



2019

R I S K R E P O R T
P I L L A R 3 O F B A S E L I I I

DEXIA

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Introduction

Basel Framework

Basel III is the response of the Basel Committee on Banking Supervision (BCBS) to the financial crisis, which revealed some deficiencies in the Basel II regulation as to the appropriate measurement of credit risk.

As a result, the Basel Committee undertook a comprehensive set of reform measures, known as the Basel III reform, aimed at strengthening the regulation, supervision and risk management of the banking sector.

In 2013, the European Parliament and Council adopted a set of measures to implement the Basel III reform within the EU legal framework. Taking effect on 1 January 2014, with some provisions to be phased in between 2014 and 2019, the Capital Requirement Regulation (CRR) and the Capital Requirement Directive IV (CRD IV) form the common regulatory bases for all Member States in implementing Basel III capital requirements. The CRR contains detailed prudential requirements for credit institutions and investment firms while the CRD IV was transposed by Member States into their respective national legal frameworks.

The Basel III capital standards have significantly changed the minimum requirements framework by introducing:

- New capital definition and capital buffers;
- Liquidity and stable funding requirements;
- Governance requirements;
- A leverage ratio to complement the risk-weighted framework and restrict the build-up of excessive leverage;
- Own funds for Credit Valuation Adjustment (CVA) risk;
- Additional disclosure for large exposures.

The general framework defined by Basel II, which is developed around three Pillars, was upheld.

First Pillar

The first Pillar, related to minimum capital requirements, defines the way banking institutions calculate their regulatory capital requirements in order to cover credit risk, market risk and operational risk. The framework provides different approaches for calculating:

- Credit risk through three different approaches: Standard Approach, Foundation Internal Rating-Based Approach and Advanced Internal Rating-Based Approach;
- Market risk through two approaches: Standard Approach and Internal Model Approach;
- Operational risk through three approaches: Basic Indicator Approach, Standard Approach and Advanced Measurement Approach.

Regarding credit risk, since 1 January 2008 Dexia has been authorised to use the Advanced Internal Rating-Based Approach (AIRB Approach) for the determination of its regulatory capital requirements under the Basel III Pillar 1 for credit risk and for the calculation of its solvency ratios.

This is applicable to all entities and subsidiaries consolidated within the Dexia Group, which are established in a Member State of the European Union and subject to the Capital Requirement Directive.

Dexia nevertheless decided to maintain a Standard Approach for some portfolios for which this approach is specifically authorised by the Basel III framework, such as small business units and non-material portfolios.

As a result of the disposal of some entities and the drastic decrease of some portfolios, Dexia presented an official request to the National Bank of Belgium (NBB) to switch some portfolios from the Advanced to the Standard Approach. These portfolios have indeed become non-material in terms of exposures and/or number of counterparties. The switch from Advanced to Standard Approach was implemented as from the June 2013 reporting date following the NBB's official acceptance. In 2018, following the decrease of the Portuguese Municipalities exposures and the closing of Dexia Crédit Local's branch in Lisbon, Dexia requested and obtained the approval of the Joint Supervisory Team for the switch from Advanced to Standard Approach for Portuguese Municipalities, and this was implemented as from the December 2018 reporting date. There was no other change in the list of portfolios under the Advanced Approach in 2019.

In terms of market risk, Dexia calculates its capital requirements on the basis of both the Internal Model Approach and the Standard Approach for general interest rate risk and the Standard Approach for specific interest rate risk and foreign exchange risk.

For operational risk, Dexia applies the Standard Approach. Incident collection and reporting take place on a regular basis and the Risk and Control Self-Assessment (RCSA) process covers the entire bank, including foreign subsidiaries and branches.

Second Pillar

The aim of the Pillar 2 internal processes as recalled by the EBA is “to enhance the link between an institution’s risk profile, its risk management and risk mitigation systems, and its capital planning.” Pillar 2 can be divided into two major components:

- The Internal Capital Adequacy Assessment Process (ICAAP) aimed at establishing sound, effective and complete strategies and processes to assess and maintain, on an ongoing basis, the amounts, types and distribution of internal capital commensurate to Dexia’s risk profile, as well as robust governance and internal control arrangements.
- The Supervisory Review and Evaluation Process (SREP). The purpose of the SREP is to ensure that Dexia has adequate arrangements, strategies, processes and mechanisms as well as capital and liquidity to ensure a sound management and coverage of its risks, to which it is or might be exposed, including those revealed by stress-testing.

Dexia has developed adapted and proportionate capabilities to address all Pillar 2 requirements under its orderly resolution plan and keeps its supervisors closely informed of all related developments.

Third Pillar

The third Pillar, market discipline, encourages market discipline by developing a set of qualitative and quantitative disclosures which will allow market participants to make a better assessment of capital, risk exposure, risk assessment processes, and hence the capital adequacy of the institution.

Part of the information requested by the CRR to comply with the disclosure requirements is provided in Dexia and Dexia Crédit Local’s Annual Reports. In such case, a clear reference has been included in this report.

Dexia’s Annual Report 2019 is available on:

<https://www.dexia.com/en/all-report-financy?year=2019>

An internal validation process at a Dexia level guarantees the quality of the information provided.

The Pillar 3 report is a joint publication by the Risk Management and Communication departments. The Management Board is responsible for final validation of the Pillar 3 disclosure. Statutory Auditors’ approval is not required. Information is not disclosed if it is considered non-material, proprietary or confidential.

Dexia Crédit Local, as an institution controlled by a EU parent financial holding company, must fulfil the obligations laid down in Part Eight of the CRR in the framework of Pillar 3 disclosure requirements under the Basel III capital framework on the basis of the consolidated situation of the financial holding company. This consolidation is achieved by Dexia located at Tour Bastion, Place du Champ de Mars 5, B-1050 Brussels, Belgium.

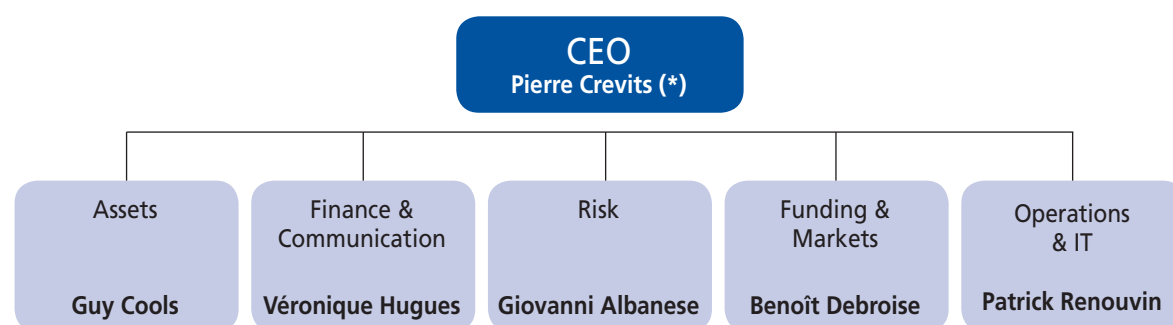
The Pillar 3 report has been published since 2008. The disclosure is organised on an annual basis together with the publication of the Annual Report.

Dexia releases the Risk Report – Pillar 3 of Basel III on Dexia’s website: www.dexia.com

The figures in the tables displayed in this report are provided in millions of Euros (EUR) unless otherwise stated.

The requirements of the third Pillar are met by this publication.

Dexia Management Board



(*) as from 20 May 2020

Dexia's Key Figures and Risk Profile

In 2019, the Risk activity line continued actively to manage the risk carried by Dexia, in line with the Risk Appetite Framework (RAF). This framework will be enhanced to include new risk indicators for solvency, liquidity, profitability, operational and business continuity risk indicators, related in particular to the outsourcing of IT services and back office. Its purpose is to define principles for assessing any deviation of the risk profile from the strategic plan approved by the Group's management bodies.

During the year, Dexia significantly reduced its commercial portfolios, through the acceleration of the asset disposal programme and the implementation of two additional programmes.

Within the context of the transformation of Dexia Crédit Local New York and in order to reduce the operational risk linked to the transfer of the entity's balance sheet to Dexia Crédit Local's head office, the Group sold a large part of the assets held by its US branch. The assets sold include the entire portfolio of ABS on student loans and a large part of the public sector portfolio. The entirety of the Group's exposure to the Chicago Board of Education was repurchased or sold. The reversal of provisions following these disposals, combined with a change in the estimate of the provisioning, notably on the Portuguese sovereign, largely explains the positive cost of risk, which amounts to EUR 265 million for the year 2019.

Outsourcing contracts, in particular the agreements between Dexia and Cognizant concerning IT and back-office services as well as IT infrastructure, are closely monitored, in particular by the indicators of the Risk Appetite Framework.

As in 2018, Dexia participated in the transparency exercise organised by the European Banking Authority (EBA), the elements and conclusions of which were published at the end of November 2019. The aim of this exercise was to provide detailed and harmonised information on the balance sheets and portfolios of the main European banks.

Finally, Dexia is closely monitoring the evolution of the situation linked to the spread of the Covid-19 coronavirus throughout the world and particularly in Europe. The Management Board has activated the operational crisis unit in order to protect its teams, ensure the operational continuity of the company and manage all the impacts linked to this situation.

The risk profile is illustrated by the following key figures as at 31 December 2019:

- Total Capital ratio stood at 27.2% (IFRS 9 transitional⁽¹⁾ definition).
- CET 1 ratio stood at 26.8% (IFRS 9 transitional definition).
- Total risk-weighted assets amounted to EUR 27,263 billion.
- Credit risk
 - Dexia's Exposure at Default (EAD) amounted to EUR 87.9 billion, a decrease of 29% in comparison with 2018, explained by natural portfolio amortisation, asset disposals and early redemptions. Exposure was at EUR 43 billion in loans and EUR 39 billion in bonds. It is for the most part concentrated in the European Union (81%) and the United States (10%);
 - As at 31 December 2019 the majority of exposures remained concentrated on the local public sector and sovereigns (72%), taking account of Dexia's historical activity;
 - The portfolio comprises high quality assets that are 92% investment grade; non-investment grade exposures are predominantly situated in the 'BB' range;

(1) Dexia decided to opt for transitional provisions enabling it to spread over five years the impact on prudential equity resulting from the implementation of the new IFRS 9 impairment model.

- Total impairments amounted to EUR 309 million, of which EUR 166 million of collective impairments, and EUR 143 million of specific impairments;
- Credit risk-weighted assets (EUR 23.1 billion) are mostly on Sovereigns (34%), Public Sector Entities (25%), Corporate & Project Finance (25%) and Financial Institutions (12%);
- Counterparty credit risk on derivatives and repo is included in the figure for credit risk-weighted assets and amounted to EUR 952 million.
- Market risk (including interest rate and FX risk)
 - The end-of-period value at risk amounted to EUR 1 million concentrated on interest risk;
 - Market risk-weighted assets amounted to EUR 3.2 billion.
- Operational risk-weighted assets amounted to EUR 1 billion.

1. Risk Management Objectives and Policies

Dexia Group policy on risks is defined and supervised by the Board of Directors.

The role of the Risk activity line is to implement the Group's strategy on monitoring and managing risk and to put independent and integrated risk measures in place. The Risk activity line identifies and monitors the risks to which the Group is exposed. If necessary, it proactively alerts the relevant committees and proposes corrective actions where applicable. In particular, the Risk activity line decides on the amount of provisions deemed necessary to cover the risks to which the Group is exposed.

The main tasks of the Risk activity line are to:

- Define and control the bank's risk appetite and provide relevant independent information, analyses and expert judgement on risk exposures, and advice on proposals and risk decisions made by the management bodies, other business divisions or support units as to whether they are consistent with the risk tolerance and appetite;
- Set up risk policies, guidelines, calculation methodologies and limits to constrain risk generated by the bank activities;
- Ensure that each key or emerging risk is identified and properly managed by the relevant units in the institution and that a comprehensive overview of all relevant risks is submitted to the management body;
- Establish a comprehensive and integrated assessment of risks: integrated risk map with appropriate granularity of risk factors, demonstrating diversification and major sensitivities/vulnerabilities in order to assess the adequacy of capital to Dexia's risk profile;
- Control and monitor credit, market and operational risks;
- Maintain the IRBA advanced status, e.g. design / review internal models and carry out model performance assessment, including calibration of model buffers when needed;
- Anticipate negative risk evolution so that action can be taken by the bank to mitigate such risk;
- Manage strategic and regulatory projects proactively and evaluate the potential impact of regulatory evolutions;
- Set frameworks for the better identification of areas of increasing operational risk so that dedicated mitigating action plans can be implemented by the relevant activity lines;
- Maintain appropriate data-warehouses and risk systems ensuring timely and accurate regulatory and internal risk reporting;
- Implement best risk management practices in the entire Group and maintain efficient coordination with the risk units of subsidiaries and branches;
- Recommend improvements to the risk management framework and options to remedy breaches of risk policies, procedures and limits.

Information flow on risk to the management body (Management Board, Board of Directors or Risk Committee) is organised through regular presentations including:

- The Quarterly Risk Report and sector annual reviews;
- The Risk Appetite Framework monitoring (quarterly);
- Presentations on the status of IRB models related works and changes, as well as significant issues or changes to the model use if any;
- New or updates of risk policies;
- Annual disclosures in regulatory risk related reports, including ICAAP/ILAAP reports and outcomes of Pillar 2 related analyses;
- Presentations on expected changes in the regulatory and prudential framework impacting the bank's models and systems;
- Recommendations on the risk monitoring framework and operational management of Group risks under the supervision of the Transaction Committee.

The terms of office of Directors and members of the Management Board are detailed in the chapter "Governance" of Dexia's Annual Report 2019.

1.1. Risk Organisation and Governance

1.1.1. Organisation

1.1.1.1. Role of the Risk Committee, the Management Board, the Market Risk Committee, the Transaction Committee and the ALCO

The Risk Committee, created within the Dexia Board of Directors is responsible for monitoring aspects relating to risk strategy and validation of the level of tolerance of both current and future risk, as defined by the Board of Directors. It assists the Board of Directors in its supervision of the implementation of that strategy.

The Management Board is responsible for implementation of the various policies and directives framing Group strategy, particularly with regard to risk. To facilitate Group operations, a system of delegation of Management Board powers has been put in place.

The Management Board delegates its decision-taking powers in relation to:

- operations giving rise to credit risk to a Transaction Committee;
- balance sheet management to an ALCO Committee;
- market operations to a Market Risk Committee.

The Risk activity line establishes risk policies and submits its recommendations to the Management Board and to the sub-committees. It deals with the monitoring and operational management of Group risks under the supervision of those committees.

More detailed information on the Risk Committee, the Management Board, the Transaction Committee and the ALCO Committee is provided in the chapter "Governance" of Dexia's Annual Report 2019.

1.1.1.2. Organisation of the Risk Activity Line

The decision-taking body of the activity line is the Risk Management Executive Committee.

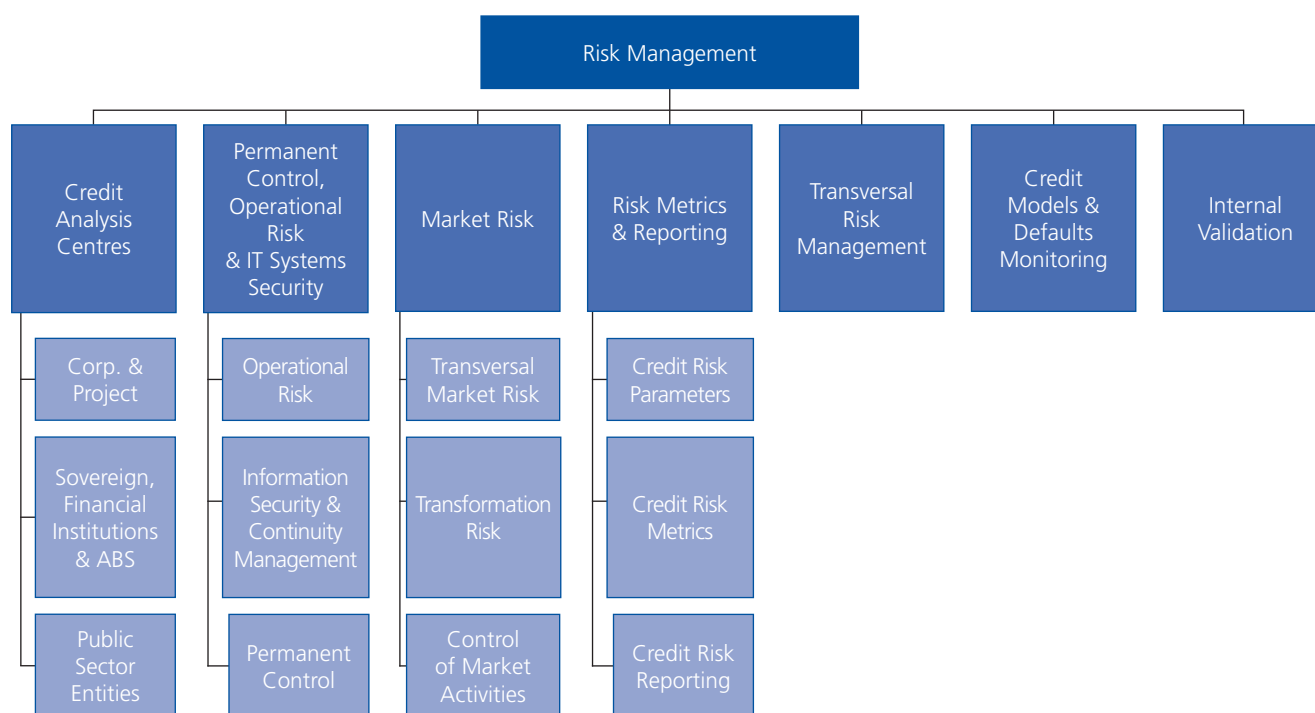
As at 31 December 2019, this committee consists of the Chief Risk Officer, the Deputy Chief Risk Officer and each department is represented within this committee:

- The Credit Analysis Centres department,
- The Market Risk department,
- The Permanent Control, Operational Risk and IT Systems Security department,
- The Credit Models and Default Monitoring department,
- The Transversal Risk Management department,
- The Internal Validation department
- The Risk Metrics & Reporting department

It meets on a weekly basis to review risk management strategies and policies as well as the main internal reports prior to their dissemination outside the activity line. In addition, it is responsible for monitoring regulatory issues, validating collective provisioning methodologies and the general organisation of the activity line.

In particular, the Risk Executive Committee is responsible for monitoring models (developments, reviews, back-testing, stress testing) on proposals from the teams responsible for the management of credit models and default monitoring and the market risk team. It regularly informs the Management Board and the Risk Committee of the use of models and, as the case may be, developments and/or difficulties.

The organisation and operation of the activity line also relies on certain committees, the prerogatives of which are governed by a system for the delegation of powers, defined in relation to the nature of the risks to which the Group is exposed.



The Risk Appetite Framework

The Risk Appetite Framework (RAF) is a regulatory requirement which defines Dexia's level of risk tolerance and falls within the implementation of Dexia strategy. It defines the Group's risk profile and qualifies the types of risk which Dexia is inclined to hold, minimise, attenuate or transfer in order to achieve its strategic objectives. The RAF considers Dexia's significant risks and relies on Dexia's strategy and capital forecasts.

The RAF was introduced in Dexia in 2016. It includes a declaration of risk appetite, qualitative and quantitative risk limits and an overview of the roles and responsibilities of bodies and functions which supervise implementation and monitoring.

It is subject to regular monitoring and an annual review in order to integrate any new regulatory, strategic or operational development. A quarterly consolidated schedule is presented by Risk Management to the Risk Committee and to the Board of Directors, with the aim of close and in-depth monitoring of the main risk indicators and of informing the Group's decision-making bodies.

Credit Risk

Credit risk represents the potential loss, materialised by the reduction in value of an asset or by the payment default that Dexia may suffer as the result of deterioration in the solvency of a counterparty.

The Credit Analysis Centres department defines the Group's credit risk policy, which encompasses supervision of the processes for rating counterparties, analysing credit files and monitoring exposures within the Group. It also proposes the specific provisions presented quarterly when the accounts are approved by the Board of Directors.

Along with the Risk Committee, the Management Board and the Transaction Committee, the following three committees meet on a quarterly basis:

- The Watch-list Committee supervises assets considered "sensitive", placed under watch, and decides on the amount of impairments set aside;
- The Default Committee screens and monitors counterparties in default by applying Group internal rules, in compliance with the regulatory framework;
- The Rating Committee ensures that internal rating processes are aligned with the established principles and that those processes are consistent across the Group's various entities.

Market Risk

Market risk represents the Group's exposure to changes in market parameters, such as interest and exchange rates. Interest rate risk consists of structural interest rate risk and specific interest rate risk associated with a given credit counterparty. The latter arises from fluctuations in the credit spread on specific counterparties within a rating class. The foreign exchange risk represents the potential decrease in the value of assets arising from fluctuations in exchange rates against the euro, which is the reference currency in which the Dexia Group prepares its financial statements. The interest rate and foreign exchange risk of the positions within the banking portfolio are part of the transformation risk.

Market risk policy and management are in the hands of the Management Board. To facilitate the Group's operational management, a system of delegated authority has been put in place:

- The Market Risk Committee is responsible for market risk governance and standards. It defines the risk limits that form the general framework for the Group's risk policy, analyses risk results and positions and approves risk measurement methods. It meets on a monthly basis.
- The Valuation and Collateral Monitoring Committee meets on a monthly basis to analyse indicators relating to collateral management, to decide on action plans for significant valuation differences and to monitor the valuation of structured products.

Under the aegis of the Management Board and specialist risk committees, the Market Risk department identifies, analyses and monitors risks and results (including financial instrument valuations) associated with market activities.

Transformation Risk

Monitoring transformation risk involves monitoring the risk of loss associated with the transformation of the banking portfolio as well as liquidity risk. Transformation risk arises when assets are refinanced by resources presenting a different maturity, indexation or currency. It includes structural risks associated with the financing of holdings with equity in foreign currencies. Liquidity risk measures Dexia's ability to deal with its current and future cash requirements, both on a discounted basis and in the event of a deterioration of the Group's environment, on the basis of a range of stress scenarios.

Within the Risk activity line, a dedicated ALM Risk team is in charge of defining the risk framework within which management may be placed in the hands of the Financial Strategy team within the Finance activity line, of validating the models used to manage that risk and of monitoring exposures and checking compliance with Group standards. ALM Risk also defines the stresses to be applied to the various risk factors, proposes the risk acceptance levels and ensures that it complies with the regulatory framework in force.

Operational Risk and IT Systems Security

Operational risk represents the risk of financial or non-financial impacts arising from a shortcoming or failure in internal processes, personnel or information systems, or external factors. This definition includes IT, legal and compliance risks.

The Management Board regularly monitors the evolution of the risk profile of the various Group activities and delegates the operational management of risk monitoring to the Operational Risk Committee. This committee examines the main risks identified and decides on the corrective actions to be taken. It validates measurement, prevention or improvement proposals in relation to the various elements of the mechanism. The Operational Risk Committee relies on committees dedicated to activity continuity and IT systems security, which examine and decide on actions to be taken to guarantee activity continuity and the implementation of a policy for IT systems security.

Operational risk, activity continuity and IT systems security management are coordinated by a central team within the Risk activity line supported by a network of correspondents within all subsidiaries and branches, as well as within the Group's various departments. Within each activity domain, an operational risk correspondent coordinates data collection and assesses risks and proposes and monitors remediation action plans. Supported by the operational risk management function, it ensures good operational continuity management.

Regulatory Risk

To ensure a proactive response to the various regulatory requirements, the Regulatory Risk Committee is responsible for defining Dexia's general approach to prudential problems and ensuring exhaustive cover for the various regulatory topics. It informs the different activity lines of the main regulatory developments, asks for and organises the various impact analyses and liaises with the various international entities on the implementation of new reforms.

ICAAP/ILAAP

The Stress Tests and Pillar 2 Committee under the joint responsibility of the Finance and Risk activity lines is leading internal ICAAP and ILAAP processes.

The committee approves all of these subjects prior to their submission to the Management Board, the Risk Committee and the Board of Directors. The results are subject to independent analyses by the Internal Validation department. In line with previous years, risk analyses of deviations from the strategic plan were carried out for the ICAAP/ILAAP (subject of exchanges with the European Central Bank within the framework of the SREP) and ad hoc analyses to support strategic choices.

1.1.2. Governance

The elements related to the description of governance arrangements pursuant to Article 435 §2 of the Regulation (EU) No. 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms ("CRR") are disclosed in the section entitled "Declaration of corporate governance" of Dexia Crédit Local's Annual Report 2019, as well as, if needed at a Dexia level, in the section entitled "Governance" published in Dexia's Annual Report 2019.

1.2. Accounting and Prudential Consolidation Scope

There is no difference between the consolidation scope for accounting and prudential purposes. The Dexia Group applies all rules with regard to the consolidation scope resulting from:

- IFRS 10 on the preparation and presentation of consolidated financial statements;
- IFRS 3 on business combinations and the impact of accounting methods on the consolidated accounts;
- IAS 28 (revised) on Investments in associates and joint ventures;
- IFRS 11 on Joint Arrangements.

The policies laid down by these standards imply that all companies over which the Group exercises exclusive or joint control or notable influence must be consolidated. Consequently, all companies exclusively or jointly controlled, or over which the Group holds a notable influence, are consolidated.

Pursuant to the principle of a true and fair view of the Group's financial statements, any companies the contribution of which to the consolidated financial statements is not material shall not be included in the consolidation scope.

Entities are considered as non-significant when, at a consolidated level, the aggregate of their total assets, liabilities, equity and net income does not exceed 1% of the total of consolidated balance sheet and net income.

As at 31 December 2019, the sum of the total balance sheet and net income of unconsolidated entities does not exceed this threshold.

The list of subsidiaries by method of consolidation is available in the Note 1.2 to the consolidated financial statements of Dexia's Annual Report 2019.

No participation is deducted from the prudential equity as at 31 December 2019.

1.3. Own Funds and Capital Adequacy

Dexia monitors its solvency using rules established by the Basel Committee on Banking Supervision and European Directive CRD IV. On the other hand, the Group ensures observance of the capital requirements imposed by the European Central Bank (ECB), within the framework of Pillar 2 of Basel III, following the Supervisory Review and Evaluation Process (SREP).

1.3.1. Strengthening of Prudential Requirements Applicable to Dexia with Regard to Solvency as from 1 January 2020

The European Central Bank (ECB) informed the Dexia Group of the qualitative and quantitative prudential requirements with regard to solvency applicable to Dexia and its subsidiaries, on a consolidated basis, as well as its Italian subsidiary Dexia Crediop as from 1 January 2020, in accordance with Council Regulation (EU) 1024/2013 dated 15 October 2013. These requirements are based in particular on the conclusions of work carried out by the ECB within the framework of the Supervisory Review and Evaluation Process (SREP)⁽¹⁾.

The Total SREP Capital Requirement (TSCR) has been set at 11.25% on a consolidated basis. This level includes a minimum own funds requirement of 8% (Pillar 1) and an additional own funds requirement of 3.25% (P2R – Pillar 2 Requirement) required entirely in Common Equity Tier 1 capital (CET 1). By including the capital conservation buffer of 2.5%, as well as the countercyclical buffer relating to exposures in France and the United Kingdom, estimated at 0.50%⁽²⁾, this takes the own funds requirement to 13.85% (by including the capital conservation buffer).

Furthermore the ECB expects Dexia to comply with Pillar 2 capital guidance (P2G) of 1%, to be held over the level of 14.25% and to be made up entirely of Common Equity Tier 1 capital (CET 1).

As a consequence, the minimum level of the CET1 ratio goes to 11.75%, taking account of P2G.

The ECB further informed Dexia, within the context of convergence towards the general supervisory framework, that the Group must observe the large exposures ratio, as any other bank, as from 1 July 2020. To recall, within the framework of the specific approach granted by the ECB, until then Dexia benefitted from a tolerance which allowed it to deduct from its CET1 regulatory capital the economic impact which might be generated by remediation on a failure to comply with the constraint regarding large exposures on "Legacy" credit exposures.

⁽¹⁾ Cf. Dexia press release dated 24 January 2020, available at www.dexia.com.

⁽²⁾ Applicable as from the second half-year 2020, take into account the countercyclical buffer relating to the French exposures

In response to the global crisis caused by the Covid-19 coronavirus outbreak, on 12 March 2020 the ECB announced a temporary easing of capital requirements under the SREP. These measures are reflected in the relaxation of the capital conservation buffer and additional capital (P2G – Pillar 2 guidance). In conjunction with the ECB's announcement, the national authorities also proceeded to zero the countercyclical buffer.

These temporary measures thus bring the SREP capital requirement for Dexia to 11.25% on a consolidated basis.

These levels are also applicable to Dexia Crédit Local, on a consolidated basis.

1.3.2. Accounting and Prudential Equity Figures

(in EUR million)	31/12/2018			31/12/2019		
	Financial statements	Regulatory purposes	Difference	Financial statements	Regulatory purposes	Difference
Equity, Group share	7,504	8,227	(723)	7,302	7,659	(357)
<i>of which share capital and related reserves</i>	2,489	2,449	40	2,489	2,449	40
<i>of which consolidated reserves</i>	6,390	6,390	0	6,152	6,152	0
<i>of which gains and losses directly recognised in equity</i>	(902)	(139)	(763)	(441)	(44)	(397)
<i>of which net result of the period</i>	(473)	(473)	0	(898)	(898)	0
Minority interests	336	148	189	60	0	60
TOTAL EQUITY	7,840	8,375	(534)	7,362	7,659	(297)
Prudential filters		(423)			(501)	
Phase-in IFRS 9 ⁽¹⁾		168			150	
Common Equity Tier 1		8,119			7,308	
Additional Tier 1		38			29	
Tier 2		121			67	
TOTAL CAPITAL		8,278			7,404	

(1) Transitional disposition to mitigate the impact of the application of the IFRS 9 standard.

Share capital and related reserves

The residual outstanding of Deeply Subordinated Non-Cumulative Notes issued on October 2006 by Dexia Funding Luxembourg (DFL) amounted to EUR 40 million. Following the merger of DFL with Dexia, this amount is booked in equity, Group share. However, for regulatory purposes and taking into account the transitional dispositions of Basel III, this amount has to be considered partly as Additional Tier 1 and as Tier 2.

Minority interests

The recognition of minority interests is limited by the Regulation (EU) 575/2013, Article 84.

The end of the specific approach granted by the European Central Bank required a strengthening of the equity of Dexia Crediop, the Italian subsidiary of Dexia Crédit Local, due in particular to the obligation to respect the Liquidity Coverage Ratio (LCR), and resulted in the implementation of a new funding plan. In order to ensure compliance with the bank's solvency ratios, an Extraordinary Shareholders' Meeting of Dexia Crediop was held on 22 November 2019 and approved a capital increase of EUR 120 million consisting of the issue of 12 billion new ordinary shares without nominal value, at a subscription price per share of EUR 0.01.

As the minority shareholders of Dexia Crediop did not wish to participate in the capital increase, Dexia Crédit Local subscribed to the entire amount, thus increasing its stake in Dexia Crediop from 70% to 99.57%. As a consequence, as at 31 December 2019, minority interests are no longer calculated. As at 31 December 2018, minority interests amounted to EUR 148 million.

Gains and losses directly recognised in equity – breakdown

(in EUR million)	31/12/2018			31/12/2019		
	Financial statements	Regulatory purposes	Difference	Financial statements	Regulatory purposes	Difference
Gains and losses directly recognised in equity	(902)	(139)	(763)	(441)	(44)	(397)
Change in fair value of debt instruments and of equity instruments measured at fair value through other comprehensive income	(212)	(212)	0	(141)	(141)	0
Cash flow hedge reserve	(578)	(6)	(572)	(432)	0	(432)
Non realized performance - own credit risk on liabilities designated at fair value through profit or loss	48	0	48	35	0	35
Actuarial gains and losses on defined benefit plans	0	0	0	(5)	(5)	0
Cumulative translation adjustments	88	88	0	102	102	0
Gains and losses directly recognized in equity of non-current assets held for sale	(248)	(9)	(239)	0	0	0

Under IFRS 9, when financial assets are measured at fair value through OCI, their change in fair value is directly recognised in equity, in the financial statements and in regulatory capital as well. In application of the Article 33.1 (a) of Regulation (EU) 575/2013, only the amount of cash flow hedge reserve related to financial instruments at fair value is taken into account in regulatory own funds. No amount was taken into account as at 31 December 2019 (EUR -6 million as at 31 December 2018).

Regarding the own credit risk on financial liabilities at fair value through profit or loss, as allowed by the IFRS 9 standard, since 1 January 2017, Dexia has recognised the own credit risk of those financial liabilities in the gains and losses directly recognised in equity. In application of Article 33.1 (b) in the CRR 575/2013, this amount is not recognised in the regulatory own funds.

As at 31 December 2018, Dexia Kommunalbank Deutschland was classified as non-current assets held for sale. Its gains and losses directly recognised in equity were presented separately. Those were mainly CFH reserve amounts, largely filtered out from the regulatory own funds.

1.3.3. Prudential equity

Total capital can be broken down as follows:

- Common Equity Tier 1 Capital, including in particular:
 - share capital, issuance premiums, retained capital,
 - profit or loss for the year,
 - gains and losses directly recognised in equity (revaluation of instruments at fair value through equity, revaluation of cash flow hedge derivatives, translation adjustments and actuarial differences on defined benefit plans),
 - the eligible amount of non-controlling interests,
 - after deduction of intangible assets, goodwill, accrued dividends, own shares, the amount exceeding thresholds provided with regard to deferred tax assets and for holding shares and interests in credit or financial institutions, irrevocable payment commitments (IPC) to resolution funds and other guarantee funds, the amount for persistent breaches of the large exposure constraint⁽³⁾ and elements subject to prudential filters (own credit risk, Debit Value Adjustment, cash flow hedge reserve, Prudent Valuation).
- Additional Tier 1 Capital including Tier 1 subordinated debt;
- Tier 2 Capital which includes the eligible portion of Tier 2 subordinated debt as well as surplus provisions on the level of expected losses, reduced by the surplus amount of thresholds provided with regard to holding subordinated debt issued by financial institutions.

⁽³⁾ On the request of the European Central Bank, Dexia must deduct from its Common Equity Tier 1 Capital the economic impact which might be generated by remediation on a failure to observe the constraint regarding large exposures (Cf. Dexia Press Release dated 5 February 2018, available at www.dexia.com).

In accordance with regulatory requirements and applicable transitional provisions:

- Dexia uses a dynamic approach to mitigate the impact of the new IFRS 9 provisioning model on prudential capital. This is spread over five years. In 2019, the effect of increasing provisions for expected credit losses in view of the application of the IFRS 9 accounting standard was 85% mitigated.
- Certain adjustments on subordinated and hybrid debt are taken into consideration in the calculation of capital in order to reflect the loss-absorption characteristics of these instruments.

The Group's Total Capital amounted to EUR 7.4 billion as at 31 December 2019, against EUR 8.3 billion as at 31 December 2018. As at 31 December 2019, Dexia Group's Common Equity Tier 1 Capital amounted to EUR 7.3 billion, against EUR 8.1 billion as at 31 December 2018. They are burdened by the negative net income for the year (EUR -898 million).

Prudential Equity- Breakdown

Regulatory Capital		
(in EUR million)	31/12/2018	31/12/2019
TOTAL CAPITAL	8,278	7,404
Common Equity Tier 1 Capital	8,119	7,308
Core shareholders' equity of which	8,365	7,659
Eligible gains or losses directly recognised in equity	(227)	(141)
Cumulative translation adjustments (group share)	88	102
Actuarial differences on defined benefit plans	0	(5)
Non-controlling interests eligible in Tier 1	148	0
Mitigation of the effect of the increase of expected credit losses following the application of IFRS 9 (95% in 2018, 85% in 2019)	168	150
Items to be deducted:		
Intangible assets and goodwill	(37)	(29)
Debit Valuation Adjustment	(52)	(41)
Prudent Valuation	(227)	(212)
Deduction of irrevocable payment commitments to resolution funds and other guarantee funds	(47)	(49)
Additional provisions in regulatory own funds	0	(80)
Deduction for persistent breaches of the large exposure constraint	(60)	(89)
Additional Tier 1 Capital	38	29
Subordinated debt	38	29
Tier 2 Capital	121	67
Subordinated debt	58	67
of which additional Tier 1 reclassified	58	67
IRB provision excess (+); IRB provision shortfall 50% (-)	63	0

In line with the requirements of the European Central Bank, two items are deducted from prudential capital in a total amount of EUR -138 million:

- The theoretical amount of the loss corresponding to the remediation of the persistent breach of the large exposure ratio limit, which amounts to EUR -89 million;
- The amount of irrevocable payment commitments (IPC) to resolution funds and other guarantee funds, which amounts to EUR -49 million.

Furthermore, following the ECB's On-Site Inspection (OSI) of credit risk in 2018, the ECB issued a number of recommendations. As a consequence, Dexia deducted an amount of EUR -80 million from its prudential equity as a complement to specific provisions.

As at 31 December 2019, the Group's hybrid Tier 1 Capital securities represented a nominal total of EUR 96 million, including EUR 29 million eligible as additional Tier 1.

No hybrid debt buyback was carried out in 2019, in line with the prohibition imposed by the European Commission and communicated by Dexia on 24 January 2014⁽⁴⁾. The Group's hybrid Tier 1 Capital therefore consists of:

- EUR 56.25 million nominal of perpetual non-cumulative securities issued by Dexia Crédit Local. These securities (FR0010251421) are listed on the Luxembourg Stock Exchange.
- EUR 39.79 million nominal of perpetual non-cumulative securities issued by Dexia Funding Luxembourg, today incorporated with Dexia. These securities (XS0273230572) are listed on the Luxembourg Stock Exchange.

Tier 2 Capital amounted to EUR 67 million as at 31 December 2019 and included the additional Tier 1 reclassified.

(4) Cf. Dexia press release dated 24 January 2014, available at www.dexia.com.

Dexia's revised orderly resolution plan includes certain restrictions concerning the payment of coupons and the exercise of calls on subordinated debt and hybrid capital from the Group's issuers. In this way, Dexia is only required to pay coupons on hybrid capital and subordinated debt instruments if there is a contractual obligation to do so. In addition, Dexia cannot exercise any discretionary options for the early redemption of these securities. Finally, the Dexia Group is not authorised to repurchase hybrid capital debt issued by Dexia Funding Luxembourg (XS0273230572), and by Dexia Crédit Local (FR0010251421), as creditors must share in the financial burden resulting from the restructuring of financial institutions which have been granted State aid.

On 27 September 2019, the European Commission confirmed its approval of the prolongation by the Belgian and French States of the funding guarantee granted to Dexia Crédit Local for a new term of 10 years as from 1 January 2022. The commission which Dexia would pay to the States in the case of liquidation by virtue of remuneration for the guarantee could absorb the net proceeds of the liquidation of Dexia, with the result that the holders of Dexia and Dexia Crédit Local hybrid Tier 1 debt would receive no proceeds.

Prudential Filters

As a consequence of the application of Article 33 of Regulation (EU) No. 575/2013 (Capital Requirements Regulation – CRR) on cash flow hedges and changes in the value of own liabilities, Dexia shall not include the following items in any element of own funds:

- The fair value reserves related to gains or losses on cash flow hedges of financial instruments not valued at fair value, including projected cash flows. Out of the amount of EUR 432 million of CFH reserve as at 31 December 2019, everything was filtered out. As a consequence, nothing was eligible as prudential equity. As at 31 December 2018, EUR 572 million was filtered out from the total CFH reserve, which amounted to EUR 578 million and EUR 6 million was eligible as prudential equity.
- The gains or losses on liabilities of the institution valued at fair value that result from changes in the own credit risk (OCR) of Dexia.

As from 1 January 2017 onwards, as allowed by the IFRS 9 standard, Dexia booked the OCR of those financial liabilities in "gains and losses directly recognised in equity". As a consequence, it was fully filtered out of the prudential equity.

- Fair value gains and losses arising from Dexia's own credit risk related to derivative liabilities. The Debit Valuation Adjustment (DVA) amounted to EUR 41 million as at 31 December 2019 (EUR 52 million as at 31 December 2018).

Also, in accordance with the regulation, prudent valuation requirements are applied to all fair-valued positions regardless of whether they are held in the trading book or the banking book.

The prudent valuation adjustment was EUR 212 million as at 31 December 2019 (EUR 227 million as at 31 December 2018).

Deductions pursuant to Articles 36, 56 and 66 and items not Deducted in Accordance with Articles 47,48,56,66 and 79 of the CRR

As at 31 December 2019, the Dexia Group was concerned by the deductions under review only for the intangible assets.

- The amount of intangible assets (software acquired or internally developed) to be deducted represented EUR 29 million.
- The holdings in capital instruments of financial sector entities without representing a significant investment in those entities amounted to EUR 27 million as at 31 December 2019, far below the threshold (EUR 733 million) from which deductions have to be made. The holdings of those capital instruments decreased during 2019 mainly due to natural amortisation.
- Regarding deferred taxes, the Group mainly had a position of unrecognised deferred tax assets, due to the losses resulting from the wind-down of its activities. The deferred tax assets on the face of the balance sheet represented an amount of EUR 20 million as at 31 December 2019 and arose from temporary differences (EUR 20 million as at 31 December 2018).
- Significant investments in financial sector entities, at less than EUR 1 million, did not exceed the threshold for deduction. This limited amount, together with the amount of deferred tax assets arising from temporary differences did not exceed the second threshold required in Article 48. They are included in risk-weighted assets with a weight of 250%.

1.4. Risk-Weighted Assets by Type of Risk

The following table shows the risk-weighted assets (RWA) and capital for each type of risk (and exposure class for credit risk) at year-end 2019. Regarding credit risk, the breakdown by exposure class presented in the following table reflects the historic presence of Dexia in financing public sector entities and project finance.

Risk-Weighted Assets and Capital Requirements

(in EUR million)			31/12/2018		31/12/2019	
Type of risk	Basel III treatment	Exposure class	RWA	Capital Requirements	RWA	Capital Requirements
Credit risk	Advanced	Corporate	2,982	239	2,945	236
		Equities	300	24	154	12
		Financial Institutions ⁽¹⁾	4,396	352	2,263	181
		Project Finance	2,334	187	2,230	178
		Public Sector Entities	2,167	173	1,327	106
		Securitisation ⁽²⁾	0	0		
		Sovereign	8,755	700	7,919	634
		Total	20,934	1,675	16,838	1,347
	Standard	Corporate	268	21	100	8
		Equities	30	2	25	2
		Financial Institutions ⁽¹⁾	944	76	564	45
		Monolines	343	27	270	22
		Project Finance	501	40	408	33
		Public Sector Entities	4,904	392	4,435	355
		Securitisation ⁽²⁾	1	0	1	0
		Sovereign	0	0	0	0
		Total	6,992	559	5,804	464
	RBA	Securitisation ⁽²⁾	743	59	438	35
		Total	743	59	438	35
Market risk	Internal Model	Interest Rate Risk	307	25	2,751	220
		Total	307	25	2,751	220
	Standard	Interest Rate Risk	3	0	1	0
		Foreign Exchange Risk	385	31	431	34
		Total	388	31	432	35
Operational risk	Basic	Total	1,000	80	1,000	80
TOTAL			30,365	2,429	27,263	2,181

As at 31 December 2019, risk-weighted assets amounted to EUR 27.3 billion, of which EUR 23.1 billion for credit risk, EUR 3.2 billion for market risk and EUR 1 billion for operational risk. The sharp fall of EUR -5.6 billion of credit risk-weighted assets, associated with the acceleration of asset sales, is partially offset by an EUR +2.5 billion increase of market risk-weighted assets, due to an additional capital charge applied temporarily on the request of the European Central Bank.

Risk-Weighted Assets

(in EUR million)	31/12/2018	31/12/2019
Credit risk-weighted assets	28,670	23,080
Market risk-weighted assets	695	3,183
Operational risk-weighted assets	1,000	1,000
TOTAL	30,365	27,263

1.5. Capital Adequacy

1.5.1. Regulatory Solvency Ratios

Dexia's Common Equity Tier 1 ratio was 26.8% as at 31 December 2019, against 26.7% at the end of 2018. The Total Capital ratio was 27.2%, against 27.3% at the end of 2018, a level higher than the minimum of 13.85% imposed for the year 2019 by the European Central Bank within the framework of the Supervisory Review and Evaluation Process (SREP).

Regulatory Equity and Solvency Ratios

(in EUR million except where indicated)	31/12/2018		31/12/2019	
	Transitional definition	Fully-loaded definition	Transitional definition	Fully-loaded definition
Common Equity Tier 1	8,119	7,951	7,308	7,158
Total Capital	8,278	8,155	7,404	7,323
Risk-weighted assets	30,365	30,353	27,263	27,254
Common Equity Tier 1 ratio	26.7%	26.2%	26.8%	26.3%
Total Capital ratio	27.3%	26.9%	27.2%	26.9%

1.5.2. Internal Capital Adequacy

From 2012 Dexia began to reshape the internal capital adequacy assessment process, taking account of its specific situation as a bank in orderly resolution and in line with regulatory requirements.

Dexia in fact developed a “Risk and Capital Adequacy” approach which was inspected by the supervisory authorities. Within the framework of the Single Supervisory Mechanism (SSM), this approach is the Group’s response to the requirements of the European Central Bank (ECB) in relation to the Internal Capital Adequacy Assessment Process (ICAAP), the Internal Liquidity Adequacy Assessment Process (ILAAP) and the Supervisory Review and Evaluation Process (SREP).

This approach consists of establishing an exhaustive map of the qualitative and quantitative risks which might simultaneously affect the Group’s accounting and prudential situation as well as its liquidity. Such risk mapping aims primarily to measure the sensitivities and exposure to different risk factors impacting the bank. Secondly, the simultaneous impact of various unfavourable future risk scenarios is measured, particularly in terms of the evolution of the principal accounting and prudential indicators. In this regard, and within the same framework, multiple transversal stress tests are performed. Possible departures from financial and strategic plans are thus identified, measured and analysed. These unfavourable scenarios simultaneously include scenarios of macroeconomic stress and scenarios which are simulated mathematically and reverse stress tests.

In accordance with the requirements of Pillar 2 and in line with best market practices, the conclusions from these processes are regularly submitted for the approval of the bank’s decision-taking bodies (Management Board and Board of Directors).

The “Risk & Capital Adequacy” (RCA) approach builds upon key strengths of regular economic capital approaches, stress testing techniques and Risk Appetite Frameworks. It aims at being fully integrated into the financial planning process, thus demonstrating the capital and liquidity adequacy as required by regulation.

In practical terms, the RCA capacity encompasses three key achievements with dedicated IT tools:

- **An Integrated Risk Map (IRM):** this IRM is Dexia’s comprehensive risk taxonomy and cartography inter alia allowing assessments to measure the sensitivities of the financial and prudential statements to each major identified risk factor (default, rating migration, market spread indices, foreign exchange rates, interest rates...). It covers all qualitative and quantitative risks affecting Dexia beyond the risks of Pillar 1. As an illustration, this IRM provides the sensitivity to a decrease of interest rates simultaneously on liquidity reserve, CVA, cash collateral, hedge accounting, risk-weighted assets, etc. and ultimately on available capital, capital ratios and funding sources. This risk map establishes a transparent link between a comprehensive and economic approach to risks and their impact on accounting and prudential measures. For illustration, Total Capital ratios under multiple macro-economic scenarios are estimated.
- **Multiple scenario analysis:** consistent comparison of risk scenarios and assessment of their impact. Multiple risk scenarios (expert, historical, market forwards and Monte Carlo) are consolidated in a single format for comparison and benchmarking purposes. Their impact in terms of capital and liquidity requirements is assessed and benchmarked towards base case scenarios. The adequacy between available financial and funding resources and the risks facing the bank for a variety of risk scenarios at different severity levels is assessed.
- **Reporting:** an integrated cascade of reporting is devised ranging from the most synthetic reports submitted to the boards, to more detailed reporting for intermediate Finance and Risk committees. These reports are designed to meet regulatory requirements in terms of ICAAP and ILAAP (Internal Capital/Liquidity Adequacy Assessment Process) and above all to provide insights into key risks and drivers of the volatilities of key accounting and prudential indicators. These reports will ultimately be used by the departments in charge of optimising Dexia’s run-off.

The conclusions of this internal approach in terms of capital adequacy measures and capacities to absorb losses were formally submitted to the bank’s executive bodies on a quarterly basis in 2019. Capital adequacy is thus analysed over horizons aligned to those of the strategic plans. Analyses from three months to ten years were produced in 2019. Those used for ICAAP and ILAAP purposes are established over a horizon of three years with an annual step. ICAAP and ILAAP stresses form an integral part of these analyses.

Possible departures from financial and strategic plans are identified, measured and analysed. These unfavourable scenarios simultaneously include macroeconomic stress scenarios, scenarios simulated mathematically and reverse stress tests.

This internal approach was renewed in 2019, taking account of the evolution of risks, market conditions and multiple exchanges with the supervisor throughout the year 2019.

1.5.3. Stress Tests

The objective of the stress test framework is to ensure that the Dexia Group's financial position provides sufficient resilience to withstand the impact of severe economic and financial stress.

In line with the final versions of the EBA guidelines published in July 2018 – Guidelines on the revised common procedures and methodologies for the supervisory review and evaluation process (SREP) and supervisory stress testing and Guidelines on institutions' stress testing – and the requirements formulated by the European Central Bank in November – ECB Guide to the internal capital adequacy assessment process (ICAAP) and ECB Guide to the internal liquidity adequacy assessment process (ILAAP) – for application as from 1 January 2019, Dexia performs multiple scenario analysis exercises and stress tests in a transversal and integrated approach to the Group's risk management process. This is a complete programme of stress tests in observance of the EBA guidelines which guarantees consistent articulation between the different types and granularities of stress.

Globally and transversally, these stress tests consist of sensitivity analyses, scenario impact analyses at multiple levels of severity and reverse stress tests. They exhaustively cover all the bank's risks, particularly and principally credit and counterparty risk, market and foreign exchange risk, liquidity risk, interest rate risk specific to banking portfolios (excluding the trading portfolio), operational risk including legal risk and concentration risk.

In addition to the stress tests performed within the framework of the ICAAP/ILAAP described below, Dexia has principally developed:

- Specific credit stress tests for the main asset classes. In particular, within the framework of Basel Pillar 1, the credit exposures covered by internal rating systems were subjected to sensitivity tests, of macroeconomic, historic and expert scenarios.
- Market stress tests (highlighting potential events outside the probability of VaR measurement techniques). They have been divided into tests of unique risk factors, tests of historic scenarios, tests of hypothetical scenarios and reverse stress tests.
- Stress tests associated with the structural interest rate risk enabling the potential impact on Dexia equity of a sudden and unexpected fluctuation of interest rates, to be measured, responding to regulatory expectations;
- Liquidity stress tests enabling additional liquidity requirements to be estimated in exceptional but plausible scenarios at different time horizons up to two years. Their aim is to identify possible vulnerabilities and simultaneously in an adverse shock situation to assess the possible increase of risk-weighted assets, additional liquidity requirements or capital requirements;
- Operational risk stress tests based on analysis of the frequency and severity of operational incidents, completed by scenario analyses.
- A series of internal transversal stress tests, complementary to and consistent with those of the ICAAP and ILAAP processes, relying on macroeconomic scenarios simulating crisis situations for Dexia for the purpose of internal analyses of capital adequacy and the risks of deviations from the strategic plan. They were approved internally and forwarded to the supervisory authorities on various occasions in 2019, in addition to the formal documentation of the ICAAP and ILAAP processes.

Crisis simulations for the purposes of ICAAP and ILAAP, described in detail in the following sections, are the object of internal validation and verification.

In accordance with regulatory requirements, the complete annual exercise for 2019 was forwarded to the ECB.

1.5.3.1. Stress Tests related to Credit Risk

In the context of Pillar 1 of Basel III, credit exposures covered by the internal rating-based approach (IRBA) are regularly subject to sensitivity tests and scenario analyses based on macro-economic and expert scenarios reflecting crisis situations.

The objective is to estimate the impact of adverse although plausible assumptions of economic recession on the main credit risk parameters: Probability of Default (PD) and Loss Given Default (LGD), and risk measures such as risk-weighted assets, Expected Loss (EL) or direct losses.

A quantitative point-in-time modelling per credit sector has been developed, for the purpose of stress testing, financial planning and IFRS 9 multi-scenario Expected Credit Loss Calculations, to link the evolution of the credit risk parameters to the change of the main macro-economic variables (GDP evolution rate, unemployment rate, interest rate, etc.) under stressed rating migration matrices.

This quantitative modelling is completed by an expert approach to take into account the actual vulnerabilities of each credit sector and the inner limits of historical observations between macro-economic variables and risk parameters (PD, LGD). These expert scenarios are designed and discussed during the credit workshops with credit risk experts involved in the different asset classes.

The outcomes of the macro-economic stress and expert stress scenarios are benchmarked with historical scenarios and the Pillar 2 ICAAP Risk & Capital Adequacy credit risk results. A stress test report is drafted for each credit sector, including data description, principles of methodology, results and conclusions of different sensitivity tests and scenarios, as well as possible management actions to face hypothetical and adverse situations. The results of the stress test exercises are presented to the Risk Management Executive Committee. All stress test reports are submitted for validation by the internal methodological validation team in charge of IRBA models.

1.5.3.2. Stress-Tests related to Market Risk

The market risk stress tests complete the risk management framework by stressing potential exceptional events outside the probability framework of VaR measurement techniques. They are performed on a quarterly basis on the Group scope. The results of these stress tests are reported to the Market Risk Committee.

A number of scenarios are regularly assessed covering the main market risk factors: interest rate, foreign exchange rate, volatility and credit spread.

Stress tests performed by Dexia can be broken down into four categories:

- Single risk factor (mono-factorial) stress tests, including some stress tests recommended by the banking supervisors.
- Integrated historical scenario stress tests: Equity crash (1987), Monetary crisis (1992), Terrorist attack (2001), Financial crisis scenario (2008) capturing the turmoil triggered by the Lehman default, Sovereign crisis (2012) simulating the crisis propagation of the sovereign debt crisis in the Euro zone.
- Integrated hypothetical scenarios stress tests;
- Reverse stress tests.

1.5.3.3. Stress Tests related to Structural Interest Rate Risk

Dexia applies the supervisory standard shock as defined by the EBA, assessing the change in economic value by more than 20% on own funds as a result of a sudden and unexpected change in interest rates. This is achieved by means of a 200 basis point parallel shift of the yield curve. The results of these stress tests are reported to the Group Assets & Liabilities Committee.

1.5.3.4. Stress Tests related to Liquidity Risk

Dexia performs liquidity stress tests to estimate the additional liquidity requirements under exceptional although plausible scenarios in a certain time horizon up to two years such as:

- Market-wide shocks that affect all banks in the system;
- Idiosyncratic shocks, e.g. due to the financial deterioration of Dexia;
- Combined scenario.

Stress scenarios are applied on balance sheet and off-balance sheet components of the residual gap that is the main liquidity driver. The residual gap is the difference between:

- Dynamic liquidity gap composed of the static liquidity gap profile adjusted for gap assumptions (new transactions, roll of repo, roll of short-term funding, etc.);
- Dynamic buffer of reserves composed of the static buffer of eligible reserves adjusted for reserve assumptions.
- Stress tests mainly performed on wholesale funding, cash collateral and reserves (assets) eligible for pledging to central banks, funding deposits and secured funding. The stress encompasses off-balance sheet commitments and downgrade triggers.

1.5.3.5. Integrated Pillar 2 Stress Tests

Following the Pillar 2 regulation Dexia includes in its ICAAP a comprehensive stress testing framework, clearly distinct and independent from the ICAAP risk measurement, providing a challenging perspective to the latter, including of its underlying assumptions.

More specifically, for regulatory stresses of the ICAAP and ILAAP type, as defined in the EBA guidelines and in association with reviews of financial plans over multiple horizons, Dexia performed a complete review of its vulnerabilities to cover all material risks associated with its business model under stressed macroeconomic and financial conditions in addition to reverse stress tests. In accordance with regulatory requirements, the documentation for the ICAAP 2019 annual exercise was forwarded to the ECB.

The ICAAP stress tests form an integral part of the bank's reporting system, and its Risk Appetite Framework (RAF) and are incorporated in the definition and review of global strategy. They systematically complete the financial planning process. The link between risk tolerance, adaptations to the strategic plan for resolution and the ICAAP and ILAAP stress tests is also guaranteed by specific consumption and capital adequacy indicators forming part of the RAF.

1.5.3.6. Internal Transversal Stress Tests

A series of internal transversal stress tests, complementary to and consistent with those of the ICAAP and ILAAP processes, relying on macroeconomic scenarios simulating crisis situations for Dexia for the purpose of internal analyses of capital adequacy and the risks of deviations from the strategic plan. They were approved internally and forwarded to the supervisory authorities on various occasions in 2019, in addition to the formal documentation of the ICAAP and ILAAP processes.

1.6. Leverage Ratio

The Basel III /CRD IV Regulation introduced the leverage ratio, the main objective of which is to serve as a complementary measure on capital. This ratio is obtained by dividing Tier 1 Capital by exposures calculated using the balance sheet assets and off-balance sheet commitments, assessed according to a prudential approach. Derivatives and repurchase agreements are also adjusted.

The European Commission published the CRR revision (CRR2) on 7 June 2019 in the EU Official Journal with final date of application on 28 June 2021. Under CRR2 a minimum level of 3% is applicable. However, banks have been required to publish their leverage ratio since 1 January 2015.

As at 31 December 2019, the Group ratio calculated according to the CRR/CRD IV rules as amended by the Delegated Act of October 2014 reached 8.38% (using a transitional definition of Tier 1 Capital), compared to 6.59% as at 31 December 2018. This improvement is explained by a decrease of Tier 1 Capital exposure combined with a lower exposure.

As at 31 December 2019, the Group leverage ratio calculated using a fully phased-in definition of Tier 1 Capital reached 8.17%.

Quarterly follow-up of the leverage ratio is performed at both Group and entity levels, in order to manage the risk of excessive leverage. This follow-up is included in the quarterly "Capital Management" report.

Summary Comparison of Accounting Assets against Leverage Ratio Exposure Measure

LEVERAGE EXPOSURE: RECONCILIATION WITH TOTAL BALANCE SHEET		
(in EUR million except where indicated)	31/12/2018	31/12/2019
TOTAL BALANCE SHEET	158,804	120,326
Neutralisation of the balance sheet value of items whose leverage exposure is different from that of the balance sheet	(44,623)	(39,528)
<i>Trading derivatives (assets)</i>	10,354	11,181
<i>Hedging derivatives (assets)</i>	4,421	1,378
<i>SFT (assets)</i>	2,575	1,502
<i>Cash collateral (paid)</i>	27,273	25,467
Leverage exposure of derivatives	4,849	4,279
Leverage exposure of reverse repo	0	0
Leverage exposure of repo (liabilities) counterparty credit risk	4,204	2,124
Leverage exposure of off-balance sheet items	834	629
Leverage exposure adjustment on assets deducted from CET1	(264)	(242)
<i>Intangible assets</i>	37	29
<i>Breach of threshold on deduction on CET1 of instruments from fin. institutions</i>	0	0
<i>Breach of threshold on deductions on AT1 of instruments from fin. institutions</i>	0	0
<i>Additional value adjustments</i>	227	212
TOTAL LEVERAGE EXPOSURE	123,803	87,589
Tier 1 Capital, transitional provisions	8,158	7,336
LEVERAGE RATIO	6.59%	8.38%

LEVERAGE RATIO COMMON DISCLOSURE TEMPLATE		
(in EUR million except where indicated)	31/12/2018	31/12/2019
On-balance sheet exposures		
1 On-balance sheet items (excluding derivatives and SFTs, but including collateral)	141,454	106,265
2 (Asset amounts deducted in determining Basel III Tier 1 capital transitional definition)	(264)	(242)
3 Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of lines 1 and 2)	141,189	106,023
Derivative exposures		
4 Replacement cost associated with all derivatives transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)	5,950	5,664
5 Add-on amounts for PFE associated with all derivatives transactions	1,781	1,498
6 Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	(27,273)	(25,467)
7 (Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(2,882)	(2,884)
8 (Exempted CCP leg of client-cleared trade exposures)	0	0
9 Adjusted effective notional amount of written credit derivatives	0	0
10 (Adjusted effective notional offsets and add-on deductions for written credit derivatives)	0	0
11 Total derivative exposures	4,849	4,279
Securities financing transaction exposures		
12 Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions		
13 (Netted amounts of cash payables and cash receivables of gross SFT assets)		
14 CCR exposure for SFT assets	4,204	2,124
15 Agent transaction exposures		
16 Total securities financing transaction exposures (sum of lines 12 to 15)	4,204	2,124
Other off-balance sheet exposures		
17 Off-balance sheet exposure at gross notional amount	1,353	1,007
18 (Adjustments for conversion to credit equivalent amounts)	(519)	(378)
19 Off-balance sheet items (sum of lines 17 and 18)	834	629
Capital and total exposures		
20 Tier 1 capital – Transitional definition	8,158	7,336
21 Total exposures (sum of lines 3, 6, 11, 16 and 19)	123,803	87,589
Leverage ratio		
22 Basel III leverage ratio – using a transitional definition of Tier 1 Capital	6.59%	8.38%

1.7. Significant Banking Subsidiary: Dexia Crédit Local

Dexia Crédit Local (DCL) is Dexia Group's sole significant subsidiary following the orderly resolution plan. DCL exposure amounts are almost the same as those of the Dexia Group.

Prudential Equity and Solvency Ratios

(in EUR million except where indicated)	Solvency			
	31/12/2018	31/12/2018	31/12/2019	31/12/2019
	Transitional definition	Fully-loaded definition	Transitional definition	Fully-loaded definition
Common Equity Tier 1	7,012	6,844	6,269	6,119
Total Capital	7,134	7,008	6,325	6,247
Risk-weighted assets	30,182	30,170	26,706	26,697
Common Equity Tier 1 ratio	23.2%	22.7%	23.5%	22.9%
Total Capital ratio	23.6%	23.2%	23.7%	23.4%

As at 31 December 2019, Dexia Crédit Local's Total Capital was EUR 6.3 billion, compared to EUR 7.1 billion as at 31 December 2018. On the same date, Dexia Crédit Local's Common Equity Tier 1 capital was EUR 6.3 billion, compared to EUR 7.0 billion as at 31 December 2018. They are burdened by the negative net income for the year (EUR -784 million).

In line with the requirements of the European Central Bank, two items are deducted from prudential capital in a total amount of EUR -170 million:

- The theoretical amount of the loss corresponding to the remediation of the persistent breach of the large exposure ratio limit, which amounts to EUR -121 million;
- The amount of irrevocable payment commitments (IPC) to resolution funds and other guarantee funds, which amounts to EUR -49 million.

Furthermore, following the ECB's on-site inspection of credit risk in 2018, the ECB issued a number of recommendations. As a consequence, Dexia Crédit Local deducted an amount of EUR -80 million from its prudential equity as a complement to specific provisions.

As at 31 December 2019, risk-weighted assets amounted to EUR 26.7 billion, of which EUR 22.9 for credit risk, EUR 3.2 billion for market risk and EUR 0.6 billion for operational risk. The sharp fall of EUR -5.6 billion of credit risk-weighted assets, associated with the acceleration of asset sales, is partially offset by an EUR +2.5 billion increase of market risk-weighted assets, due to an additional capital charge applied temporarily on the request of the European Central Bank.

Dexia Crédit Local's Common Equity Tier 1 ratio was 23.5% as at 31 December 2019, against 23.2% at the end of 2018. The Total Capital ratio was 23.7%, against 23.6% at the end of 2018, a level higher than the minimum of 13.85% imposed for the year 2019 by the European Central Bank within the framework of the Supervisory Review and Evaluation Process (SREP).

2. Credit Risk

2.1. Credit Risk Management

2.1.1. Dexia Credit Risk Policy

In order to manage credit risk, Dexia Risk Management has established a general framework of policies and procedures. This framework guides credit risk management in its functions of analysis, decision-making and risk surveillance.

Risk Management contributes to the process of credit by setting up a framework of credit limits mainly for banking activities (funding and derivatives) dedicated to the residual portfolio. The rest of the transactions (restructuring, additional credit limits beyond the framework) have to be approved by the Transaction Committee.

2.1.2. Risk Measures

As Dexia applies the AIRB Approach, the assessment of credit risk relies principally on internal rating systems developed within the context of the Basel reform: in this Advanced approach, each counterparty is attributed an internal rating by credit risk analysts relying on dedicated rating tools. This internal rating corresponds to an assessment of the level of the counterparty's risk of default, expressed through an internal rating scale, constituting a key element in the credit granting process. Ratings are revised annually, allowing proactive identification of the sensitive counterparties and risks. Watch-list committees are organised to monitor sensitive exposures on the basis of objective criteria or expert judgment.

In order to control the Group's overall credit risk profile, and to limit the concentration of risks, credit risk limits are defined per counterparty, setting the maximum exposure deemed acceptable. The risk management teams can also set limits per product: they proactively monitor limits and may reduce them at any time depending on the evolution of associated risks.

2.2. Credit Risk Exposure

Dexia's credit risk exposure is expressed as Exposure at Default (EAD). It corresponds to the best estimate of credit risk exposure in the event of default. The Dexia Group uses both the standard and the advanced approach to calculating its risk-weighted assets. Thus, the regulatory metric has been adapted to allow the treatment of impairments to be homogenised for comparability purposes.

- For financial assets measured at amortised cost, the EAD of a credit exposure on the balance sheet corresponds to the book value, gross of impairments, taking account of accrued interest and the impact of hedge accounting;
- For financial assets measured at fair value, the EAD of a credit exposure on the balance sheet corresponds to its book value, before impairments;
- For derivatives, the EAD is calculated using the mark-to-market valuation method under Article 274 of the Regulation (EU) No. 575/2013 and includes the replacement cost as well as the amount representing future potential exposure, obtained by the product of the notional amount and a coefficient depending on the type of derivative and its residual term;
- For off-balance-sheet commitments, the EAD represents the product of the (nominal) amounts of commitments and a Credit Conversion Factor (CCF). The Dexia Group applies the standard method (Article 111 of the Regulation (EU) No. 575/2013) to determine credit conversion factors, except for project finance transactions (advanced approach).

As at 31 December 2019, Dexia's credit risk exposure was EUR 87.9 billion, compared with EUR 123.6 billion at the end of December 2018, i.e. down 29%, linked to asset disposals, natural portfolio amortisation and early redemptions.

Exposure was for EUR 43 billion in loans and EUR 39 billion in bonds. It was for the most part concentrated in the European Union (81%) and the United States (10%).

2.2.1. Exposure per Type of Product and Geographic Area

The table below shows the total exposure with a breakdown by type of product and geographic area at year-end 2018 and 2019.

Exposure at year-end 2018 (EAD)					
	Eurozone ⁽¹⁾	Rest of Europe	US	Rest of the world	Total
Loans & advances	44,892	12,304	1,731	1,172	60,099
Debt securities	25,321	6,921	7,499	11,255	50,996
Repo	1,670	432	572	828	3,502
ABS	403	1,312	1	1,114	2,831
Derivatives	2,676	1,277	206	388	4,546
Given guarantees	1,141	241	24	261	1,667
Retail loans	2	0	0	0	2
TOTAL	76,105	22,488	10,033	15,017	123,643

(1) Countries using the Euro currency as at year-end.

Exposure at year-end 2019 (EAD)					
	Eurozone ⁽¹⁾	Rest of Europe	US	Rest of the world	Total
Loans & advances	24,509	12,508	3,773	1,162	41,951
Debt securities	21,176	6,583	4,604	5,349	37,712
Repo	1,074	123	12	358	1,567
ABS	46	1,360	3	1	1,410
Derivatives	1,804	1,261	321	214	3,601
Given guarantees	895	556	168	45	1,664
Retail loans	2	0	0	0	2
TOTAL	49,506	22,392	8,881	7,128	87,907

(1) Countries using the Euro currency as at year-end.

2.2.2. Exposure per type of product and obligor grade

The following tables show the total exposure and the average exposure with a breakdown by type of product and obligor grade at year-end 2018 and 2019. For reporting purposes, a rating "master scale" has been applied. This scale is structured in grades ranging from AAA to CCC and the modifiers plus, flat and minus.

Exposure at year-end 2018 (EAD)						
Rating	AAA+ to AA-	A+ to BBB-	NIG ⁽¹⁾	Default	Unrated	Total
Loans & advances	33,491	20,357	5,176	800	275	60,099
Debt securities	7,869	38,780	3,899	448	0	50,996
Repo	216	3,285	0	0	0	3,502
ABS	2,348	362	73	0	48	2,831
Derivatives	135	3,787	495	129	0	4,546
Given guarantees	534	1,034	66	18	16	1,667
Retail loans	0	0	0	2	0	2
Other assets	0	0	0	0	0	0
TOTAL	44,594	67,606	9,708	1,397	338	123,643

(1) Non-investment grade.

Exposure at year-end 2019 (EAD)						
Rating	AAA+ to AA-	A+ to BBB-	NIG ⁽¹⁾	Default	Unrated	Total
Loans & advances	17,513	20,084	3,680	539	135	41,951
Debt securities	2,283	32,909	2,517	3	0	37,712
Repo	0	1,567	0	0	0	1,567
ABS	1,304	1	55	0	49	1,410
Derivatives	144	3,024	312	120	0	3,601
Given guarantees	421	1,193	24	18	8	1,664
Retail loans	0	0	0	2	0	2
Other assets	0	0	0	0	0	0
TOTAL	21,666	58,778	6,589	682	192	87,907

(1) Non-investment grade.

As at 31 December 2019, 92% of the exposure was investment grade. Non-investment grade (NIG) files represented 7.5% of the portfolio, 0.2% were unrated and 0.8% were in default.

2.2.3. Exposure per Exposure Class and Economic Sector

The following tables show the total exposure with a breakdown per economic sector and exposure class at year-end 2018 and 2019.

Exposure at year-end 2018 (EAD)										
Economic Sector	Corporate	Financial institutions	Financial guarantors	Project finance	Public sector entities	Retail	Securitisation	Sovereign	Total	
Industry	4,988	75	0	1,592	1,678	0	0	0	8,333	
Construction	9	0	0	5,687	152	0	0	0	5,848	
Trade-tourism	1	0	0	0	31	0	0	0	32	
Services	Transportation and storage	601	0	0	368	1,130	0	0	47	2,147
	Financial and insurance activities	0	10,328	1,488	23	1,474	0	2,822	9,688	25,823
	Real estate activities	106	2	0	2,627	5,296	0	0	0	8,031
	Professional, scientific and technical activities	0	0	0	0	30	0	0	0	30
	Administrative and support service activities	1	0	0	0	2,746	0	0	0	2,748
	Public administration and defence-compulsory social security	0	0	0	2	50,754	0	9	17,058	67,823
	Human health and social work activities	10	0	0	0	1,962	0	0	0	1,972
	Arts, entertainment and recreation	0	0	0	0	135	0	0	0	135
	Education	1	0	0	0	216	0	0	0	216
	Other services	0	0	0	0	200	0	0	289	489
Others	15	0	0	0	0	1	0	0	16	
TOTAL	5,733	10,406	1,488	10,299	65,804	1	2,831	27,081	123,643	
%	5%	8%	1%	8%	53%	0%	2%	22%	100%	

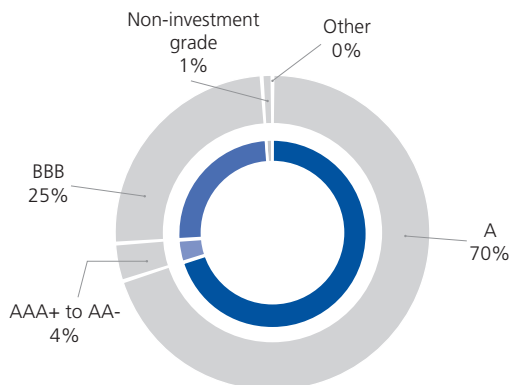
Exposure at year-end 2019 (EAD)									
Economic Sector	Corporate	Financial institutions	Financial guarantors	Project finance	Public sector entities	Retail	Securitisation	Sovereign	Total
Industry	4,609	76	0	1,159	491	0	0	0	6,335
Construction	8	0	0	5,472	135	0	0	0	5,616
Trade-tourism	1	0	0	0	9	0	0	0	10
Services	Transportation and storage	574	0	0	275	531	0	0	1,428
	Financial and insurance activities	0	6,775	1,349	21	193	0	1,410	9,997
	Real estate activities	72	2	0	2,402	4,711	0	0	7,186
	Professional, scientific and technical activities	0	0	0	0	14	0	0	14
	Administrative and support service activities	1	0	0	0	2,433	0	0	2,434
	Public administration and defence-compulsory social security	0	0	0	0	27,188	0	0	15,635
	Human health and social work activities	8	0	0	0	1,750	0	0	1,758
	Arts, entertainment and recreation	0	0	0	0	101	0	0	101
	Other services activities	0	0	0	0	134	0	0	134
	Education	0	0	0	0	120	0	0	120
	Other services	0	0	0	0	0	0	191	191
Others	14	0	0	0	0	1	0	0	14
TOTAL	5,286	6,852	1,349	9,329	37,809	1	1,410	25,871	87,907

As at 31 December 2019 the majority of exposures remained concentrated on the local public sector and sovereigns (72%), taking account of Dexia's historical activity.

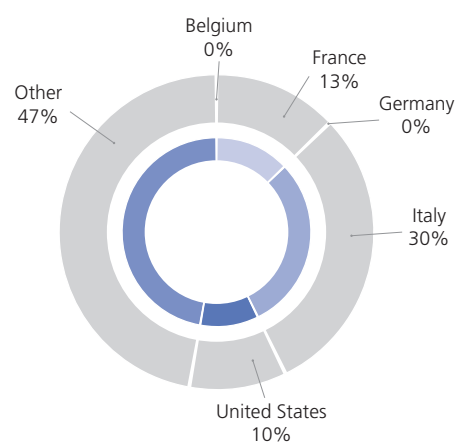
Exposure on France fell following asset disposals concentrated on the local public sector, natural portfolio amortisation and the reduction of deposits with the Bank of France by virtue of the liquidity reserve.

Exposure in the coloured cells is further detailed in the following diagrams.

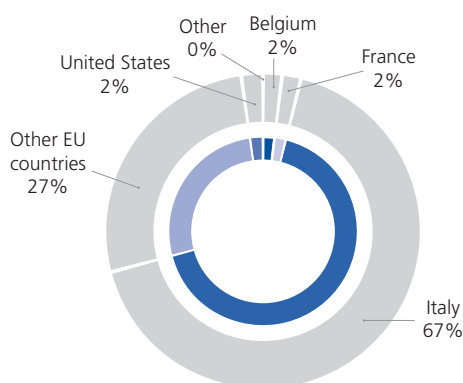
Financial institutions: split by rating class



Public administration / Public sector entities: split by country



Public administration / Sovereign: split by country



2.2.4. Fundamentals of Dexia's Credit Risk in 2019

2.2.4.1. Dexia Group Commitments to Sovereigns

Dexia Group commitments to sovereigns are concentrated essentially on Italy, France and to a lesser extent the United States and Portugal.

(in EUR million)	Sovereigns	
	2018	2019
Italy	12,260	10,472
France	8,458	6,408
United States	1,409	3,672
Portugal	2,796	2,974
Poland	554	634
Japan	21	21
Others	1,584	1,690
TOTAL	27,081	25,871

In 2019, Dexia took advantage of favourable market conditions to dispose of some of its sovereign exposure, particularly on Italy. Exposure on the Italian sovereign fell by EUR 1.8 billion over the year 2019 and was EUR 10.5 billion as at 31 December 2019.

Sovereign exposure on France was EUR 6.4 billion as at 31 December 2019, against EUR 8.5 billion as at 31 December 2018. The fall recorded over the year reflects the reduction of deposits with the Bank of France by virtue of the Group liquidity reserve.

The two main events in Europe were the arrival in power in Italy of a pro-European coalition and persisting uncertainties surrounding the United Kingdom's exit from the European Union.

In Italy, as a result of a more fiscally constructive coalition, tensions on the capital markets have eased significantly: Italian interest rates and credit spreads have fallen back to the levels seen before the Northern League/Five Star Movement coalition agreement in 2018.

Following the election of Boris Johnson's Conservative Party in early elections at the end of the year, the UK's exit from the European Union in 2020 is certain. However, uncertainties remain over the terms of the post-exit UK/EU relationship.

Dexia's exposure to the United Kingdom sovereign is negligible (EUR 64 million).

2.2.4.2. Dexia Group Commitments on the Local Public Sector

Considering Dexia's historical activity as a lender to local authorities, the local public sector represents a significant proportion of the Dexia Group's outstanding, principally concentrated in the countries of Western Europe (United Kingdom, Italy, France, Spain, Portugal) and in North America and Japan.

(in EUR million)	Local Public Sector	
	2018	2019
United Kingdom	9,918	10,315
Italy	8,993	8,612
France	9,522	7,290
Spain	4,145	3,584
United States	9,020	2,740
Portugal	1,532	1,006
Canada	922	459
Germany	13,983	0
Others	7,768	3,803
TOTAL	65,804	37,809

United Kingdom

Dexia's exposure on the United Kingdom was EUR 10.3 billion as at 31 December 2019, relating to local authorities, Utilities (water, gas transmission and distribution and electricity), project finance and social housing, all rated in the investment grade category and for which Dexia does not anticipate any major negative impact in the short term as a result of Brexit.

France

The quality of the Group's portfolio, consisting mainly of outstanding on local authorities and social housing, remains very good, with a very limited number of payment incidents observed. The year 2019 was marked by significant sales of loans within the framework of the deleveraging programme, notably loans to French local authorities (EUR 0.6 billion).

Spain

The Spanish State's support to the regions and municipalities continued through the renewal of several financial support funds: EUR 26.2 billion was paid to the regions in 2019, particularly by the Autonomous Liquidity Fund for the Regions (FLA), against EUR 29.9 billion granted in 2018. In consideration for such aid, the State control over regional or local finance was increased: the 2019 budgets were drawn up on the basis of a deficit target of 0.1% of GDP. By way of comparison, the deficit was 0.2% in 2018.

Catalonia is one of the main Spanish regions and a major centre of economic attractiveness for Spain, but its financial situation remains tense. It presents negative savings, heavy indebtedness and tight liquidity leading to dependence on short-term funding. As a consequence it benefits from support from the State. Following the election of new governments in Catalonia and in Spain, financial control by the Spanish state was raised. The region's finances nonetheless remain subject to control under the FLA. Dexia's exposure to Catalonia is high (EUR 1.8 billion) but no payment incident was recorded, as for the other Spanish regions.

Exposures have been significantly reduced in many regions in 2019, including Castilla y León and Galicia, as well as the region of Cantabria, which has not had an exposure since June.

United States

The majority of Dexia's exposures to the local public sector in the United States relates to States (53%) and local authorities (17%). Like the US local public market, the Dexia portfolio is of good quality and is generally covered by monolines.

The main risks affecting the sector are medium and long-term risks relating to the increase of pension debts (with a pension reform capacity more or less significant depending on the legislative framework of each State) and the possible subordination of bond lenders vis-à-vis the beneficiaries of pension schemes, as in certain recent insolvencies.

In 2019, Dexia took advantage of favourable market conditions to reduce its exposure to the US public sector. Several counterparties with high credit risk were sold. In particular, the Dexia Group bought back or sold its entire exposure to the Chicago Board of Education for which a specific provision had been booked.

2.2.4.3. Dexia Group Commitments on Project Finance and Corporates

The project finance and corporate loans portfolio amounted to EUR 15 billion as at 31 December 2019, down 9% on the end of 2018. This portfolio contracted on the one hand as a result of natural amortisation and certain early redemptions and on the other hand following disposals.

(in EUR million)	Corporate		Project finance	
	2018	2019	2018	2019
United Kingdom	4,436	4,076	3,570	3,382
France	694	637	1,886	1,904
Spain	25	22	1,364	1,147
Italy	207	197	134	79
United States	344	331	535	507
Canada	0	0	813	645
Germany	0	0	126	109
Portugal	0	0	70	59
Greece	0	0	77	18
Others	25	23	1,724	1,479
TOTAL	5,733	5,286	10,299	9,329

The portfolio consists 64% of project finance⁽⁵⁾, the balance being in finance to corporates, such as acquisition financing, commercial transactions or corporate bonds. The portfolio is of good quality: 80% project finance and 99% finance to corporates is rated investment grade.

The UK portfolio represents approximately 51% of the project finance portfolio (PPP) and corporates (utilities), and 97% of the exposure is rated investment grade. There is no anticipation of any significant negative short-term impact following Brexit, even in the event of a non-deal departure from the European Union.

2.2.4.4. Dexia Group Commitments to ABS

(in EUR million)	ABS/MBS	
	2018	2019
United Kingdom	1,312	1,360
Spain	316	42
Italy	7	3
United States	1,114	3
Portugal	15	0
Others	67	1
TOTAL	2,831	1,410

In 2019, Dexia continued the voluntary reduction of its ABS portfolio. Taking advantage of favourable market conditions, the Group in particular disposed of ABS on US government student loans.

2.2.4.5. Dexia Group Commitments to Financial Institutions

(in EUR million)	Financial institutions	
	2018	2019
France	1,710	1,490
United Kingdom	1,131	1,362
United States	1,793	1,125
Germany	2,211	945
Spain	1,124	246
Italy	282	114
Canada	147	78
Portugal	9	11
Others	2,000	1,481
TOTAL	10,406	6,852

Dexia commitments to financial institutions were EUR 6.9 billion as at 31 December 2019.

The evolution of the Deutsche Bank group continues to be monitored carefully. Dexia's exposure to this group was significantly reduced in 2019 to EUR 0.4 billion against EUR 0.9 billion as at 31 December 2018, following the non-renewal of a major long-term repo and the deconsolidation of Dexia Kommunalbank Deutschland.

Dexia's exposure to the Italian banking system was limited to EUR 114 million as at 31 December 2019.

⁽⁵⁾ Transactions without recourse to their sponsors the redemption of which is only on the basis of their own cash-flows and strongly secured in favour of the bank, for example via sureties on assets and contracts or a limitation of dividends.

2.2.4.6. Dexia Group Commitments to Financial Guarantors

Dexia is indirectly exposed to financial guarantors in the form of financial guarantees covering timely payment of the principal and interest payable on credits on certain bonds and loans. Claims against financial guarantors only become payable if real defaults occur in the underlying assets. Dexia's enhanced bonds benefit from increased trading values and, in some cases, a reduction of capital in view of the credit enhancement provided by financial guarantors.

As at 31 December 2019, the amount of exposures enhanced by financial guarantors was EUR 8.5 billion, of which 73% of exposures in assets insured by financial guarantors rated "investment grade" by one or more external rating agencies. All but FGIC continue to honour their original commitments.

2.3. AIRB Approaches

2.3.1. Competent Authority's Acceptance of Approach

By letter sent on 21 December 2007 by the Belgian supervisory authorities, Dexia was authorised to use the Advanced Internal Rating-Based Approach (AIRB Approach) for the calculation and the reporting of its capital requirements for credit risk starting from 1 January 2008.

This acceptance is applicable to all entities and subsidiaries consolidated within the Dexia Group, which are established in a Member State of the European Union and are subject to the Capital Requirement Directive.

2.3.2. Internal Rating Systems

The internal rating systems developed by Dexia are set up to evaluate the three Basel parameters: Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factor (CCF). For each counterparty type in the advanced method, a set of two or three models, one for each parameter, has been developed.

The PD models estimate the one-year probability of default. Each model has its own rating scale and each rating on the scale corresponds to a probability of default used for regulatory and reporting purposes. The correspondence between rating and PD for each scale is set during the calibration process, as part of the model development, and is reviewed and adjusted during the yearly back-testing when applicable. The number of ratings on each scale depends on the characteristics of the underlying portfolio (the number of counterparties, their homogeneity, whether it is a low default portfolio or not) and varies between 6 and 18 non-default classes. In addition, each scale has been attributed two default classes (named D1 and D2).

LGD models estimate the ultimate loss incurred on a defaulting counterparty before taking the credit risk mitigants into account. The unsecured LGD depends on different factors such as the product type, the level of subordination or the rating of the counterparty. The granularity of the estimate is a function of the quantity and quality of data available.

CCF models estimate the portion of off-balance sheet commitments that would be drawn should counterparties go into default. The regulation authorises the use of CCF models only when CCF under the foundation approach is not equal to 100% (as it is for credit substitutes for instance). CCF granularity also depends on data availability. As a consequence of the orderly resolution plan, internal CCF models are used only on project finance assets; on all other asset classes the foundation parameters are applied. Internal estimates of Basel parameters are used within Dexia in addition to the calculation of the regulatory risk weighted exposure amounts. They are used particularly in the decision-making process, credit risk management and monitoring, internal limit determination, provisioning methodology and pricing.

The control mechanisms for Internal Rating Systems (IRS) are organised in 3 levels:

- Credit IRS control is defined, in accordance with the regulatory directives, as an internal and independent containment function to ensure that the IRS are being used properly, that they are operationally effective and that the audit trail in the rating process remains clear;
- The Validation department is responsible for the independent review of all models used within Dexia, back-testing and stress testing, either market risk models, pricing models, Basel Pillar 1 credit rating models, IFRS 9 models, ICAAP models;
- Audit is responsible for auditing the general consistency and compliance with the regulation (CRR). Audit then acts as an additional level of control, included in its audit plan.

Cf. Appendix 2 for more details regarding internal rating systems.

2.3.3. Average PD, LGD and Risk Weight by Exposure Class and Obligor Grade

The following tables show the total EAD (banking book), average EAD, average PD, LGD, average risk weights and average expected losses broken down by exposure class and obligor grade at year-end 2018 and 2019. The counterparties are the final counterparties, i.e. after taking into account the Basel III eligible guarantees (substitution principle). Financial guarantors' exposure is essentially an indirect exposure. Average EAD is the quarterly average figure.

(in EUR million)		2018					
Exposure class	Obligor grade	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Corporate	AAA to AA-	0	0	0	0	0	0
	A+ to A-	2,065	1,961	0.06%	36.06%	32.98%	0.03%
	BBB+ to BBB-	3,193	3,190	0.22%	39.50%	63.34%	0.09%
	BB+ to B-	36	92	1.45%	47.81%	139.04%	0.84%
	Below B-	0	4	0	0	0	0
	No External Rating	16	16	30.87%	66.57%	422.58%	20.55%
	Total	5,310	5,262	0.26%	38.30%	53.13%	0.13%
Financial Institutions	AAA to AA-	0	0	0	0	0	0
	A+ to A-	4,727	5,260	0.06%	19.24%	16.53%	0.02%
	BBB+ to BBB-	2,781	3,251	0.23%	34.97%	46.27%	0.10%
	BB+ to B-	596	708	4.46%	2.81%	11.33%	0.06%
	Total	8,104	9,222	0.44%	23.43%	26.35%	0.05%
Project Finance	AAA to AA-	0	0	0	0	0	0
	A+ to A-	2,326	2,392	0.05%	10.69%	9.61%	0.01%
	BBB+ to BBB-	5,381	5,590	0.24%	12.82%	22.06%	0.04%
	BB+ to B-	1,346	1,543	1.43%	15.77%	46.64%	0.27%
	Below B-	0	0	0	0	0	0
	No External Rating	0	0	0	0	0	0
	Total	9,053	9,525	0.37%	12.71%	22.51%	0.07%
Public Sector Entities	AAA to AA-	12,727	13,689	0.03%	8.51%	4.31%	0.00%
	A+ to A-	6,637	7,148	0.06%	7.92%	6.26%	0.00%
	BBB+ to BBB-	5,812	6,408	0.26%	2.96%	4.64%	0.01%
	BB+ to B-	6,239	6,715	1.44%	2.89%	8.93%	0.04%
	No External Rating	157	216	4.29%	4.12%	15.56%	0.23%
	Total	31,573	34,175	0.38%	6.23%	5.75%	0.01%
Securitisation	AAA to AA-	9	9	0.00%	5.00%	0.00%	0.00%
	BBB+ to BBB-	0	0	0	0	0	0
	BB+ to B-	0	11	0	0	0	0
	Below B-	0	0	0	0	0	0
	Total	9	20	0.00%	5.00%	0.00%	0.00%
Sovereign	AAA to AA-	10,713	11,943	0.00%	9.71%	0.00%	0.00%
	A+ to A-	575	564	0.10%	19.82%	21.82%	0.02%
	BBB+ to BBB-	15,598	15,848	0.29%	28.43%	52.81%	0.09%
	BB+ to B-	134	131	3.40%	55.00%	212.18%	1.59%
	No External Rating	0	0	0	0	0	0
	Total	27,020	28,487	0.19%	20.95%	32.01%	0.06%
Equities	AAA to AA-	53	53	0.09%	11.11%	289.76%	0.80%
	A+ to A-	1	1	0.09%	11.11%	224.63%	0.80%
	BBB+ to BBB-	31	29	0.51%	11.11%	190.23%	0.80%
	BB+ to B-	0	0	2.46%	11.11%	215.40%	0.80%
	Below B-	0	0	30.87%	11.11%	190.00%	0.80%
	Total	41	55	30.84%	15.25%	209.08%	0.82%
Default		1,131	806	0	0	0	0
TOTAL		82,325	87,635	0	0	0	0

(1) Trading exposures are not included in this chart.

(2) Average EAD is the quarterly average figure.

(in EUR million)		2019					
Exposure Class	Obligor Grade	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Corporate	AAA to AA-	0	0	0	0	0	0
	A+ to A-	1,841	2,135	0.07%	39.14%	35.05%	0.03%
	BBB+ to BBB-	3,403	3,526	0.22%	39.43%	62.20%	0.09%
	BB+ to B-	16	23	1.96%	53.88%	177.06%	1.06%
	Below B-	0	0	0	0	0	0
	No External Rating	14	14	30.87%	64.57%	409.88%	19.93%
	Total	5,274	5,698	0.25%	39.44%	53.95%	0.12%
Financial Institutions	AAA to AA-	0	0	0	0	0	0
	A+ to A-	3,154	4,516	0.08%	23.17%	21.83%	0.02%
	BBB+ to BBB-	1,771	2,183	0.22%	37.16%	45.08%	0.08%
	BB+ to B-	16	61	0.96%	57.25%	200.22%	0.55%
	Below B-	0	0	0	0	0	0
	No External Rating	0	0	0	0	0	0
	Total	4,942	6,760	0.13%	28.30%	30.75%	0.04%
Project Finance	AAA to AA-	0	0	0	0	0	0
	A+ to A-	2,266	2,406	0.07%	12.21%	10.93%	0.01%
	BBB+ to BBB-	4,802	5,150	0.27%	14.01%	23.80%	0.04%
	BB+ to B-	1,188	1,274	1.37%	16.64%	48.76%	0.24%
	Below B-	0	0	0	0	0	0
	No External Rating	0	0	0	0	0	0
	Total	8,256	8,830	0.37%	13.89%	23.86%	0.06%
Public Sector Entities	AAA to AA-	6,830	9,925	0.03%	4.27%	1.64%	0.00%
	A+ to A-	4,961	5,941	0.07%	4.97%	4.09%	0.00%
	BBB+ to BBB-	6,076	6,316	0.35%	2.74%	5.24%	0.01%
	BB+ to B-	3,931	4,669	1.54%	2.97%	9.23%	0.05%
	Below B-	58	121	3.42%	2.42%	8.95%	0.08%
	No External Rating	0	0	0	0	0	0
	Total	21,857	26,972	0.41%	3.77%	4.58%	0.01%
Securitisation	AAA to AA-	0	2	0	0	0	0
	BBB+ to BBB-	0	0	0	0	0	0
	BB+ to B-	0	0	0	0	0	0
	Below B-	0	0	0	0	0	0
	Total	0	2	0	0	0	0
Sovereign	AAA to AA-	11,355	8,732	0.00%	9.53%	0.03%	0.00%
	A+ to A-	1,032	865	0.10%	21.83%	24.24%	0.02%
	BBB+ to BBB-	13,482	14,732	0.30%	28.34%	54.16%	0.09%
	BB+ to B-	135	0	3.40%	60.00%	231.47%	2.04%
	Below B-	0	0	0	0	0	0
	No External Rating	0	0	0	0	0	0
	Total	26,004	24,466	0.18%	20.03%	30.26%	0.06%
Equities	AAA to AA-	20	36	0.09%	11.11%	190.00%	0.80%
	A+ to A-	0	1	0.09%	11.11%	236.97%	0.80%
	BBB+ to BBB-	29	30	0.53%	11.11%	190.21%	0.80%
	BB+ to B-	0	0	3.79%	11.11%	214.39%	0.80%
	Below B-	0	0	30.87%	11.11%	190.00%	0.80%
	No External Rating	27	29	30.84%	14.97%	215.93%	0.80%
	Total	77	96	11.08%	12.46%	199.56%	0.80%
Default		511	825	0	0	0	0
TOTAL		66,921	73,650	0	0	0	0

(1) Trading exposures are not included in this chart.

(2) Average EAD is the quarterly average figure.

The decrease of EAD is mainly explained by asset disposals, maturity and early repayments. These effects are offset by FX as well as fair value movements.

The majority of Dexia Group exposure in the AIRB approach (71% of the EAD) is concentrated on the public sector (i.e. public sector entities and sovereign exposures). A vast majority of average PD levels is below 1% reflecting the exposure on highly rated municipal and public related counterparties.

Average LGD is very heterogeneous by exposure class: public sector entities benefit from very low LGD compared to corporate exposures.

2.3.4. Average PD, LGD and Risk Weight by Exposure Class and Geographic Area

The following tables show the total EAD (banking book), average EAD, average PD, average LGD, average risk weights and average expected losses broken down by exposure class and geographical location at year-end 2018 and 2019.

The counterparties are the final counterparties, i.e. after taking into account the Basel III eligible guarantees (substitution principle). Financial guarantors' exposure is essentially an indirect exposure. Average EAD is the quarterly average figure.

(in EUR million)		2018					
Exposure class	Geographic area	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Corporate	France	681	761	0.20%	35.36%	51.36%	0.12%
	Italy	206	215	0.21%	41.92%	59.19%	0.09%
	United Kingdom	4,028	3,887	0.15%	38.59%	49.92%	0.06%
	Spain	25	35	0.73%	37.65%	96.66%	0.28%
	Portugal	0	0	0	0	0	0
	Germany	0	2	0.71%	34.93%	53.97%	0.25%
	Greece	0	0	0	0	0	0
	United States	344	336	0.41%	37.52%	72.14%	0.15%
	Canada	0	0	0	0	0	0
	Others Europe	15	11	30.87%	64.57%	409.88%	19.93%
	Other countries	10	11	0.34%	39.22%	47.34%	0.14%
	Total	5,310	5,258	0.26%	38.30%	53.13%	0.13%
Financial Institutions	France	1,676	1,748	0.09%	14.52%	15.47%	0.06%
	Italy	277	243	0.36%	46.31%	74.08%	0.17%
	United Kingdom	515	492	0.16%	25.32%	35.50%	0.05%
	Spain	1,124	1,295	2.45%	11.27%	17.39%	0.04%
	Portugal	9	8	0.82%	59.03%	209.01%	0.48%
	Germany	1,026	1,373	0.16%	33.52%	35.87%	0.06%
	Greece	0	0	0	0	0	0
	United States	1,419	1,629	0.06%	23.53%	18.89%	0.02%
	Canada	147	146	0.05%	22.24%	10.42%	0.01%
	Others Europe	726	748	0.10%	25.12%	32.70%	0.03%
	Other countries	1,184	1,537	0.14%	31.39%	32.50%	0.05%
	Total	8,104	9,219	0.44%	23.43%	26.35%	0.05%
Project finance	France	1,770	1,959	0.26%	11.73%	20.76%	0.05%
	Italy	74	87	0.70%	13.91%	33.35%	0.16%
	United Kingdom	3,538	3,590	0.18%	11.26%	16.32%	0.03%
	Spain	1,002	1,089	1.19%	15.92%	44.18%	0.23%
	Portugal	43	49	0.81%	19.49%	38.77%	0.16%
	Germany	122	127	0.63%	12.36%	33.93%	0.21%
	Greece	0	0	0	0	0	0
	United States	57	78	0.34%	17.32%	23.35%	0.07%
	Canada	813	821	0.25%	11.48%	20.69%	0.05%
	Others Europe	99	104	0.75%	18.40%	43.02%	0.15%
	Other countries	1,534	1,584	0.40%	14.97%	22.38%	0.07%
	Total	9,053	9,487	0.37%	12.71%	22.51%	0.07%
Public sector entities	France	7,720	9,006	0.18%	2.39%	1.25%	0.01%
	Italy	8,529	8,797	0.67%	2.83%	5.94%	0.02%
	United Kingdom	2,836	3,129	0.05%	1.44%	0.95%	0.00%
	Spain	3,562	3,980	0.87%	3.00%	6.68%	0.03%
	Portugal	394	346	3.04%	3.00%	9.59%	0.09%
	Germany	0	0	0	0	0	0
	Greece	0	0	0	0	0	0
	United States	7,575	7,917	0.06%	17.58%	12.02%	0.01%
	Canada	0	0	0	0	0	0
	Others Europe	37	53	0.00%	10.00%	0.00%	0.00%
	Other countries	921	944	0.00%	5.00%	0.00%	0.00%
	Total	31,573	34,174	0.38%	6.23%	5.75%	0.01%
Securitisation	Italy	0	0	0	0	0	0
	Spain	0	11	0	0	0	0
	Other countries	9	9	0.00%	5.00%	0.00%	0.00%
	Total	9	20	0.00%	5.00%	0.00%	0.00%

(in EUR million)		2018					
Exposure class	Geographic area	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Sovereign	France	8,610	9,118	0.00%	10.00%	0.00%	0.00%
	Italy	12,284	12,495	0.26%	24.75%	43.08%	0.07%
	United Kingdom	61	61	0.00%	10.00%	0.00%	0.00%
	Spain	478	486	0.16%	24.79%	35.36%	0.04%
	Portugal	2,796	2,760	0.44%	45.00%	98.27%	0.20%
	Germany	401	748	0.00%	5.00%	0.00%	0.00%
	Greece	0	0	0	0	0	0
	United States	1,422	1,781	0.00%	10.00%	0.00%	0.00%
	Canada	0	0	0	0	0	0
	Others Europe	716	722	0.11%	18.78%	21.50%	0.03%
	Other countries	252	277	1.82%	32.45%	113.44%	0.85%
	Total	27,020	28,449	0.19%	20.95%	32.01%	0.06%
Equities	France	56	56	0.83%	11.11%	281.62%	0.80%
	Italy	28	26	0.54%	11.11%	190.00%	0.80%
	United Kingdom	6	7	29.41%	11.11%	277.35%	0.80%
	Spain	0	0	0	0	0	0
	Portugal	0	0	0	0	0	0
	Germany	0	0	0	0	0	0
	Greece	0	0	0	0	0	0
	United States	20	19	30.87%	11.11%	194.33%	0.84%
	Canada	0	0	0	0	0	0
	Others Europe	15	29	27.10%	22.60%	213.76%	0.80%
	Other countries	1	1	30.87%	11.11%	190.00%	0.80%
	Total	126	139	10.29%	12.47%	238.42%	0.81%
Default		1,131	806	0	0	0	0
TOTAL		82,325	87,552	0	0	0	0

(1) Trading exposures are not included in this chart.

(2) Average EAD is the quarterly average figure.

(in EUR million)		2019					
Exposure class	Geographic area	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Corporate	France	626	669	0.21%	45.18%	58.95%	0.11%
	Italy	196	204	0.21%	42.17%	51.98%	0.09%
	United Kingdom	4,076	4,420	0.14%	38.52%	50.68%	0.06%
	Spain	22	24	0.71%	36.63%	95.39%	0.26%
	Portugal	0	0	0	0	0	0
	Germany	0	0	0	0	0	0
	Greece	0	0	0	0	0	0
	United States	331	359	0.36%	37.52%	69.12%	0.13%
	Canada	0	0	0	0	0	0
	Others Europe	14	14	30.87%	64.57%	409.88%	19.93%
	Others	10	10	0.34%	39.22%	38.68%	0.13%
	Total	5,274	5,698	0.25%	39.44%	53.95%	0.12%
Financial Institutions	France	1,009	1,541	0.10%	19.42%	14.39%	0.02%
	Italy	111	179	0.50%	50.49%	98.13%	0.25%
	United Kingdom	537	410	0.19%	34.01%	52.00%	0.06%
	Spain	246	528	0.19%	38.28%	39.24%	0.08%
	Portugal	11	11	0.82%	59.03%	209.01%	0.48%
	Germany	448	663	0.16%	33.57%	29.90%	0.05%
	Greece	0	0	0	0	0	0
	United States	1,069	1,379	0.07%	25.35%	23.01%	0.02%
	Canada	78	127	0.05%	22.00%	10.65%	0.01%
	Others Europe	662	720	0.13%	27.49%	38.19%	0.04%
	Others	771	1,202	0.13%	31.45%	29.14%	0.05%
	Total	4,942	6,760	0.13%	28.30%	30.75%	0.04%

(in EUR million)		2019					
Exposure class	Geographic area	EAD ⁽¹⁾	Average EAD ⁽²⁾	Average PD	Average LGD	Average RW	Average EL
Project Finance	France	1,793	1,692	0.30%	11.14%	20.18%	0.04%
	Italy	24	41	0.18%	12.70%	18.80%	0.02%
	United Kingdom	3,350	3,583	0.22%	13.86%	19.86%	0.03%
	Spain	879	951	1.19%	17.19%	46.95%	0.21%
	Portugal	32	36	0.84%	19.49%	37.68%	0.16%
	Germany	106	115	1.07%	19.49%	54.51%	0.21%
	Greece	0	0	0	0	0	0
	United States	3	32	9.07%	19.49%	89.98%	1.76%
	Canada	645	797	0.31%	13.92%	25.44%	0.05%
	Others Europe	72	90	0.88%	19.49%	46.62%	0.17%
	Others	1,353	1,492	0.23%	14.62%	18.88%	0.04%
	Total	8,256	8,830	0.37%	13.89%	23.86%	0.06%
Public Sector Entities	France	5,882	6,847	0.12%	2.45%	0.78%	0.00%
	Italy	8,190	8,535	0.54%	3.00%	5.77%	0.02%
	United Kingdom	2,249	2,601	0.03%	1.62%	0.94%	0.00%
	Spain	3,104	3,427	0.88%	3.00%	6.82%	0.03%
	Portugal	208	260	3.42%	3.00%	10.75%	0.10%
	Germany	0	0	0	0	0	0
	Greece	0	0	0	0	0	0
	United States	2,208	5,048	0.09%	13.41%	10.31%	0.01%
	Canada	0	0	0	0	0	0
	Others Europe	16	21	0.00%	10.00%	0.00%	0.00%
	Others	0	233	0	0	0	0
	Total	21,857	26,972	0.41%	3.77%	4.58%	0.01%
Securitisation	Italy	0	0	0	0	0	0
	Spain	0	0	0	0	0	0
	Others	0	2	0	0	0	0
	Total	0	2	0	0	0	0
Sovereign	France	6,546	5,020	0.00%	10.00%	0.00%	0.00%
	Italy	10,485	11,486	0.27%	25.00%	44.57%	0.07%
	United Kingdom	64	62	0.00%	10.00%	0.00%	0.00%
	Spain	377	434	0.10%	25.00%	28.34%	0.03%
	Portugal	2,974	2,992	0.44%	40.00%	87.93%	0.17%
	Germany	4	77	0.00%	5.00%	0.00%	0.00%
	Greece	0	0	0	0	0	0
	United States	3,677	3,018	0.00%	10.00%	0.00%	0.00%
	Canada	0	0	0	0	0	0
	Others Europe	1,712	1,188	0.05%	11.09%	9.34%	0.01%
	Others	166	189	2.78%	51.65%	189.20%	1.66%
	Total	26,004	24,466	0.18%	20.03%	30.26%	0.06%
Equities	France	23	39	1.95%	11.11%	190.00%	0.80%
	Italy	27	27	0.54%	11.11%	190.00%	0.80%
	United Kingdom	7	7	29.77%	11.11%	287.43%	0.80%
	Spain	0	0	0	0	0	0
	Portugal	0	0	0	0	0	0
	Germany	0	0	0	0	0	0
	Greece	0	0	0	0	0	0
	United States	17	18	30.87%	11.11%	190.00%	0.80%
	Canada	0	0	0	0	0	0
	Others Europe	3	4	11.89%	49.21%	201.16%	0.80%
	Others	1	1	30.87%	11.11%	190.00%	0.80%
	Total	77	96	11.08%	12.46%	199.56%	0.80%
Default		511	825	0	0	0	0
TOTAL		66,921	73,650	0	0	0	0

(1) Trading exposures are not included in this chart.

(2) Average EAD is the quarterly average figure.

2.3.5. Back-testing

The purpose of the back test exercises is to assess the performance of the internal rating system ensuring an appropriate balance between capital and risk. As the formulas to calculate the bank's capital are provided by the Basel Committee on Banking Supervision, the internal back test relating to Pillar 1 rating systems is based on the back test of the input parameters PD, LGD and CCF in the Basel III credit risk portfolio model.

The back test is the evaluation of the predictive power of the rating system and the assessment of its time evolution to detect any reduced performance of the rating system. With this aim, three properties in particular are analysed: the model's calibration, its discriminatory power and its stability.

Decreased performance of the rating system decision tool may reduce the bank's profitability and will impact the risk assessments of the defined risk buckets. The performance is tracked by analysing the ability to discriminate between high and low risk and the stability of the data inputs into the rating system.

The back test procedures include three types of tests.

Calibration

Calibration normally denotes the mapping of the Probability of Default (PD) to the rating grades. A rating system is well calibrated if the estimated PD (or LGD or CCF) slightly exceeds the actual default rates (or loss or CCF observed).

Discriminatory Power

The discriminatory power of rating systems denotes their ex-ante ability to identify borrowers in danger of defaulting. A rating system with maximum discriminatory power would be able precisely to identify in advance all borrowers that subsequently default. In practice, however, such perfect rating systems do not exist. A rating system demonstrates a high discriminatory power if the "good" grades subsequently turn out to contain only a small percentage of defaulters and a large percentage of non-defaulters, with the converse applying to the "poor" grades. For LGD and CCF, the precision of the calibration is assessed.

Stability

The stability of the population and its data characteristics: the aim is to make sure that the model applied is in line with the reference data sets and with the model where key risk parameters are estimated, or that the population characteristics do not change significantly over time.

The results of the back tests are assessed using statistical significance tests on the available short-term and long-term data histories. The outcome of the significance tests indicating an unacceptable decreased performance will drive required action plans. The additional part of the back test procedure is related to ad hoc analysis (qualitative, benchmarking, expert overruling, model risks...).

Presentation of Estimated Losses versus Actual Losses

The analysis of the estimated compared to actual risk parameters (PD & LGD) is carried out on a basis per exposure class over a long period in the back test reviews. The following table displays the statistical significance of the risk parameter of the 2019 back-testing.

	PD		LGD	
	P-value	BT period	P-value	BT period
Financial Institutions		1995-2018		1980-2018
Corporates		1983-2018		1980-2018
Sovereigns		1995-2018		1998-2018
Project Finance		2002-2018		1995-2018
Public Sector Entities		1995-2018		1995-2018

All results are displayed on the longest available period. The realised default rates and losses are in line with the estimated ones. Data used in the table:

- On Project Finance and Public Sector Entities, the results are displayed on internal data on the whole portfolio.
- On Banks, Corporates and Sovereigns, the results are displayed on external data (in line with the results of the annual back tests) on the Investment Grade (for PD) and Senior Unsecured (for LGD) positions as these positions are the more representative of the Dexia portfolio.

Back Test policy

	Indication that the observed values are significantly different from the expected values (calibration, discrimination, stability).
	Indication that the observed values are weakly significantly different from the expected values (calibration, discrimination, stability).
	Indication that the observed values are in line with the expected values (calibration, discrimination, stability). There is no significant difference, though this colour code is an early warning indicator.
	Indication that the observed values are perfectly in line with the expected values (calibration, discrimination, stability). There is no significant difference.
	Indication that the historically observed PD, LGD and CCF values are much lower than the calibrated values.

2.3.6. Model Use

In addition to the calculation of risk-weighted exposures, the internal estimates of PD, LGD and CCF models are used in other areas such as lending policies (including exposure limits), early warning systems or credit risk adjustments (provisioning policy).

Use of the AIRB models is also expanded to the internal exercises of stress tests, financial plan, ICAAP (Internal Capital Adequacy Assessment) as well as the internal and external reporting (notably the Quarterly Risk Report and the Annual Report).

The collection and recovery policies and processes are partially based on the risk parameters of the AIRB models and have been enhanced in 2019.

Internal ratings, default and loss estimates used in capital requirements play an essential role in Dexia's risk management and decision-making process, in credit approval (limited to activities authorised in the context of the Orderly Resolution Plan), internal capital allocation, and corporate governance functions. An independent unit ensures that effective use of internal ratings and the resulting parameters is made across the risk management processes including: Transaction Committee files instruction, overall rating process consistency (country ceiling, state/mother support), limits set-up and update, credit watch, corporate governance and reporting.

In particular, Dexia uses regulatory metrics (adjusted EAD, see § 2.2) and IRB parameters in its internal risk reporting and external reports. The current risk reporting system is leveraged on IRB risk parameters. Internal ratings, as well as advanced LGD and CCF values and the regulatory metric of Exposure at Default (used in the computation of own fund requirements) are used for the quarterly risk report (QRR) dedicated to the monitoring of credit risks.

The EAD metric has also been selected since 2015 to provide credit risk related information in the Annual Report, Pillar 3 report and internal control report. The IRB rating scales (as validated for each IRB models) are mapped to a "master scale" that is used for credit exposure reporting. This master scale is used for comparison purposes between sectors in the QRR – independently from the approach applied to compute the capital requirements – however IRB ratings and parameters are used in model related documentation, as well as in the financial plan long-term projections.

According to Dexia's Watch List policy, all the sensitive files (including counterparties in AIRB) are followed up by the Watch List Committee, which is entitled to make recommendations of actions on credit issues. The criteria of the counterparties selected in the Watch List process are based on ratings thresholds defined per sector in the risk policies and as a consequence of the IRB rating models for the IRB portfolio.

2.4. Standard Approach

2.4.1. Introduction

Consecutively to the disposal of some entities and to the sharp decrease of some portfolios, Dexia presented an official request to the home supervisors to move some portfolios from advanced to standard approach. The portfolios involved had become non-material in terms of exposure and number of counterparties.

The switch from advanced to standard approach was implemented in June 2013 following the official acceptance of the proposal by the National Bank of Belgium for the following types of counterparties:

- Insurance companies including financial guarantors;
- Belgian 'other' satellites;
- Belgian Region and Community expert models and assimilated counterparties;
- Mid-corporate counterparties.

Consecutively to the closing of its Lisbon branch and to the sharp decrease of the Portuguese municipalities portfolio, Dexia presented an official request to the Joint Supervisory Team to move the residual exposures (less than EUR 40 million) from advanced to standard approach. The official acceptance was provided by the Joint Supervisory Team in the second half of 2018 and implemented as from the last quarter of 2018.

2.4.2. Nominated external credit assessment institutions (ECAI)

The standard approach provides risk-weighted asset figures based on external ratings. In order to apply the standard approach for risk-weighted exposure, Dexia uses the external ratings assigned by the following rating agencies: Standard & Poor's, Moody's and Fitch.

The rating used for the regulatory capital calculation is the lower of the two ratings, if two ratings are available, or the lower of the best two ratings, if three ratings are available. If no external rating is available, the standard approach provides specific risk weights that vary depending on the counterparty type.

Credit rating agencies and credit quality step under the standard approach			
Standard & Poor's	Moody's	Fitch	Regulatory credit quality step
AAA to AA-	Aaa to Aa3	AAA to AA-	1
A+ to A-	A1 to A3	A+ to A-	2
BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	3
BB+ to BB-	Ba1 to Ba3	BB+ to BB-	4
B+ to B-	B1 to B3	B+ to B-	5
CCC+ and below	Caa and below	CCC+ and below	6

Risk weights are mainly determined in relation to the credit quality step and the exposure class.

2.4.3. Exposure at default and average risk weights

The following table shows the total exposure at default (banking book) and exposure to weighted-average risk weights broken down by exposure class and obligor grade at year-end 2018 and 2019.

(in EUR million)		2018		2019	
Exposure Class	Obligor Grade	EAD (M)	Average RW	EAD (M)	Average RW
Corporate	AAA to AA-	0	0%	0	0%
	A+ to A-	410	50%	0	0%
	BBB+ to BBB-	0	0%	0	0%
	No External Rating	14	111%	12	114%
Total Corporate		424	52%	12	114%
Equities	No External Rating	0	250%	25	102%
Total Equities		0	250%	25	102%
Financial Institutions	AAA to AA-	255	44%	220	2%
	A+ to A-	337	17%	103	40%
	BBB+ to BBB-	0	0%	103	2%
	BB+ to B-	0	0%	0	0%
Total Financial Institutions		2,332	21%	1,910	11%
Monolines	AAA to AA-	1,431	20%	1,349	20%
	A+ to A-	0	0%	0	0%
	BBB+ to BBB-	57	100%	0	0%
	No External Rating ⁽¹⁾	0	0%	0	100%
Total Monolines		1,488	23%	1,349	20%
Project Finance	AAA to AA-	211	20%	259	20%
	A+ to A-	33	50%	33	50%
	BBB+ to BBB-	116	100%	117	100%
	No External Rating	325	106%	224	101%
Total Project Finance		685	75%	632	65%
Public Sector Entities	AAA to AA-	25,927	12%	10,480	27%
	A+ to A-	5,150	20%	3,406	20%
	BBB+ to BBB-	2,587	32%	1,994	44%
	BB+ to B-	16	147%	12	149%
	Below B-	0	0%	0	0%
Total Public Sector Entities		33,680	15%	15,892	28%
Retail	No External Rating	1	75%	1	516%
Total Retail		1	75%	1	516%
Securitisation	AAA to AA-	4	20%	3	20%
	Below B-	0	150%	0	0%
Total Securitisation		5	29%	3	20%
Sovereign	AAA to AA-	289	0%	22	0%
	A+ to A-	0	0%	0	0%
	BBB+ to BBB-	0	0%	0	0%
Total Sovereign		289	0%	22	0%
Others		1,089	18%	739	24%
Total Others		1,089	18%	739	33%
TOTAL		39,993	0%	20,585	0%

(1) Exposure on Central Counterparties (CCP), clearing houses.

(2) Preferential treatment.

In case no external rating is available, standard risk weights can be applied based on national discretions or Basel III rules (reference to the sovereign rating depending on the exposure type).

2.5. Impairment, Past-Due and Related Provisions

2.5.1. Concepts and Implementation within Dexia

2.5.1.1. Principles of Past-Due Exposure

A past due is defined as a payment that has become due but has not been made according to the terms of the agreement. A past due is considered by contract. Even if a counterparty fails to pay only the required interests at due date, the entire loan exposure is considered as past due.

2.5.1.2. Principles of Default, Non-Performing Exposure and Forbearance (EBA)

The concept of default includes counterparties that have (or are likely in the future to have) difficulties meeting their commitments or counterparties where return to a normal situation seems difficult.

For counterparties that have or are likely to have financial difficulties, Dexia has identified situations described by the different criteria listed below:

- A specific credit adjustments.
- A distressed restructuring: when a restructuring of at least one of the position of the counterparty is likely to result in a diminished financial obligation.
- The bankruptcy of the counterparty.
- Other indications of Unlikely to Pay such as: unavailability of the borrower's income sources, concerns about the borrower's future cash flows, increase (or expectation of a change) of the borrower's overall leverage level, breach of the financial covenants of a credit contract, call of a collateral.
- Information identified by the credit risk analyst teams in external databases relative to: significant delays in payments to other creditors, crisis of the sector combined with a weak position of the counterparty in this sector, disappearance of an active market for a financial asset because of the financial difficulties of the debtor.
- A credit fraud.

These counterparties receive a credit rating of D1 on a case-by-case analysis.

- The counterparty is "past-due" for more than 90 days on any payment obligation. For authorised overdrafts, the delay starts at the due date of the authorisation and for non-authorised overdrafts, as soon as they appear. Exceptions to this rule are:
 - Technical past-dues, defined as the consequence of a mistake by the counterparty (or by its accountant, or by its bank) that leads to a delayed payment of the debt;
 - Operational past-dues, defined as a failure in the process, or in the internal system of Dexia. Operational past-dues also include the legal risk when the counterparty has the means to afford its payment but refuses to pay it;
 - Immaterial amounts: Dexia's threshold for past due is a fixed amount established at EUR 500. The threshold takes into account nominal past due, past-due on interest, penalties and commissions.

For these counterparties, a credit rating of D2 is given.

2.5.1.3. Non-Performing Exposure

To facilitate monitoring and comparison between the different European banks, the European Banking Authority (EBA) harmonised the definition of Non-Performing Exposure (NPE) and Forbearance.

According to the EBA, non-performing exposures on the balance sheet are those that satisfy at least one of the following criteria (§ 145 ITS):

- Material exposures which are more than 90 days past-due (quantitative criterion);
- The debtor is assessed as unlikely to pay its credit obligations in full without realisation of collateral, regardless of the existence of any past-due amount or of the number of days past-due (qualitative criterion).

The Dexia Group has identified exposures corresponding to the said EBA definition.

2.5.1.4. Non-Performing and Forborne Exposures

Exposures at year-end 2018

(in EUR million)	Gross carrying amount						Accumulated impairment and provision and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
	On performing exposures			On non-performing exposures			On performing exposures		On non-performing exposures		On non-performing exposures	
	of which: past due <= 90 days or not past due	of which: forborne		of which: defaulted	of which: impaired	of which: forborne	of which: forborne		of which: forborne		of which: forborne	
Debt securities	50,236	49,664	0	573	573	459	0	(247)	(94)	0	0	0
Loans and advances	72,006	70,669	172	1,337	823	801	(91)	(2)	(192)	(111)	324	134
Debt instruments other than held for sale	122,242	120,332	172	1,910	1,396	1,260	(338)	(2)	(286)	(111)	324	134
Debt instruments held for sale (DKD)	20,758	20,654	50	104	0	0	(4)	(2)	0	0	0	0
Off-balance sheet exposures	1,723	1,685	0	38	30	0	2	0	7	0	0	0

Exposures at year-end 2019

(in EUR million)	Gross carrying amount						Accumulated impairment and provision and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
	On performing exposures			On non-performing exposures			On performing exposures		On non-performing exposures		On non-performing exposures	
	of which: past due <= 90 days or not past due	of which: forborne		of which: defaulted	of which: impaired	of which: forborne	of which: forborne		of which: forborne		of which: forborne	
Debt securities	38,754	38,707	0	47	47	45	(63)	0	(3)	0	0	0
Loans and advances	68,357	67,601	74	756	569	539	(101)	(5)	(126)	(72)	304	103
Debt instruments other than held for sale	107,111	106,308	74	803	617	583	(164)	(5)	(129)	(72)	304	103
Off-balance sheet exposures	1,464	1,431	0	33	33	0	2	0	6	0	0	0

2.5.1.5. Forbearance (EBA)

Forborne exposures are restructured contracts in respect of which forbearance measures have been extended. Forbearance is applied to healthy or safe assets or on non-performing assets. Regarding Dexia activities, restructured exposures include three different types of restructuring:

1. Restructuring related to commercial relationships with customers, which represented almost all restructuring until 2011 except litigation in the Netherlands;
2. Restructuring related to litigation, mainly on structured loans, with customers without any financial difficulties;
3. Restructuring related to financial difficulties of the counterparty either under normal relationship or under litigation. In accordance with the EBA's definition of Forbearance, only the third case is considered as a forborne loan. Forbearance measures consist of concessions towards a debtor facing or about to face difficulties in meeting its financial commitments.

As at 31 December 2019, EUR 0.4 billion of outstanding were considered as forborne (compared to EUR 0.6 billion as at 31 December 2018).

2.5.1.6. Impairments

The IFRS 9 standard introduces a new impairment model of financial assets based on expected credit losses (ECL), which applies to debt instruments (loans or bonds) measured at amortised cost or measured at fair value through OCI, as well as lease receivables and trade receivables. The impairment model also applies to Dexia's off-balance sheet undrawn loan commitments and financial guarantee given. The ECL model constitutes a change from the guidance in IAS 39 based on incurred losses.

Each financial instrument (except assets that are purchased or originated in default) is allocated among three stages according to the wording used by IFRS 9) depending on the evolution of credit risk since initial recognition:

- Stage 1: financial instruments that have not deteriorated significantly in credit quality since initial recognition.
- Stage 2: financial instruments that have deteriorated significantly in credit quality since initial recognition but that do not have objective evidence of a credit loss.
- Stage 3: financial assets that have objective evidence of impairment at the reporting date, i.e. the related counterparty is identified as defaulted.

A loss allowance is defined according to the stage in which the financial instrument is allocated:

- When the financial instrument is in Stage 1, the amount of loss allowance is equal to 12-month expected credit losses corresponding to the lifetime cash-shortfall that would result in case of a default occurring in the next 12 months, weighted by the probability that the default occurs during this 12 month-period.
- When the financial instrument is in Stage 2 or 3, the amount of loss allowance is equal to lifetime expected credit losses, corresponding to the lifetime cash-shortfall that would result in case of a default occurring over the life of the instrument, weighted by the probability of default (PD) that the default occurs over the residual maturity of the instrument. Interest revenue for financial assets allocated in Stage 1 or 2 is calculated by applying the Effective Interest Rate (EIR) to the gross carrying amount, while for financial assets in Stage 3, EIR is applied to amortised cost.

Dexia does not apply the simplified approach allowed by IFRS 9 for trade receivables (that have a significant financing component) or lease receivables. The ECL calculation of these assets follows the general approach described below.

Significant Increase in Credit Risk (SICR)

For financial instruments which do not show objective evidence of impairment, and which, therefore, are allocated to either Stage 1 or 2, Dexia developed an approach based on both a qualitative and a quantitative test to assess whether there is any significant increase in credit risk since initial recognition.

For the quantitative test, the year 2019 was marked by a change in the estimates used in the credit risk deterioration model leading to a reclassification of assets from the IFRS 9 scope between Stages 1 and 2 as at 31 December 2019.

As from 31 December 2019, the quantitative test consists of comparing lifetime average through the cycle PDs of the contract at the reporting date and at the inception date. This variation of PD is then normalised by the lifetime average through the cycle PDs of the contract at the inception date. These PDs are considered over a time horizon equal to the initial maturity of the financial instrument. If the variation is above a given threshold, the variation of the PDs indicates that there is a significant deterioration of credit risk and that the financial instrument should be allocated to Stage 2. This threshold is included in regular validation processes by governance bodies.

Moreover, as from 31 December 2019, Dexia has applied the low credit risk exemption and therefore assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date.

The qualitative part of the approach, relying on forward-looking counterparty specific indicators, consists of allocating to Stage 2 those exposures which are closely followed up under the watch list process, that have been granted forbearance measures or that belong to a sensitive economic sector⁽⁶⁾. The IFRS 9 accounting standard indicates that regardless of the way in which an entity assesses significant increases in credit risk, there is a rebuttable presumption that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due. Given Dexia's portfolio characteristics and especially its significant public sector sub-portfolio, administration procedures may delay contractual payments. Therefore, for this type of population, a first analysis is performed to ensure that this delay is not related to administrative procedures, and if not, then the presumption applies and any exception is analysed and documented individually.

The PD at origination is not expected to be modified and is determined once and for all for each exposure. However, if the contractual terms of a financial asset are restructured (i.e. renegotiated or refinanced), and if this restructuring leads to a de-recognition according to IFRS 9 accounting rules, the restructured asset is considered as a new asset. This new asset is either recognised as a POCI (Purchased or Originated Credit Impaired) if it meets the identification criteria for this type of assets and in this case a lifetime ECL will be recognised, or it is initially recognised in Stage 1. The test of SICR is then performed on the new characteristics of the restructured asset. The PD at origination is therefore updated given the rating of the counterparty at the restructuring date and the maturity of the restructured financial asset.

Measurement of Expected Credit Losses

Expected Credit Losses Calculation for Financial Instruments Classified in Stage 1 or 2

Forward-looking: the calculation of Expected Credit Losses (ECL) is a function of rating migration probabilities, Default Probabilities (PD), Loss Given Default (LGD) and Exposure at Default (EAD) parameters. The rating migration probabilities, PD and LGD are point-in-time and forward-looking, meaning they take into account current and forecast macro-economic conditions.

⁽⁶⁾ Sensitive sectors are economic sectors, which show indication(s) of elevated credit risk.

Capitalising on Pillar 1 framework Dexia developed internal rating models based on sector segmentation as well as best estimate average PD, rating migrations and LGD models, built on a multi-year horizon based on historical data.

These best estimate parameters have been adjusted to derive IFRS 9 Point in Time (PIT) PD and LGD models, which capture dependencies between various macro-economic variables and risk parameters and are built statistically by finding historical relations between them. The most relevant macro-economic variables include GDP, unemployment rate, inflation, GDP growth, as well as yields and interest indicators. Such an approach allows the projection of PD, rating migrations and LGD given any state of the economy.

The PIT rating migration probabilities, default probabilities and LGD are back-tested on a regular basis according to Dexia's internal back-test policy. The results of these back-tests are submitted to the internal validation department and presented to the management bodies.

Scenarios: Dexia developed ECL projections for three macro-economic scenarios: baseline, upward and downturn, the last two defined symmetrically around the baseline. The baseline macro-economic scenario consists of predictions over a three-year time horizon on a number of macro-economic and financial market data obtained from international institutions, such as the European Commission and the International Monetary Fund (IMF). The projections are discussed by the working group, combining experts from the Risk and Finance functions, who can additionally overrule certain forecasts if appropriate. The methodology to construct the upturn and downturn scenarios is based on the historical error range observed between economic forecasts and empirical observations. Probability-weighted ECLs are then obtained by weighting the various scenario ECL outcomes with probabilities of the two alternative scenarios.

Cure rate: The probability that an obligor cures the default to return to a normal situation (i.e. with zero loss) is taken into account in all risk parameters estimation.

Credit Risk Mitigants: Credit risk deterioration is measured by the default risk evolution of the original counterpart. The guarantors contractually allocated to the exposure (for example the credit risk enhancer) are taken in account in the calculation of credit risk expected loss by applying the probability of double default of both the borrower and the guarantor. The other guarantees (like mortgages, pledges and cash collateral) when they are not recognised separately are taken into account in the calculation of expected credit loss by reducing the loss in case of default.

Discounting: Yearly probability weighted ECLs are discounted to the reporting date by the effective interest rate.

For instruments in Stage 1 and Stage 2, interest revenue is calculated based on the gross carrying amount of the instrument according to models defined for different sub-portfolios of Dexia.

Expected Credit Losses Calculation for Financial Instruments Classified in Stage 3

Expected credit losses are defined according to the individual characteristics of the exposure, mainly based on cash flow models, market price models or collateral value. In some marginal cases, no impairment may be allocated, especially when the collateral value exceeds the value of the debt instrument. For instruments in Stage 3, interest revenue is calculated on the amortised cost (i.e., the gross carrying amount after deducting the impairment loss allowance).

When Dexia has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof, the gross carrying amount of a financial asset is reduced. Dexia policy is therefore to recognize a loss through profit or loss upon debt forgiveness, which means that no enforcement action will take place.

Accounting Treatment of Expected Credit Losses

Dexia recognises the changes in the amount of expected credit losses related to debt instruments, loan commitments and financial guarantee contracts in profit or loss in "Cost of credit risk" as an impairment gain or loss.

For off-balance-sheet undrawn loan commitments and financial guarantee given, expected credit losses are booked on the liability side of Dexia's balance sheet.

For purchased or originated credit-impaired financial assets, the amount of loss allowance recognised in profit or loss is the cumulative changes in lifetime expected credit losses since initial recognition. The amount of favourable change in lifetime expected credit losses is recognised in profit or loss as an impairment gain.

2.5.2. Overview of Past-Due Exposure and Impairments

Counterparties shall be considered as defaulted when:

- Dexia considers that the obligor is unlikely to pay its dues to the bank, or any of its subsidiaries in full, without recourse by the institution to actions such as realising security. Identification of an unlikely to pay situation may rely on the following situations: allocation of specific credit risk adjustment, identification of material distressed restructuring, existence of a bankruptcy situation and other indications of unlikely to pay.
- The obligor has past-due over EUR 500 that lasting for more than 90 days on any credit obligation

By exceptions to this rule, not considered as defaulted are:

- Technical past-dues, defined as the consequence of a mistake by the counterparty (or by its accountant, or by its bank) that leads to a delayed payment of the debt.
- Operational past-dues, defined as a failure in the process, or in the internal system of Dexia. Operational past-dues also include the legal risk when the counterparty has the means to afford its payment but refuses to pay it.

The year 2019 was marked, on the one hand, by a change in the estimates used in the credit risk deterioration model leading to a reclassification of assets from the IFRS 9 scope between Stages 1 and 2 as at 31 December 2019 and, on the other hand, by the acceleration of the Group's transformation and asset disposals.

Dexia's stock of impaired assets was EUR 615 million as at 31 December 2019, down EUR 658 million on the end of 2018. Specific provisions allocated were EUR 143 million, down EUR 162 million on 31 December 2018.

	31/12/2018 ⁽¹⁾	31/12/2019
Impaired assets ⁽²⁾	1,273	615
Specific impairments ⁽³⁾	305	143
of which Stage 3	299	136
of which POCI	6	7
Coverage ratio ⁽⁴⁾	24.0%	23.3%
Collective provisions	345	166
of which Stage 1	5	5
of which Stage 2	340	161

(1) Without Dexia Kommunalbank Deutschland.

(2) Outstanding calculated on the impairable IFRS 9 scope (fair value by own capital + amortise cost + off-balance-sheet).

(3) Provisions in line with the portion of the portfolio taken into account for the calculation of the outstanding, including impairments related to Purchased or Originated Credit Impaired (POCI).

(4) Ratio between specific provisions and impaired assets.

This decrease of impaired assets and specific provisions is essentially explained by the sale of the Chicago Board of Education, as well as the sale of impaired loans related to the motorway infrastructure sector in Greece and the rail sector in Spain.

In addition, the liquidation of two assets for which all potential recoveries have already been made results in an additional decrease of EUR 42 million in the specific provisions. As a result, the coverage ratio was 23.3% as at 31 December 2019.

As at 31 December 2019, collective provisions were of EUR 166 million, of which EUR 5 million of Stage 1 and EUR 161 million of Stage 2. The sharp decrease of EUR 179 million observed over the year is mainly linked to the change in the estimate of provision, following the application of the Significant Increase in Credit Risk (SICR) methodology, which resulted in particular in the reclassification of the Portuguese sovereign from Stage 2 to Stage 1.

The non-performing exposures bring together outstanding amounts unpaid for more than 90 days or for which the Group considers that the counterparty is unable to repay without implementing guarantees. As at 31 December 2019, the outstanding amount of non-performing exposures represented EUR 1 billion, corresponding to 68 counterparties. The fall of EUR 1.1 billion is linked in particular to the departure from the NPE of counterparties linked to the social housing sector in France.

Overview of Exposures with Past-Due Amounts at Year-End 2018

(in EUR million)	Carrying amount (*)		
	Loans and advances	Less than 90 days	Over 90 days
Assets without SICR (**) since initial recognition (Stage 1)		93	43
Assets with SICR (**) since initial recognition but not credit-impaired (Stage 2)		210	6
Credit-impaired assets (Stage 3)		121	19
			Total
			136
			216
			140

(*) Net of provisions

(**) Significant Increase in Credit Risk

(in EUR million)	2018						As at 31 Dec.
	As at 1 Jan.	Transfers in non current assets held for sale	Transfers between Stages	Decreases due to de-recognition	Changes due to change in credit risk	Other adjustments	
Allowances for financial assets without increase in credit risk since initial recognition (Stage 1)	10	(1)	0	0	(4)	0	5
Financial assets at amortised cost	7	(1)	0	0	(2)	0	4
- Interbank debt securities	2	0	0	0	(2)	0	0
- Customer debt securities	3	0	0	0	0	0	3
- Customer loans and advances	2	(1)	0	0	0	0	1
Financial assets at fair value through other comprehensive income	3	0	0	0	(2)	0	1
- Debt securities	3	0	0	0	(2)	0	1
Allowances for financial assets with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)	497	(32)	(8)	(1)	(149)	31	337
Financial assets at amortised cost	489	(32)	(8)	0	(146)	31	333
- Interbank debt securities	24	(1)	0	0	(5)	1	19
- Customer debt securities	309	(28)	(3)	0	(86)	30	223
- Interbank loans and advances	2	0	0	0	(1)	0	2
- Customer loans and advances	153	(3)	(5)	0	(55)	0	90
Financial assets at fair value through other comprehensive income	8	0	0	(1)	(3)	0	4
- Debt securities	6	0	0	0	(3)	0	2
- Customer loans and advances	3	0	0	(1)	0	0	2
Allowances for credit-impaired debt instruments (Stage 3)	233	0	9	(1)	38	13	292
Financial assets at amortised cost	230	0	9	(1)	36	7	281
- Customer debt securities	64	0	0	0	26	3	93
- Customer loans and advances	165	0	9	(1)	10	3	187
Financial assets at fair value through other comprehensive income	1	0	0	0	0	0	1
- Customer loans and advances	1	0	0	0	(1)	0	1
Other accounts receivable	1	0	0	0	3	6	10
Allowances for purchased or originated credit impaired debt instruments	13	0	0	0	(6)	0	7
Financial assets at amortised cost	13	0	0	0	(6)	0	7
- Customer loans and advances	13	0	0	0	(6)	0	7
Total allowances for financial assets	752	(33)	1	(1)	(120)	44	641
Provisions on commitments and financial guarantees given	0	0	0	0	0	0	0
Total provisions on commitments and financial guarantees given (Stage 2)	7	0	0	0	(4)	0	2
Total provisions on commitments and financial guarantees given (Stage 3)	6	0	0	0	0	0	6
TOTAL PROVISIONS ON COMMITMENTS AND FINANCIAL GUARANTEES GIVEN	13	0	0	0	(4)	0	8

Overview of exposures with past-due amounts at year-end 2019

(in EUR million)	Carrying amount (*)		
	Loans and advances	Less than 90 days	Over 90 days
Assets without SICR (**) since initial recognition (Stage 1)		822	32
Assets with SICR (**) since initial recognition but not credit-impaired (Stage 2)		231	30
Credit-impaired assets (Stage 3)		61	1
			61

(*) Net of provisions

(**) Significant Increase in Credit Risk

(in EUR million)	2019					As at 31 Dec.
	As at 1 Jan.	Transfers between Stages	Decreases due to de-recognition	Changes due to change in credit risk ⁽³⁾	Other adjustments	
Allowances for financial assets without increase in credit risk since initial recognition (Stage 1)	5	0	0	0	0	5
Financial assets at amortised cost	4	0	0	0	0	5
- Customer debt securities	3	0	0	1	0	4
- Customer loans and advances	1	0	0	(1)	0	1
Financial assets at fair value through other comprehensive income	1	0	0	0	0	0
- Debt securities	1	0	0	0	0	0
Allowances for financial assets with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2) ⁽¹⁾	337	(130)	(1)	(35)	(12)	159
Financial assets at amortised cost	333	(131)	0	(31)	(24)	147
- Interbank debt securities	19	(0)	0	(1)	1	19
- Customer debt securities	223	(153)	0	(25)	(13)	31
- Interbank loans and advances	2	0	0	0	0	2
- Customer loans and advances	90	22	0	(5)	(11)	95
Financial assets at fair value through other comprehensive income	4	0	(1)	(4)	12	12
- Debt securities	2	0	(1)	(3)	11	9
- Customer loans and advances	2	0	0	0	1	3
Allowances for credit-impaired debt instruments (Stage 3) ⁽²⁾	292	(4)	(17)	(138)	0	131
Financial assets at amortised cost	281	(4)	(17)	(109)	(30)	121
- Customer debt securities	93	0	0	(88)	(2)	3
- Customer loans and advances	187	(4)	(17)	(20)	(27)	118
Financial assets at fair value through other comprehensive income	1	0	0	(30)	29	0
- Customer loans and advances	1	0	0	(30)	29	0
Other accounts receivable	10	0	0	1	0	11
Allowances for purchased or originated credit impaired debt instruments	7	0	0	(1)	0	6
Financial assets at amortised cost	7	0	0	(1)	0	6
- Customer loans and advances	7	0	0	(1)	0	6
Financial assets at fair value through other comprehensive income	0	0	0	0	0	0
Total allowances for financial assets	641	(135)	(19)	(174)	(12)	302
Total provisions on commitments and financial guarantees given (Stage 2)	2	0	0	0	0	2
Total provisions on commitments and financial guarantees given (Stage 3)	6	0	0	0	0	6
TOTAL PROVISIONS ON COMMITMENTS AND FINANCIAL GUARANTEES GIVEN	8	0	0	0	0	8

(1) In 2019, the allowances on debt instruments in Stage 2 decreased mainly following the reclassification of the Portuguese sovereign exposures from Stage 2 to Stage 1 after applying the revised methodology for identifying the Significant Increase in Credit Risk (SICR) (EUR +164 million). This evolution is in line with the improvement of the external rating of the Portuguese sovereign.

(2) The decrease of allowances in Stage 3 is mainly due to the write-back of provisions amounting to EUR 93 million following the sale of provisioned exposures, in particular the Chicago Board of Education.

(3) Those amounts are reported in the statement of income.

(4) This category includes exchange differences and the impact of reclassification of a portfolio of financial assets of Dexia Credit Local New York Branch from Amortised cost category to Financial assets at fair value through other comprehensive income and from Amortised cost to Financial assets at fair value through profit or loss. In the first case, the total impact is zero (the allowances are reclassified from the portfolio at amortised cost to the financial assets at fair value through other comprehensive income), in the second case, the total impact is a decrease in allowances of EUR 18 million.

Past-due amounts overview displayed by cause and counterparty type

Not qualified default past-dues represent 44% of the past-dues followed by Credit default (27%). By counterparty type, the local public sector represents 75% of total followed by Project Finance (17%).

Overview of past-due amounts at year-end 2018

Counterparty Type (in EUR million)	Operational default	Operational default > 1 year	Credit default	Not qualified	Past-due amounts
Corporate	0	19	1	1	20
Local Public Sector	78	50	26	18	172
Project Finance	0	0	37	3	40
TOTAL	78	69	64	22	232

Overview of past-due amounts at year-end 2019

Counterparty Type (in EUR million)	Operational default	Operational default > 1 year	Credit default	Not qualified	Past-due amounts
Corporate	0	0	1	1	2
Local Public Sector	0	17	14	20	51
Project Finance	3	0	3	9	14
TOTAL	3	17	18	30	67

Past-due amounts overview displayed by countries and cause

France represents 49.3% of past-due amounts, followed by Italy (29.8%), Spain (7.5%) and Portugal (6%).

Overview of past-due amounts at year-end 2018

Country (in EUR million)	Operational default	Short term technical past-due	Credit default	Past-due amounts
France	64	13	3	80
Portugal	75	0	0	75
Brazil	0	0	36	36
Italy	4	5	11	20
United States	0	0	13	13
Germany	5	0	0	5
Spain	0	2	0	2
United Kingdom	0	2	0	2
TOTAL	147	22	64	232

Overview of past-due amounts at year-end 2019

Country (in EUR million)	Operational default	Operational default > 1 year	Credit default	Not qualified	Past-due amounts
Canada	0	0	0	3	3
France	0	13	4	16	33
Italy	0	4	14	3	20
Portugal	3	0	0	1	4
Spain	0	0	0	5	5
Sweden	0	0	0	1	1
United Kingdom	0	0	0	1	1
TOTAL	3	17	18	30	67

Past-due amounts overview by country and bucket past-due date

Overview of past-due amounts at year-end 2018

Country (in EUR million)	< 6 days	< = 90 days	> 90 days	Past-due amounts
Brazil	0	0	36	36
France	5	8	68	80
Germany	0	0	5	5
Italy	6	0	14	20
Portugal	0	0	75	75
Spain	0	1	1	2
United Kingdom	0	2	0	2
United States	0	0	13	13
TOTAL	11	10	211	232

Overview of past-due amounts at year-end 2019

Country (in EUR million)	< 6 days	<= 90 days	>90 days	Past-due amounts
Canada	3	0	0	3
France	2	14	16	33
Italy	5	0	14	20
Portugal	1	0	3	4
Spain	1	5	0	5
Sweden	0	1	0	1
United Kingdom	1	0	0	1
TOTAL	13	20	34	67

2.6. Credit Risk Mitigation Techniques

2.6.1. Description of the Main Types of Credit Risk Mitigants (CRM)

Credit risk mitigants (CRM) are used by a bank to reduce the credit risk associated with an exposure. CRM are one of the “risk” components used to determine the regulatory capital. CRM can be classified in two main categories:

- Funded credit protection, gathered under the generic name “collaterals”;
- Unfunded credit protection, gathered under the generic name “guarantees and credit derivatives”.

Funded Credit Protection: Collaterals

From a regulatory point of view, funded credit protection represents a technique for mitigating credit risk whereby the credit risk associated with the bank's exposure is reduced by the institution's right – in the event of a default by the counterparty or the occurrence of other predetermined events involving the counterparty – to liquidate certain amounts or assets, to have them transferred, to seize or to hold them, or to reduce the amount of the exposure by the difference between this exposure and the amount of a claim that might be held on the bank, or to replace it by the balance of this difference.

Funded credit protection can adopt several sub-forms:

- *Financial collateral* (securities portfolio under rating conditions, cash, gold, precious materials, and so on);
- *Netting agreements*: banks have legally enforceable netting arrangements by which they may calculate capital requirements on the basis of net credit exposures subject to specific regulatory conditions. Types of netting are payment netting, novation netting, close-out netting or multilateral netting.
- *Physical collaterals*:
 - Residential or commercial real estate collateral;
 - Receivables (eligible only under advanced approach);
 - Other types of physical collaterals...

Unfunded Credit Protection: Guarantees and Credit Derivatives

From a regulatory point of view, unfunded credit protection represents a technique for mitigating credit risk whereby the credit risk associated with the bank is reduced by the commitment of a third party to pay an amount in the event of a default by the borrower or in the event that other predetermined events should occur.

They include for example:

- Guarantees: guarantees refer to personal guarantees, first-demand guarantees, support commitments and “tri-partite agreements”;
- Credit derivatives. The following types of credit derivatives are eligible for recognition:
 - *Credit default swaps* provide credit protection equivalent to guarantees. A credit default swap is a contract according to which one party to the contract undertakes to make a payment to the other party to the contract on the occurrence of a specified event or events relating to the creditworthiness of a third party. The making of such payment does not in itself give rise to a legal entitlement of the protection provider against the third party.
 - *Total return swaps* provide credit protection equivalent to guarantees. A total return swap is a contract according to which one party to the contract undertakes to make payments to the other party to the contract of all cash flows arising from a specified asset (or assets) plus any increase in the market value of the asset (or assets) since the last payment date or the commencement date of the contract, whichever is the most recent, and according to which the recipient of these amounts undertakes to pay to the first party an interest rate related flow plus any decrease in the market value of the asset (or assets) since the last payment date or the commencement date, whichever is the most recent.
 - *Credit derivatives treated as cash collateral*. A credit-linked note is a cash-funded debt instrument which is redeemable by the issuer in accordance with the terms of the instrument, or the terms of redemption of which are altered, on the occurrence of a specified event or events related to the creditworthiness of a third party.
- Other credit commitments received from a third-party.

2.6.2. Policies and Processes

Institutions should use robust procedures and processes to control risks arising from the use of collateral, including in particular strategy, consideration of the underlying credit, valuation, policies and procedures, systems, control of roll-off risks and management of concentration risk arising from the institution's use of collateral and its interaction with the institution's overall credit risk profile.

Collateral and Guarantees/Credit Derivatives

Within the Dexia Group, managing the CRMs involves the following tasks:

- Analysis of the eligibility of all CRMs under the standard and advanced approaches. To summarise, only financial collaterals, guarantees, credit derivatives, real estate assets and leased real estate assets are eligible under the standard approach (provided they respect the related requirements). The scope of eligible CRMs is significantly broader under the advanced approach than under the standard approach: in addition to CRMs eligible under the standard approach, receivables and other types of collaterals can also be considered as eligible provided they respect the related requirements;
- Collateral valuation in mark-to-market;
- Description of all CRM characteristics in Dexia risk systems, such as:
 - Financial collateral: valuation frequency and holding period;
 - Guarantee/credit derivative: identification of the guarantor, analysis of the legal mandatory conditions, check whether the credit derivative covers restructuring clauses;
 - Security portfolio: description of each security.
- Periodic review of the descriptive data of its CRM;
- Detailed procedures for collateral eligibility, valuation and management are documented in line with the regulatory standards.

On and Off-balance-sheet Netting

Dexia does not make use of on or off-balance-sheet netting for regulatory purposes, except for over-the-counter (OTC) derivative products. The following derivative products are eligible to netting agreements: swap, contracts forward, options, etc. covering the following underlying risks:

- Interest rate contracts;
- Exchange rate or gold contracts;
- Contracts on ownership titles;
- Contracts on precious metals except gold;
- Commodities other than precious metals;
- Credit derivative contracts.

For these products, internal policies document the eligibility criteria and minimum requirements that netting agreements must meet in order to be recognised for regulatory purposes. Eligibility criteria are different for on-balance-sheet netting agreements and off-balance-sheet netting agreements. Adequate documentation should also be put in place. Appropriate internal procedures and minimum requirements have been implemented in the internal risk management process.

Information about market or credit risk concentrations

Concentration risk is related to a concentration of collateral on one issuer, country, industry or market. As a result, credit deterioration might have a significant impact on the overall value of collateral held by Dexia to mitigate its credit exposure. Dexia is indirectly exposed to the quality of the signature of:

- Financial Guarantors, through insurance contracts to cover the timely end of certain types of bonds issued in the form of securities or loans. As at 31 December 2019, EUR 8.5 billion of the Dexia portfolio was insured by Financial Guarantors (cf. section 2.2.4.6 above and section 2.6.4 below).
- Several southern Europe local authorities (Italy, Spain) that are natural guarantee providers for local public satellites or smaller public sector entities (cf. section 2.6.4 below).

2.6.3. Basel treatment

For netting agreements (and subject to eligibility conditions), Dexia recognises their impact by applying the netting impact of these agreements on the calculation of its Exposure at Default (EAD) used for calculating its risk-weighted assets.

For guarantees and credit derivatives, Dexia recognises the impact by replacing, under the AIRB approach, the PD, LGD and risk weight formula of the borrower by those of the guarantor (i.e. the exposure is considered to be directly towards the guarantor) if the risk weight of the guarantor is lower than the risk weight of the borrower. The same process of substitution is applied only to the risk weight under the standard approach.

For collateral (both financial and physical), the Dexia methodology relating to eligible CRMs depends on the Basel approach:

- AIRB approach exposures – two methodologies might be applied:
 - CRMs are incorporated into the calculation of LGD based on internal loss data and calculated by the AIRB approach models (the “so called” preliminary LGD).
 - CRMs are not incorporated into the LGD computed by the model. The impact of each individual CRM is taken into account in the LGD according to each transaction.
- Standard approach exposures: eligible CRMs (after regulatory haircuts) are directly taken into account in the EAD.

2.6.4. Exposure covered by credit risk mitigants per exposure class

The chart below shows the amount of exposure per class of original counterparty, for which the guarantee is eligible, i.e. the guaranteed exposure has a lower risk weight than the exposure with the original counterparty (substitution principle).

IRBA – Credit risk mitigation technique

(in EUR million)	31/12/2018			
	Total	Guarantees and credit derivatives	Collateral	Total guarantees and collateral
Corporate	5,313	614	1	615
Financial institutions	8,225	838	18,980	19,818
Project finance	9,614	0	10	10
Public sector entities	32,145	3,302	9	3,310
Central governments	9	9	0	9
ABS/MBS	27,020	506	0	506
TOTAL	82,325	5,268	19,000	24,268

(in EUR million)	31/12/2019			
	Total	Guarantees and credit derivatives	Collateral	Total guarantees and collateral
Corporate	5,276	673	1	674
Financial institutions	5,014	685	8,878	9,563
Project finance	8,697	0	9	9
Public sector entities	21,930	1,753	9	1,762
Central governments	26,004	369	0	369
ABS/MBS	1,407	0	0	0
TOTAL	68,328	3,480	8,898	12,378

STANDARD APPROACH – Credit risk mitigation technique

(in EUR million)	31/12/2018			
	Total	Guarantees and credit derivatives	Collateral	Total guarantees and collateral
Corporate	715	0	0	0
Financial institutions	3,130	13	4103	4,116
Project finance	685	0	0	0
Public sector entities	33,680	2,118	8	2,125
Central governments	289	0	0	0
Individuals, SME & self employed	1	0	0	0
ABS/MBS	5	5	0	5
Financial guarantors	1,488	1,488	0	1,488
TOTAL	39,993	3,623	4,111	7,735

(in EUR million)	31/12/2019			
	Total	Guarantees and credit derivatives	Collateral	Total guarantees and collateral
Corporate	99	0	0	0
Financial institutions	2,587	10	4,515	4,525
Project finance	632	0	0	0
Public sector entities	15,892	432	7	439
Central governments	22	0	0	0
Individuals, SME & self employed	1	0	0	0
ABS/MBS	3	3	0	3
Financial guarantors	1,349	1,349	0	1,349
TOTAL	20,585	1,795	4,522	6,316

2.7. Counterparty Credit Risk

2.7.1. Definition

Dexia enters into derivative contracts primarily to protect cash flows and the fair value of financial assets and liabilities from market fluctuations. Derivative transactions are mainly concluded to reduce risk exposure with regard to interest rate risk and foreign exchange risk.

Even though it is the objective of the bank to enter into risk reduction strategies, only some of the derivative transactions can be classified as hedge accounting. In the event that a strategy applied by the bank does not meet the stringent requirements defined under IAS 39, transactions are classified as derivatives “held for trading” notwithstanding their risk reducing character.

2.7.2. Counterparty Credit Risk – Basel III

Counterparty or replacement risk corresponds to the market value of transactions with counterparties. It represents the current cost of replacing transactions with a positive value should the counterparty default.

Calculation of Exposure at Default within the Regulatory Framework

The EAD relative to counterparty risk is determined by aggregating the positive market values of all transactions (replacement cost) and increasing the sum with a regulatory add-on. This add-on, which is calculated in line with the CRD (Capital Requirement Directive) guidelines, is a fixed percentage according to the type of transaction (complexity), the underlying and the residual maturity, which is applied to the transaction’s nominal value. In both cases, the effects of netting agreements and collateral are factored in by applying the netting rules as defined by the mark-to-market method and subtracting guarantees or collateral.

Dexia is engaged in two types of transactions presenting counterparty credit risks:

- **Derivatives:** counterparty exposure arises as a result of positive market valuation of derivative contracts. A positive market value represents Dexia’s claim on the counterparty. Since market values fluctuate during the term to maturity, the uncertainty of future market conditions is taken into account by means of an ‘add-on’ to the current market value reflecting potential market movements for the specific contract. The total credit exposure on the counterparty, the credit risk equivalent, is the sum of the market value of the contract and the add-on.
- **Repurchase agreements and securities lending or borrowing:** given Dexia is cash taker, most repo transactions record a positive transactional haircut (difference between received cash and posted collateral). This difference represents a Dexia risk on the counterparty. Bond prices fluctuate during the term to maturity and with the uncertainty of future markets. This explains why, as for derivatives, add-ons are included to obtain an economic view of counterparty risk.

To reduce the counterparty risk, Dexia OTC derivatives and Dexia repos are in most cases concluded within the framework of a master agreement (i.e. the International Swap and Derivative Association – ISDA or Global Master Repurchase Agreement – GMRA) taking account of the general rules and procedures set out in the Dexia credit risk policies. These framework agreements reduce Dexia’s credit exposure through:

- The use of close-out netting agreements where all positive and negative market values (haircut for repos) under the same agreement can be netted on a counterparty level;
- The netting agreement is supplemented with a collateral agreement where the net market value exposure (net positive variation in haircut for repos) is reduced further by the reception of margin calls. Margin calls are regulated by the terms and rules stipulated in the Credit Support Annex (CSA) for derivatives and GMRA negotiated with the counterparty.

Dexia complies with the EMIR regulation and has been admitted by a central counterparty (clearing house) to net the allowed derivative transactions. Dexia also uses general collateral pooling with a central counterparty for funding via repos.

Counterparty credit risk is taken into account in the calculation of credit risk on financial institutions.

Credit Valuation Adjustment

The credit valuation adjustment (CVA) corresponds to the difference between:

- A risk-free valuation; and
- The valuation that takes into account the possibility of a counterparty’s default.

When applied to an OTC derivative portfolio, it corresponds to the market value of the counterparty credit risk. It is a “fair value” adjustment that reflects the expected losses due to counterparty’s default.

Banks now consider this derivative fair value component as a standard market practice. The credit and liquidity crisis highlighted the need for a better measurement of this risk arising on derivative portfolios. The widening of credit spreads over past years has accentuated the significance of counterparty credit risk and CVA measurement.

From an accounting standard point of view, and since the release of IFRS 13, despite the changes in the fair value definition, calculation of CVA becomes a clear requirement.

The CVA is equal to expected exposure multiplied by the probability of default (PD) and the loss given default (LGD). Dexia computes the expected exposure by replicating a string of swaptions, or where not appropriate or too cumbersome, by applying the Basel exposure at default (net present value + add-on). Credit spreads are used for implying PDs.

For collateralised derivatives, Dexia uses a conservative 10-day margin period of risk.

CVA Capital Charge

Since the implementation of the Basel III framework, Dexia has been subject to a capital charge for potential mark-to-market losses associated with deterioration in the creditworthiness of its counterparties.

Basel III aims at applying to CVA risk an approach equivalent to that used for market risk capital charge measurement (based on Value at Risk): the CVA capital charge corresponds to a Value at Risk (VaR) applied to CVA.

Capital charge is computed in accordance with EBA guidelines.

As at 31 December 2019, Dexia had EUR 2,190 million of risk-weighted assets on counterparty credit risk, of which EUR 952 million related to CVA capital charge.

Downgrade of Dexia's Own Credit Rating – impact

Taking into account the current level of credit rating, no additional amount of collateral would have to be provided should Dexia Crédit Local incur a downgrade.

2.7.3. Accounting Treatment of Derivatives

The accounting treatment of Dexia's derivative strategies is described in note 1.1.10. and note 1.1.11. to the consolidated financial statements in Dexia's Annual Report 2019.

2.7.4. Derivative Portfolio

Detailed information is provided in note 4.1 and 7.7 to the consolidated financial statements in Dexia's Annual Report 2019. The notional value of credit derivatives is provided in table 4.1.b of the notes to the consolidated financial statements. All credit derivatives are used for Dexia's own credit portfolio (no intermediation activities) as protections bought (however not designated as IFRS hedges).

2.8. Focus on Equity Exposure

2.8.1. Accounting Rules

Detailed information is provided in note 1.1 to the consolidated financial statements in Dexia's annual report 2019.

2.8.2. Equity Exposure

The following tables show the amount of exposure to equities included in the banking book broken down by type of asset and by calculation process at year-end 2018 and 2019.

Financial equity instruments within the scope of IFRS 9 are classified in one of the following categories: mandatorily measured at Fair Value Through Profit or Loss (FVTPL) as non-SPPI financial instrument and equity instruments designated at Fair Value through Other Comprehensive Income (FVOCI). Dexia does not have any equity securities held-for-trading.

(in EUR million)	2018		2019	
	Accounting value	Fair value	Accounting value	Fair value
Financial assets at fair value through OCI	39	39	39	39
Non-trading financial assets mandatorily at fair value through P/L	117	117	62	62
TOTAL	156	156	101	101

2.9. Focus on Securitisation Activities

2.9.1. Objectives and Roles of Dexia

Dexia is managing a portfolio of senior ABS bonds in run-off. Dexia also manages a synthetic securitisation (WISE) with public finance and utility assets as underlying.

Dexia has not originated any securitisation transactions since 2011. The same goes for new investments or acting as sponsor for providing liquidity facilities in Dexia securitisation transactions or to third parties.

2.9.2. Risk Monitoring

The Credit Risk Management department monitors Dexia's ABS positions. The process in place to monitor the changes in the underlying credit or market risk is organised as follows:

- Depending on the level of risk of each position, an annual or half-yearly full review is carried out analysing both the market on which the underlying assets are based (real estate markets for RMBS, corporate markets for CDOs....) and also the underlying performance and credit or market risk features of each individual transaction. Based on this individual analysis (with cash-flow models for the RMBS and CDOs), an internal rating is attributed to each position.
- On a quarterly basis, the most sensitive exposures classified in the "Watch list" or "Quarterly review" lists are reviewed by a dedicated Watch-List Risk Committee, which also decides on impairments.

Analysis of rating migration related to external rating agencies is based on daily monitoring. As to the inherent liquidity risk in ABS positions:

- The vast majority of the ABS positions are characterised by static pools of assets, limiting the risk of cash-flow mismatches between assets and liabilities.
- Liquidity risk might be partially related to the difference between the interest rate paid by the pool of underlying assets and the rate paid on the notes issued, in case of a mismatch between the assets.

Securitisation exposures in the banking book

Exposure at year-end 2018

(in EUR million)	Bank acts as originator	Bank acts as investor
	Synthetic	Traditional
RETAIL (TOTAL)	0	2,272
of which residential mortgage	0	322
of which other retail exposures	0	930
of which ⁽¹⁾ reverse mortgage	0	20
WHOLESALE (TOTAL)	1,300	57
of which loans to corporates	0	45
of which commercial mortgage	0	12
of which other wholesale	1,300	0

(1) Reverse mortgage exposure is purchased only.

Exposure at year-end 2019

(in EUR million)	Bank acts as originator	Bank acts as investor
	Synthetic	Traditional
RETAIL (TOTAL)	0	1,392
of which residential mortgage	0	53
of which other retail exposures	0	1,339
of which ⁽¹⁾ reverse mortgage	0	0
WHOLESALE (TOTAL)	1,360	0
of which loans to corporates	0	0
of which commercial mortgage	0	0
of which other wholesale	1,360	0

(1) Reverse mortgage exposure is purchased only.

2.9.3. Basel III Treatment and Accounting Rules

2.9.3.1. Basel III Treatment

Dexia applies the rating-based approach (RBA – advanced approach) to calculate the risk-weighted assets corresponding to securitisation/re-securitisation exposures. This method determines the risk weight percentage applicable as a function of the external rating of the securitisation exposure (or the inferred rating if no external rating is available), their seniority and the granularity of the underlying pool of exposure. When no external or inferred rating is available, the amount of the securitisation position is deducted from capital.

For both securitisation originations and calculating risk-weighted assets in relation to its investments in securitisation positions, Dexia uses the services of the following rating agencies: Standard & Poor's, Moody's and Fitch.

2.9.3.2. Accounting Rules

The recognition and de-recognition of financial assets and liabilities relating to securitisation transactions, their valuation and accounting treatment are pursuant to IFRS 9 relating to "Financial instrument recognition and measurement".

Securitisation positions where the bank acts as an investor are classified in the IFRS 9 category of "amortised cost", "fair value through OCI" and "fair value through profit or loss". See section 1.1.6.2 of Dexia's Annual Report. The valuation techniques for such assets are detailed in section 1.1.7.2 of Dexia's Annual Report. For consolidation purposes, a securitisation-structured entity is consolidated in accordance with IFRS 10 relating to consolidation as described in Note 1.1.3 to the consolidated financial statements in Dexia's Annual Report 2019. Dexia has no assets awaiting securitisation.

2.9.4. Securitisation Activity as Originator

All of Dexia's origination operations, except WISE, were carried out with a view to obtaining long-term funding or establishing a liquidity buffer. The risk was not transferred out of the Group. Dexia Crédit Local has not initiated any new securitisation transaction since 2010. Dexia has not securitised any revolving exposure or liquidity facilities that are shared between investors and Dexia as originator.

The following tables show the outstanding notional amounts of reference obligations in the securitised pool. Variations between 2018 and 2019 are due to the amortisation of the securitisation portfolios.

(in EUR million)	EAD	
	31/12/2018	31/12/2019
Synthetic securitisation (Wise)	1,300	1,259

Securitisation exposures in the banking book and associated regulatory capital requirements – Bank acting as originator or as sponsor

(in EUR million)	2019							
	Exposure values (by RW bands)		Exposure values (by regulatory approach)		RWA (by regulatory approach)		Capital charge after cap	
	≤ 20% RW	1250% RW	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%
TOTAL EXPOSURE	1,334	26	1,334	26	107	328	9	26
Synthetic securitisation (*)	1,334	26	1,334	26	107	328	9	26

(*) 100% wholesale

2.9.5. Securitisation Activity as Investor

2.9.5.1. Dexia Portfolios

(in EUR million)	2018 – EAD					
	[0 - 8%]	8% - 16%]	16% - 106%]	106% - 1250%]	1250%	Total
Securitisation type						
ABS	973	116	0	0	0	1,090
CDO	1,276	0	0	0	24	1,300
MBS	93	299	28	0	20	441
TOTAL	2,342	415	29	0	44	2,831

(in EUR million)	2019 – EAD					
	[0 - 8%]	8% - 16%]	16% - 106%]	106% - 1250%]	1250%	Total
Securitisation type						
ABS	0	0	0	0	0	0
CDO	1,334	0	0	0	26	1,360
MBS	46	1	3	0	0	50
TOTAL	1,380	1	3	0	26	1,410

Dexia invested almost exclusively in originally AAA externally rated transactions, explaining the current low risk-weighted assets associated to this portfolio. 96% of the portfolio is within the BBB or above rating range as at the end of 2019, against 96% as at year-end 2018.

The following table shows the exposure at default (EAD) of securitisation positions retained or purchased, broken down by seniority.

Seniority	2018	2019
Senior	2,779	1,309
Mezzanine	37	0
First loss	15	101
TOTAL	2,831	1,410

Securitisation Exposures in the Banking Book and Associated Regulatory Capital Requirements – Bank Acting as Investor

(in EUR million)	2018										
	Exposure values (by RW bands)					Exposure values (by regulatory approach)		RWA (by regulatory approach)		Capital charge after cap	
	≤ 20% RW	> 20% to 50% RW	> 50% to 100% RW	> 100% to 1250% RW	1250% RW	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%
Traditional securitisation	1,509	1	0	0	20	1,511	20	141	200	11	16
of which securitisation	1,509	1	0	0	20	1,511	20	141	200	11	16
of which retail underlying	1,493	1	0	0	0	1,494	0	138	0	11	0
of which wholesale	12	0	0	0	0	12	0	2	0	0	0
of which re-securitisation (*)	4	0	0	0	20	4	20	1	199	0	0
TOTAL EXPOSURE 2018	1,509	1	0	0	20	1,511	20	141	200	11	16

(*) Senior only.

(in EUR million)	2019										
	Exposure values (by RW bands)					Exposure values (by regulatory approach)		RWA (by regulatory approach)		Capital charge after cap	
	≤ 20% RW	> 20% to 50% RW	> 50% to 100% RW	> 100% to 1250% RW	1250% RW	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%	IRB RBA (incl. IAA)	1250%
Traditional securitisation	50	0	0	0	0	50	0	5	0	0	0
of which securitisation	46	0	0	0	0	46	0	4	0	0	0
of which retail underlying	46	0	0	0	0	46	0	4	0	0	0
of which re-securitisation (*)	3	0	0	0	0	3	0	1	0	0	0
Of which senior	3	0	0	0	0	3	0	1	0	0	0
TOTAL EXPOSURE 2019	50	0	0	0	0	50	0	5	0	0	0

(*) Senior only.

2.9.5.2. Gains or Losses on Sales

The tables below show the recognised gains or losses by type of exposure in 2019 and 2018 arising from the sale of securitisation positions in line with Dexia deleveraging strategy. Securitisation sales resulted in a loss of EUR 59 million in 2019 versus a loss of EUR 49 million in 2018. The loss recorded in 2019 is mainly attributable to the sale of ABS on US student loans as part of the Dexia deleveraging plan.

	US Student Loans	Residential Mortgage Loans	Commercial Mortgage Loans	Total
Gain or losses in 2019	(56)	(2)	(1)	(59)
Gain or losses in 2018	(49)	0	0	(49)

3. Market Risk

3.1. Market Risk Measures

3.1.1. Risk Measurement

The Dexia Group mainly assesses market risk using a combination of two measurement indicators, resulting in a limit-based risk management framework.

- Value at Risk (VaR) is a measure of the expected potential loss with a 99% confidence interval and for a holding period of ten days. Dexia relies on a parametric VaR to measure the market risk inherent in the various portfolios and activities. The method of this VaR is based on a normal distribution of yields relating to risk factors.
- Limits in terms of position, maturity, market and authorised products are put in place per type of activity, ensuring consistency between global risk limits and the operational thresholds used by front office.

The risk management system is completed by stress tests, which include events outside the probabilistic framework of VaR measurement techniques. The different assumptions of these degraded scenarios are regularly revised and updated. The consolidated stress-tests results and the corresponding analysis are presented to the Risk Committee on a quarterly basis.

3.1.2. Exposure to Market Risk

3.1.2.1. Value at Risk

The Dexia trading portfolio is composed of two groups of activity:

- Transactions initiated by financial instrument trading activities until the date on which the Group was placed in orderly resolution, mostly covered back-to-back;
- Transactions intended to hedge risks arising from disinvestments or asset sales within the framework of the orderly resolution plan.

The main risk factors of the trading portfolio are:

- Interest rate risk, in particular on the euro zone and the dollar zone,
- Cross-currency basis swap risk,
- Basis risk BOR-OIS in the same currency.

Value adjustments (CVA, DVA, FVA) and their variation are not included in the VaR model but are included in stress scenarios.

Value at Risk (VaR)

The detail of the VaR from the trading portfolios is presented in the following table. At the end of December 2019, total consumption in VaR was EUR 1 million, against EUR 1.7 million at the end of 2018.

Value at Risk from the trading portfolios		
VaR (10 days, 99%)	2018	2019
Average	1.5	1.4
End of period	1.7	1.0
Maximum	1.9	2.9
Minimum	1.2	0.8

3.1.2.2. Sensitivity of Banking Portfolios Classified at Fair Value through Equity to the Evolution of Credit Spreads

The portfolio classified at fair value through equity consists of securities and loans and has a sensitivity to an increase in credit spreads of EUR -2.1 million as at 31 December 2019 compared to EUR -2.8 million as at 31 December 2018 (EUR -2.7 million excluding activities held for sale – DKD).

In addition, the portfolio classified at fair value through profit or loss due to its "non-SPPI" characteristic, also composed of securities and loans, shows a sensitivity to an increase in credit spreads of EUR -1.7 million as at 31 December 2019 against EUR -2.3 million as at 31 December 2018 (EUR -1.9 million excluding activities held for sale – DKD). The decrease in the sensitivity of the fair value of the portfolios results from the acceleration of asset sales within the portfolio and natural amortisation.

3.1.3. Regulatory Internal Model and Back-Testing

3.1.3.1. Basel Treatment

Internal Model

The parametric Value at Risk (VaR) model is the one used for the regulatory capital requirement calculation of general interest rate risk within the trading scope.

The Stressed VaR (SVaR) is calculated on a weekly basis using parameters from the period September 2008-September 2009. Regulatory capital is calculated as the sum of both a multiple of VaR and a multiple of SVaR. Nevertheless, the National Bank of Belgium requires Dexia to apply a floor of 2.5 times the VaR capital charge while calculating the SVaR capital charge.

The portfolios covered by the internal model are located at the level of Dexia Crédit Local, in Paris and New York, and are exclusively composed of derivatives. As part of the independent price verification, their valuation is checked against external sources to assess the performance of the valuation models used.

Standard Approach

Dexia uses the standard approach for the foreign exchange and, specific interest Market Risk as well as Dexia Crediop's portfolio that were not covered by regulatory approval.

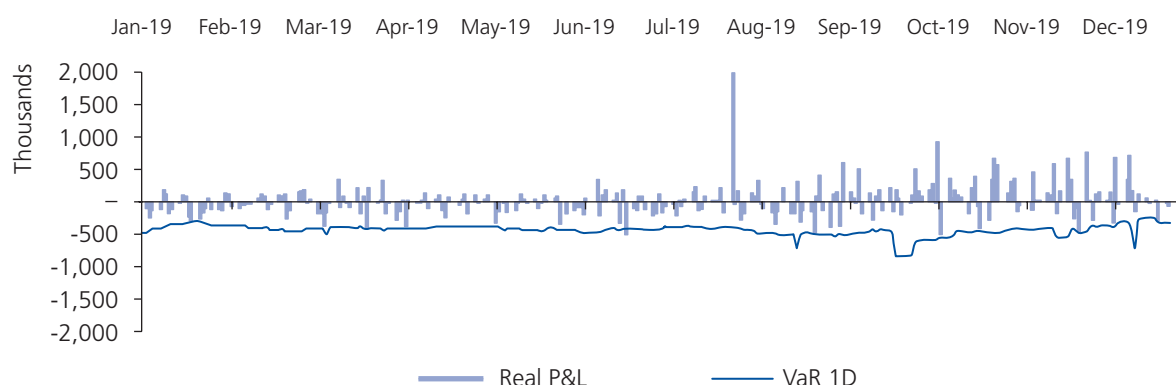
3.1.3.2. Back-Testing

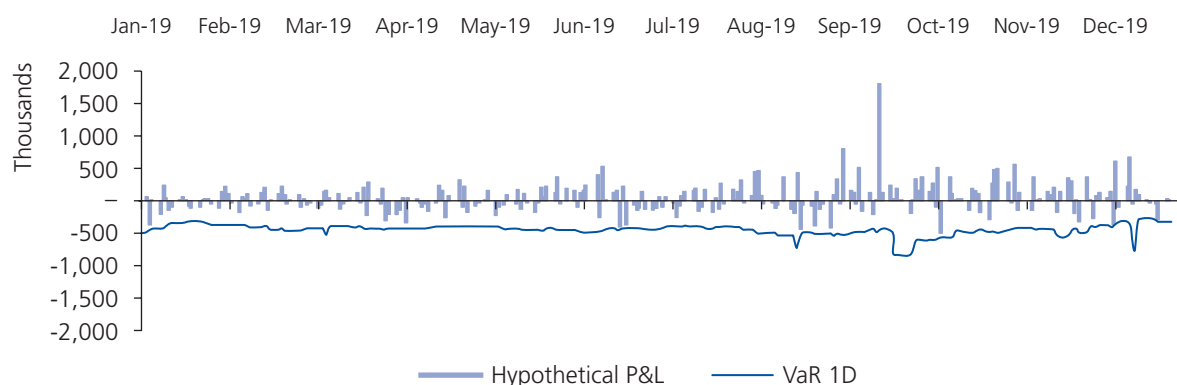
Back-testing is performed on a daily basis on the internal model perimeter. The result of the back-testing is the number of losses exceeding their corresponding VaR figures (i.e. "the number of exceptions"). For back-testing purposes, the VaR amounts need to be recalculated using a 1-day holding period. For VaR figures calculated under a parametric approach, rescaling is achieved through the application of a square root of 10 conversions. Risk reports are based on end-of-day positions meaning that risk figures refer to the maximum loss at the chosen confidence interval over the holding period of the portfolio that is held at the end of the business day. With a 1-day holding period, this figure is compared with the variation of the income statement of the following business day, restated to exclude accounting elements that are not captured by the Value at Risk such as fees, in order to challenge the robustness of the Dexia model better.

Back-testing is performed both on actual and hypothetical changes in the portfolio's value. Hypothetical back-tests are run under the scenarios of change in interest rate alone. The back-testing process provides the Market Risk Management department with a view of the number of exceptions. This number is taken into account to adjust the multiplier used for calculating the bank's risk capital requirements for market risk under the regulatory internal model.

In 2019, 3 back-testing overshooting occurred on the IR perimeter on internal models (compared with 4 in 2018). Following the 2018 Target Review of Internal Models (TRIM) on Market Risk, Dexia received the final decision from the ECB. As from 2020, an increase to the multiplication factors m_c and m_s (as referred to in Article 366(1) of Regulation (EU) No 575/2013) will replace existing floors on the Stressed Value at Risk and on the overall own fund requirement calculation for market risk based on the standard approach.

Back-testing results for 2019





3.1.4. Validation

Validation is responsible for the overall assessment of the market risk models, including VaR internal model. The process set up to endorse the validation of models deployed within the Dexia Group is multi-layered, ensuring total compliance with regulations and local regulatory requirements through the work-out of proposals by the Validation department: an approval of these proposals by the Market Validation Committee and a final endorsement by the Dexia Management Board.

3.1.5. Systems and Controls

On a daily basis, the Product Control department, which is part of the Finance activity line, calculates, analyses and reports the risks and results at an entity and a consolidated level. The Market Risk Committee (MRC) meets on a monthly basis, to analyse the risk and results, possibly to adjust market limits, to present procedures, guidelines and policies and to approve or amend new valuation methodologies.

All market activities are backed by specific guidelines describing the objectives, the authorised products, sensitivity, VaR and/or outstanding limits. The systems and controls established within the Dexia Group are described in various procedures to ensure a complete and formal framework established to support all the market risk responsibilities.

As an example, the New Product Approval Procedure (NPAP) describes the approval process for requests to trade new products from the Front Office until the formal approval of each new product by the Executive Operational Market Committee (EOMC). During this formal process, Market Risk analyses and proposes a valuation strategy for each product and presents its validation to the MRC prior to its formal validation by the EOMC.

Dexia has put forward two ratios to conduct a self-assessment of its capacity to deliver correct valuations. The results are discussed in the Valuation & Collateral Monitoring Committee and if necessary, this committee puts in place an action plan to improve the valuation strategies.

4. Transformation Risk

Dexia's asset and liability management (ALM) aims to reduce liquidity risk as far as possible and to limit exposure to interest rate and foreign exchange risk of positions in the banking book.

4.1. Management of Interest and Exchange Rate Risk

4.1.1. Measurement of Interest Rate Risk

Interest rate risk is measured and monitored via two sets of indicators:

- Interest rates gaps between assets and liabilities;
- The sensitivity of the net present value of accrued interest positions to a 1% shift (upward / downward) of the interest rate curve.

The main indicator used to determine limits and to measure and monitor risk is the sensitivity of the net present value of accrued interest positions to interest rate fluctuations.

The overall and partial sensitivities by time bucket are the main risk indicators used by the ALM risk committee, organised within the ALCO, to manage risk. The Dexia Group's structural interest rate risk is mainly concentrated on European long-term interest rates and arises from the imbalance between Dexia's assets and liabilities after hedging for interest rate risk. The interest rate risk related to behaviour on loan prepayment and non-maturity deposits is non material considering Dexia's portfolio.

The sensitivity of long-term ALM was EUR -27.7 million as at 31 December 2019 (EUR, against EUR -14.1 million as at 31 December 2018. This is in line with the ALM strategy, which seeks to minimise net interest margin volatility.

(in EUR million)	2018	2019
Sensitivity	(14.1)	(27.7)
Limit	+/-80	+/-80

4.1.2. Measurement of Foreign Exchange Risk

The foreign exchange risk represents the potential decrease in the value of assets arising from fluctuations in exchange rates against the euro, which is the reference currency in which the Dexia Group prepares its financial statements.

With regard to foreign exchange, the ALCO decides on the policy to hedge foreign exchange risk generated by the existence of assets, liabilities, income and expenditure in currencies. The monitoring of the foreign exchange exposure stemming from highly likely income (notably accrued interest) is delegated to the local ALCOs, within strict limits defined per currency that are reviewed on a monthly basis.

Also subject to regular monitoring:

- The structural risks associated with the funding of holdings in foreign currencies;
- Elements liable to increase the volatility of the solvency ratios of the Group or its subsidiaries and branches.

4.2. Management of Liquidity Risk

4.2.1. Dexia's Policy on the Management of Liquidity Risk

Dexia's main objective is to manage the liquidity risk in euros and in foreign currencies for the Group, as well as to monitor the cost of funding so as to optimise the Group's results and to minimise volatility.

The liquidity management process aims to optimise the coverage of the Group's funding requirements taking into account the constraints to which it is exposed. Funding requirements are assessed prudently, taking existing transactions into account as well as planned on-and off-balance-sheet forecasts.

Dexia has a liquidity buffer, consisting of deposits with central banks and liquid assets on the repo market, enabling it to deal with stressed situations for at least one month without the need to take contingency measures.

To manage the Group's liquidity situation, the Management Board regularly monitors the conditions for funding transactions on the market segments on which Dexia operates. It also guarantees proper execution of the funding programmes put in place. To that end, a specific and regular mode of information has been introduced:

- A daily and weekly report is provided to members of the Management Board, the State shareholders and guarantors and the supervisory authorities. This information is also used by all parties involved in managing the Dexia Group's liquidity position, in particular the Finance and Risk activity lines in charge of these topics, and the Funding and Markets activity line;
- A twelve-month funding plan is sent monthly to the State shareholders and guarantors, central banks and supervisory authorities;
- A Fortnightly conference call is held with the supervisory authorities and (European, French and Belgian) central banks.

4.2.2. Liquidity Risk Measurement

The Dexia Group posted a consolidated LCR ratio of 238% as at 31 December 2019, against 202% as at 31 December 2018, in line with these requirements. This ratio is also respected at subsidiary level, each exceeding the required minimum of 100%.

Further information on liquidity is provided in the section "Information on capital and liquidity" in Dexia's Annual Report 2019.

4.2.3. Asset encumbrance

Assets

31 December 2018			
	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets
Assets	55,423		103,380
Equity instruments	0	0	156
Debt securities	25,949	22,970	23,946
Other assets	29,474		79,278

31 December 2019			
	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets
Assets	21,300		99,025
Equity instruments	0	0	101
Debt securities	14,946	13,266	23,742
Other assets	6,353		75,182

Collateral received

31 December 2019		31 December 2018	
	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance	Fair value of collateral received or own debt securities issued available for encumbrance
Collateral Received	1,235	318	1,290
Equity instruments	0	0	0
Debt securities	0	0	0
Other collateral received	1,235	318	1,290
Own debt securities issued other than own covered bonds or ABS	0	0	0

Encumbered assets/collateral received and associated liabilities

31 December 2019		31 December 2018	
	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued	Matching liabilities, contingent liabilities or securities lent
Carrying amount of selected financial liabilities	49,282	21,103	57,722
			80,316

5. Operational Risk

Dexia's policy regarding operational risk management consists of regularly identifying, measuring and assessing the various risks and implementing corrective actions or improvements to reduce the most significant operational risks. This system is supplemented by a prevention policy in particular covering IT security, business continuity and, when necessary, the transfer of certain risks via insurance.

5.1. Risk Measurement and Management

Operational risk management is identified as one of the pillars of Dexia's strategy within the context of its orderly resolution.

This risk is monitored within the framework of the standard approach determined by the Basel regulatory methodology. Under this methodology, information relating to the operational risk must be transferred to the managers in charge of monitoring this risk, and the tasks identified as critical must be monitored.

The operational risk management system relies on the following components.

- Operational risk database: the systematic capture and monitoring of operational incidents is one of the most important requirements of the Basel Committee. Fulfilling its regulatory obligations, Dexia has put a system in place to list operational incidents and to gather specific data. The information gathered enables it to improve the quality of its internal control system. Over the last three years, almost 99% of losses under the Basel definition originated from the category "Execution, Deliveries and Process Management". The other categories ("Customers, Products and Business Practices", "Failure of Systems or IT Infrastructure" and "External Fraud") represent 54% of the total number of incidents but less than 1% of total losses. Most operating incidents are declared on a failure of a business line process, an incident the direct cause of which is often a failure in the correct operation of IT systems. The principal incidents are subject to corrective actions approved by the management bodies.
- Risk self-assessment and control: as well as building a history of losses, Dexia's exposure to key risks is determined via a risk mapping exercise, which is performed on a regular basis. All Dexia Group entities conduct risk self-assessment exercises that take into account existing controls, thus providing an overall view of all the areas of risk within the Group's various entities and businesses. The overall mapping is presented each year to the Management Board. Actions to limit risk may be defined where applicable.
- Definition and monitoring of action plans: remedial actions are defined to avoid major incidents recurring, to correct deficient controls or to reduce important risks identified. Regular monitoring is carried out by the operational risk management function. This process allows the internal control system to be constantly improved and risks to be reduced appropriately over time.
- Key Risk Indicators (KRI): KRI have been developed and enable the Operational Risk Committee to monitor the evolution of the principal risks identified in Risk Appetite Framework.
- IT security management: the IT security policy and the associated instructions, standards and practices are aimed at ensuring that Dexia's IT assets are secure.
- Business continuity management: all activities take place in a secure environment. The business lines establish impact analyses for vital activities in the case of disaster or interruption. They define and then regularly update recovery plans.
- Dexia applies the Basel standard approach (TSA) provided in the Basel regulatory framework to calculate regulatory capital for operational risk management.

5.2. Management of Operational Risk during the Resolution Period

In 2019, the Dexia Group continued to adapt its structure and its operational processes to its mandate of orderly resolution.

This resolution phase is by its nature favourable to the development of operational risks, particularly from elements such as the departure of key individuals, possible demotivation among staff members or changes to treatment processes.

In particular, projects to outsource certain activities may represent a source of operational risk during phases of and the implementation but should in the medium-term guarantee the bank's operational continuity and limit the operational risks associated with systems, processes and people.

Within the framework of the agreements to outsource IT and back-office services as well as the IT infrastructure which binds Dexia and Cognizant, risks monitoring is performed by the Dexia Risk Management department for the governance of operations and risks via joint Dexia / Cognizant committees. The Watchtower team, introduced within Dexia, is responsible for checking the provision and quality of the services provided by Cognizant, whilst the effective supervision of outsourced activities is performed the Internal Control of the Dexia and Cognizant entities. In particular, a specific projects programme was launched by Dexia and Cognizant to achieve the objectives defined in the outsourcing agreement regarding IT systems security. Finally, a quarterly report is produced to monitor the operational risks associated with strategic projects and to ensure that corrective actions are implemented to reduce the most significant risks.

Furthermore, at Dexia, psycho-social risks are carefully monitored, accompanied by prevention and assistance actions.

More detailed information on the actions taken by Human Resources to mitigate operational risk are provided in the Dexia's 2019 annual report chapter entitled "Non-financial declaration. Corporate, social responsibility".

Finally, the ECB performed in 2019 an On-Site Inspection (OSI) on Outsourcing, covering several topics: the outsourcing policy, the governance, the decision making phase, the provider selection and contracting, the implementation, the service delivery and monitoring, the exit phase, the risk management and internal audit. Findings evidenced in the final report sent in November 2019 relate for the most critical ones to the monitoring by the Management Bodies, the overall risk assessment, the monitoring of action plans, the exit strategies and the continuity risk. Dexia will structure action plans to address these findings based on recommendations to be established by the JST expected during the first half-year 2020.

6. Remuneration Policies and Practices

The scheme in place within the Group provides that the Dexia Remuneration Committee prepares all matters relating to remuneration policy. Its proposals are then submitted to Dexia's Board of Directors, which decides on the appropriate measures to be taken. Dexia defines its remuneration policy in observance of the commitments made to the Belgian, French and Luxembourg States and the European Commission within the framework of the Group's orderly resolution plan. In particular Dexia applies the remuneration principles derived within the context of the G20, the national bodies and the CRD IV. The Group ensures that it makes the best use of public funds as regards remuneration. This policy applies to both fixed (non-performance-related) remuneration and any variable (performance-related) remuneration, the general principles of which apply to all staff members. These principles include aligning remuneration policies and practices in order to create a balance between fixed and variable remuneration that does not encourage excessive risk-taking and establishing methods for assessing the relationship between performance and variable remuneration.

The remuneration policy and its implementation are regularly assessed in order to identify provisions which require adaptation particularly in view of the entry into force of new legal or regulatory provisions.

6.1. Fixed and Variable Remuneration

The remuneration of staff whose professional activities have a significant impact on the risk profile is made up of a fixed part that may be accompanied by a variable part.

6.1.1. Fixed Remuneration

Fixed remuneration may be made up of basic remuneration, determined considering the nature and importance of the responsibilities assumed by each staff member, plus a 'function bonus' or salary supplement that is not affected by performance, paid quarterly.

This supplement was introduced correlatively to the decision by the Board of Directors to reduce variable remuneration based on performance in order to reduce the potential incentive to take excessive risks. In this way the Board, in accordance with the statutory and regulatory provisions in the matter, has increased remuneration not linked to performance, which must represent a significant proportion of the whole of the remuneration.

The remuneration of Management Board members now consists solely of a part not linked to performance, constituting a whole from which, unless there is a decision contrary by the Board of Directors on a proposal from the Remuneration Committee, there shall be deducted any attendance fee or thirteenth month paid to a member of the Management Board or by a third party company in which a mandate is exercised in the name and on behalf of Dexia.

6.1.2. Variable Remuneration

Members of the Management Board have no contractual right to receive variable remuneration.

As a rule, in order to discourage excessive risk-taking and to allow a sufficiently flexible policy of granting variable compensation, the maximum ratios observed between fixed and variable compensation is 1 (fixed compensation) for 0.3 (variable compensation). Exceptionally, this ratio may reach 0.5 in case of premium having the goal to keep the necessary competencies to maintain the operational continuity. In any case, variable remuneration will not exceed EUR 75,000.

Given the ratios set out above, the variable remuneration paid to a staff member will not be deferred over time, except where there is an exception such as keeping key competencies (cf. paragraph above). Nevertheless, the company reserves the right to apply a retrospective clawback adjustment in certain cases (cf. below).

6.1.3. Retrospective Clawback Adjustment of Variable Remuneration

Payment of variable remuneration is based on the premise that, as long as the staff member is working within the Group, he or she fully observes the law and the rules that apply to the company, as well as its values. Variable remuneration may be the subject of retrospective clawback adjustments.

In the event of fraud being observed after the allocation of variable remuneration, and in cases where variable remuneration might have been granted on the basis of intentionally erroneous information, the Board of Directors of Dexia reserves the right to bring civil action with a view to recovering the part of the variable remuneration which might already have been paid, or at least damages to remedy the consequences of those actions.

6.2. Link between Performance and Remuneration

Performance may influence movements in fixed remuneration and the amount of any variable remuneration.

All variable remuneration is influenced by the company's situation and may fluctuate based on the results of the Group, of the entity and the individual performance. In compliance with statutory constraints and obligations, any variable remuneration that may have been granted may therefore be reduced to zero, by decision of the Board of Directors, if the Group's collective results are negative.

The link between the variable remuneration and staff member's performance is assessed with regard to former targets and results expected in the future, linked to past activity.

When being determined, the directors' targets, set by the Board of Directors, include the risk criteria. Subsequently, the targets streamed down to lower levels of the organisation will also take account of the risk factors specific to the business line in question.

The performance is linked to quantitative and qualitative, financial and non-financial criteria and is evaluated every year.

The individual objectives are split between business objectives and behavioural objectives.

6.3. Quantitative Information

The information regarding the remuneration of the Management Board is disclosed in the chapter entitled "Declaration of corporate governance" of Dexia Crédit Local's Annual Report 2019, as well as in the chapter entitled "Governance" published in Dexia's Annual Report 2019.

2018							
	Number of staff ⁽¹⁾	Remuneration			Severance payments		
		Fixed	Variable ⁽²⁾	Retention premium	Number of beneficiaries	Paid amounts	Highest paid amount
Management Board members	7	2.82	0	-	1	0.11	0.11
Other staff ⁽¹⁾	29	6.67	0.82	-	6	2.56	1.05

1) This table is related to executives and staff members whose activity has a significant material impact on the Group risk's profile.

2) In the light of the applicable ratios between fixed and variable pay, the payment of the variable remuneration will not be deferred.

2019							
	Number of staff ⁽¹⁾	Remuneration			Severance payments		
		Fixed	Variable ⁽²⁾	Retention premium	Number of beneficiaries	Paid amounts	Highest paid amount
Management Board members	8	3.03	-	-	-	-	-
Other staff ⁽¹⁾	23	5.23	0.61	-	3	1.26	0.46

1) This table is related to executives and staff members whose activity has a significant material impact on the Group risk's profile.

2) In the light of the applicable ratios between fixed and variable pay, the payment of the variable remuneration will not be deferred.

Appendix 1

Glossary

Concept	Definition
ABS Asset-Backed Security	Securities issued by a vehicle created for the purpose of buying assets from a bank, a company or a state, like trade receivables or inventories, and to provide the seller with cash and the buyer with a financial product characterised by a certain risk profile and a rate of return.
AFS Available For Sale	Non-derivative financial assets designated on initial recognition as available for sale or any other instruments that are not classified as (a) loans and receivables, (b) held-to-maturity investments or (c) financial assets at fair value through profit or loss.
AIRBA Advanced Internal Rating-Based Approach	Institutions using the Advanced IRB approach are allowed to determine borrowers' probabilities of default and to rely on own estimates of loss given default and exposure at default on an exposure-by-exposure basis. These risk measures are converted into risk weights and regulatory capital requirements by means of risk weight formulas specified by the Basel Committee.
ALM Asset and Liability Management	Action, for instance in a financial institution or a corporate, of managing the net risk position between assets and liabilities, particularly with respect to imbalances generated by the evolution of interest rates, currencies and inflation, but also maturity mismatch, liquidity mismatch, market risk and credit risk.
AVC Asset Value Correlation	The AVC parameter is a means by which the framework captures the extent to which defaults across firms will cluster together. A multiplier of 1.25 is applied to the correlation parameter of all exposures to financial institutions meeting defined criteria (see LFI/UFI)
BIS Bank for International Settlements	"Bank for International Settlements" ("BIS") designates the international financial institution which acts as the central bank of the national central banks and of some supranational organisations, such as the European Central Bank (ECB). The BIS receives deposits from, and makes loans to, these entities. The BIS is also a forum to discuss co-ordination of macroeconomic policies in general, with a focus on monetary policies, such as the evolution of interest rates and currency exchange rates. The institution's prime objective is the overall stability of the world's financial system. In that context, capital adequacy ratios applicable to banks are set up by the Basel Committee which is part of the BIS.
CCF Credit Conversion Factor	The ratio of the currently undrawn amount of a commitment that will be drawn and outstanding at default to the currently undrawn amount of the commitment. The extent of the commitment will be determined by the advised limit, unless the unadvised limit is higher.
CRD Capital Requirement Directive	The Capital Requirement Directive (CRD) for the financial services industry introduces a supervisory framework in the EU which reflects the Basel III rules on capital measurement and capital standards.
CRM Credit Risk Mitigant	Range of techniques whereby a bank can, partially, protect itself against counterparty default (for example by taking guarantees or collateral, or buying a hedging instrument).
CVA Credit Valuation Adjustment	The Credit Valuation Adjustment (CVA) is one of the components of the fair value (FV) of derivatives. CVA adjusts FV in order to take counterparty risk into account.
CVA capital charge	Under Basel III, banks are subject to a « CVA » capital charge for potential mark-to-market losses associated with any deterioration in the creditworthiness of a counterparty. The CVA capital charge corresponds to a Value At Risk (VaR) applied to CVA.
DVA Debit Valuation Adjustment	The Debit Valuation Adjustment (DVA) is the measure of a bank's possibility of not fulfilling its own obligations based on its probability of default.
EAD Exposure at Default	Exposure at Default (EAD) is one of the parameters used to calculate the regulatory capital requirement under the Basel III framework. EAD is a Dexia best estimate of its credit risk exposure value in case of default of a counterparty. Definition of EAD depends on the approach taken into account by Dexia: both Standard and IRB approaches (Basel III regulation) are used by Dexia.

Concept	Definition
ECAI External Credit Assessment Institutions	Under the agreement of the Basel Committee on Banking Supervision, banking regulators can allow banks to use credit ratings from certain approved Credit Rating Agencies when calculating the risk weight of an exposure. Competent authorities will recognise an ECAI as eligible only if they are satisfied that its assessment methodology complies with the requirements of objectivity, independence, ongoing review and transparency, and that the resulting credit assessments meet the requirements of credibility and transparency.
EL Expected Loss	The amount expected to be lost on an exposure from a potential default of a counterparty or dilution over a one-year period.
Forbearance	Forborne exposures are restructured contracts in respect of which forbearance measures have been extended. Forbearance measures consist of concessions towards a debtor facing or about to face difficulties in meeting its financial commitments (in other words, forbearance bears upon counterparties which are in “financial difficulties”). Restructured contracts are transactions renegotiated (modification of the previous terms and conditions) or refinanced (use of debt contracts to ensure the total or partial payment of other debt). Concession refers to either of the following actions: (a) a modification of the previous terms and conditions of a contract with which the debtor is considered unable to comply due to its financial difficulties (“troubled debt”) to allow for sufficient debt service ability, that would not have been granted had the debtor not been in financial difficulties; (b) a total or partial refinancing of a troubled debt contract, that would not have been granted had the debtor not been in financial difficulties. The concept of forbearance applies to all loans and debt securities on balance sheet. “Debt” includes loans, debt securities and revocable and irrevocable loan commitments given, but excludes exposures held for trading.
FX Foreign eXchange	Transaction of international monetary business, as between governments or businesses of different countries.
IAS International Accounting Standards	IAS stands for International Accounting Standards. IAS are used outside the US, predominantly in continental Europe.
ICAAP Internal Capital Adequacy Assessment Process	The main objective of the Pillar 2 requirements is to implement procedures that will be more sensitive to an institution’s individual risk profile. This is to be achieved by introducing internal Capital Adequacy Assessment processes (ICAAP).
IFRS International Financial Reporting Standards	International Financial Reporting Standards published by the IASB and adopted by most countries but the USA. They have been designed to ensure globally transparent and comparable accounting and disclosure.
IR Interest Rate	Interest expressed as an annual percentage rate.
IRB Approach	Internal Rating-Based Approach. Institutions using the IRB approach are allowed to determine borrowers’ probabilities of default. Two IRB approaches exist: the Advanced Approach (AIRBA) and the Foundation Approach.
ISDA International Swap and Derivative Association	Trade organisation of participants in the market for over-the-counter derivatives. It has created a standard contract (the ISDA Master Agreement) to enter into derivative transactions.
IT Information Technology	Study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware. IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information.
L&R Loans & Receivables	Non-derivative financial assets with fixed or determinable payments that are not quoted on an active market, other than held for trading or designated on initial recognition as assets at fair value through profit or loss or as available for sale.
LCR Liquidity Coverage Ratio	A 30-day liquidity coverage ratio set up by the new Capital Requirement Regulation (CRR) designed to ensure short-term resilience to liquidity disruption. The stock of high liquid assets in stressed conditions is compared to the total expected cash inflows minus outflows.
Leverage Ratio	The leverage ratio is defined as the “capital measure” (the numerator) divided by the “exposure measure” (the denominator) and is expressed as a percentage. The capital measure is currently defined as Tier 1 capital and the minimum leverage ratio is 3%. The leverage ratio is intended to (i) restrict the build-up of leverage in the banking sector to avoid destabilising deleveraging processes that can damage the broader financial system and the economy and (ii) reinforce the risk-based requirements with a simple, non-risk based “backstop” measure.

Concept	Definition
LFI Large Financial Institution	A Large Financial Institution is a regulated financial institution (defined as an institution that provides financial services to its clients or acts as an intermediary in providing such services) the total assets of which, on the level of that individual firm or on the consolidated level of the Group, are greater than or equal to EUR 70 billion.
LGD Loss Given Default	The ratio of the loss on an exposure due to the default of a counterparty to the amount outstanding at default.
Master scale	For reporting purposes, a “master scale” has been set up. This master scale is structured in grades ranging from AAA to CCC and the modifiers plus, flat and minus (except for both extremes of the scale). The two default classes D1 and D2 are also reported. Each rating corresponds to a bucket of PD set up according to the one-year average default rate of rating agencies. This rating is obtained by mapping its probability of default as estimated by the relevant IRS (Internal Rating System) into the master scale bucket. Rating classes provided in the present document stem from the master scale.
MBS Mortgage-Backed Securities	Asset-backed securities or debt obligations representing claims on the cash flows from mortgage loans.
NBB National Bank of Belgium	The National Bank of Belgium is the Belgian Financial Institutions regulator.
NPE Non-Performing Exposure	Non-performing exposures satisfy at least one of the following criteria: (i) material exposures which are more than 90 days past-due (quantitative criterion); (ii) the debtor is assessed as unlikely to pay its credit obligations in full without realisation of collateral, regardless of the existence of any past-due amount or of the number of past-due days (qualitative criterion). The concept of non-performing exposure applies to all debt instruments (loans and advances as well as debt securities) and off-balance sheet exposures (loan commitments given, financial guarantees given, and other commitments given). This definition does not include equities, derivatives, repos and exposures held for trading.
NSFR Net Stable Funding Ratio	Long-term structural liquidity ratio set up by the new Capital Requirement Regulation (CRR) designed to address liquidity mismatches and to promote the use of stable funding (the amount of available stable funding is compared to the amount of required stable funding).
P/L Profit and Loss	The income statement is a document showing all wealth-creating revenues and wealth-destroying charges. There are two major income statement formats: the by-nature income statement format and the by-function income statement format. Also called profit and loss account (or P/L).
PD Probability of Default	The probability of default of a counterparty over a one-year period.
RCSA Risk & Control Self-Assessment	This is an annual self-assessment exercise that consists of identifying and evaluating the most significant risk areas in a coherent way across entities and activities. RCSA also includes the identification, challenging and description of key controls and indicators and eventually defines action plans that will allow for an improvement of risk mitigation.
RWA Risk-Weighted Assets	Used in the calculation of risk-based capital ratios. They are the total assets calculated by applying risk-weights to the amount of exposure.
UFI Unregulated Financial Institution	From a regulatory standpoint, unregulated financial institutions are defined as non-regulated financial entities that perform, as their main business, one or more of the activities performed by regulated financial entities. The following entities can be included in the UFI list: unregulated non-equity funds (may include funds involved in credit intermediation and operating with some degree of maturity and/or liquidity transformation) and unregulated structured finance vehicles (securitisation vehicles created for the purpose of warehousing assets and issuing ABS).
VaR Value at Risk	(VaR) represents an investor's maximum potential loss on the value of an asset or a portfolio of financial assets and liabilities, based on the investment timeframe and a confidence interval. This potential loss is calculated on the basis of historical data or deduced from normal statistical laws.
Asset Encumbrance	An asset will be treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn.

Appendix 2

Internal Rating Systems

1. Structure of Internal Rating Systems

The internal rating systems developed by Dexia are set up to evaluate the three Basel risk parameters: Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factor (CCF). For each counterparty type in the advanced method, a set of three models has been developed for each parameter.

The PD models estimate the one-year probability of default. Each model has its own rating scale and each rating on the scale corresponds to a probability of default used for regulatory and reporting purposes. The correspondence between rating and PD for each scale is set during the calibration process, as part of the model development, and is reviewed and adjusted during the yearly back-testing when applicable. The number of ratings on each scale depends on the characteristics of the underlying portfolio (the number of counterparties, their homogeneity, whether it is a low default portfolio or not) and varies between 7 and 17 non-default classes. In addition, each scale has been attributed two default classes (named D1 and D2).

For reporting purposes, a “master scale” has been set up. This master scale is structured in grades ranging from AAA to CCC and the modifiers plus, flat and minus (except for both extremes of the scale). The two default classes D1 and D2 are also reported. Each rating corresponds to a bucket of PD set up according to the one-year average default rate of rating agencies. This rating is obtained by mapping its probability of default as estimated by the relevant IRS (Internal Rating System) into the master scale bucket. Rating classes provided in the present document stem from the master scale.

LGD models estimate the ultimate loss incurred on a defaulting counterparty before taking the credit risk mitigants into account. The unsecured LGD depends on different factors such as the product type, the level of subordination or the rating of the counterparty. The granularity of the estimate is a function of the quantity and quality of data available.

CCF models estimate the part of off-balance-sheet commitments that would be drawn should a counterparty go into default. The regulation authorises the use of CCF models only when CCF under the foundation approach is not equal to 100% (as it is for credit substitutes for instance). CCF granularity also depends on the availability of data.

The relation between the outcomes of internal rating systems and external agency ratings is at two levels:

- While designing the models: some internal rating systems have been designed and calibrated on the basis of external ratings. This is typically the case when internal default data are scarce;
- While establishing reporting: information on the portfolio is reported using the master scale which is representative for the external agency probability of default.

2. Description of the Internal Rating Process

General Organisation of the Internal Rating Process

The internal rating process is organised in three stages: the model development, the maintenance and the control of the internal rating. The Risk Models, Quantification & Defaults division is responsible for the entire process of developing and maintaining a model whereas the control of the internal rating is dispatched through several control functions within the Dexia Group (validation, audit, credit internal rating systems control...).

Model Development and/or Review

The different steps of model's development are:

- Defining the scope of the model application;
- Identifying and gathering the most pertinent available data like financial data, data on defaults and recoveries (internal and/or external data), institutional and legal framework etc.;

- Building a database for the purpose of modelling, calibration of risk parameters (internal and/or external default, financial and qualitative information, internal data on recovery process, etc.); the database source depends on the case at hand, with a preference for objective above subjective data and a long data history. The data source varies by model. The data quality is checked by RMQD analysts before launching the testing phase;
- Defining the methodology: expert, statistical or mixed statistical and expert approaches, definition of a broad list of financial ratios or / and qualitative criteria, definition of material risk drivers for discrimination, computation of quantitative and qualitative criteria according to the type of model chosen;
- Model construction
 - Testing ratios methods and/or material risk driver for discrimination in an interactive way between quantitative analysts from RMQD and qualitative analysts from CEC teams when necessary. Testing ratios, methods and/or material risk driver for discrimination in an interactive way between quantitative analysts from RMQD and qualitative analysts from CEC teams when necessary.
 - Segmentation (per homogeneous group or segment) and calibration (through-the-cycle average and conservative margin) steps:
- Model evaluation: Expert evaluation, Formal back test, Statistical performance, Criteria to rank models;
- Documentation writing: Model documentation and documentation to be disclosed to the Supervisor;
- Validation: Internal validation (validation team, ad hoc committees (COTEC), Validation Committee), Risk Executive Committee;
- Information to the Supervisor;
- Model Implementation in IT systems;
- Adapting risk policies and tools to take IRS into account.

Nevertheless, some steps in the development process detailed above may not be applied.

Models based on a derivation approach stem from an existing model and those based on an assimilation approach have specific development processes. Counterparties treated by assimilation inherit the rating of their “master” counterparty. Assimilations and derivations are applied when it is neither financially intuitive nor statistically relevant to develop, adapt or use an existing model. Such cases occur typically for low default portfolios with a low number of observations, limited data availability (both for design and for model use) and for portfolios where strong relations exist between the “master” counterparty and the “assimilated” or “derived” counterparty. These relations can be legally bound or based upon long-term past experience and practice.

Maintenance of the models

As mentioned above, the Risk Models, Quantification & Defaults division is responsible for the entire process linked to the model review, including the maintenance of the model. The main model maintenance steps encompass:

- Centralising, analysing and storing of default data;
- Coordinating the various quantitative and qualitative analyses required throughout the model life cycle;
- Gathering information and feed-back from the credit analysis and rating teams to update risk analysis techniques, and identify models’ weaknesses;
- Conducting developments, reviews and back tests of models;
- Validating business requirements for IT developments (rating tools);
- Updating model documentation and user guides;
- Preparing model certification documents.

Internal rating process by broad exposure class

Type of exposure included in each exposure class

Dexia has developed a wide range of models to estimate PD, LGD and CCF of the following types of counterparties.

Sovereigns & assimilated

Sovereigns

The scope of the model encompasses sovereign counterparties, defined as central governments, central banks and embassies (which are an offshoot of the central state), and all debtors of which liabilities are guaranteed irrevocably and unconditionally by central governments or central banks.

Assimilations to sovereigns

The in-depth analysis of some public sector counterparties (such as public hospitals in France or communities in Germany) shows that they share the same credit risk as the “master” counterparties to which they are assimilated (usually local authorities or sovereigns). They are consequently assimilated to these “master” counterparties and benefit from the same PD and LGD as their “master” counterparties.

Project finance (specialized lending)

This model encompasses the project financing activity of Dexia on all segments of activity in which Dexia intervenes (which at present are mainly Energy and Infrastructure). The specialised lending portfolio is a subgroup of the corporate portfolio which has the following characteristics: the economic objective is to finance or acquire an asset; the flows generated by this asset are the sole or practically the sole source of repayment; this financing represents a significant debt in respect of the liabilities of the borrower; the main distinguishing criterion of risk is essentially the variability in flows generated by the financed asset, much more than the borrower's ability to repay.

Banks

The scope of the model encompasses worldwide bank counterparties, defined as legal entities which have banking activities as their usual profession. Banking activities consist of the receipt of funds from the public, credit operations and putting those funds at customers' disposal, or managing means of payment. Bank status is gained by the delivery of a banking licence granted by the supervisory authority.

Corporates

The scope of the model encompasses worldwide corporate counterparties. Dexia defines a corporate as a private company or a listed publicly owned company with total annual revenues higher than EUR 50 million or belonging to a Group with total annual revenues higher than EUR 50 million which is not a bank, a financial institution, an insurer or a satellite.

Public sector entities: Western Europe, US, assimilations to local authorities

Public sector entities represent a large part of the Dexia portfolio. Some differences between counterparties have been noticed inside this portfolio, and this explains the number of models.

Western European local authorities

This model encompasses local authorities in France, Spain, Italy and Portugal⁽⁷⁾. From this model, the models applicable for German Länder and French "Groupements à fiscalité propre" have been inferred.

Dexia defines local authorities as sub-sovereign governmental elected bodies empowered by the legislation of the country in which they are located with specific responsibilities in providing public services and with certain resources and capacity to decide their own practical organisation in terms of administrative procedures, personnel, buildings, equipment, etc.

US States

The scope of application of the US State model encompasses the 50 States of the United States of America and the Commonwealth of Puerto Rico. The model only rates US State general funds or general obligations. Every US State or local government has a general fund and generally issues general obligation or general fund debt. The general fund of a public entity is the main revenue from direct or indirect taxes and is used for common and general purposes. For instance, a general fund usually backs general obligation bonds, lease or certificate of participation bonds.

US local governments

The scope of the US local government model encompasses cities, counties and school districts. The internal rating system only rates US local government general funds or general obligations.

Other counterparties from the US municipal sector (expert models)

The scope of application of these expert models covers only the counterparties related to the special revenue funds, i.e. the following categories for Dexia: special tax, utilities (including water and sewer, gas and electricity), higher education, general airport, toll facilities, mass transportation, housing, healthcare and public facility lease. Every local government or public authority generally has one or more special revenue funds, the financial characteristics of which differ from one sector to another. The special revenue funds of a public entity are usually used for a special purpose and they receive either utility revenues (water, public power, toll...) or special taxes (sales tax, allocation tax, excise tax...).

Social housing

This model encompasses social housing companies in France and the United Kingdom. The social housing sector encompasses dedicated entities with public, private or non-profit entity status which have a social lessor's mission within the regulated field of social housing activity in France and in the United Kingdom. In particular, this field is strongly regulated by the "Code de la Construction et de l'Habitat" in France and by the Housing Corporation in the United Kingdom.

Assimilations to public sector entities

The in-depth analysis of some public sector counterparties shows that they share the same credit risk as the "master" counterparties to which they are assimilated (usually local authorities or sovereigns). They are consequently assimilated to these "master" counterparties and benefit from the same PD/LGD as their "master" counterparties.

⁽⁷⁾ Portuguese Autonomous Regions. In 2018 Dexia obtained the supervisor's approval to revert to the standard approach on Portuguese municipalities' exposures.

Equity and securitisation transactions

No internal models have been developed specifically for equity or securitisation transactions that follow a different regulatory approach under the Basel framework: securitisation risk weighting is based on external and not internal ratings; equities do not require the development of specific models.

Default definition used in the models

The “default” notion is uniform throughout the entire Dexia Group covering all business segments with some minor exceptions due to special characteristics.

The notion of default has been harmonised from the beginning of the Basel project with the impairment notion used in IFRS. All credits in default and only those flagged as in default give rise to an impairment test (that may or may not ultimately lead to a provision). (Cf. above in section 3.5).

The notion of default is not automatically related to that of potential loss (for instance, a loan may present unpaid terms but may be totally collateralised and consequently present a nil expected loss) or to the notion of denunciation (which is decided on the basis of the interest Dexia may have in doing so).

Definition, methods and data for estimating PD, LGD and CCF

Main principles used for estimating the PD

Types of counterparties	Through The Cycle (TTC) models	Default definition	Time series used	Internal/ external data
Sovereigns	Models are forward looking and Through The Cycle (TTC). They are designated to be optimally discriminative over the long term. The TTC aspect of the rating is also addressed in a conservative calibration of the PD	Default at 90 days	> 10 years	External
Banks		Default at 90 days	> 10 years	External and internal
Local public sector		Default at 90 days (except for French: 180 days until 31 December 2016)	Cf. following table	Internal and/or external
Corporates		Default at 90 days	> 10 years	External
Specialised lending		Default at 90 days	> 10 years	Internal
Equity	Specific approach: PD/LGD	N/A	N/A	N/A
Securitisation	Rating-based approach	Default if related ABS is classified as impairment 1 (loss probability >50%) or impairment 2 (loss probability =100%)	N/A	N/A

Main principles used for estimating the LGD

Types of counterparties	Main hypotheses	Time series used	Internal/ external Data
Sovereigns	Expert score function based upon Fitch country loss risk methodology and internal expert knowledge to discriminate between high and low risk	> 10 years	Internal + External
Banks	Statistical model based on external rating agencies and internal loss data	> 10 years	Internal + External
Corporates	Statistical model based on external rating agencies loss data	> 10 years	External
Local public sector	Cf. next table		
Specialised lending	Statistical model based on internal loss data	> 10 years	Internal
Equity	Specific approach: PD/LGD	N/A	N/A
Securitisation	Rating-based approach	N/A	N/A

Overview of the local public sector

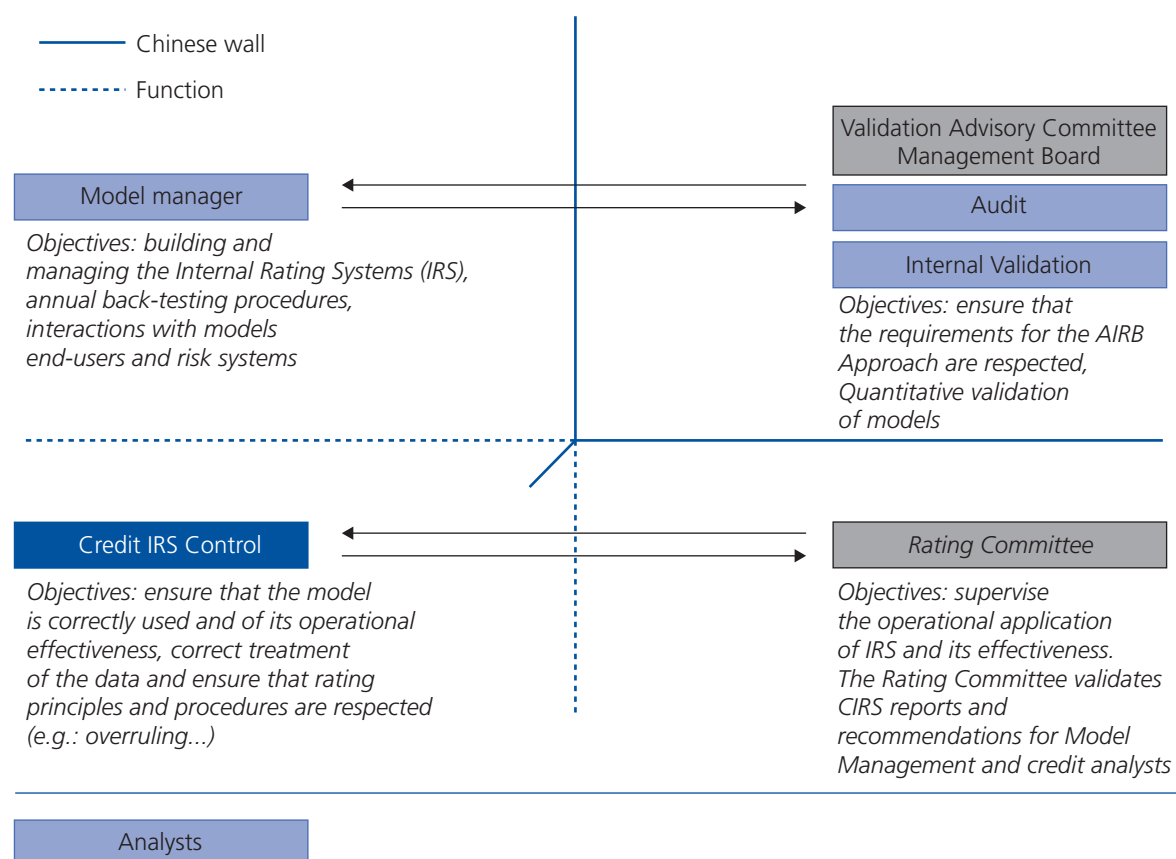
Types of counterparties	Main hypotheses	Time series used	Internal/ external data
Western Europe local authorities	Statistical model based on the internal existing default cases observed on our portfolio. Final LGD are segmented on both socio-economic criteria and indicator reflecting the financial flexibility	> 10 years	Internal
US municipalities	The Muni US LGD model is an expert model guided by external recovery rate factors and estimates. The final segmentation is based on business sectors	N/A	External
Groupements à fiscalité propre	A mixed analytical - expert model was chosen and constructed based on available observations to determine LGD and quantify potential loss related to a default in this sector	4 years	Internal
Social housing	Expert model based on a global evaluation of security/credit risk mitigant. Segmentation is based on the number of houses and on a performance ratio	9 years	Internal + External

Main principles used for estimating CCF

At present Dexia does not use CCF models for regulatory purposes except for specialised lending CCF model. Otherwise, the foundation approach is applied.

3. Control Mechanisms for Rating Systems

The BCBS regulation requires internal control of the internal rating systems and processes. The following chart provides an overview of the different control functions.



The control mechanisms for Internal Rating Systems (IRS) are organised in 3 levels:

- Credit Internal Rating Systems Control (CIRS) is responsible for the monitoring of the models' use and environment review, pertaining to the second level controls of IRS (model scope, model input quality, overruling, audit trail);
- Market and Credit Validation is responsible for the overall assessment of the IRS (model set-up, model reviews, back-testing and stress-testing);
- Audit is responsible for auditing the general consistency and compliance with the regulation of the IRS, operational validation being carried out by the CIRS department.

CIRS is integrated in the Validation department. Chinese walls are built between RMQD and Validation.

Risk Models, Quantification & Defaults (RMQD), CIRS (via Rating Committee (RC)) and Audit ensure control system independence.

Credit Internal Risk Systems control

Purpose

Credit Internal Rating Systems control is defined, in accordance with the regulatory directives, as an internal and independent control unit aimed at ensuring that the IRS are used properly and in an operationally effective manner and that an audit trail of the rating process is maintained.

In practice, the controls and the organisation are established to meet a number of requirements:

- Ensuring that the assumptions on which the models are founded are respected;
- Ensuring the reactivity of IRS supervision procedures and the maintenance of the audit trail in the rating process;
- Facilitating the IRS containment procedures. When malfunctions or anomalies in the use of or in the results produced by the model are evidenced, swift and effective remedial action should follow. To this end, controls should not only concentrate on anomalies but also help to explain their cause. Moreover, a regular and constructive relationship with the back-testing functions is in place.

Global and specific key controls are applied for the monitoring of the models' use and environment review. Global controls are applied without distinction of the model reviewed and the specific ones (i.e. dependent on the model) reflect the monitoring of existing issues related to the model in question. These controls encompass:

- Monitoring the models' use and environment changes;
- Monitoring the models' scope (in/out, grey zones);
- Overruling (when human judgment overrides model outputs);
- Verifying the correct application of the rating guidelines and procedures (mother support/Branch Equivalency, country ceilings, re-rating, piercing of LCCC & FCCC, country/mother company downgrade impacts, rating inheritances on counterparties etc.);
- Correcting the data input of the internal IT system (ratings, LGD, CCF) and data recording;
- Consistency tests on past-due files and the exhaustiveness of the default files on the period under review
- Additional tests on the default qualification process based on documentation.
- Sample controls on counterparties under review to check the exhaustiveness of the defaults
- Maintaining the audit trail of the rating process;
- Reporting malfunctions and monitoring remedial actions.
- Having up to date documentation of the rating system controls processes

Scope

The scope of the quality control process covers:

- All advanced rating models;
- All entities within Dexia;
- All geographical locations.

Process: parties involved

Key stakeholders and functions

The organisation follows that of the Credit Risk teams: the principle is that IRS specific to an entity are used and controlled with the help of local correspondents while "transversal" IRS are treated at Dexia Group level. Annual visits are carried out to ensure the coordination and steering of the global quality control process.

Rating Committee

The key role of the Rating Committee is to monitor the appropriate use of internal rating systems within the Group as a whole and to ensure that these IRS are effective. For these reasons, the Rating Committee:

- Validates overrides above tolerance threshold, proposed by analysts;
- Reviews CIRS reports on the use and performance of IRS;
- Monitors the homogeneous application within the Group of the rating and derogation principles;
- Validates operational establishment of the models once these are validated by the Validation Committee

In case of disagreement between the Credit IRS Control and the Credit Analysis Centres (CEC) or Risk Models, Quantification & Defaults divisions (on a recommendation or a rating reviewed), the Committee has a veto right and the possibility to escalate to the Risk Management Executive Committee.

Processes and guarantee of independence

Fully aware of the importance of preserving the neutrality of the control process, Chinese walls have been set between the development departments, Risk Models, Quantification & Defaults, sales functions, analysis functions and the CIRS function. These walls ensure a high credibility of the final control outcomes.

This way any potential conflict of interest is fully avoided, as the CIRS control function:

- Is independent from the credit analysis function (model users);
- Submits their proposals to the Rating Committee;
- Informs the Validation function on any subject concerning IRS or modes of applying the IRS within the Group.

Model validation department

Dexia monitors its solvency using rules and ratios established by the Basel Committee on Banking Supervision and the European Capital Requirements Directive. The application of this approach requires a validation process to ensure that the internal models are conceptually sound while adequately capturing all material risks.

Formally a model is defined as a quantitative method, system, or approach that applies statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates:

- Models based on observations of historical data and some statistical assumptions. This kind of model is fully statistics-driven.
- Models based on some assumptions of behaviour of agents in the market. These models try to use a system of equations to simulate the market and thus to calculate the risks.
- Models that share the characteristics of the two previous categories.

Model validation department

All the models used within Dexia, either market risk models, pricing models, Basel Pillar 1 credit rating models, IFRS 9 models, ALM models and economic capital models have to be validated by an independent entity.

The Validation department ensures that the models used within the Bank:

- Provide reliable outcomes in line with the objectives assigned by the management;
- Are correctly implemented and adequately used;
- Meet the regulatory requirements.

The main objectives of the Validation department are:

- To define the procedures, methodology and requirements of model validation;
- To identify all models waiting for validation;
- On this basis to elaborate a validation schedule, taking account of a firewall between Validation and Modelling;
- To exercise the validation work on the models, using appropriate information sources, reviewing the consistency of control processes, performing sufficient testing (including stressed scenarios), evaluating the documentation and model risks;
- To assess input relevance and reliability (frequency and availability of data, consistency with corroborative data information, transparency of data, timeliness, maturity and liquidity);
- To bring and defend their works before the Validation Committee (VAC) in order to obtain an approval;
- To Inform the Management Board and the Audit Committee frequently of the model validation status

Validation approval process

The process set up to approve the validation of models deployed within Dexia Group is multi-layered, ensuring total compliance with regulations and local regulatory requirements through the work-out of proposals by the Validation department, an approval of those proposals by the VAC. The validation approval process is formalised in a set of policies. The output of the validation is formalised in a validation report also including an executive summary, strengths and weaknesses and a list of recommendations. These reports are presented to the VAC and are sent to the Supervisors upon request. The Management Board has ultimate authority at Dexia Group level on all risk-related decisions. In terms of sequence, all elements presented in Management Board are previously discussed within the VAC. The Management Board can either confirm or modify the initial VAC decision.

The Validation Committee

As mentioned above, in order to develop an efficient and transparent validation process, the Validation Committee (VAC) has been set up. The VAC is responsible for:

- Establishing and following up the overall validation framework including procedures and subcommittees terms of reference;
- Defining priorities in the validation of the various risk models;
- Reviewing each validation step of the guidelines and model life cycle validations;
- Preparing proposals for decisional committees to facilitate the decision-making process;
- Following-up the recommendations issued.

Sub Committees have been processing the Validation outcomes:

- The Market covering market risk and pricing models;
- The Credit covering credit rating models and IFRS 9 models;
- Transversal covering transversal models as well as Pillar 2 models.

The VAC is composed by the Head of department of the stakeholders in the model development process and by the Head of department of the users. Audit and Permanent Control also attend the VAC. In terms of decision-making, The VAC approves the validation status proposed by the model validation team. An escalation procedure via the Management Board and information to the Audit and/or Risk Committee has been put in place.

Validation scope

The global scope of the generic validation process within Dexia Group applies to:

- All models requested by Supervisory authorities (e.g. Basel and IFRS) or for business purposes;
- All risks deployed in the company, such as credit, market, operational and ALM related risk and so on;
- All Dexia Group entities (cross-entity dimensions);
- All geographical locations (cross-border dimensions).

The validation scope includes a review of conceptual framework or mathematical monetisation or theoretical approach related to calculations:

- Model validation is not limited to back-testing, but also includes tests demonstrating that assumptions made within the internal model are appropriate and do not underestimate risks;
- Testing for model validation uses additional assessments including for example testing carried out over long time periods (improving the power of back-testing) or using hypothetical changes in portfolio value that would occur were end-of-day positions remain unchanged;
- Validation covers tests of assumptions ensuring that the model testing captures concentration risk in an undiversified portfolio;
- Assessment of potential linkages to counterparty credit risk.

Audit

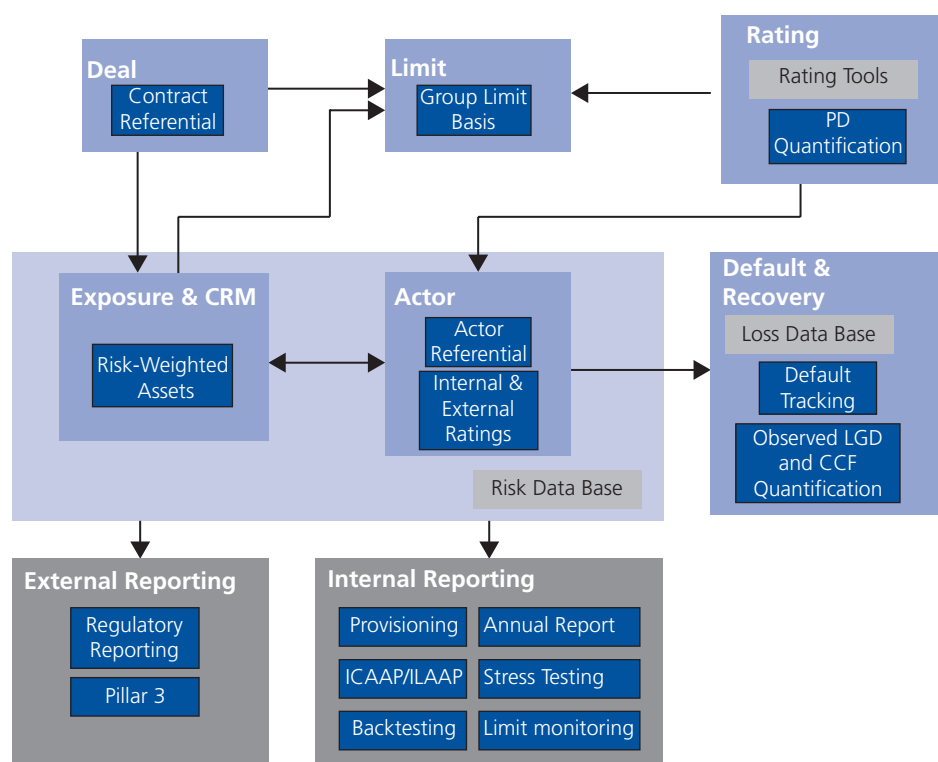
According to Article 191 of the CRR, “Internal audit or another comparable independent auditing unit shall review at least annually the institution’s rating systems and its operations, including the operations of the credit function and the estimation of PDs, LGDs, ELs and conversion factors. Areas at review shall include adherence to all applicable requirements”.

At Dexia the CIRS Control division performs this annual verification. Internal Audit operates as an additional control layer and periodically verifies that the overall credit model processes are followed in accordance with the applicable regulation and internal guidelines and procedures.

4. Credit Risk IT System

Dexia Credit Risk IT Systems is centralised with all Group exposure and counterparties for all Dexia entities. Since March 2014, Credit Risk Systems has been adapted to Basel III requirements.

The following chart provides a global view of the functional architecture of the credit risk information system within Dexia Group



The core of credit risk IT systems is built around actor and exposure information. Both concepts are united in the central risk data base system which gathers information on all Dexia credit counterparties (identified by a unique internal identification number) and their corresponding exposures and credit risk mitigants.

The actor universe consists of referential information and rating information:

- Type of counterparty (bank, corporate, local authority, and so on);
- Descriptive data;
- External ratings from rating agencies (S&P, Moody's and Fitch);
- The internal rating before and after the Sovereign ceiling impact;
- The internal rating system;
- Available internal credit analyses;
- Relations between different counterparties such as capital or commercial ties.

The individual rating analysis is performed within different rating tools, either individually or in batches, by the credit risk expertise centres. These internal rating data together with the external ratings are collected and linked in the actors' database.

The second component of the central risk database is the exposure and CRM universe. A precise view of the exposure with significant amount valuations (nominal, outstanding, mark-to-market, accrued interests, and so on) is combined with the credit risk mitigants (collateral and guarantees) to provide an integrated risk view of the positions taken by the Group.

Around central risk, three other data sets are situated for different purposes.

- The contract referential databases containing (product type, seniority level, maturity and so on).
- In limit databases current limits on any credit counterparty (limit database) are defined using the counterparty rating information.
- Comparisons are made of current exposure towards the limits in order to take appropriate actions when needed.
- Dexia's default database is used to collect the default and recovery information. This serves to calibrate and back-test Dexia internal rating systems.

Dexia's centralised IT system is linked to a reporting infrastructure allowing credit risk reports to be produced on the basis of the information gathered at different levels. All these IT and reporting systems support general risk monitoring for both internal and external purposes as there are:

- External reporting: regulatory reporting (COREP, Large Exposures, Leverage Ratio, STE, EBA Benchmarking), Pillar 3 Risk Report;
- Internal risk reporting: cost of risk calculations and provisioning, reporting in relation to the risk appetite framework, the ICAAP (Internal Capital Adequacy Assessment Process) and ILAAP (Internal Liquidity Assessment Process), AIRB model back-testing and stress-testing, limit monitoring, annual report.

Appendix 3

Basics of Securitisation

Securitisation is the financial practice of pooling various types of contractual debt such as residential mortgages, commercial mortgages, auto loans or credit card debt obligations and selling that debt as bonds to various investors. The principal and interest on the debt, underlying the security, is paid to the various investors on a regular basis. Securities backed by mortgage receivables are called mortgage-backed securities, while those backed by other types of receivables are called asset-backed securities. A variant is the collateralised debt obligation, which uses the same structuring technology as an ABS but includes a wider and more diverse range of assets.

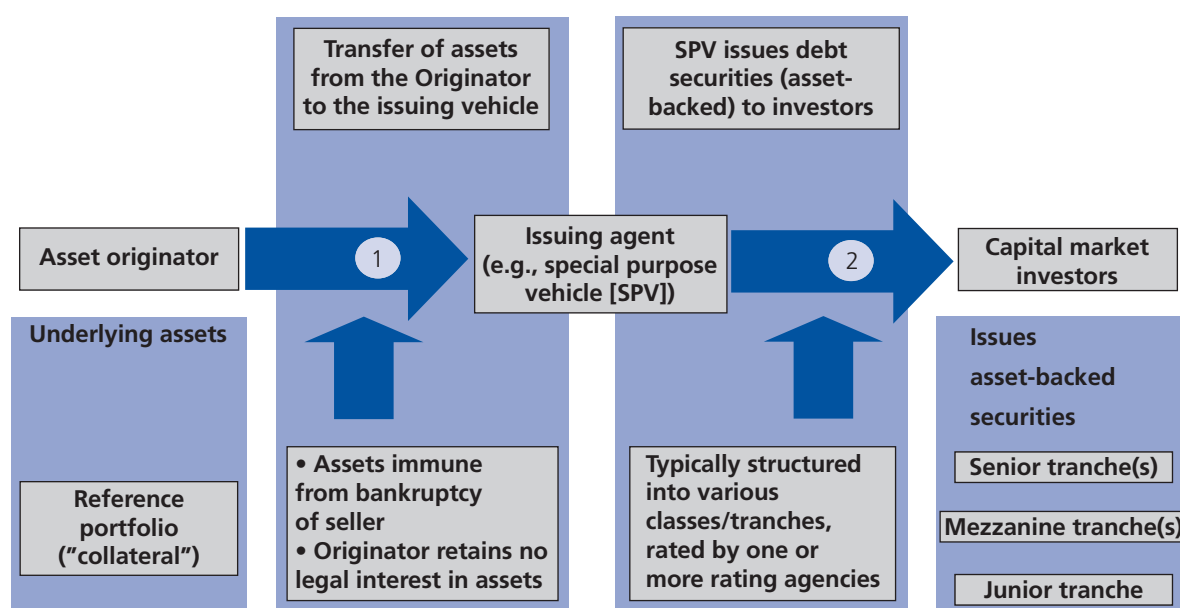
The originator initially owns the assets engaged in the deal. This is typically a company looking to seek financing or to raise capital.

A suitably large portfolio of assets is "pooled" and transferred to a "special purpose vehicle" or "SPV" (the issuer), a company or trust formed for the specific purpose of purchasing or funding the assets. Once the assets are transferred to the issuer, there is normally no recourse to the originator. The issuer is "bankruptcy remote," meaning that the assets of the issuer are legally separated from the creditors of the originator. Additionally, the governing documents of the issuer will restrict its activities only to those necessary to complete the issuance of securities.

Tranching

Securities issued are often split into tranches, or categorised into varying degrees of subordination. Each tranche has a different level of credit protection or risk exposure to another: there is generally a senior ("A") class of securities and one or more junior subordinated ("B", "C", etc.) classes that function as protective layers for the "A" class. The senior classes have first claim on the cash or proceeds that the SPV receives, and the more junior classes generally only start receiving repayment after the more senior classes have been repaid. Because of the cascading effect between classes, this arrangement is often referred to as a cash flow waterfall. In the event that the underlying asset pool becomes insufficient to make payments on the securities (e.g. when loans default within a portfolio of loan receivables), the loss is absorbed first by the subordinated tranches, and the upper-level tranches remain unaffected until the losses exceed the entire amount of the subordinated tranches. The most junior class is often called the equity class and is the most exposed to re-payment or default risk.

The table below describes the way a securitisation process is performed:



Credit enhancement

Tranching in a securitisation deal will create some securities which are "credit enhanced," meaning the credit quality is increased above that of the originator's unsecured debt or underlying asset pool. This increases the likelihood that the investors will receive cash flows to which they are entitled, and thus causes the securities to have a higher credit rating than the originator. Some securitisations use external credit enhancement provided by third parties, such as financial guarantors or parental guarantees. Credit enhancements affect credit risk by providing more or less protection to promised cash flows for a security. Additional protection can help a security achieve a higher rating, lower protection can help create new securities with differently desired risks, and these differential protections can help place a security on more attractive terms.

Servicing

Most collateral requires the performance of ongoing servicing activities. With credit card receivables, monthly bills must be sent out to credit card holders; payments must be deposited, and account balances must be updated. Similar servicing must be performed with auto loans, mortgages, accounts receivable, etc. Usually, the originator is already performing the servicing at the time of a securitisation, and it continues to do so after the assets have been securitised. It receives a small, ongoing servicing fee for doing so. Whoever actually performs servicing is called the servicing agent.

Appendix 4

Dexia Originations

Traditional Securitisations of Dexia as Originator

In the past Dexia Group entities Dexia Crédit Local and Dexia Crediop issued securitisation transactions to obtain long-term funding or constitute a liquidity buffer. The risk was not transferred outside the Group. DCL has not initiated any new securitisation transaction since 2010. All traditional securitisations of Dexia as originator have been sold/unwound.

Synthetic Securitisations of Dexia as Originator

Wise transaction

WISE 2006-1 is a partially funded synthetic securitisation pursuant to which Dexia Crédit Local Dublin Branch bought credit protection on a portfolio of GBP 1.5 billion wrapped bonds related to PPP/PFI or regulated utilities in the water, electricity or gas sectors. The transaction was closed on 21 December 2006.

Dexia is transferring the credit risk related to the wrapped infrastructure portfolio to external parties by means of two credit default swaps: a non-funded super senior credit default swap with an OECD Bank and a junior credit default swap with WISE 2006-1 Plc, a special purpose company registered in Ireland.

The vehicle WISE 2006-1 has issued 3 tranches of credit linked notes (CLNs) to transfer the risk to the market, ranging from AAA/Aaa to AA-/Aa3 (S&P and Moody's respectively) at inception.

As at 31 December 2019 the rating of the Class A notes was BB-/Ba2, the rating of Class B notes was B-/Caa1 and the rating of the Class C notes was CCC/Caa3 (S&P and Moody's respectively).

The tranches were placed with several investors.

The bonds (underlying assets) remain on the Dexia Crédit Local Dublin Branch balance sheet and will continue to be administered by the company.

The portfolio amounted to an outstanding notional of GBP 837 million (EUR 987 million) as at 31 December 2019.

DCL credit risk teams are responsible for the credit risk follow-up of the underlying portfolio; a monthly and quarterly report is sent to the investors in the CLN notes and the super senior CDS counterparty.

Appendix 5

Complement on Subsidiaries

1. Dexia Crediop

1.1. Accounting and Regulatory Equity Figures

(in EUR million)	31/12/2018			31/12/2019		
	Financial statements	Regulatory purposes	Difference	Financial statements	Regulatory purposes	Difference
Equity, Crediop solo	827	827	0	820	820	0
of which share capital and related reserves	900	900	0	943	943	0
of which gains and losses directly recognised in equity	4	4	0	6	6	0
of which net result of the period	(78)	(78)	0	(129)	(129)	0
Minority interests						
TOTAL EQUITY	827	827	0	820	820	0
Prudential filters	0	(21)	(21)	0	(31)	(31)
Common Equity Tier I	827	805	(21)	820	789	(31)
Tier II	0	7	7	0	19	19
TOTAL CAPITAL	827	812	(15)	820	808	(12)

1.2. Capital Requirements by Type of Risk

(in EUR million)			31/12/2018		31/12/2019	
Type of risk	Basel III treatment	Exposure class	Risk-weighted assets	Capital requirements	Risk-weighted assets	Capital requirements
Credit risk	Advanced	Corporate	60	5	46	4
		Financial Institutions	762	61	247	20
		Local Authorities	0	0	457	37
		Project Finance	31	2	37	3
		Equities	53	4	51	4
		Sovereign	2,429	194	2,263	181
		TOTAL	3,334	267	3,099	248
	Standard	Corporate	127	10	96	8
		Financial Institutions	253	20	217	17
		Local Authorities	0	0	101	8
		Public sector entities	162	13	48	4
		TOTAL	542	43	463	37
Market risk	Standard	Interest rate risk	130	10	76	6
		TOTAL	130	10	76	6
Operational risk	Basic		78	6	21	2
TOTAL			4,084	327	3,659	293

1.3. Capital Adequacy

(in EUR million)	31/12/2018	31/12/2019
Common equity Tier 1	805	789
Total capital	812	808
Total risk weighted assets	4 084	3 659
Common equity Tier 1 ratio	19.72%	21.57%
Total capital ratio	19.89%	22.07%

1.4. Exposure at Default by Geographic Distribution

	31/12/2019						31/12/2018
(in EUR million)	Sovereign	Local Public Sector	Corporate	Project Finance	Financial Institutions	ABS/MBS	Total
Italy	5,346	7,916	205	79	229	0	13,775
France	0	22	0	0	674	0	696
United Kingdom	0	0	0	0	29	0	29
Germany	0	0	0	0	7	0	7
United States	0	0	0	0	11	0	11
Others	0	0	0	0	29	0	29
TOTAL	5,346	7,938	205	79	978	0	14,546

1.5. Exposure at Default by Exposure Class and Economic Sector

	31/12/2019								31/12/2018
(in EUR million) Economic sector	Corporate	Financial Institutions	Mono-lines	Project Finance	Public Sector Entities	Retail	Securitisation	Sovereign	Total
Industry	68	0	0	1	0	0	0	0	69
Construction	0	0	0	23	0	0	0	0	23
Services	0	0	0	0	14	0	0	0	14
Transportation and storage	0	0	0	0	0	0	0	0	0
Financial and insurance activities	0	976	0	0	0	0	0	38	1,014
Real estate activities	56	0	0	55	0	0	0	0	111
Public administration and defence-compulsory social security	0	0	0	0	7,748	0	0	5,308	13,056
Human health and social work activities	0	0	0	0	144	0	0	0	144
Other Services	81	2	0	0	32	0	0	0	115
TOTAL	205	978	0	79	7,938	0	0	5,346	14,546

1.6. Overview of Past-Due Exposure and Impairments

	31/12/2019							
(in EUR million)	As at 1 Jan.	Additions	Reversals	Utilisation	Other adjustments	As at 31 Dec.	Recoveries directly recognized in profit or loss	Charge-offs directly recognized in profit or loss
Specific impairment	26.12	0.85	0.03	0	0	26.94	0.81	0
Customer loans and advances	17.43	0	0.03	0	0	17.40	0.81	0
Other accounts and receivables ⁽¹⁾	8.69	0.85	0	0	0	9.54	0	0
Collective impairment	9.54	10.70	0	0	0	20.24	0	0
Customer loans and advances	9.54	10.70	0	0	0	20.24	0	0
TOTAL	35.66	11.55	0.03	0	0	47.18	0.81	0

(1) The amount represents the sum of the unpaid nettings related to a derivative transaction with the Municipality of Messina and Province of Crotone (in litigation). This sum was allocated to the fund for risks and charges and does NOT represent a credit value adjustment (i.e. specific impairment) not allowed on derivatives transactions by the Italian accounting rules.

31/12/2018						
	As at 1 January	Additions	Reversals	As at 31 December	Recoveries directly recognised in profit or loss	Charge-offs directly recognised in profit or loss
(in EUR million)						
Specific impairments	23	3	0	26	0	0
Customer loans and advances	17	0	0	17	0	0
Other accounts and receivables ⁽¹⁾	6	3	0	9	0	0
Collective impairments	21	0	11	10	0	0
Customer loans and advances	21	0	11	10	0	0
TOTAL	44	3	11	36	0	0

(1) The amount represents the sum of the unpaid nettings related to a derivative transaction with the Municipality of Messina and Province of Crotone (in litigation). This sum was allocated to the fund for risks and charges and does NOT represent a credit value adjustment (i.e. specific impairment) not allowed on derivatives transactions by the Italian accounting rules.

31/12/2019				
	Past-due but not impaired financial assets			Carrying amount of individually impaired financial assets, before deducting any impairment loss
	Less than 90 days	91 days to 180 days	Over 180 days	
(in EUR million)				
Loans and advances (at amortised cost) (*) ⁽²⁾	4.01	0	4.94	17.40
Financial assets held to maturity	13.90	0	0	0
Other financial instruments (**) ⁽³⁾	1.99	0.42	8.76	0
TOTAL	19.90	0.42	13.70	17.40

(*) Of which EUR 7 million are technical past-dues.

(**) Unpaid nettings on derivatives affected by litigation.

(1) Of which EUR 4 million are technical past-dues.

(2) Technical past-dues on bonds.

(3) Of which EUR 9.5 million unpaid nettings on derivatives affected by litigation.

31/12/2018				
	Past-due but not impaired financial assets			Carrying amount of individually impaired financial assets, before deducting any impairment loss
	Less than 90 days	91 days to 180 days	Over 180 days	
(in EUR million)				
Loans and advances (at amortized cost) (*)	7	0	5	17
Financial assets held to maturity	0	0	0	0
Other financial instruments (**) ⁽³⁾	1	0	8	0
TOTAL	7	0	13	17

(*) Of which EUR 7 million are technical past-dues.

(**) Unpaid nettings on derivatives affected by litigation.

1.7. Exposure Covered by Credit Risk Mitigants by Exposure Class

31/12/2019		
(in EUR million)	Financial and physical collateral	Guarantees and credit derivatives
Central governments or central banks	0	4
Institutions	5,471	100
Regional governments or local authorities	0	882
TOTAL	5,471	995

31/12/2018		
(in EUR million)	Financial and physical collateral	Guarantees and credit derivatives
Central governments or central banks	0	5
Institutions	5,388	100
Regional governments or local authorities	0	919
TOTAL	5,388	1,024

1.8. Leverage Ratio

As at 31 December 2019, the leverage ratio calculated at Dexia Crediop level improved and reached 5.49% against 5.30% as at 31 December 2018. The reduction in capital (-2%) was offset by a more significant reduction in exposures (-5.4%)

Summary comparison of accounting assets against leverage ratio exposure measures

LEVERAGE EXPOSURE: RECONCILIATION WITH TOTAL BALANCE SHEET (in EUR)		
	31/12/2018	31/12/2019
TOTAL BALANCE SHEET	18,280,318,052	17,680,870,637
Neutralization of the balance sheet value of items whose leverage exposure is different from that of the balance sheet	4,320,011,527	4,438,558,188
<i>Trading derivatives (assets)</i>	1,071,903,869	888,598,893
<i>Hedging derivatives (assets)</i>	141,461,420	114,472,495
<i>SFT (assets)</i>	0	0
<i>Cash collateral (paid)</i>	3,106,646,238	3,435,486,800
Leverage Exposure of derivatives	823,804,973	671,090,119
Leverage exposure of reverse repo	0	0
Leverage exposure of repo (liabilities) counterparty credit risk	358,814,052	429,881,266
Leverage exposure of off-balance sheet items	75,358,138	58,992,032
Leverage exposure adjustment on assets deducted from capital CET1	(10,259,153)	(15,159,482)
<i>Intangible assets</i>	(2,405,729)	(2,305,844)
<i>Breach of threshold on deduction on CET1 of instruments from financial institutions</i>	(7,853,424)	(12,853,637)
<i>Breach of threshold on deductions on AT1 of instruments from financial institutions</i>	0	0
<i>Additional Value Adjustments</i>	0	0
TOTAL LEVERAGE EXPOSURE	15,208,024,534	14,387,116,384
TIER 1 CAPITAL TRANSITIONAL PROVISIONS	805,437,273	789,174,861
LEVERAGE RATIO	5.30%	5.49%

LEVERAGE RATIO COMMON DISCLOSURE TEMPLATE (in EUR)		
	31/12/2018	31/12/2019
On-balance sheet exposures		
1 On-balance sheet items (excluding derivatives and SFTs, but including collateral)	17,066,952,763	16,677,799,249
2 (Asset amounts deducted in determining Basel III Tier 1 capital transitional definition)	(10,259,153)	(15,159,482)
3 Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of lines 1 and 2)	17,056,693,610	16,662,639,767
Derivative exposures		
4 Replacement cost associated with all derivatives transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)	630,686,522	515,545,785
5 Add-on amounts for PFE associated with all derivatives transactions	193,118,451	155,544,334
6 Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework		
7 (Deductions of receivables assets for cash variation margin provided in derivatives transactions)		
8 (Exempted CCP leg of client-cleared trade exposures)		
9 Adjusted effective notional amount of written credit derivatives		
10 (Adjusted effective notional offsets and add-on deductions for written credit derivatives)		
11 Total derivative exposures	823,804,973	671,090,119
Securities financing transaction exposures		
12 Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	5,538,936,340	5,680,899,556
13 (Netted amounts of cash payables and cash receivables of gross SFT assets)	(5,180,122,288)	(5,251,018,291)
14 CCR exposure for SFT assets		
15 Agent transaction exposures		
16 Total securities financing transaction exposures (sum of lines 12 to 15)	358,814,052	429,881,266
Other off-balance sheet exposures		
17 Off-balance sheet exposure at gross notional amount	89,518,138	63,367,032
18 (Adjustments for conversion to credit equivalent amounts)	(14,160,000)	(4,375,000)
19 Off-balance sheet items (sum of lines 17 and 18)	75,358,138	58,992,032
Capital and total exposures		
20 Tier 1 capital	805,437,273	789,174,861
21 Total exposures (sum of lines 3, 6, 11, 16 and 19)	18,314,670,773	17,822,603,184
Leverage ratio		
22 Basel III leverage ratio	4.40%	4.43%