credit risk based on historic default levels. The change in the own credit risk for structured note liabilities is calculated by discounting the contractual cash flows of the instrument using the rate at which similar instruments would be issued at the measurement date. The resulting fair value is an estimate of the price at which the specific liability would be exchanged at the measurement date with another market participant.

If there are significant unobservable inputs used in the valuation technique, the financial instrument is recognized at the transaction price and any trade date profit is deferred. The Group recognizes the deferred amount using systematic methods over the period between trade date and the date when the market is expected to become observable, or over the life of the trade (whichever is shorter). The Group uses such a methodology because it reflects the changing economic and risk profiles of the instruments as the market develops or as the instruments themselves progress to maturity. Any remaining deferred profit is recognized through the income statement when the transaction becomes observable and/or the Group enters into a transaction that will substantially eliminate the instrument's risk. In the rare circumstances that a trade date loss arises, it would be recognized at inception of the transaction to the extent that it is probable that a loss has been incurred and a reliable estimate of the loss amount can be made. The decision regarding the subsequent recognition of the deferred amount is made after careful assessment of the then current facts and circumstances supporting observability of parameters and/or risk mitigation.

The Group has established internal control procedures over the valuation process to provide assurance over the appropriateness of the fair values applied. If fair value is determined by valuation models, the assumptions and techniques within the models are independently validated by a specialist group. Price and parameter inputs, assumptions and valuation adjustments are subject to verification and review processes. If the price and parameter inputs are observable, they are verified against independent sources.

If prices and parameter inputs or assumptions are not observable, the appropriateness of fair value is subject to additional procedures to assess its reasonableness. Such procedures include performing revaluation using independently generated models, assessing the valuations against appropriate proxy instruments, performing sensitivity analysis and extrapolation techniques, and considering other benchmarks. Assessment is made as to whether the valuation techniques yield fair value estimates that are reflective of the way the market operates by calibrating the results of the valuation models against market transactions. These procedures require the application of management judgment.

Under IFRS, the financial assets and liabilities carried at fair value are required to be disclosed according to the valuation method used to determine their fair value. Specifically, segmentation is required between those valued using quoted market prices in an active market, valuation techniques based on observable parameters and valuation techniques using significant unobservable parameters. This disclosure is provided in Note [11] “Financial Instruments carried at Fair Value” in the Group’s Financial Report 2008. Management judgment is required in determining the category to which certain instruments should be allocated. This specifically arises when the valuation is determined by a number of parameters, some of which are observable and others are not. Further, the classification of an instrument can change over time to reflect changes in market liquidity and therefore price transparency.

Other valuation controls include review and analysis of daily profit and loss, validation of valuation through close out profit and loss and value-at-risk back testing.

10. Operational Risk

Operational Risk

The Group defines operational risk as the potential for incurring losses in relation to employees, contractual specifications and documentation, technology, infrastructure failure and disasters, projects, external influences and customer relationships. This definition includes legal and regulatory risk, but excludes business and reputational risk.

Organizational Set-up

Based on the organizational set-up, the governance and systems in place to identify and manage the operational risk and the support of control functions responsible for specific operational risk types (e.g. Compliance, Corporate Security & Business Continuity) the Group seeks to optimize the management of operational risk. Future operational risks, identified through forward-looking analysis, are managed via mitigation strategies such as the development of back-up systems and emergency plans.

Operational Risk Management (“ORM”) is an independent risk management function within the Group. The Global Head of ORM is a member of the Risk Executive Committee and reports to the Chief Risk Officer. The ORM Committee is a permanent sub-committee of the Risk Executive Committee and is composed of representatives from ORM, Operational Risk Officers from the business divisions and the infrastructure functions. The ORM Committee is the main decision-making committee for all ORM matters and approves the Group’s standards for identification, assessment, tracking, acceptance, reporting and monitoring of operational risk.

ORM is responsible for defining the operational risk framework, related policies and the management of cross divisional and cross regional operational risk while the responsibility for implementing the framework as well as the day-to-day Operational Risk Management lies with the business divisions and infrastructure functions. Based on this business partnership model the Group ensures close monitoring and high awareness of operational risk. ORM is structured into global relationship teams and a central methodology team. The global relationship teams, which are aligned with the divisional and regional structure, oversee and support the implementation of the operational risk framework within the bank in an effort to ensure consistent management of operational risks across the business divisions, infrastructure functions and regions. This also includes the management of cross divisional and cross regional operational risk, value-added analysis, group reporting and establishing loss thresholds. The central methodology team develops, validates and implements the Operational Risk Management and reporting toolset, including the AMA methodology and is responsible for the monitoring of regulatory requirements.

Managing Operational Risk

The Group manages operational risk based on a Group-wide consistent framework that enables it to determine operational risk profile in comparison to risk appetite and to define risk mitigating measures and priorities.

The Group applies a number of techniques to efficiently manage the operational risk in the business, for example:

- The Group captures and reviews losses arising from operational risk events, which is a major component of the management of operational risk. This includes the identification, timely notification and comprehensive reporting of events. The subsequently performed root cause analysis and lessons learned activities identify risk mitigating actions which are monitored for resolution.
- The Group performs bottom-up “self-assessments” resulting in a specific operational risk profile for the business lines highlighting the areas with high risk potential. The risk control self assessment (“RCSA”) processes are designed to identify and assess risk potential pertaining to structures, processes, people and systems. RCSAs require assessors to rate the assessed objects based on a specific framework. The coordinated ORM RCSA program aims at creating a single standard for risk and control that facilitates management oversight, optimizes resource utilization and simultaneously meets the various regulatory requirements.
- The Group captures and monitors key operational risk indicators. The global Key Risk Indicator (“KRI”) program captures data at a granular level allowing for business environment monitoring and facilitating the forward looking management of operational risk based on early warning signals returned by the KRIs. In addition KRIs alert the organization to impending problems in a timely fashion, trigger risk mitigating actions and allow the Group to monitor the bank’s control culture as well as the operational risk profile and trend.
- The Group documents the residual operational risk after mitigation in “Risk Acceptances”. Due to the unpredictable nature of operational risks, a mitigation strategy will usually not fully mitigate the risk. To be able to manage the residual risk appropriately, all identified operational risks rated critical, significant or important prior to mitigation must be accepted with regards to the level of mitigation, the duration of implementation of the mitigation strategy, and the residual operational risk after mitigating actions.
- The Group creates additional loss scenarios and utilizes external event data to supplement the Group’s operational risk profile utilized in the capital calculation and in the day-to-day management of operational risk.
- The Group captures action points resulting from risk analysis, lessons learned, “self-assessments”, risk workshops or risk indicators in a standard tracking application, in which the Group monitors the progress of the operational risk action points on an ongoing basis.
- The Group uses insurance where appropriate to mitigate the effects of operational risk events. It maintains a number of captive insurance companies, both primary and re-insurance companies. However, insurance contracts provided are only considered in the modeling/calculation of insurance-related reductions of operational risk capital requirements where the risk is re-insured in the external insurance market. Other (parts of) insurance contracts from captive companies will only be considered if and when they have been explicitly approved by the BaFin in compliance with the relevant SolvV requirements.
- The Group regularly performs a top risk analysis in which the results of the aforementioned activities are considered. The top risk analysis mainly contributes to the annual Operational Risk Management strategy and planning process.

Capital Calculation

For both, economic and regulatory capital calculations, the Group uses the advanced measurement approach in a single model; however, economic capital is derived from the 99.98 % quantile whereas the 99.9 % quantile is used for regulatory capital purposes.

The Group calculates regulatory capital for operational risk globally across all businesses. Economic capital is allocated to the businesses and used in performance measurement and resource allocation, providing an incentive to the businesses to manage operational risk, optimizing economic capital utilization.

The AMA capital calculation is based upon the loss distribution approach. The Group uses net losses (gross losses adjusted for direct recoveries) from historical internal and external loss data (ORX consortium data and a public database), plus scenario data, to estimate a risk profile (that is, a loss frequency and a loss severity distribution). Thereafter, frequency and severity distributions are combined in a Monte Carlo simulation to generate losses over a one year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation/diversification benefits are applied to the net losses – in a manner compatible with regulatory requirements – to arrive at a net loss distribution at the Group level covering expected and unexpected losses. Capital is then allocated via the AMA model to each of the business divisions and both the qualitative adjustment (“QA”) and expected losses deduction are made.

The qualitative adjustment reflects the Group’s day-to-day operational risk management activities via key risk indicator and risk control self assessment focussing on the business environment and internal control factors. QA is applied as a percentage adjustment to the final capital number and not as an adjustment for example to parameters of the frequency or severity distributions. This approach makes qualitative adjustment transparent to the management of the businesses and provides feedback on their risk profile as well as on the success of their management of operational risk. It also provides incentives for the businesses to improve Operational Risk Management in their areas.

The expected loss for operational risk management purposes is not a statistical feature of the overall loss distribution but denotes the expected cost of operational losses for doing business. The expected loss for operational risk is based on historical loss experience and expert judgement considering business changes. To the extent it is considered in the divisional business plans it is deducted from the AMA capital figure.

Finally the unexpected losses for the business divisions (after qualitative adjustment and expected loss) are aggregated to produce the Group AMA capital figure.

Role of Corporate Insurance/Deukona

The definition of the Group's insurance strategy and supporting insurance policy and guidelines is the responsibility of its specialized unit Corporate Insurance/Deukona ("CI/D"). CI/D is responsible for the Group's global corporate insurance policy which is approved by the Group Management Board.

Within the Group, CI/D is responsible for acquiring insurance coverage and for negotiating contract terms and premiums. CI/D also has a role in the allocation of insurance premiums to the businesses. CI/D specialists assist in devising the method for reflecting insurance in the capital calculations and in arriving at parameters to reflect the regulatory requirements. CI/D is actively involved in industry efforts to reflect the effect of insurance in the results of the capital calculations.

The Group buys insurance in order to protect itself against unexpected and substantial unforeseeable losses. The identification, definition of magnitude and estimation procedures used are based on the recognized insurance terms of "common sense", "state-of-the-art" and/or "benchmarking". The maximum limit per insured risk takes into account the reliability of the insurer and a cost/benefit ratio, especially in cases in which the insurance market tries to reduce coverage by restricted/limited policy wordings and specific exclusions.

CI/D selects insurance partners in strict compliance with the regulatory requirements specified in the SolvV and the "Empfehlung des Fachgremiums Operational Risk zur Berücksichtigung von Versicherungen in fortgeschrittenen Messansätzen".

The insurance portfolio as well as CI/D activities is audited by Group Audit on a regular basis.

11. Interest Rate Risk in the Banking Book

Assessment of Market Risk in Nontrading Portfolios – Interest Rate Risk

With the exception of some entities in the Private and Business Clients division in Germany and the Private Wealth Management mortgage business in the U.S., the Group's interest rate risk arising from nontrading asset and liability positions has been transferred through internal transactions to the Global Markets business division within the Corporate and Investment Bank group division, and is thus managed on the basis of value-at-risk, as reflected in trading value-at-risk numbers. The treatment of interest rate risk in the Group's trading portfolios and the application of the value-at-risk model are discussed in more detail in chapter 9 "Market Risk".

The Group's Private and Business Clients division, a nontrading division, manages the interest rate risk for the above mentioned entities separately by a dedicated Asset and Liability Management department. The measurement of the interest rate risk by Asset and Liability Management Private and Business Clients is performed on a daily basis.

Asset and Liability Management Private and Business Clients bases the interest rate risk management and measurement on certain assumptions; among others assumptions about the time at which loan prepayments will actually be made and deposits will actually be withdrawn, whereby the assumed term for deposits is regularly longer than the contractually agreed term. After considering such modelling assumptions, and hedging, the interest rate risk in the Private and Business Clients division is immaterial, as measured by value-at-risk, which was below € 2 million as of December 31, 2008.

The Group's Private Wealth Management mortgage business in the U.S., a non-trading business, offers residential mortgage products to clients which give borrowers the right to prepay their mortgages. The interest rate exposure of this business, after modelling assumptions, was, in value-at-risk terms, below € 3 million as of December 31, 2008.

When modelling interest rate risk for non-trading businesses, including Global Transaction Banking and Private Wealth Management, the Group makes assumptions similar to those made for Private and Business Clients, that is, in particular, for deposits where the behavioural maturity deviates from the contractual maturity. Typically, the contractual maturity of such deposits (e.g. sight and term deposits) does not exceed one year. However, deposit modelling applied may range from shorter to longer maturities.

While the modelling assumptions made are based on past experience, the Group's actual interest rate risk related to banking book exposures might materially differ from the Group's internal estimate in case future client behaviour materially differs from the assumptions made.

12. Liquidity Risk

Liquidity risk management safeguards the ability of the bank to meet all payment obligations when they come due. The Group's liquidity risk management framework has been an important factor in maintaining adequate liquidity and in managing its funding profile during 2008.

Liquidity Risk Management Framework

Treasury is responsible for the management of liquidity risk. The Group's liquidity risk management framework is designed to identify, measure and manage the liquidity risk position. The underlying policies are reviewed and approved regularly by the board member responsible for Treasury. The policies define the methodology which is applied to the Group.

The Group's liquidity risk management approach starts at the intraday level (operational liquidity) managing the daily payments queue, forecasting cash flows and factoring in its access to Central Banks. It then covers tactical liquidity risk management dealing with the access to unsecured funding sources and the liquidity characteristics of the Group's asset inventory (asset liquidity). Finally, the strategic perspective comprises the maturity profile of all assets and liabilities (Funding Matrix) on the Group's balance sheet and its issuance strategy.

The Group's cash-flow based reporting system provides daily liquidity risk information to global and regional management.

The Group's liquidity position is subject to stress testing and scenario analysis to evaluate the impact of sudden stress events. The Group's scenarios are based on historic events, case studies of liquidity crises and models using hypothetical events.

Short-term Liquidity

The Group's reporting system tracks cash flows on a daily basis over an 18-month horizon. This system allows management to assess the short-term liquidity position in each location, region and globally on a by-currency, by-product and by-division basis. The system captures all of the cash flows from transactions on the balance sheet, as well as liquidity risks resulting from off-balance sheet transactions. The Group models products that have no specific contractual maturities using statistical methods to capture the behavior of its cash flows. Liquidity outflow limits (Maximum Cash Outflow Limits), which have been set to limit cumulative global and local cash outflows, are monitored on a daily basis to safeguard the Group's access to liquidity.

Unsecured Funding

Unsecured funding is a finite resource. Total unsecured funding represents the amount of external liabilities which the Group takes from the market irrespective of instrument, currency or tenor. Unsecured funding is measured on a regional basis by currency and aggregated to a global utilization report. The Capital and Risk Committee approves limits to protect the Group's access to unsecured funding at attractive levels.

Asset Liquidity

The asset liquidity component tracks the volume and booking location within the Group's consolidated inventory of unencumbered, liquid assets which it can use to raise liquidity via secured funding transactions. Securities inventories include a wide variety of different securities. As a first step, the Group segregates illiquid and liquid securities in each inventory. Subsequently it assigns liquidity values to different classes of liquid securities.

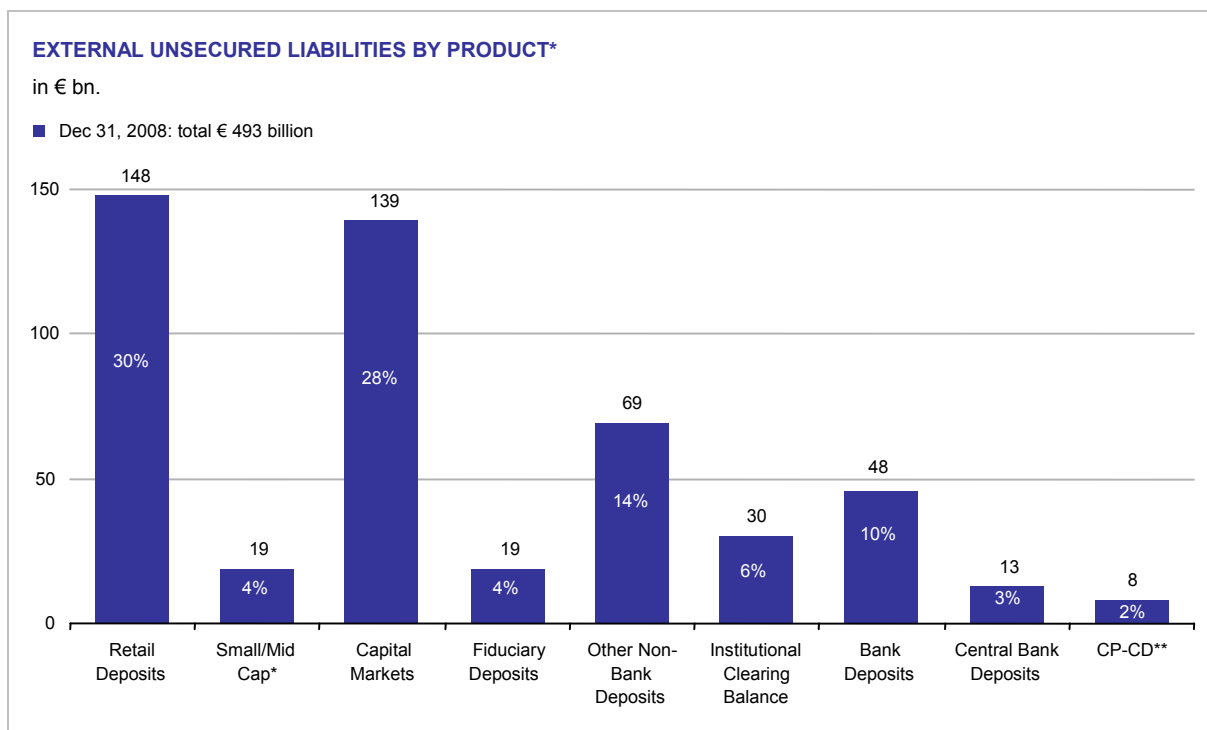
The liquidity of these assets is an important element in protecting the Group against short-term liquidity squeezes. In addition, the Group continues to keep liquidity reserves containing highly liquid securities in major currencies around the world to support its liquidity profile in case of potential deteriorating market conditions. The liquidity reserves have been increased by € 48.0 billion during 2008 and amounted to € 57.6 billion as of December 31, 2008. This reserve does not include collateral the Group needs to support its clearing activities in euro, U.S. dollars and other currencies which are held in separate portfolios around the globe.

Funding Diversification

Diversification of the Group's funding profile in terms of investor types, regions, products and instruments is an important element of its liquidity risk management framework. The Group's core funding resources are retail deposits and long-term capital markets issues and, to a lesser extent, small-midcap and fiduciary deposits. Other customer deposits, funds from institutional investors and borrowing from other banks are additional sources of funding. The Group uses interbank deposits primarily to fund liquid assets.

In 2008 the Group continued its focus on increasing its stable core funding components and reducing its short-term wholesale funds.

The following chart shows the composition of the Group's external unsecured liabilities that contributed to the liquidity risk position (which excludes, for example, structured arrangements which are self-funding) as of December 31, 2008, in euro billion and as a percentage of the Group's total external unsecured liabilities.



* Refers to deposits by small and medium-sized German Corporates.

** Commercial Paper/Certificates of Deposit with a maturity of one year or less.

Funding Matrix

The Group has mapped all funding-relevant assets and all liabilities into time buckets corresponding to their maturities to compile a maturity profile (Funding Matrix). Given that trading assets are typically more liquid than their contractual maturities suggest, the Group has determined individual liquidity profiles reflecting their relative liquidity value. The Group has taken assets and liabilities from the retail bank that show a behavior of being renewed or prolonged regardless of capital market conditions (mortgage loans and retail deposits) and assigned them to time buckets reflecting the expected prolongation. Wholesale banking products are included with their contractual maturities.

The Funding Matrix identifies the excess or shortfall of assets over liabilities in each time bucket, facilitating management of open liquidity exposures. The Funding Matrix is a key input parameter for the Group's annual capital market issuance plan, which, upon approval by the Capital and Risk Committee, establishes issuing targets for securities by tenor, volume and instrument.

In 2008, Treasury issued capital market instruments with a total value of approximately € 53.5 billion, € 15.5 billion more than the original issuance plan. This increase was one of a series of precautionary measures taken in response to the continuing difficulties in the financial markets.

Stress Testing and Scenario Analysis

The Group uses stress testing and scenario analysis to evaluate the impact of sudden stress events on its liquidity position. The scenarios have been based on historic events, such as the 1987 stock market crash, the 1990 U.S. liquidity crunch and the September 2001 terrorist attacks, liquidity crisis case studies and hypothetical events. Also incorporated are new liquidity risk drivers revealed by the financial markets crisis: prolonged term money-market freeze, collateral repudiation, nonfungibility of currencies and stranded syndications. The hypothetical events encompass internal shocks, such as operational risk events and ratings downgrades, as well as external shocks, such as systemic market risk events, emerging market crises and event shocks. Under each of these scenarios the Group assumes that all maturing loans to customers will need to be rolled over and require funding whereas rollover of liabilities will be partially impaired resulting in a funding gap. The Group then models the steps it would take to counterbalance the resulting net shortfall in funding. Action steps would include switching from unsecured to secured funding, selling assets and adjusting the price the Group would pay on liabilities (gap closure).

This analysis is fully integrated in the Group's liquidity risk management framework. The Group tracks contractual cash flows per currency and product over an eight-week horizon (which it considers the most critical time span in a liquidity crisis) and applies the relevant stress case to each product. Asset liquidity complements the analysis.

The Group's stress testing analysis assesses its ability to generate sufficient liquidity under critical conditions and has been a valuable input when defining its target liquidity risk position. The analysis is performed monthly. The following table shows stress testing results as of December 31, 2008. For each scenario, the table shows what the Group's cumulative funding gap would be over an eight-week horizon after occurrence of the triggering event and how much counterbalancing liquidity the Group could generate.

Table 33 Liquidity Risk Stress Testing

Liquidity risk stress testing in € bn.	Funding gap ¹	Gap closure ²	Liquidity impact ³
Market risk	3	97	Improves over time
Emerging markets	13	110	Improves over time
Systemic shock	12	92	Temporary disruption
Operational risk	7	100	Temporary disruption
1 notch downgrade	16	119	Improves over time
3 notch downgrade	65	119	Improves and stabilizes

1 Funding gap caused by impaired rollover of liabilities and other expected outflows.

2 Based on liquidity generation through counterbalancing and asset liquidity opportunities.

3 The Group analyzes whether the risk to its liquidity would be temporary or longer-term in nature.

Based on observations made during the financial crisis, the Group has reviewed its stress testing framework and amended it in various aspects: The market risk scenario has been redefined and now reflects the systemic knock-on effects seen since the fall of 2007. Across all scenarios, the Group has added liquidity risk drivers (e.g. FX-fungibility and secured funding) to cover sources of liquidity risk not accounted for by the previous methodology but which became apparent during the market disruptions. The downgrade scenarios have also been recalibrated to the most recent credit ratings of the Bank. The following table is illustrative of the Group's stress testing results as of December 31, 2008 based on the new methodology, which will be reported going forward.

Table 34 Liquidity Risk Stress Testing based on Revised Methodology

Liquidity risk stress testing based on revised methodology in € bn.	Funding gap ¹	Gap closure ²	Liquidity impact ³
Systemic market risk	57	115	Improves over time
Emerging markets	19	115	Improves over time
Event shock	26	99	Temporary disruption
Operational risk (DB specific)	20	120	Temporary disruption
1 notch downgrade (DB specific)	45	119	Permanent
Downgrade to A-2/P-2 (DB specific)	129	132	Permanent

¹ Funding gap caused by impaired rollover of liabilities and other expected outflows.

² Based on liquidity generation through counterbalancing and asset liquidity opportunities.

³ The Group analyzes whether the risk to its liquidity would be temporary or longer-term in nature.

With the increasing importance of liquidity management in the financial industry, the Group considers it important to confer with central banks, supervisors, rating agencies and market participants on liquidity risk-related topics. The Group participates in a number of working groups regarding liquidity and participates in efforts to create industry-wide standards that are appropriate to evaluate and manage liquidity risk at financial institutions.

In addition to the Group's internal liquidity management systems, the liquidity exposure of German banks is regulated by the KWG and regulations issued by the BaFin. The Group is in compliance with all applicable liquidity regulations.

Glossary

Advanced Measurement

Approach (AMA)

An operational risk measurement technique proposed under Basel II capital adequacy rules using an internal modeling methodology as a basis.

Active Book Equity (ABE)

Active Book Equity is calculated by the Group in order to make it easier to compare itself with competitors as well as in order to refer to active book equity for several ratios. The shareholders' equity is adjusted for unrealized net gains on assets available for sale, fair value adjustments on cash flow hedges (both components net of applicable taxes), as well as dividends, for which a proposal is accrued on a quarterly basis and for which payments occur once a year following the approval by the Annual General Meeting.

Alternative Assets

A portfolio of assets including principal investments, real estate investments (including mezzanine debt) and small investments in hedge funds. Principal investments are composed of direct investments in private equity, mezzanine debt, short-term investments in financial sponsor leveraged buy-out funds, bridge capital to leveraged buy-out funds and private equity led transactions.

Average Expected Exposure (AEE)

One year time average of the average simulated positive future market values for a given portfolio of derivatives and/or securities financing transactions. This exposure measure follows internal credit line netting rules and credit risk mitigation via margining and collateralization and is used as exposure measure within the calculation of economic capital.

Back testing

A procedure used to verify the predictive power of the → value-at-risk calculations involving the comparison of hypothetical daily profits and losses under the buy-and-hold assumption with the estimates from the value-at-risk model.

BASEL II

Revised recommendations for international capital adequacy standards adopted by the Basel Committee on Banking Supervision, widely referred to as Basel II capital framework, which align capital requirements more closely with the underlying risks.

Business Risk

Risk that arises from potential changes in general business conditions, such as market environment, client behavior and technological progress, which can affect the Group's earnings if the Group is unable to adjust quickly to them.

Collateral Support Annexes (CSA)

Annexes to master → netting agreements that are used for documenting collateral arrangements between parties trading OTC (over-the-counter) derivatives. CSA's provide derivatives-related credit risk mitigation through periodic margining of the covered exposure.

Confidence Level

In the framework of → value-at-risk and economic capital the level of probability that the actual loss will not exceed the potential loss estimated by the value-at-risk or economic capital number.

Country Risk

The risk that the Group may suffer a loss, in any given country, due to deterioration in economic conditions, political and social unrest, nationalization and expropriation of assets, government repudiation of external indebtedness, exchange controls and currency depreciation or devaluation.

Credit Conversion Factor (CCF)

A multiplier that is used to convert off-balance-sheet items into credit exposure equivalents. Within the advanced IRBA the Group applies specific CCFs in order to calculate an EAD value. In instances, in which a transaction involves an unused limit, a percentage share of this unused limit is added to the outstanding amount in order to appropriately reflect the expected outstanding amount in case of a counterparty default. This reflects the assumption that for commitments the utilization at the time of default might be higher than the current utilization.

Credit Risk

Risk that customers may not be able to meet their contractual payment obligations. Credit risk includes → default risk, → country risk and → settlement risk.

Credit Risk Exposure

All transactions in which losses might occur due to the fact that counterparties may not fulfill their contractual payment obligations. The Group generally calculates credit risk exposure as the gross amount of the exposure without taking into account any collateral, other credit enhancement or credit risk mitigating transactions.

Default Risk

The risk that counterparties fail to meet contractual payment obligations.

Economic Capital

A figure which states with a high degree of certainty the amount of equity capital the Group needs at any given time to absorb unexpected losses arising from current exposures.

Equity Method

The accounting valuation method for investments in companies over which significant influence can be exercised. The pro-rata share of the company's net income (loss) increases (decreases) the carrying value of the investment affecting net income. Distributions decrease the carrying value of the investment without affecting net income.

Expected Loss (EL)

Measurement of loss that can be expected within a one-year period from → credit risk and → operational risk based on historical loss experience.

Expected Positive Exposure (EPE)

One year time average of the monotonically increasing average simulated positive future market values for a given portfolio of derivatives and/or securities financing transactions.

This exposure measure follows external regulatory netting rules and credit risk mitigation via margining and collateralization and is used as exposure measure within the calculation of regulatory capital under the → Basel II → Internal Model Method.

Exposure at Default (EAD)

The expected amount of the credit exposure to a counterparty at the time of a default.

Exposure Class

Asset classes such as governments, corporates or retail, which are regulatory defined within each credit risk measurement approach, that is standardized and internal ratings based approach.

Fair Value

Amount at which an asset or liability could be exchanged in a current transaction between knowledgeable, willing parties, other than in a forced or liquidation sale.

German Solvency Regulation (Solvabilitätsverordnung, SolvV)

German regulation governing the capital adequacy of institutions, groups of institutions and financial holding groups which adopted the revised capital framework of the Basel Committee from 2004, widely referred to as → Basel II, into German law.

IFRS (International Financial Reporting Standards)/Previously IAS (International Accounting Standards)

Financial Reporting Rules of the International Accounting Standards Board designed to ensure globally transparent and comparable accounting and disclosure. Main objective is to present information that is useful in making economic decisions, mainly for investors.

Internal Assessment Approach (IAA)

Internal credit assessment approach used in the calculation of regulatory capital requirements for non-externally rated securitization positions in relation to ABCP conduits.

Internal Model Approach

Subject to regulatory permission, the usage of internal value-at-risk models to calculate the regulatory capital requirement for market risk positions.

Internal Model Method (IMM)

A more sophisticated approach for calculating a regulatory exposure value (Exposure at Default) for derivative counterparty exposures as well as securities financing transactions by building the calculations on a Monte Carlo simulation of the transactions' potential future market values.

Internal Ratings Based Approach (IRBA)

The most sophisticated approach available under the → German Solvency Regulation for calculation of the regulatory capital requirements for risk positions allowing the Group to make use of its internal rating methodologies as well as internal estimates of specific other risk parameters.

Liquidity Risk

The risk arising from the Group's potential inability to meet all payment obligations when they come due or only being able to meet these obligations at excessive costs.

Loss Distribution Approach

A risk profile modelling technique, which mainly uses loss data to construct aggregate loss distributions based on Monte Carlo simulations.

Loss Given Default (LGD)

The likely loss intensity in case of a counterparty default. Its estimation represents, expressed as a percentage, the part of the exposure that cannot be recovered in a default event and therefore captures the severity of a loss.

Market Risk

The risk that arises from the uncertainty concerning changes in market prices and rates (including interest rates, equity prices, foreign exchange rates and commodity prices), the correlations among them and their levels of volatility.

Mark-to-market Approach

An approach to calculate the regulatory exposures value of derivative counterparty credit risk exposures as the current market value of the derivative plus an add-on amount which takes into account the potential future increase of the market value.

Netting Agreements

Bilateral agreements between the Group and its counterparties with regard to the included transactions which ensure that, if solvency or bankruptcy proceedings are initiated, only a single net amount is owed by one party to the other from the netting of all claims and liabilities with the Group having the right to terminate all transactions under the agreement unilaterally if the counterparty fails to perform an obligation owed under an individual transaction.

Operational Risk

Potential for incurring losses in relation to employees, contractual specifications and documentation, technology, infrastructure failure and disasters, projects, external influences and customer relationships. This definition includes legal and regulatory risk, but excludes → business and reputational risk.

Potential Future Exposure

Time profile of the 95th percentile of simulated positive market values for a given portfolio of derivatives and/or securities financing transactions including the effect of netting and collateral – calculated over the portfolio's entire lifetime.

Probability of Default (PD)

The likelihood or probability of default (PD) of a counterparty is assessed over the next twelve months time horizon and expressed as a percentage. The Group does not rate through the cycle. PD is the primary measure of creditworthiness of a counterparty. The numerical probabilities of default are mapped into a 26-grade → rating scale that is similar to → rating scales widely used by international → rating agencies.

Rating

The result of the objective assessment of the future economic situation – namely the default probability – of counterparties based on present characteristics and assumptions. The methodology for the rating assignment strongly depends on the customer type and the available data. A broad range of methodologies for the assessment of the credit risk is applied, such as expert systems and econometric approaches.

Regulatory Trading Book and Banking Book

The regulatory trading book is defined in Section 1a of the German Banking Act. It consists of financial instruments and commodities held with trading intent or held for the purpose of hedging the market risk of other trading book positions; repurchase transactions, lending transactions and similar transactions which relate to trading book positions; name-to-follow transactions; and receivables directly related to trading book positions. Financial instruments and commodities assigned to the trading book must be tradable or able to be hedged. The regulatory banking book comprises of all positions that are not assigned to the trading book.

Risk-weighted Assets (RWA)

Risk-weighted assets are regulatory capital requirements multiplied by 12.5, or in other words, capital requirements equal 8% of RWA

Securitization

A securitization transaction is defined as a transaction where payments depend on the performance of an underlying pool of exposures and investments in the securitization are subordinated. Subordination results in a ranking among investments in the securitization. This determines the order and the amount of payments or losses to be directed to the holder of the position, the waterfall structure.

Standardized Approach

The least sophisticated approach available under the → German Solvency Regulation for the calculation of the regulatory capital requirements. It measures credit risk either pursuant to fixed risk weights, which are predefined by regulation or through the application of external → ratings.

Value-at-risk

For a given portfolio, the value-at-risk is an estimate of the potential future loss (in terms of market value) that, under normal market conditions, will not be exceeded in a defined period of time and with a defined confidence level.

Wrong Way Risk

Risk that occurs when exposure to a counterparty is adversely correlated with the credit quality of that counterparty.

Impressum

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Cautionary statement regarding forward-looking statements

This report contains forward-looking statements. Forward-looking statements are statements that are not historical facts; they include statements about the Group's beliefs and expectations and the assumptions underlying them. These statements are based on plans, estimates and projections as they are currently available to the management of Deutsche Bank. Forward-looking statements therefore speak only as of the date they are made, and the Group undertakes no obligation to update publicly any of them in light of new information or future events.

By their very nature, forward-looking statements involve risks and uncertainties. A number of important factors could therefore cause actual results to differ materially from those contained in any forward-looking statement. Such factors include the conditions in the financial markets in Germany, in Europe, in the United States and elsewhere from which the Group derives a substantial portion of the Group's trading revenues, potential defaults of borrowers or trading counterparties, the implementation of the Group's strategic initiatives, the reliability of the Group's risk management policies, procedures and methods, and other risks referenced in the Group's filings with the U.S. Securities and Exchange Commission. Such factors are described in detail in the SEC Form 20-F of 24 March 2009 in the section "Risk Factors". Copies of this document are available upon request or can be downloaded from www.deutsche-bank.com/ir

