



# PILLAR 3 REPORT



DISCLOSURES AS AT 31 DECEMBER 2012

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Except where indicated otherwise, all figures provided in this report are as of 31<sup>st</sup> December 2012 and stated in millions of Euros. The drawing-up process of Societe Generale's Pillar 3 report and the data contained in it are not subject to review by the Group's statutory auditors.

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This document is a free translation of the French original report (Rapport Pilier III) issued on 28<sup>th</sup> March 2013. Only the French version has been submitted to the Regulator and is therefore legally binding.

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Abbreviations: millions of Euros = EURm  
billions of Euros = EURbn

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# INTRODUCTION



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## REGULATORY FRAMEWORK

Following the first Basel Accord, known as Basel 1 and published in 1988, the Basel Committee on Banking Supervision proposed a new set of recommendations in 2004 in order to measure credit risk more accurately. They include, in particular, taking into account the borrower's credit profile through a financial rating system specific to each credit institution. These recommendations, known as Basel 2, are based on the following three pillars:

- **Pillar 1** sets minimum solvency requirements and defines the rules that banks must follow to measure risks and calculate associated capital requirements, according to standard or more advanced methods.
- **Pillar 2** relates to the discretionary supervision implemented by national banking supervisors, which allows them – based on a constant dialogue with supervised credit institutions – to assess the adequacy of capital requirements as calculated under Pillar 1, and to calibrate additional capital requirements with regard to the risks faced by these institutions.
- **Pillar 3** encourages market discipline by developing a set of qualitative or quantitative disclosure requirements which will allow market participants to make a better assessment of capital, risk exposure, risk assessment processes and hence capital adequacy of the institution.

The Basel 2 framework was enshrined into European legislation with the enactment of the Capital Requirements Directive (CRD), which was transposed into French law through the February 20, 2007 Decree.

### CRD 3 or Basel 2.5

Regarding market risk, to better incorporate the risk of default or rating migration for assets in the trading portfolio (tranchéd and untranchéd assets), and to reduce the procyclicality of Value at Risk (VaR), in July 2009 the Basel Committee published new proposals known as Basel 2.5.

Rating migration risk and default risk for issuers in the trading book are subject to two capital charges in respect of specific market risk, namely the IRC (Incremental Risk Charge), applied to untranchéd assets and the CRM (Comprehensive Risk Measurement), specific to correlation trading portfolios. Moreover, the regulator requires a stressed VaR calculation. Stressed VaR is similar to VaR but is estimated over a previous crisis period. These proposals were transposed into European law via the Capital Requirements Directive 3 (CRD 3) in July 2010 and have been in effect since 31 December 2011.

### Basel 3

In December 2010, the Basel Committee published two documents, Basel 3: a global regulatory framework for more resilient banks and banking systems, and International framework for liquidity risk measurement, standards and monitoring, in which it issues the following recommendations in order to strengthen capital requirements and liquidity rules in order to promote a more solid banking sector. These Basel 3 recommendations will be implemented in European law via a directive (CRD4) and a regulation (CRR).

## SOCIETE GENERALE'S PILLAR 3 REPORT

Published under the joint responsibility of the Group's Finance and Risk divisions, Societe Generale's Pillar 3 report intends to provide detailed insight into the Group's capital and risk management, as well as quantitative information on the calculation of the Group's consolidated solvency ratios, as they result from the implementation of Pillar 1.

Published yearly, on the basis of the year-end figures, Societe Generale's Pillar 3 report is available on the Group's website ([www.societegenerale.com](http://www.societegenerale.com)) and on the investor relations website ([www.investor.socgen.com](http://www.investor.socgen.com)).

## SCOPE OF PRUDENTIAL REPORTING

Societe Generale is subject to consolidated regulatory reporting to its home supervisor, the "Autorité de Contrôle Prudentiel". The Pillar 3 report is therefore drawn up on a consolidated basis, in accordance with regulations. The contribution of selected key subsidiaries to the Group's total risk-weighted assets can be found in chapter 1 of this report.

**Table 01: Difference between the accounting scope and the prudential scope**

Type of entity	Accounting treatment	Prudential treatment under Basel 2
Subsidiaries with a finance activity	Full or proportional consolidation	Capital requirement based on the subsidiary's activities
Subsidiaries with a finance activity	Full or proportional consolidation	Capital deduction
Holdings, joint ventures with a finance activity by nature	Equity method	Capital deduction (50% Tier 1 and 50% Tier 2)

The Group's prudential reporting scope includes all fully and proportionally consolidated subsidiaries, the list of which is available in the Group's Registration Document available on the Group's website ([www.societegenerale.com](http://www.societegenerale.com)) or on the website dedicated to investors ([www.investor.socgen.com](http://www.investor.socgen.com)), with the exception of insurance subsidiaries, which are subject to separate capital supervision. For regulatory purposes, Societe Generale's investments in insurance companies, as well as in affiliates consolidated by the equity method, are deducted from the Group's total regulatory capital.

The main Group companies outside the prudential reporting scope are as follows. In either case, the amounts presented are accounting data, not a measure of weighted assets, EAD or prudential capital. Therefore, this table cannot be directly reconciled with the other tables in this report.

**Table 02: Reconciliation of the consolidated balance sheet and the accounting balance sheet within the prudential scope**

ASSETS at 31 Dec.2012 (in EUR m)	Consolidated balance sheet	Prudential restatements <sup>(1)</sup>	Accounting balance sheet within the prudential scope
Cash and amounts due from Central Banks	67,591	-	67,591
Financial assets at fair value through profit or loss	484,026	-17,027	466,999
Hedging derivatives	15,934	-310	15,624
Available-for-sale assets	127,714	-67,379	60,335
Non-current assets held for sale	9,410	-	9,410
Loans and advances to credit institutions	77,204	-6,979	70,225
Loans and advances to clients	350,241	2,130	352,371
Lease financing and equivalent transactions	28,745	-	28,745
Revaluation of macro-hedged items	4,402	-	4,402
Financial assets held to maturity	1,186	-	1,186
Tax assets	5,909	222	6,131
Other assets	53,705	-826	52,879
Deferred profit-sharing	-	-	-
Investments in subsidiaries and affiliates accounted for by the equity method	2,119	3,358	5,477
Tangible and intangible assets	17,190	-368	18,822
Goodwill	5,320	-	5,320
<b>TOTAL ASSETS</b>	<b>1,250,696</b>	<b>-87,179</b>	<b>1,163,517</b>

(1) Restatement of subsidiaries excluded from the prudential scope and re-consolidation of intragroup transactions related to its subsidiaries.



LIABILITIES at 31 Dec. 2012 (in EUR m)	Consolidated balance sheet	Prudential restatements <sup>(1)</sup>	Accounting balance sheet within the prudential scope
Central banks	2,398	-	2,398
Liabilities at fair value through profit or loss	411,388	1,692	413,080
Hedging derivatives	13,975	-	13,975
Debts related to Non-current assets held for sale	7,287	-	7,287
Amounts owed to credit institutions	122,049	-1,123	120,926
Amounts owed to clients	337,230	2,031	339,261
Debt securities	135,744	3,014	138,758
Revaluation reserve of interest-rate-hedged portfolios	6,508	-	6,508
Tax liabilities	1,167	-92	1,075
Other Liabilities	58,163	-2,055	56,108
Technical provisions of insurance companies	90,831	-90,831	-
Provisions	2,807	-19	2,788
Subordinated debts	7,052	204	7,256
<b>Total debts</b>	<b>1,196,599</b>	<b>-87,180</b>	<b>1,109,419</b>
<b>EQUITY</b>			
Equity, Group share	49,809	-	49,809
Total minority interests	4,288	2	4,290
Total equity	54,097	2	54,099
<b>TOTAL LIABILITIES</b>	<b>1,250,696</b>	<b>-87,179</b>	<b>1,163,517</b>

(1) Restatement of subsidiaries excluded from the prudential scope and reconsolidation of intragroup transactions related to its subsidiaries.

The main Group companies outside the prudential reporting scope are as follow

**Table 03: Subsidiaries excluded from the prudential scope**

Company	Activity	Country
Antarius	Insurance	France
Catalyst Re International	Insurance	Bermuda
Génécar	Insurance	France
Généras	Insurance	Luxembourg
Inora Life	Insurance	Ireland
Komerční Pojistovna	Insurance	Czech Republic
La Marocaine Vie	Insurance	Morocco
Oradéa Vie	Insurance	France
Société Générale Ré	Insurance	Luxembourg
Sogécap	Insurance	France
Société Générale Strakhovanie Zhizni LLC	Insurance	Russia
Sogelife	Insurance	Luxembourg
Sogéssur	Insurance	France
SG Banque au Liban	Banking	Lebanon
La Banque Postale Financement	Banking	France
Amundi	Asset Management	France
Sogecap Risques Divers	Insurance	France
Société Générale Strakhovanie CJSC	Insurance	Russia

## STATUS OF CONSOLIDATED SUBSIDIARIES

Regulated financial subsidiaries and affiliates outside Societe Generale's prudential consolidation scope are all in compliance with their respective solvency requirements. More generally, all regulated Group undertakings are subject to solvency requirements set by their respective regulators.

## REPORT ON COMPENSATION PRACTICES AND POLICIES

In accordance with the recommendations of the Basel Committee of July 2011 and the provisions of the European Union Directive 2010/76/EU of 24 November 2010 (CRD3) as transposed in Regulation CRBF 97-02, Societe Generale publishes an annual report on its compensation practices and policies.

The purpose of this report is to detail the link between the Group's compensation policy and risk strategy, present comprehensive information on the compensation policy for executive board members and employees whose professional activities have a material impact on the company's risk profile, as well as quantitative data on the compensation of these two categories of employees. This is a separate report from the Pillar 3 report, available on the Group's website in the regulated information section and also included in an update to the Group's Registration Document.

# 1

## CAPITAL ADEQUACY



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## COMPOSITION OF REGULATORY CAPITAL

Societe Generale's regulatory capital, of which the book value is assessed in accordance with the International Financial Reporting Standards (IFRS), consists of the following:

### Tier 1 Capital

Tier 1 capital comprises the Group's consolidated shareholders' equity less prudential deductions:

- common stock (net of share buybacks and treasury stock);
- retained earnings, including translation differences and changes in the fair value of assets available for sale and hedging derivatives, net of tax;
- non-controlling interests;
- Certain instruments that qualify as Tier 1 capital for regulatory purposes, including perpetual deeply subordinated notes and preferred shares, which are described below.

Less prudential deductions:

- estimated dividend payment;
- goodwill;
- intangible assets;
- unrealised capital gains and losses on available-for-sale (AFS) assets, excluding shares and other equity instruments, and cash flow hedges. However, 45 % of unrealised capital gains on AFS securities (shares) and tangible assets are included in Tier 2 capital.
- income on own credit risk.

Moreover, the difference resulting from applying the equity method to interests greater than 20 % held in insurance affiliates acquired after 1 January 2007 is wholly deducted from Tier 1 capital.

Finally, under the Basel 2 capital framework, other deductions are made in equal amounts from Tier 1 and from Tier 2 capital:

1. Investments and subordinated claims towards non-consolidated banks or financial institutions if the shares held represent an interest of more than 10 % of the entity's capital, as well as the value of shares held in credit or financial institutions, assessed using the equity method.
2. Securitisation positions weighted at 1,250 % when these positions are not included in the calculation of risk-weighted assets.
3. Expected loss on equity portfolio exposures.
4. Any positive differences between expected losses on loans and receivables risk-weighted using the Internal Ratings Based (IRB) approach and the sum of related value adjustments and collective impairment losses.

### Tier 2 Capital

Tier 2 capital comprises:

- perpetual subordinated securities (Upper Tier 2);
- Any positive differences between i) the sum of value adjustments and collective impairment losses on loan and receivables exposures risk-weighted using the IRB approach, and ii) expected losses, is included in upper Tier 2 up to 0.6 % of the total credit risk-weighted assets;
- subordinated term debt (Lower Tier 2);

- 45 % of unrealised capital gains on AFS securities (shares) and tangible assets are included in Tier 2 capital.

Moreover, using the option offered by the Financial Conglomerates Directive, equity interests of more than 20 % held in insurance affiliates and any investment qualifying as regulatory capital for insurance solvency requirements are deducted from total capital until 31 December 2012, if acquired prior to 1 January 2007.

Finally, beginning on 30 June 2012, following on from the monitoring of European banks' solvency ratios, the regulatory minimum required for the Group concerns the Core Tier 1 ratio, calculated in accordance with the methods outlined in the European Banking Authority's recommendation, published on 8 December 2011.

## DEBT INSTRUMENTS QUALIFYING AS TIER 1 CAPITAL FOR REGULATORY PURPOSES

Societe Generale's obligations relating to the principal and interest of US preferred shares issued by indirect subsidiaries benefiting from its guarantee and deeply subordinated notes directly issued by the bank share the following features:

- these instruments are perpetual and constitute unsecured, deeply subordinated obligations ranking junior to all other obligations of the Bank, including dated and undated subordinated debt, and senior only to common stock;
- in addition, Societe Generale may elect, and in certain circumstances may be required, not to pay the interest and coupons linked to these instruments. The interest not paid as a result is not cumulative and will be irrevocably lost by all holders of these instruments.
- under certain circumstances, particularly with regard to the bank's compliance with minimum solvency requirements, Societe Generale is able to use principal and interest to absorb losses;
- subject to the prior approval of the French Prudential Supervisory Authority, Societe Generale has the option to redeem these instruments on certain dates, but not earlier than five years after their issuance date;
- the combined outstanding amount of these instruments cannot exceed 35 % of the Bank's total Tier 1 capital. In addition, the combined outstanding amount of instruments with a step-up clause (so-called "innovative instruments") may not exceed 15 % of the bank's total Tier 1 capital base.

Table 04: Total amount of debt instruments qualifying as capital

Issuance date	Currency	Nominal amount issued (in EUR m)	Value in EUR m 31 December 2012	Value in EUR m 31 December 2011
<b>US preferred shares</b>				
Oct-03 <sup>(1)</sup>	EUR	420	420	420
<b>Deeply subordinated notes (TSS)</b>			<b>5,470</b>	<b>5,496</b>
Jan-05 <sup>(1)</sup>	EUR	728	728	732
Apr-07 <sup>(1)</sup>	USD	808	612	624
Apr-07 <sup>(1)</sup>	USD	63	48	49
Dec-07 <sup>(1)</sup>	EUR	468	468	469
May-08	EUR	795	795	797
Jun-08	GBP	506	620	605
Jul-08 <sup>(1)</sup>	EUR	100	100	100
Feb-09	USD	450	341	348
Sep-09 <sup>(1)</sup>	EUR	1,000	1,000	1,000
Oct-09	USD	1,000	758	773
<b>Total</b>			<b>5,890</b>	<b>5,916</b>

Note 1: innovative instruments.

## Hybrid debt eligible as Tier 1 Capital

- In the fourth quarter of 2003, Societe Generale issued EUR 650m of preferred shares through a wholly-owned US subsidiary (paying a non-cumulative dividend of 5.419 % annually) with a step-up clause coming into effect after 10 years.
- In January 2005, the Group issued EUR 1bn of deeply subordinated notes (Titres Super Subordonnés - TSS), paying 4.196 % annually for 10 years and, as from 26 January 2015, 3-month Euribor +1.53 % per annum payable quarterly.
- In April 2007, the Group issued USD 200m of deeply subordinated notes, paying 3-month USD Libor +0.75 % annually and then, from 5 April 2017, 3-month USD Libor +1.75% annually.
- In April 2007, the Group issued USD 1.1bn of deeply subordinated notes, paying 5.922% twice yearly and then, from 5 April 2017, 3-month USD Libor +1.75 % annually.
- In April 2007, the Group issued USD 1,100m of deeply subordinated notes, paying 5.922% twice yearly and then, from April 5, 2017, 3-month USD Libor +1.75 % annually.
- In December 2007, the Group issued EUR 600m of deeply subordinated notes paying 6.999 % annually and then, from 19 December 2017, 3-month Euribor +3.35 % per annum payable quarterly.
- In May 2008, the Group issued EUR 1bn of deeply subordinated notes paying 7.756 % annually and then, from 22 May 2013, 3-month Euribor +3.35 % per annum payable quarterly.
- In June 2008, the Group issued GBP 700m of deeply subordinated notes paying 8.875 % annually and then, from 18 June 2018, 3-month Euribor +3.40 % per annum payable quarterly.
- In July 2008, the Group issued EUR 100m of deeply subordinated notes paying 7.715 % annually and then, from 9 July 2018, 3-month Euribor +3.70 % per annum payable quarterly.
- In February 2009, the Group issued USD 450m of deeply subordinated notes paying 9.5045 % twice yearly and then, from 29 February 2016, 3-month Libor +6.77 % per annum payable quarterly.

- In September 2009, the Group issued EUR 1bn of deeply subordinated notes paying 9.375 % annually and then, from 4 September 2019, 3-month Euribor +8.9 % per annum payable quarterly.
- In October 2009, the Group issued USD 1bn of deeply subordinated notes, paying 8.75 % annually with no step-up clause.

From an accounting perspective, given the discretionary nature of the decision to pay dividends to shareholders, preferred shares issued by the Group are classified as equity and recognised under *Non-controlling interests*. Remuneration paid to preferred shareholders is recorded under *Non-controlling interests* in the income statement.

Deeply subordinated notes are classified as equity under IFRS and recognised under *Equity instruments* and associated reserves.

## CALCULATION OF REGULATORY RATIOS

Table 05: Regulatory capital and Basel 2 solvency ratios

(En M EUR)	31 Dec. 2012	31 Dec. 2011
<b>Consolidated shareholders' equity, Group share (IFRS standards)</b>	<b>49,809</b>	<b>47,067</b>
Deeply subordinated notes (TSS)	-5,270	-5,297
Perpetual subordinated notes (TSDI)	-1,607	-930
<b>Consolidated shareholders' equity, Group share, net of TSS and TSDI</b>	<b>42,932</b>	<b>40,840</b>
Non-controlling interests	3,513	3,443
Intangible assets	-1,497	-1,511
Goodwill	-7,084	-7,942
Dividends proposed at the AGM and coupons to be paid on TSS and TSDI	-509	-184
Other regulatory adjustments	-620	-382
Basel 2 deductions	-2,126	-2,717
<b>Core Tier 1 Capital</b>	<b>34,609</b>	<b>31,548</b>
Deeply subordinated notes (TSS)	5,470	5,496
US preferred shares	420	420
<b>Tier 1 capital</b>	<b>40,499</b>	<b>37,464</b>
Upper Tier 2 capital	767	1,555
Lower Tier 2 capital	6,971	9,187
Basel 2 deductions	-2,126	-2,717
Interests held in insurance affiliates <sup>(1)</sup>	-4,804	-4,062
<b>Total regulatory capital (Tier 1 + Tier 2)</b>	<b>41,308</b>	<b>41,428</b>
<b>Total risk-weighted assets</b>	<b>324,092</b>	<b>349,275</b>
Risk-weighted assets for credit risk	254,134	273,297
Risk-weighted assets for market risk	28,637	32,536
Risk-weighted assets for operational risk	41,321	43,442
<b>Solvency ratios</b>		
Core Tier 1 ratio	10.7 %	9.0%
Tier 1 ratio	12.5 %	10.7 %
Comprehensive solvency ratio	12.7 %	11.9 %

(1) For which the value of securities accounted for by the equity method totals a loss of EUR 3.3bn. Societe Generale uses the option offered by the Financial Conglomerates Directive of deducting the value of securities held in insurance companies, accounted for by the equity method, from total regulatory capital.

At 31 December 2012, the Group's Tier 1 ratio was 12.5 % (10.7 % at end-2011), and the Core Tier 1 ratio rose sharply to 10.7 %, compared with 9.0 % at end-2011, evidence that the Group's capital was substantially strengthened over the period.

The Group will be able to meet the new Basel 3 regulatory requirements set out in European regulations by the fourth Capital Requirements Directive (CRD4) and the Capital Requirements Regulation (CRR), which will enter into force after being adopted by the European parliament. At the end of 2013, the Group will post a Basel 3 Core Tier 1 ratio greater than 9 %.

On 19 July 2011, the Basel committee issued a proposal for rules to determine the additional capital requirements for SIFs (Systemically Important Financial Institutions). These rules were ratified by the G20 at the November 2011 summit. The additional capital requirement for SIFs will partially come into force as of 1 January 2016 and will take full effect as of 1 January 2019 for banks identified as systemically important in November 2014. For information purposes, in November 2012 (based on data from end-2011), the Group's additional capital is estimated at 1 %.

**Table 06: Basel 2 deductions**

(in EUR m)	31 December 2012	31 December 2011
Unconsolidated banking affiliates > 10%	457	682
Book value of investments in financial subsidiaries accounted for by the equity method	976	916
Subordinated loans to credit institutions > 10%	670	764
Deductions in respect of securitisation positions	1,583	3,044
Expected losses on equity portfolio exposures	27	26
Expected losses on risk-weighted assets assessed using the IRB approach, net of related value adjustments and collective impairment losses	540	-
<b>Total Basel 2 deductions</b>	<b>4,251</b>	<b>5,432</b>



## CAPITAL REQUIREMENTS

Societe Generale Group has been using the advanced methods to calculate its minimum capital requirements for credit risk (IRB approach) and operational risk (AMA) since the end of 2007. The Group is continuing to broaden the scope of application for the advanced methods. The following table presents the risk-weighted assets and the Group's capital requirements, classified by type of risk.

Table 07: The Group's capital requirements and risk-weighted assets

(In EUR m)	31 December 2012		31 December 2011	
	Minimum capital requirements	Risk-weighted assets	Minimum capital requirements	Risk-weighted assets
Sovereign	0	0	0	1
Institutions	3	36	1	11
Corporate	413	5,159	368	4,601
<b>Total credit risk assessed using the foundation IRB approach</b>	<b>416</b>	<b>5,194</b>	<b>369</b>	<b>4,613</b>
Sovereign	528	6,599	462	5,779
Institutions	760	9,507	925	11,569
Corporate	6,617	82,715	7,175	89,684
Retail	1,958	24,469	1,902	23,773
<b>Total credit risk assessed using the advanced IRB approach</b>	<b>9,863</b>	<b>123,290</b>	<b>10,464</b>	<b>130,805</b>
Shares in the banking book	366	4,579	411	5,143
Securitisation positions	294	3,677	394	4,926
Other non-credit obligation assets	1,269	15,865	1,231	15,391
<b>Total credit risk assessed using the IRB approach</b>	<b>12,208</b>	<b>152,605</b>	<b>12,870</b>	<b>160,878</b>
Sovereign	48	603	116	1,451
Institutions	312	3,895	267	3,333
Corporate	4,511	56,382	5,121	64,010
Retail	2,717	33,969	2,704	33,794
Shares in the banking book	9	119	18	219
Securitisation positions	40	496	40	502
Other non-credit obligation assets	485	6,066	729	9,110
<b>Total credit risk assessed using the standard approach</b>	<b>8,122</b>	<b>101,529</b>	<b>8,994</b>	<b>112,419</b>
Delivery risk	0	0	0	0
<b>CREDIT, COUNTERPARTY AND DELIVERY RISK</b>	<b>20,331</b>	<b>254,134</b>	<b>21,864</b>	<b>273,297</b>
Value at Risk	460	5 752	448	5,598
Stressed Value at Risk	605	7 565	522	6,520
Incremental default and migration risk (IRC)	603	7 543	824	10,303
Correlation portfolio (CRM)	200	2 496	355	4,437
<b>Market risk assessed using the IRB approach</b>	<b>1,868</b>	<b>23,356</b>	<b>2,149</b>	<b>26,858</b>
General risk and specific risk related to interest rates (excluding securitisation)	51	642	62	774
Specific risk related to securitisation positions	149	1,866	305	3,812
Market risk assessed using the standard approach for ownership interests	2	28	14	178
Market risk assessed using the standard approach for currency positions	214	2,672	67	837
Market risk assessed using the standard approach for commodities	6	74	6	77
<b>Market risk assessed using the standard approach</b>	<b>423</b>	<b>5,282</b>	<b>454</b>	<b>5,678</b>
<b>MARKET RISK</b>	<b>2,291</b>	<b>28,637</b>	<b>2,603</b>	<b>32,536</b>
Operational risk assessed using AMA	2,974	37,174	3,152	39,400
Operational risk assessed using the standardised approach	332	4,147	323	4,042
<b>OPERATIONAL RISK</b>	<b>3,306</b>	<b>41,321</b>	<b>3,475</b>	<b>43,442</b>
<b>TOTALS</b>	<b>25,927</b>	<b>324,092</b>	<b>27,942</b>	<b>349,275</b>

The credit and counterparty risk exposures are presented according to the valuation method used, IRB approach and standard approach. Details of the calculations by type of credit risk exposure are available in Chapter 3, "Credit and Counterparty Risk".

Capital requirements on securitisation transactions are presented separately, with preference given to the IRB approach. Chapter 4 "Securitisation" provides a more detailed analysis of the Group's securitisation exposure. The Group's banking book equity investments are also calculated using mainly the IRB approach, as detailed in Chapter 5.

Similarly, market risk is calculated using the internal Value-at-Risk method. Additional information on calculating using the IRB approach may be found in Chapter 6, "Market risk".

For the calculation of capital requirements for operational risk, the Group has used the advanced measurement approach (AMA) since the end of 2007, covering a scope that represents nearly 90 % of total net banking income. Chapter 9, "Operational Risk", provides details on how operational risk is measured and monitored within the Group.

## Change in risk-weighted assets and capital requirements

Between 31 December 2011 and 31 December 2012, the Group's capital requirements and risk-weighted assets decreased by EUR 2.015bn and EUR 25.183bn respectively.

**Table 08: Basel 2 risk-weighted assets (including Basel 2.5 requirements) at 31 December 2012**

(in EUR bn)	Credit	Market	Operational	Total
French networks	86.2	0.1	2.9	<b>89.2</b>
International networks	68.2	0.0	3.7	<b>71.9</b>
Corporate and Investment Banking	50.0	26.2	23.5	<b>99.7</b>
Specialised Financial Services and Insurance	38.2	0.0	2.3	<b>40.5</b>
Private Banking, Global Investment Management and Services	9.9	0.4	4.4	<b>14.8</b>
Corporate Centre	1.6	1.9	4.5	<b>8.0</b>
<b>Group</b>	<b>254.1</b>	<b>28.6</b>	<b>41.3</b>	<b>324.1</b>

By type of activity, risk-weighted assets (EUR 324.1bn) break down as follows:

- credit risk representing 78.4 % of risk-weighted assets at 31 December 2012, or EUR 254.1bn (versus EUR 273.3bn at 31 December 2011);
- market risk representing 8.8 % of risk-weighted assets at 31 December 2012, or EUR 28.6bn (versus EUR 32.5bn at 31 December 2011);
- operational risk representing 12.7 % of risk-weighted assets at 31 December 2012, or EUR 41.3bn (versus EUR 43.4bn at 31 December 2011).

Most credit risk on derivatives concerns instruments maturing in less than five years (a detailed analysis is available in the consolidated financial statements, Note 33 to the 2013 registration document).

Furthermore, because Societe Generale is considered a Financial Conglomerate, it undergoes additional oversight by the French Prudential Supervisory Authority.

## INFORMATION ON KEY SUBSIDIARIES' CONTRIBUTION TO THE GROUP'S TOTAL RISK-WEIGHTED ASSETS

The contributions of the three key subsidiaries, which collectively contribute more than 10 % of the Group's risk-weighted assets, are as follows:

Table 09: Key subsidiaries' contribution to the Group's risk-weighted assets

(in EUR m)	Crédit du Nord		Rosbank		Komerční Banka	
	IRB	Standard	IRB	Standard	IRB	Standard
<b>Credit and counterparty risk</b>	<b>12,475</b>	<b>5,324</b>	<b>876</b>	<b>11,116</b>	<b>9,458</b>	<b>1,703</b>
Sovereign	0	0	336	0	549	0
Financial institutions	186	22	0	975	816	153
Corporate	7,631	2,632	5	6,331	5,309	624
Retail	4,085	2,118	0	3,616	2,484	833
Securitisation	0	0	0	0	4	0
Equity investments	142	63	17	63	0	0
Other assets	431	488	518	131	296	93
<b>Market risk</b>		<b>116</b>		<b>439</b>		<b>19</b>
<b>Operational risk</b>		<b>945</b>		<b>1,639</b>		<b>712</b>
<b>Total for 2012</b>		<b>18,860</b>		<b>14,070</b>		<b>11,892</b>
<b>Total for 2011</b>		<b>19,414</b>		<b>13,519</b>		<b>12,150</b>



# 2

## CAPITAL AND RISK MANAGEMENT POLICY

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## CAPITAL MANAGEMENT

The capital management process is implemented by the Finance Department with the backing of General Management, under the supervision and control of the Board of Directors.

Societe Generale's capital management is aimed at ensuring that the Group's solvency level is at all times consistent with its objectives of:

- maintaining a high level of financial strength, closely correlated to the Group's overall risk profile and risk appetite;
- preserving financial flexibility for funding internal and external growth;
- ensuring the optimal deployment of capital across its various businesses to optimise the risk/reward ratio on capital.
- maintain the Group's strong resilience under stressed scenarios;
- satisfy the expectations of various stakeholders: regulators, counterparties, bondholders, rating agencies and shareholders.

As a result, the Group determines its internal solvency target in accordance with these objectives and in compliance with regulatory thresholds.

The Group has an Internal Capital Adequacy Assessment Process (ICAAP) that follows a multifaceted approach, taking into account:

- capital planning, updated at regular intervals in conjunction with budget and financial planning or the production of strategic plans, based on a Group-wide simulation tool. This helps ensure at all times that resources and uses of capital are consistent with the Group's overall objectives and business needs;
- business and risk cyclicalities, to explicitly factor in the effect of credit cycles, while also taking into account risks outside the scope of Pillar 1 (e.g. business risk, interest- and exchange-rate risk, strategic risk etc.) ;
- implementation of an ICAAP stress test that is part of the budget process and covers the entire Group.

Through this exercise, we measure whether the Group's capital adequacy ratios are suited to regulatory constraints and to the Group's objectives within the Risk Appetite framework.

In addition, in the first half of 2012 the Group participated in the IMF stress test, which was intended to determine banks' resilience under a number of hypothetical macroeconomic and financial shocks. Based on the data available at the end of 2011, the results confirmed the Group's capacity to withstand a significant deterioration of the economic environment, while being able to comply with the new CRD4 requirements.

## GENERAL RISK MANAGEMENT POLICY

Implementing a high-performance and efficient risk management structure is a critical undertaking for Societe Generale, in all businesses, markets and regions in which the bank operates, as are maintaining a balance between strong risk culture and promoting innovation. Specifically, the main objectives of the Group's risk management strategy are:

- to contribute to the development of the Group's various businesses by optimising its overall risk-adjusted profitability in accordance with its risk appetite;
- to guarantee the Group's sustainability as a going concern, through the implementation of an efficient system for risk analysis, measurement and monitoring;
- to make risk management a differentiating factor and a competitive strength acknowledged by all.

This can take the form of:

- clear principles for governing, managing and organising risks
- determining and formally defining the Group's risk appetite;
- effective risk management tools;
- a risk culture that is cultivated and established at each level of the Group.

These various items are currently under focus, with a series of initiatives established as part of the ERM (Enterprise Risk Management) as described below.

## ENTERPRISE RISK MANAGEMENT (ERM) PROGRAMME

Effectively launched in January 2011, the ERM project aims to improve the consistency and effectiveness of the Group's risk management system by fully integrating risk prevention and control with the day-to-day management of the bank's businesses.

This programme, which is closely monitored by the Executive committee (COMEX) and the Audit, internal control and risk committee (CACIR), is structured around strengthening risk culture among all Group employees and continually improving the Risk Appetite exercise (details below).

Based on a 2010 assessment of the existing situation, the Board of directors and General management have defined a target aimed at ensuring that all employees are aware of the risks entailed by their activities, know how to manage them, feel responsible for doing so, and act according to the Group's values: courage, rigour and discipline. An ambitious plan to strengthen risk culture was therefore launched in 2011 to meet this target. The approach taken is structured around (i) awareness-raising initiatives and training aimed at Group employees and (ii) initiatives aimed at improving risk recognition at each stage of an employee's career with the Group.

For example, the following initiatives were launched in 2012:

- during the hiring process, assessing "risk awareness" is gradually becoming one of the selection criteria;
- in terms of setting targets and evaluation, risk management is gradually becoming one of the items systematically taken into account;
- training initiatives have also been undertaken with the intent to establish a certification process;
- a review of the Group code of conduct.

All of these initiatives were carried out by General management and all Executive committee members through communications with employees on the significance of and issues related to day-to-day risk management.

## RISK APPETITE

Since 2009, the Risk division and the Finance division have formally defined the Group's risk appetite through a process coordinated with the Group's operating divisions.

Societe Generale defines risk appetite as the level of risk, by type and by business, that the Group is prepared to incur given its strategic targets. Risk appetite is defined using both quantitative and qualitative criteria.

The Group Risk Appetite exercise consists in formally defining a three-year overview including:

- targets for certain key Group indicators (financial solidity, solvency, earnings volatility, leverage, liquidity);

- risk/return ratios for the different Group businesses;
- and the Group's risk profile, by risk type.

To determine these factors, the following are taken into consideration:

- earnings sensitivity to economic cycles and credit, market or operational events;
- impact of macro-economic risks, both in emerging markets and developed countries.

The Risk Appetite exercise is one of the strategic oversight tools available to Group governing bodies. It is fully integrated into the budgeting process and draws on the global stress test system, which is also used to ensure capital adequacy in stressed economic scenarios.

It is discussed by governing bodies at various key moments:

- positioning the various businesses in terms of the risk/return ratio as well as the Group's risk profile by type of risk are analysed and approved by the Audit, internal control and risk committee during preliminary budget preparation with an eye to allocating scarce resources to the businesses. Three-year targets suggested by the Executive committee for the Group key indicators are discussed and approved by the Audit, internal control and risk committee, then by the Board of directors prior to launching the budget process;
- during the finalisation of the budget and global stress test processes, the Audit, internal control and risk committee and the Board of directors, based on the Executive committee's recommendations, approve the trajectory in relation to various Group key indicators and their adequacy given the established targets.

In the interest of regular improvement, the Risk Appetite exercise is continuously being adapted. This year, improvement efforts were focused on:

- consistency between the Risk Appetite exercise and the risk management operational structure, which is manifested by policies and limits covering the Group's major risks;
- increased consideration of any impact relating to liquidity.

## STRESS TEST MECHANISMS

Stress tests measure resilience to macroeconomic shocks of various magnitudes. They are an important component of the Group's risk management and monitoring. The Group's stress-test framework is used to set limits, guarantee capital adequacy compared to risks and aid in carrying out the Risk Appetite exercise.

The Group has implemented a stress test system which includes:

- at an aggregate level, the global stress test (macroeconomic, i.e. "ICAAP stress test"), which is incorporated into the budget process and covers the entire Group. For each scenario, (core and stressed), potential losses relating to credit, market and operational risks are estimated over a three-year horizon before being presented to the Risk committee. This exercise measures the Group's capital adequacy ratios against regulatory constraints and the Group's targets in line with its Risk Appetite;
- specific credit stress tests supplement the global analysis, on request, with a more refined approach along various lines (sector, subsidiary, product, country, etc.). These stress tests are used for operational oversight of Group activities and risks;
- in order to evaluate market risks, alongside the internal VaR and SVaR model, the Group measures its risks using a stress test to take into account unusual market disturbances that draws on 26 historical scenarios and eight theoretical ones;
- with regard to operational risks and capital requirement calculations, the Group uses scenario analyses to measure its exposure to any occasional but extremely severe losses, and to provide a loss distribution estimate based on expert opinion for event categories for which there is insufficient internal loss history;



- for structural interest-rate risks, the Group measures the sensitivity of its fixed-rate position in scenarios under which yield curves shift or are distorted (steepening and flattening). The measurement of net interest income sensitivity is also used by the Group to quantify the structural interest rate risk of significant entities. With respect to exchange-rate risk, stress scenarios are applied to various (major or peripheral-country) currencies;
- with respect to liquidity, internal stress tests are used to ensure that the time period during which the Group may continue to operate during periods of liquidity stress is respected in any market environment.

Along with the internal stress-test exercises, the Group is part of a sample of European banks that participate in the EBA (European Banking Authority) stress tests.

## GROUP RISK MAPPING

This procedure aims to identify and estimate the main risks of potential loss expected for the year to come, in all risk categories: credit risks, market risks, operational risks. These risks are placed on a grid relating impact and probability of occurrence for each risk. A loss level is assigned to each scenario, combining statistical approaches that use historical data, and independent expert analyses. These scenarios are categorised on a scale representing three distinct levels of stress: base case, stress and extreme stress. It may relate to isolated losses that are material because of their extent (for example, the default of a major counterparty), or of events involving many counterparties (for example, contagion affecting a sector of activity or several sectors).

The risk map is presented annually to the members of the Audit, internal control and risk committee as well as the Board of directors.

## RISK MANAGEMENT GOVERNANCE, CONTROL AND ORGANISATION PRINCIPLES

The Group's risk management governance is based on:

- strong managerial involvement in the risk management system and promotion of risk culture, throughout the entire organisational structure, from the Board of directors down to operational teams;
- clearly defined internal rules and procedures;
- continuous supervision by an independent body to monitor risks and to enforce rules and procedures.

The Group's risk management is organised around two key principles:

- risk assessment departments must be independent from the business divisions;
- the risk management approach and risk monitoring must be consistent throughout the Group.

Compliance with these principles forms part of the consolidation plans for subsidiaries acquired by the Group.

Group risk management is governed by two main bodies: the Board of directors, via the Audit, internal control and risk committee, and the Risk committee. The Group's Corporate divisions, such as the Risk division and some departments of the Finance division, which are independent from the business divisions, are dedicated to permanent risk management and control under the authority of the General management.

## Board of directors (CA)

The Board of directors defines the Group's strategy, while assuming and controlling risks, and ensures its implementation. In particular, the Board of directors ensures the adequacy of the Group's risk management infrastructure, monitors changes in the portfolio and particularly in the cost of risk, and approves the market risk limits. Presentations on the main aspects of, and notable changes to, the Group's risk management strategy are made to the Board of directors by the General Management at least once a year (more often if circumstances require it), within the framework of the Risk Appetite exercise.

## Audit, internal control and risk committee (CACIR)

The Board of directors' Audit, internal control and risk committee plays a crucial role in the assessment of the quality of the Group's internal control. More specifically it is responsible for examining the internal framework for risk monitoring to ensure its consistency and compliance with procedures, laws and regulations in force. Special presentations by executives in charge are made to the Committee, which reviews the procedures for controlling certain market risks as well as structural interest rate risk, and is consulted about the setting of risk limits. It also issues an opinion on the Group's overall provisioning policy as well as on large specific provisions. Finally, the Group's risk map and Risk Appetite indicators are presented to the Committee annually, and every year it examines the Annual Report on Internal Control, which is submitted to the Board of directors and the French Prudential Supervisory Authority (ACP).

## Risk committee and large exposures committee (CORISQ)

Chaired by the General management, the Risk committee meets at least once a month to discuss the major trends for the Group in terms of risk. Generally, upon the advice of the Risk division, CORISQ takes the main decisions pertaining to, on the one hand, the architecture and the implementation of the Group's Risk monitoring system, and on the other, the framework of each type of risk (credit risk, country risk, market and operational risks).

In addition to CORISQ, the Group also has a Large exposures committee, which focuses on reviewing large individual exposures.

## Risk division

The main responsibility of the Risk division is to help develop the activities and profitability of the Societe Generale Group by working with the business divisions to define the Group's Risk Appetite (deployed within the Group's various businesses), and to establish a risk management and monitoring system. In exercising its functions, the Risk division reconciles independence from and close cooperation with the business divisions, which are responsible first and foremost for the transactions they initiate.

Accordingly, the Risk division is responsible for:

- providing hierarchical and functional supervision of the Group's Risk structure;
- identifying the risks borne by the Group;
- putting into practice a governance and monitoring system for these risks across all business lines, and regularly reporting on their nature and extent to the General management, the Board of directors and the banking supervisory authorities;
- contributing to the definition of risk policies, taking into account the aims of the businesses and the corresponding risk issues;
- defining or validating risk analysis, assessment, approval and monitoring methods and procedures;
- validating the transactions and limits proposed by the business managers;
- defining the "risk" information system, and ensuring its suitability for the needs of the businesses and its consistency with the Group's information system.

Regarding legacy assets<sup>(1)</sup>, the Risk division:

- validates all transactions linked to these assets (hedges, disposals, commutations, etc.);
- defines, measures and monitors positions using market risk metrics: VaR and stress tests;
- produces impairment calculations, after defining and validating their assumptions;
- assesses the value of CDOs (Collateralised Debt Obligations) of RMBS (Residential Mortgage Backed Securities);
- analyses each monoline counterparty in order to determine the adequate provisioning rate for Group exposures, and calculates the corresponding provisions;
- participates in the governance bodies of the subsidiary hosting these assets.

## New product committee

Each division submits all new products, businesses or activities to the New product committee.

This committee, which is jointly managed by the Risk division and the business divisions, aims to ensure that, prior to the launch of a new product, business or activity:

- all associated risks are fully identified, understood and correctly addressed;
- compliance is assessed with respect to the laws and regulations in force, codes of good professional conduct and risks to the image and reputation of the Group;
- all the support functions are committed and have no, or no longer have, any reservations.

This process is underpinned by a very broad definition of a new product, which ranges from the creation of a new product, to the adaptation of an existing product to a new environment or the transfer of activities involving new teams or new systems.

## Finance division

Within the Finance division, the Financial management and capital department manages the capital requirements and the capital structure.

In accordance with regulatory principles that advocate the separation of oversight and control functions, two different entities manage and monitor structural risks:

- the Balance sheet and global treasury management department is dedicated to structural risk management. It also monitors and coordinates all Group treasury functions (external Group financing, internal entity financing, centralised collateral management). In addition, it manages the Financial centre and executes financial transactions;
- the ALM Risk control department is responsible for supervising structural risk for the entire Group. In particular, it validates structural risks models and monitors compliance with limits and management practices by the Group's divisions, business lines and entities.

The Finance division is also responsible for assessing and managing the other major types of risk, including strategic risks, business risks, etc.

The Finance policy committee is chaired by the General management and validates the system used to analyse and measure structural risks as well as the exposure limits for each Group entity. It also plays an advisory role for the business divisions and entities.

Societe Generale's risk measurement and assessment processes are an integral part of the bank's ICAAP (Internal Capital Adequacy Assessment Process<sup>(2)</sup>). As concerns capital management, ICAAP is aimed at providing guidance to both CORISQ and the Finance committee in defining the Group's overall Risk Appetite and setting risk limits.

(1) For further details on the valuation of certain assets within this scope, see Note 3 to the consolidated financial statements of the Registration Document, p299 "Fair value of financial instruments".

(2) ICAAP: Internal Capital Adequacy Assessment Process corresponds to the Pillar II process required under the Basel Accord that enables the Group to ensure capital adequacy to support all business risks.

Within the Finance division, the steering of scarce resources and performance has been the responsibility of the new Strategic and financial steering department since January 1, 2013. This department is responsible for providing General management with a consolidated overview of key financial steering indicators for both profitability and scarce resources (capital and liquidity) and therefore contributes directly to guiding strategic and financial decisions aimed at maximising value creation for the Group.

## Other divisions

The Group corporate secretariat also deals with compliance, ethics, legal and tax risks, as well as reputational risk.

Finally, the bank's risk management principles, procedures and infrastructures and their implementation are monitored by the Inspection and audit division.

## PERMANENT AND PERIODIC RISK MONITORING

Permanent supervision is the responsibility of operational staff and their managers, and its coordination is performed by the Operational risk department of the Risk division. The permanent supervision system itself is supplemented by numerous other operational controls (for example, automated controls in IT processing chains, organisational controls implementing the segregation of functions within the structure, etc.).

The Inspection and audit division carries out regular risk audits, including credit application reviews, spanning all Group divisions, whose conclusions are sent to the heads of the business divisions, the Risk division and the General management for certain scopes.

## TYPES OF RISKS

The Group is exposed to the risks inherent in its core businesses. Given the diversity and changes in the Group's activities, its risk management focuses on the following main categories of risks, any of which could adversely affect its performance:

- **credit and counterparty risk** (including country risk): risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk includes the counterparty risk linked to market transactions (replacement risk), as well as securitisation activities. In addition, credit risk may be further amplified by concentration risk, which arises from a large exposure to a given risk, to one or more counterparties, or to one or more homogeneous groups of counterparties;

Country risk arises when an exposure can be negatively affected by changing political, economic, social and financial conditions in the country of operation.

Validation of credit risk is part of the Group's risk management strategy based on its risk appetite. Societe Generale's credit policy is based on the principle that approval of any credit risk undertaking must be based on sound knowledge of the client and the client's business, an understanding of the purpose and structure of the transaction and the sources of repayment of the debt. Credit decisions must also ensure that the structure of the transaction will minimise the risk of loss in the event the counterparty defaults.

Limits are set for certain countries, geographical regions, sectors, products or types of customers with a view to minimising the most significant risks. In addition, major concentration risks are analysed periodically for the entire Group.

- **market risk:** risk of decline in the value of financial instruments arising from changes in market parameters, the volatility of these parameters and correlations between them. These parameters include but are not limited to exchange rates, interest rates, and the price of securities (equities, bonds), commodities, derivatives and other assets, including real estate assets;

Positions and risks are subject to daily controls and compared to predefined limits that, for major positions, are validated by the Board of directors on the advice of the Audit, internal control and risk committee, in accordance with the risk appetite defined by the Board of directors.

- **operational risks** (including accounting and environmental risks): risk of losses or sanctions due in particular to failures in internal procedures or systems, human error or external events;

Societe Generale has no appetite for operational risks, only a tolerance level. As such, the Group has an active prevention policy which consists of securing operational processes as well as the promotion of a risk culture throughout the Group. The limit in terms of operational losses is set as a percentage of Net banking income (NBI).

- **structural interest and exchange rate risk**: risk of loss or write-downs in the Group's assets arising from variations in interest or exchange rates. Structural interest and exchange rate risk arises from commercial activities and from transactions entered into by the Corporate Centre;

The general principle for the Group is to minimise structural interest rate and exchange rate risks as much as possible within consolidated entities. Wherever possible, commercial transactions are therefore hedged against interest rate and exchange rate risks. Any residual structural interest rate risk exposure is contained by sensitivity limits set for each entity and for the overall Group in accordance with the structural risk appetite as validated by the Finance policy committee. As for exchange rates, the Group's policy is to immunise its solvency ratio against fluctuations of the major currencies in which it operates.

- **liquidity risk**: risk of the Group not being able to meet its cash or collateral requirements as they arise and at reasonable cost;

Given that liquidity is a scarce resource, the Group's objective is to finance its activities at the best possible rates under normal conditions. The scope of the Group's short and long-term financing plan, which supplements customer deposits, is conservative with reduced concentration in the short term while ensuring diversification in terms of products and regions. Targets are validated by the Board of directors in accordance with Risk Appetite.

- **non-compliance risk (including legal, tax and reputational risks)**: risk of legal, administrative or disciplinary sanction, material financial losses or reputational damage arising from failure to comply with the provisions governing the Group's activities.

Compliance and adherence to ethical rules that meet the profession's highest standards are part of the Societe Generale Group's core values. It is not just the responsibility of a select few, but concerns the culture of its entire staff. Moreover, those rules even go beyond the strict application of current regulatory provisions, particularly as there are countries in which said provisions fall shy of Societe Generale's ethical standards.

The Group is also exposed to the following risks:

- **investment portfolio risk**: risk of unfavourable changes in the value of the Group's investment portfolio;

- **strategic risk**: risks tied to the choice of a given business strategy or resulting from the Group's inability to execute its strategy;

- **business risk**: risk of losses if costs exceed revenues;

- **risk related to insurance activities**: through its insurance subsidiaries, the Group is also exposed to a variety of risks linked to the insurance business. In addition to balance sheet management risks (interest rate, valuation, counterparty and exchange rate risk), those include premium pricing risk, mortality risk and structural risk of life and non-life insurance activities, including pandemics, accidents and catastrophic events (such as earthquakes, hurricanes, industrial disasters, acts of terrorism or military conflicts);

- **risk related to specialised finance activities**: through its Specialised financial services division, mainly in its operational vehicle leasing subsidiary, the Group is exposed to residual value risk (when the net resale value of an asset at the end of the lease is less than estimated).

Any of these risks could materially adversely affect the Group's business, results of operations and financial condition.



# 3

## CREDIT AND COUNTERPARTY RISK – CREDIT RISK MITIGATION

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## CREDIT RISK MANAGEMENT: ORGANISATION AND STRUCTURE

The Risk division has defined a control and monitoring system, in conjunction with the business divisions and based on the credit risk policy, to provide a framework for the Group's credit risk management. The credit risk policy is periodically reviewed and validated by the Audit, internal control and risk committee.

Credit risk supervision is organised by business division (French Networks, International Retail Banking, Specialised Financial Services and Insurance, Global Investment Management and Services, and Corporate and Investment Banking) and is supplemented by departments with a more cross-business approach (monitoring of country risk and risk linked to financial institutions). The team that handles the supervision of the counterparty risk on market transactions reports to the Market risk department.

Within the Risk division, each of these departments is responsible for:

- setting global and individual credit limits by client, client group or transaction type;
- authorising transactions submitted by the sales departments;
- validating ratings or internal client rating criteria;
- monitoring and supervision of large exposures and various specific credit portfolios;
- approving specific and general provisioning policies.

In addition, a specific department performs comprehensive portfolio analyses and provides the associated reports, including those for the supervisory authorities. A monthly report on the Risk division's activity is presented to CORISQ and specific analyses are submitted to the General management.

## CREDIT POLICY

Societe Generale's credit policy is based on the principle that approval of any credit risk undertaking must be based on sound knowledge of the client and the client's business, an understanding of the purpose and structure of the transaction and the sources of debt repayment. Credit decisions must also ensure that the structure of the transaction will minimise the risk of loss in the event the counterparty defaults. Furthermore, the credit approval process takes into consideration the overall commitment of the group to which the client belongs. Risk approval forms part of the Group's risk management strategy in line with its risk appetite.

The risk approval process is based on four core principles:

- all transactions involving credit risk (debtor risk, settlement/ delivery risk, issuer risk and replacement risk) must be pre-authorised;
- responsibility for analysing and approving transactions lies with the most qualified business line and risk unit. The business line and the risk unit examine all authorisation requests relating to a specific client or client group, to ensure a consistent approach to risk management;
- the business line and risk unit must be independent from each other;
- credit decisions must be systematically based on internal risk ratings (obligor rating), as provided by the business lines and approved by the Risk division.

The Risk division submits recommendations to CORISQ on the limits it deems appropriate for certain countries, geographic regions, sectors, products or customer types, in order to reduce risks with strong correlations. The allocation of limits is subject to final approval by the Group's General management and is based on a process that involves the Business divisions exposed to risk and the Risk division.



## RISK SUPERVISION AND MONITORING FRAMEWORK

### Portfolio review and sector risk monitoring

Authorisation limits are set by counterparty and the credit approval process must comply with the overall authorisation limit for the group to which the counterparty belongs.

Individual large exposures are reviewed by the Large exposures committee (CGR: Comité Grands Risques).

Concentrations are measured using an internal model and individual concentration limits are defined for larger exposures. Any concentration limit breach is managed over time by reducing exposures, hedging positions using credit derivatives and/or selling assets.

Concentration targets are defined for the largest counterparties at Concentration committee meetings.

In addition, the Group regularly reviews its entire credit portfolio through analysis by type of counterparty or business sector. In addition to industry research and regular sector concentration analysis, sector research and more specific business portfolio analyses are carried out at the request of the bank's General management and/or Risk division and/or business divisions.

### Monitoring of country risk

Country risk arises when an exposure (loan, security, guarantee or derivative) becomes liable to negative impact from changing political, economic, social and financial conditions in the country of exposure.

It includes exposure to any kind of counterparty, including a sovereign state (sovereign risk is also controlled by the system of counterparty risk limits).

Country risk breaks down into two major categories:

- **political and non-transfer risk** covers the risk of non-payment resulting from either actions or measures taken by local government authorities (decision to prohibit the debtor from meeting its commitments, nationalisation, expropriation, non-convertibility, etc.), domestic events (riots, civil war, etc.) or external events (war, terrorism, etc.);
- **commercial risk** occurs when the credit quality of all counterparties in a given country deteriorates due to a national economic or financial crisis, independently of each counterparty's individual financial situation. This could be macroeconomic shock (sharp slowdown in activity, systemic banking crisis, etc.) or currency depreciation, or sovereign default on external debt possibly entailing other defaults.

Overall limits and strengthened monitoring of exposures have been established for countries based on their internal ratings and governance indicators. Supervision is not limited to emerging markets.

Country limits are validated annually by General management. They can also be revised downward at any time if the country's situation deteriorates or is expected to deteriorate.

All Group exposures (securities, derivatives, loans and guarantees) are taken into account by this monitoring. The methods for determining the country of risk is based on the country of residence, country where assets are located, the home country of counterparties or the group to which they belong, and takes into account the effects of mitigation and displacement of guarantees and collateral.

### Specific monitoring of hedge funds

Hedge funds are important counterparties for the Group. Because they are not regulated, hedge funds pose specific risks: they are able to use significant leverage as well as investment strategies that involve illiquid financial instruments, which leads to a strong correlation between credit risk and market risk.

Activities carried out in the hedge fund sector are governed by a set of global limits established by the General Management:

- a Credit VaR limit which controls the maximum replacement risk that may be taken in this segment;
- a stress test limit governing market risks and the risks associated with financing transactions guaranteed by shares in hedge funds.

In 2012, Societe Generale's market activity with hedge funds was slightly lower than it was in 2011, with structured products being particularly impacted due to market trends.

### Credit stress tests

In addition to global stress tests, the Risk division carries out specific stress tests upon request. These stress tests measure the resilience of portfolios, activities and subsidiaries to macroeconomic shocks of various magnitudes. They are used for operational steering of the Group's risks and the core-business activities, and some are presented to the Risk committee so that limits may be validated.

Like global stress tests, specific stress tests draw on a baseline scenario and a stressed scenario that are defined by Group sector experts and economists. The scenarios are described by triggering events and assumptions (even the qualitative ones) on benchmark macroeconomic variables such as total GDP, changes to GDP, demand, unemployment, inflation, interest rates, oil prices, foreign exchange rates, etc. The channels for transmitting these macroeconomic shocks to the stress test's scope are analysed in order to evaluate the sensitivity of portfolio risk parameters (Probability of Default - PD and Loss Given Default - LGD) to shocks on macroeconomic variables.

## COUNTERPARTY RISK

Counterparty or replacement risk corresponds to the market value of transactions with counterparties. It represents the current cost to the Group of replacing transactions with a positive value should the counterparty default. Transactions giving rise to a counterparty risk are, inter alia, security repurchase agreements, securities lending and borrowing and over-the-counter derivative contracts such as swaps, options and futures.

### Management of counterparty risk linked to market transactions

Societe Generale places great emphasis on carefully monitoring its credit and counterparty risk exposure. In order to minimise its losses in case of default, counterparty limits are assigned to all counterparties (banks, other financial institutions, corporates and public institutions).

In order to quantify the potential replacement risk, Societe Generale uses an internal model: the future fair value of trading transactions with counterparties is modelled, taking into account any netting and correlation effects. Estimates are derived from Monte Carlo models developed by the Risk division, based on a historical analysis of market risk factors, and take into account guarantees and collateral.

Societe Generale uses two indicators to describe the subsequent distribution resulting from the "Monte-Carlo simulations":

- current average risk, suited to analysing the risk exposure for a portfolio of customers;
- credit VaR (or CVaR): the largest loss that would be incurred after eliminating the top 1% of the most adverse occurrences, used to set the risk limits for individual counterparties.

Societe Generale has also developed a series of stress test scenarios used to calculate the exposure linked to changes in the fair value of transactions with all of its counterparties in the event of an extreme shock to market parameters.

## Setting individual counterparty limits

The credit profile of counterparties is reviewed on a regular basis and limits are set both according to the type and maturity of the instruments concerned. The intrinsic creditworthiness of counterparties and the reliability of the associated legal documentation are two factors considered when setting these limits. Fundamental credit analysis is also supplemented by relevant peer comparisons and a market watch.

Information technology systems allow both traders and the Risk division to ensure on a day-to-day basis that counterparty limits are not exceeded and that incremental authorisations are requested as needed.

Any significant weakening in the bank's counterparties also prompts urgent internal rating reviews. A specific supervision and approval process is put in place for more sensitive counterparties or more complex financial instruments.

## Calculation of Exposure at Default<sup>(1)</sup> (EAD) within the regulatory framework

In 2012, the French Prudential Supervisory Authority (ACP) approved the use of the internal model described above to determine the Effective Expected Positive Exposure (EEPE) indicator used in calculating counterparty risk-adjusted capital. As a result, since June 2012, the EAD relative to the bank's counterparty risk has been calculated based on this new indicator. This new method is used for approximately 90% of transactions.

For other purposes, the Group uses the marked-to-market valuation method. In this method, the EAD relative to the bank's counterparty risk is determined by aggregating the positive market values of all transactions (replacement cost) and increasing the sum with an 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 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 marked-to-market method and subtracting guarantees or collateral. Regulatory capital requirements also depend on the internal rating of the debtor counterparty.

## Credit adjustment

Reserve policies are recognised on CVA (Credit Value Adjustments) on the over-the-counter trading portfolio per counterparty in order to take into account counterparty risk.

## Wrong-way risk

Wrong-way risk is the risk that Group exposure is negatively correlated to a counterparty's credit quality.

Two separate cases exist:

- specific wrong-way risk, where the amount of exposure is directly related to the counterparty's credit quality;
- general wrong-way risk, where there is a significant correlation between some market factors and the counterparty's creditworthiness.

Wrong-way risk is subject to identification procedures, calculation of exposures as well as specific and regular monitoring of identified counterparties.

(1) See glossary.

## HEDGING OF CREDIT RISK

### Guarantees and collateral

The Group uses credit risk mitigation techniques both for market and commercial banking activities. These techniques provide partial or full protection against the risk of debtor insolvency.

There are two main techniques:

- personal guarantees correspond to the commitment made by a third party to substitute for the primary debtor in the event of the latter's default. Guarantees encompass the protection commitments and mechanisms provided by banks and similar credit institutions, specialised institutions such as mortgage guarantors (such as *Crédit Logement* in France), monoline or multiline insurers, export credit agencies, etc. By extension, credit insurance and credit derivatives (purchase of protection) also belong to this category;
- collateral can consist of physical assets in the form of property, commodities or precious metals, as well as financial instruments such as cash, high-quality investments and securities and also insurance policies.

For guarantees and credit derivatives, the Group takes into account their impact by substituting the guarantor's PD, LGD and risk-weighting formula for that of the borrower (the exposure is considered as a direct exposure to the guarantor) where the guarantor's risk-weighting is more favourable than the borrower's.

In the case of collateral (physical or financial), the Group's methodology related to the applicable credit risk mitigation depends on the Basel 2 approach.

For exposures under the IRB approach, two methodologies can be used:

- credit risk mitigation (CRM) techniques can be incorporated in the LGD calculation, which itself is based on internal loss data and calculated using IRB models ("preliminary" LGD);
- CRM techniques are not incorporated in the LGD defined by the model. The impact of each CRM is taken into account individually in the LGD for each transaction.

For exposures under the standard approach: eligible CRM techniques (after regulatory deductions) are taken into account directly in EAD.

**Table 10: On and off-balance sheet personal guarantees (including credit derivatives) and collateral by exposure class**

(In EUR m)	31 December 2012		31 December 2011	
	Personal guarantees	Collateral	Personal guarantees	Collateral
Sovereign	4,817	455	5,345	83
Institutions	3,644	815	2,806	2,041
Corporates	19,981	40,280	22,028	44,897
Retail	53,856	38,937	52,165	35,888
<b>Total</b>	<b>82,298</b>	<b>80,489</b>	<b>82,344</b>	<b>82,909</b>

The total amount of guarantees and collateral related to on-balance sheet assets, allocated for the calculation of Group capital requirements was EUR 141.8 billion as at 31 December 2012 of which EUR 90.3 billion for retail customers and EUR 51.5 billion for non-retail customers (versus EUR 85.8 billion and EUR 59.7 billion, respectively as at 31 December 2011).

Alongside the regulatory calculation of Group capital requirements, a data collection process is in place for guarantees and collateral related to past due loans not individually impaired as well as individually impaired loans. The amount of guarantees and collateral related to past due not individually impaired loans was EUR 2.7 billion (EUR 1.7 billion for retail customers and EUR 1 billion for non-retail customers) as at 31 December 2012. The amount of guarantees and collateral related to individually impaired loans was EUR 6.1 billion (EUR 2.7 billion for retail customers and EUR 3.4 billion for non-retail customers) as at 31 December 2012.

The Group proactively manages its risks by diversifying guarantees. In addition, the Group has strengthened its policies relating to the acceptance and management of guarantees and collateral as well as their valuation (data collection on guarantees and collateral, deployment of operational procedures).

During the credit approval process, an assessment of the value of guarantees and collateral, their legal enforceability and the guarantor's ability to meet its obligations is undertaken. This process also ensures that the collateral or guarantee successfully meets the criteria set forth in the Capital Requirements Directive (CRD).

Guarantor ratings are reviewed internally at least once a year and collateral is subject to revaluation at least once a year.

The Risk department is responsible for validating the operating procedures established by the business divisions for the regular valuation of guarantees and collateral, either automatically or based on an expert opinion, both during the approval phase for a new loan or upon the annual renewal of the credit application.

## Use of credit derivatives to manage corporate concentration risk

Within Corporate and Investment Banking, it is the responsibility of the Credit Portfolio Management (CPM) department to work in close cooperation with the Risk division and the business divisions to reduce excessive portfolio concentrations and react quickly to any deterioration in the creditworthiness of a particular counterparty. CPM has now been merged with the department responsible for managing scarce resources for the credit and loan portfolio.

The Group uses credit derivatives in the management of its Corporate credit portfolio, primarily to reduce individual, sector and geographic concentration and to implement a proactive risk and capital management approach. Individual protection is essentially purchased under the over-concentration management policy. For example, the ten most hedged names account for 77% of the total amount of individual protections purchased.

The notional value of Corporate credit derivatives (Credit Default Swaps, CDS) purchased for this purpose is booked in off-balance sheet commitments under guarantee commitments received.

Total outstanding purchases of protection through Corporate credit derivatives decreased from EUR 4.6 billion at end-December 2011 to EUR 1.9 billion at end-December 2012, mainly due to the non-renewal of matured protection.

In order to limit the volatility of the income generated by the CDS portfolio (as they are Marked-to-Market), the department in charge of corporate portfolio concentration management, has entered into credit derivatives transactions, to reduce the portfolio's sensitivity to the tightening of credit spreads.

Almost all protection was purchased from bank counterparties with ratings of BBB+ or above, the average being A/A-. Concentration with any particular counterparty is also carefully monitored.

## Mitigation of counterparty risk linked to market transactions

Societe Generale uses different techniques to reduce this risk. With regard to trading counterparties, it seeks to implement master agreements with termination-clearing clause wherever it can. In the event of default, they allow netting of all due and payable amounts. The contracts usually call for the revaluation of required collateral at regular time intervals (often on a daily basis) and for the payment of the corresponding margin calls. Collateral is largely composed of cash and high-quality liquid assets such as government bonds with a good rating. Other tradable assets are also accepted, provided that the appropriate haircuts are made to reflect the lower quality and/or liquidity of the asset.

At 31 December 2012, most over-the-counter (OTC) transactions were secured: by amount, 57% of transactions with positive mark to market (collateral received by Societe Generale) and 61% of transactions with negative mark to market (collateral posted by Societe Generale).

Management of OTC collateral is monitored on an ongoing basis in order to minimise operational risk:

- the exposure value of each collateralised transaction is certified on a daily basis;
- specific controls are conducted to make sure the process goes smoothly (settlement of collateral, cash or securities; monitoring of suspended transactions, etc.);
- all outstanding secured transactions are reconciled with those of the counterparty according to a frequency set by the regulator (mainly on a daily basis) in order to prevent and/or resolve any disputes on margin calls;
- any legal disputes are monitored daily and reviewed by a committee.

### **Credit insurance**

In addition to using export credit agencies (for example Coface and Exim) and multilateral organisations (for example the EBRD), Societe Generale has been developing relationships with private insurers over the last several years in order to hedge some of its loans against commercial and political non-payment risks.

This activity is performed within a risk framework and monitoring system validated by the Group's General Management. This system is based on an overall limit for the activity, along with sub-limits by maturity, and individual limits for each insurance counterparty which must meet strict eligibility criteria.

The implementation of such a policy contributes overall to sound risk reduction.

## **IMPAIRMENTS**

Impairments break down into portfolio based impairments, calculated on performing loans and into specific impairments covering counterparties in default.

### **Impairments on groups of homogenous assets (or collective impairments)**

Impairments on groups of homogenous assets are collective impairments booked for portfolios that are homogenous and have a deteriorated risk profile although no objective evidence of default can be observed at an individual level.

These homogeneous groups can include sensitive counterparties, sectors or countries. They are identified through regular analyses of the portfolio by sector, country or counterparty type.

These impairments are calculated on the basis of assumptions on default rates and loss rates after default. These assumptions are calibrated by homogeneous group based on their specific characteristics, sensitivity to economic environment and historical data. They are reviewed periodically by the Risk division.

### **Specific impairments (or individual impairments)**

Decisions to book individual impairments on certain counterparties are taken where there is objective evidence of default. The amount of impairment depends on the probability of recovering the amounts due. The expected cash flows are based on the financial position of the counterparty, its economic prospects and the guarantees called up or that may be called up.

A counterparty is deemed to be in default when at least one of the following conditions is verified:

- a significant decline in the counterparty's financial condition leads to a high probability of it being unable to fulfil its overall commitments (credit obligations) hence a risk of loss to the bank; and/or
- one or more payments past due by more than 90 days are recorded; and/or
- an out of court settlement procedure is initiated, (with the exception of certain asset categories, such as loans to local authorities); and/or
- the debt is restructured; and/or
- a legal proceeding such as a bankruptcy, legal settlement or compulsory liquidation is in progress.

## RISK MEASUREMENT AND INTERNAL RATINGS

The Group's rating system makes a key distinction between retail customers (credit to individuals, very small enterprises and self-employed) and corporate, bank and sovereign clients:

- for retail customer portfolios, internal models are used to measure credit risks, calculated according to the borrower's probability of default (PD) within one year and the percentage loss if the counterparty defaults (Loss Given Default, LGD). These parameters are automatically assigned, in line with the Basel guidelines;
- for the corporate, bank and sovereign portfolios, the rating system relies on two main pillars: obligor rating models used as a decision-making support tool when assigning a rating and a system that automatically assigns LGD and CCF (Credit Conversion Factor) parameters according to the characteristics of the transactions.

In both cases a set of procedures defines the rules relating to ratings (scope, frequency of rating review, rating approval procedure, etc.), and for the supervision, back-testing and validation of models. Amongst other things, these procedures facilitate human judgement, which provides a critical view of the results and is an essential complement to the models for these portfolios.

The main outputs from Societe Generale's credit risk models, which are used as key variables for the calculation of RWA under the Advanced Internal Rating Based Approach (AIRB) and are selectively detailed further in this report, are:

- Exposure is defined as all assets (e.g. loans, receivables, accruals, etc.) associated with market or customer transactions, recorded on and off-balance sheet.
- Exposure at default (EAD) is defined as exposure of the Group in case of a counterparty default (value exposure at risk). It includes on and off-balance sheet exposure. Off balance sheet exposures are converted to a balance sheet equivalent with internal or regulatory conversion factors (such as assumption of drawing...);
- Probability of default (PD): probability of a counterpart facing the bank of defaulting within one year;
- Loss given ratio (LGD): relation between the loss incurred through exposure to a defaulting counterparty and the amount of the exposure at the time of default;
- Maturity of the exposure, which helps factor in the likelihood of the counterparty's rating migrating over time;
- Expected Loss (EL), which is the potential loss incurred, taking into account the quality of the transaction's structuring and any risk mitigation measures such as collateral. Under the AIRB method, the following equation summarises the relation between these variables:  $EL = EAD \times PD \times LGD$  (except for defaulted exposures);

The Group's internal models thus enable a quantitative assessment of credit risks based on the probability of default of the counterparty and the loss given default. These factors are included in the credit applications and are incorporated in the calculation of the risk-adjusted return on equity. They are used as a tool for structuring, pricing and approving transactions. Thus, obligor ratings are one of the criteria for determining the approval limits granted to operational staff and the Risk function.

All Group risk models are developed and validated on the basis of the longest available internal historical data, which must be representative (both in terms of the portfolios in question and the effects of the economic environment during the period considered) and conservative.

As a result, the Group's risks estimates are not excessively sensitive to changes in the economic environment, while being able to detect any deterioration of risks. PD modelling for large corporates has also been calibrated against long-term default statistics obtained from an external rating agency.

These models, used to estimate PDs and LGDs, cover the vast majority of the Group's credit portfolios (Retail Banking and Corporate and Investment Banking). Most were AIRB- validated (Advanced Internal Rating Based Approach) in 2007 and have since undergone regular performance assessments.

In addition, the Bank received authorisation from the regulator to use the Internal Assessment Approach (IAA) when calculating regulatory capital requirements for Asset-Backed Commercial Paper conduits.

### **Risk-modelling governance**

Governance consists in developing, validating, monitoring and making decisions on changes with respect to internal rating models. A dedicated department within the Risk division is specifically in charge of defining the bank's process for evaluating and validating the key credit metrics used under the AIRB method.

The internal validation scheme for new models as well as annual backtesting is broken down into two stages:

- an investigation stage that aims to collect all statistical and banking data used to assess model quality. Subjects with statistical components are reviewed by the independent entity in charge of model verification. The results of this review are formally presented to modelling entities within the framework of a Model committee;
- a validation stage that is structured around the Expert committee, which aims to validate the Basel parameters of an internal model from a banking perspective. The Expert committee is sponsored by the Group Chief Risk Officer and the Heads of the relevant business divisions. The role of the Expert committee is to assess the consistency of the Basel parameters of internal models from a banking perspective. The Expert committee is also responsible for defining review guidelines and overhauling models at the Model committee's request while taking the economic and financial issues facing Business Lines into account.



## THE GROUP'S INTERNAL RATING SCALE

The following table presents Societe Generale's internal rating scale and the corresponding scales of the main External Credit Assessment Institutions, as well as the corresponding mean estimated probability of default.

**Table 11: Societe Generale's internal rating scale and corresponding scales of rating agencies**

Counterparty internal rating	FitchRatings' ratings	Moody's ratings	S&P ratings	1 year probability of default
1	AAA	Aaa	AAA	0.01%
2	AA+ to AA-	Aa1 to Aa3	AA+ to AA-	0.02%
3	A+ to A-	A1 to A3	A+ to A-	0.04%
4	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	0.30%
5	BB+ to BB-	Ba1 to Ba3	BB+ to BB-	2.16%
6	B+ to B-	B1 to B3	B+ to B-	7.93%
7	CCC+ to CCC-	Caa1 to Caa3	CCC+ to CCC-	20.67%
8,9 and 10	CC and below	Ca and below	CC and below	100.00%

Societe Generale's definition of a default replicates the definition provided in the Basel 2 framework, whereby a borrower has defaulted if at least one of the three following conditions has been verified:

- a significant deterioration in the borrower's financial condition that would prevent them from fulfilling their unguaranteed or uncollateralised credit obligations, and that will therefore likely entail a high probability of loss, and/or;
- one or several arrears have been outstanding for more than 90 days (180 days for public obligors) and/or out-of-court settlement proceedings have been initiated, and/or;
- legal insolvency proceedings are in progress (the obligor has been declared bankrupt or placed under similar conservatory or creditor protection measures).

Finally, Societe Generale applies a principle of contagion whereby any debt declared "in default" will result in the classifying as "in default" of all the obligor's debts, possibly as well as those of all companies belonging to the same economic entity.

## SCOPE OF APPLICATION OF CAPITAL EVALUATION METHODS

In December 2007, Societe Generale obtained authorisation from its supervisory authorities to apply the internal ratings (IRB) method for most of its exposures – this is the most advanced method for calculating capital requirements in respect of credit risk.

The Group will selectively transition to the IRB method for some of its activities and exposures that currently use the standard approach. These transitions will have a marginal impact on the Group's regulatory capital.

The following table presents the scope of application of the Standard and IRB approaches for the Group:

**Table 12: Scope of application of the IRB and Standard approaches for the Group**

	IRB Approach	Standard Approach
French Networks	Majority of portfolios	Some retail customer portfolios including those of the Sogelease subsidiary
International Retail Banking	Mainly Komerční banka (Czech Republic)	The other subsidiaries
Corporate and Investment Banking	Majority of portfolios	-
Specialised Financial Services and Insurance	The subsidiaries Franfinance Particuliers, CGI, Fidelity and GEFA	The other consumer finance subsidiaries. All the equipment finance subsidiaries and ALD excluding GEFA
Private Banking, Global Investment Management and Services	Mainly the subsidiaries SG Hambros, SGBT Luxembourg, SGBT Monaco, SG Private Banking Suisse	The majority of the credit institution and corporate portfolios
Corporate Centre	Majority of portfolios	-

## CREDIT RISK: QUANTITATIVE DISCLOSURES

The following tables set forth detailed information on the bank’s global credit risk, notably with regard to total exposure, exposure at default and risk-weighted assets and defaulted exposure. EAD is before the risk mitigation effect whereas the risk-weighted assets (RWA) takes into account risk mitigation.

Note that equity investments, shares and others assets which are not bonds are excluded from tables in this chapter. As at 31 December 2012, the residual value risk is excluded; data as at 31 December 2011 have been adjusted for all the tables.

In most of the tables below, Societe Generale’s credit risk exposures are presented according to their obligor category defined in the regulation of “exposure class”, valuation approaches (Standard or IRB) and geographical region:

**Table 13: Exposure class**

<b>Sovereign:</b>	Claims or contingent claims on central governments, regional governments, local authorities or public sector entities as well as on multilateral development banks and international organisations.
<b>Institutions:</b>	Claims or contingent claims on regulated credit institutions, as well as on governments, local authorities and other public sector entities that do not qualify as sovereign counterparties.
<b>Corporate:</b>	Claims or contingent claims on corporates, which include all exposures not covered in the portfolios defined above. In addition, small/medium-sized enterprises are included in this category as a sub-portfolio, and defined as entities with total annual sales below EUR 50m.
<b>Retail:</b>	Claims or contingent claims on an individual or individuals, or on a small or medium-sized entity, provided in the latter case that the total amount owed to the credit institution does not exceed EUR 1m. Retail exposure is further broken down into residential mortgages, revolving credit and other forms of credit to individuals, the remainder relating to exposures to very small entities and self-employed.
<b>Securitisation:</b>	Claims relating to securitisation transactions.

**Table 14: Summary of quantitative credit and counterparty risk disclosures**

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As at 31 December 2012, 82% of the exposure at default (EAD) were treated with the IRB method.

The credit risk exposure and EAD of the Group as at 31 December 2012 decreased since 31 December 2011, except for Retail that remained quite stable and sovereigns which increased as a result of the Group's liquidity management strategy, especially in France and in Great Britain.

The overall decrease of the exposure and of the risk-weighted assets (RWA) is reflecting the continued transformation of the Group, notably SG CIB loan sale program.

**Table 15: Credit risk exposure, exposure at default (EAD) and risk-weighted assets (RWA) by approach and exposure class**

Global portfolio											
31 Dec. 2012	IRB			Standard			Total			Average <sup>(1)</sup>	
(in EUR m)	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	RWA
Sovereign	147,904	141,722	6,599	1,813	1,780	603	149,717	143,502	7,202	150,195	7,191
Institutions	98,452	61,975	9,542	17,758	9,715	3,895	116,209	71,690	13,438	132,383	14,993
Corporates	295,895	207,799	87,874	86,738	58,769	56,382	382,634	266,569	144,255	400,055	152,027
Retail	132,971	132,607	24,469	60,634	52,087	33,969	193,605	184,693	58,438	194,876	57,565
Securitisation	18,578	17,992	3,677	812	807	496	19,390	18,799	4,173	21,088	4,619
<b>TOTAL</b>	<b>693,800</b>	<b>562,096</b>	<b>132,162</b>	<b>167,755</b>	<b>123,159</b>	<b>95,345</b>	<b>861,555</b>	<b>685,254</b>	<b>227,506</b>	<b>898,597</b>	<b>236,395</b>

Global portfolio											
31 Dec. 2011	IRB			Standard			Total			Average <sup>(1)</sup>	
(in EUR m)	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	RWA
Sovereign	124,101	113,143	5,779	3,816	3,785	1,451	127,917	116,928	7,230	116,072	7,615
Institutions	138,753	109,424	11,580	13,953	9,401	3,333	152,706	118,825	14,913	158,429	15,386
Corporates	313,495	233,048	94,286	113,057	68,653	64,010	426,551	301,701	158,296	431,580	156,931
Retail	133,915	132,035	23,773	60,648	51,741	33,794	194,563	183,776	57,567	192,958	57,203
Securitisation	24,417	23,419	4,926	823	823	502	25,240	24,242	5,428	34,724	5,863
<b>TOTAL</b>	<b>734,681</b>	<b>611,070</b>	<b>140,344</b>	<b>192,296</b>	<b>134,402</b>	<b>103,090</b>	<b>926,977</b>	<b>745,472</b>	<b>243,434</b>	<b>933,763</b>	<b>242,998</b>

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

**Table 16: Retail credit risk exposure, exposure at default (EAD) and risk-weighted assets (RWA) by approach and exposure class**

Retail portfolio											
31 Dec. 2012	IRB			Standard			Total			Average <sup>(1)</sup>	
(in EUR m)	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	RWA
Residential mortgages	80,317	80,298	9,218	14,770	14,266	5,056	95,087	94,564	14,274	94,520	13,099
Revolving credit	8,299	6,723	2,611	5,386	2,963	2,249	13,685	9,686	4,860	14,054	4,808
Other credit to individuals	29,032	29,785	7,577	28,427	24,709	18,879	57,459	54,494	26,456	58,589	26,710
Very small enterprises and self-employed	15,323	15,800	5,063	12,051	10,150	7,784	27,373	25,950	12,848	27,713	12,948
<b>TOTAL</b>	<b>132,971</b>	<b>132,607</b>	<b>24,469</b>	<b>60,634</b>	<b>52,087</b>	<b>33,969</b>	<b>193,605</b>	<b>184,693</b>	<b>58,438</b>	<b>194,876</b>	<b>57,565</b>

Retail portfolio											
31 Dec. 2011	IRB			Standard			Total			Average <sup>(1)</sup>	
(in EUR m)	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	EAD	RWA	Exposure	RWA
Residential mortgages	77,370	77,399	7,689	14,550	13,846	4,875	91,920	91,245	12,564	89,313	11,380
Revolving credit	9,738	7,195	2,745	5,426	3,240	2,471	15,164	10,435	5,216	15,863	5,341
Other credit to individuals	31,571	31,723	8,049	28,362	24,594	18,753	59,933	56,318	26,802	60,564	27,356
Very small enterprises and self-employed	15,235	15,718	5,290	12,310	10,060	7,696	27,545	25,778	12,986	27,218	13,126
<b>TOTAL</b>	<b>133,915</b>	<b>132,035</b>	<b>23,773</b>	<b>60,648</b>	<b>51,741</b>	<b>33,794</b>	<b>194,563</b>	<b>183,776</b>	<b>57,567</b>	<b>192,958</b>	<b>57,203</b>

(1) The average exposure and RWA are determined by aggregating the total gross exposure and RWA at the end of the last four quarters and dividing the result by 4.

## Breakdown of credit risk

Table 17: Credit and counterparty risk exposure by approach and exposure class

31 Dec. 2012	IRB			Standard			Total		
<i>(Exposure in EUR m)</i>	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	TOTAL
Sovereign	143,157	4,747	147,904	1,644	169	1,813	144,801	4,916	149,717
Institutions	78,553	19,898	98,452	16,897	861	17,758	95,450	20,760	116,209
Corporates	263,535	32,360	295,895	84,900	1,839	86,738	348,434	34,199	382,634
Retail	132,883	88	132,971	60,630	4	60,634	193,513	92	193,605
Securitisation	18,178	400	18,578	606	206	812	18,784	606	19,390
<b>TOTAL</b>	<b>636,306</b>	<b>57,494</b>	<b>693,800</b>	<b>164,676</b>	<b>3,079</b>	<b>167,755</b>	<b>800,982</b>	<b>60,573</b>	<b>861,555</b>

31 Dec. 2011	IRB			Standard			Total		
<i>(Exposure in EUR m)</i>	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	TOTAL
Sovereign	117,938	6,163	124,101	3,518	298	3,816	121,457	6,461	127,917
Institutions	82,038	56,715	138,753	11,084	2,869	13,953	93,122	59,584	152,706
Corporates	272,766	40,729	313,495	110,499	2,557	113,057	383,265	43,286	426,551
Retail	133,860	55	133,915	60,640	8	60,648	194,500	63	194,563
Securitisation	23,947	469	24,417	823	0	823	24,770	469	25,240
<b>TOTAL</b>	<b>630,550</b>	<b>104,131</b>	<b>734,681</b>	<b>186,565</b>	<b>5,732</b>	<b>192,296</b>	<b>817,114</b>	<b>109,863</b>	<b>926,977</b>

Table 18: Credit and counterparty exposure at default (EAD) by approach and exposure class

31 Dec. 2012	IRB			Standard			Total		
(EAD in EUR m)	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	TOTAL
Sovereign	136,975	4,747	141,722	1,611	169	1,780	138,586	4,916	143,502
Institutions	42,175	19,800	61,975	8,854	861	9,715	51,029	20,661	71,690
Corporates	175,439	32,360	207,799	57,070	1,699	58,769	232,509	34,059	266,569
Retail	132,518	88	132,607	52,083	4	52,087	184,602	92	184,693
Securitisation	17,592	400	17,992	601	206	807	18,193	606	18,799
<b>TOTAL</b>	<b>504,700</b>	<b>57,396</b>	<b>562,096</b>	<b>120,220</b>	<b>2,939</b>	<b>123,159</b>	<b>624,920</b>	<b>60,335</b>	<b>685,254</b>

31 Dec. 2011	IRB			Standard			Total		
(EAD in EUR m)	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	Total	Credit risk	Counter-party risk	TOTAL
Sovereign	106,980	6,163	113,143	3,487	298	3,785	110,467	6,461	116,928
Institutions	52,715	56,710	109,424	6,623	2,778	9,401	59,338	59,488	118,825
Corporates	192,319	40,729	233,048	66,113	2,539	68,653	258,433	43,268	301,701
Retail	131,980	55	132,035	51,733	8	51,741	183,713	63	183,776
Securitisation	22,950	469	23,419	823	0	823	23,772	469	24,242
<b>TOTAL</b>	<b>506,944</b>	<b>104,126</b>	<b>611,070</b>	<b>128,779</b>	<b>5,623</b>	<b>134,402</b>	<b>635,723</b>	<b>109,749</b>	<b>745,472</b>

The decrease of the counterparty risk in 2012 is explained by the portfolio structure's evolution and the implementation of an internal model to determine the EEPE's (Expected Effective Positive Exposure) indicator which serves as the basis for calculating EAD.

Table 19: Corporate credit exposure at default (EAD) by industry sector

(EAD in EUR m)	Corporate portfolio			
	31 Dec. 2012		31 Dec. 2011	
	EAD	Breakdown in %	EAD	Breakdown in %
Finance & insurance	39,468	14.8%	57,262	19.0%
Real estate	22,358	8.4%	23,036	7.6%
Public administration	365	0.1%	265	0.1%
Food & agriculture	13,206	5.0%	14,809	4.9%
Consumer goods	6,966	2.6%	7,053	2.3%
Chemicals, rubber, plastics	5,537	2.1%	6,081	2.0%
Retail trade	13,965	5.2%	14,038	4.7%
Wholesale trade	23,027	8.6%	22,696	7.5%
Construction	12,445	4.7%	12,971	4.3%
Transport equip. Manuf.	2,733	1.0%	3,388	1.1%
Education and Associations	1,275	0.5%	1,121	0.4%
Hotels and catering	4,987	1.9%	5,087	1.7%
Automobiles	4,567	1.7%	5,307	1.8%
Machinery and equipment	9,399	3.5%	10,212	3.4%
Forestry, paper	1,742	0.7%	1,942	0.6%
Metals, minerals	11,730	4.4%	14,609	4.8%
Media	2,343	0.9%	3,621	1.2%
Oil and Gas	15,275	5.7%	17,066	5.7%
Health, social services	2,496	0.9%	2,604	0.9%
Business services (including conglomerates)	23,995	9.0%	23,271	7.7%
Collective services	20,077	7.5%	20,146	6.7%
Personal & domestic services	206	0.1%	219	0.1%
Telecoms	8,029	3.0%	9,292	3.1%
Transport & logistics	20,378	7.6%	25,605	8.5%
<b>TOTAL</b>	<b>266,569</b>	<b>100%</b>	<b>301,701</b>	<b>100%</b>

The Group's Corporate portfolio (Large Corporates, SMEs and Specialised Financing) is highly diversified in terms of sectors.

Only the Finance and Insurance sector accounts for more than 10% of the portfolio.

The Group's exposure to its ten largest corporate counterparties accounts for 5% of this portfolio.



At 31 December 2012, 85% of the Group's on and off-balance sheet exposure was concentrated in the major industrialised countries. Almost half of the overall amount of outstanding loans was to French customers (28% exposure to non-retail portfolio and 19% to retail portfolio). More than two-thirds of the Group's total exposure was concentrated in Western Europe inc. France (80% for Retail).

**Table 20: Exposure at default (EAD) by geographic region and main countries and by exposure class**

<i>(EAD in EUR m) 31 Dec. 2012</i>	Sovereign	Institutions	Corporates	Retail	Securitisation	Total	Breakdown in %
France	48,991	28,847	110,733	131,313	5,804	325,689	47.5%
United Kingdom	11,380	5,468	9,290	1,421	212	27,770	4.1%
Germany	3,439	3,122	8,995	6,788	15	22,360	3.3%
Switzerland	11,609	953	6,721	944	0	20,227	3.0%
Italy	1,447	1,793	6,900	4,719	144	15,002	2.2%
Luxembourg	6,550	388	5,175	1,278	235	13,626	2.0%
Spain	1,210	2,470	7,401	50	314	11,446	1.7%
Other Western European countries	2,082	5,324	16,681	1,673	2,173	27,933	4.1%
Czech Republic	5,528	1,943	9,393	9,278	1	26,143	3.8%
Romania	3,058	283	4,353	4,278	0	11,971	1.7%
Other Eastern European countries EU	1,560	1,022	6,434	3,899	0	12,915	1.9%
Russia	1,676	1,793	7,902	9,569	0	20,940	3.1%
Other Eastern European countries excluding EU	3,349	769	5,386	2,359	1	11,865	1.7%
United States	24,313	9,631	21,719	108	9,178	64,949	9.5%
Other countries of North America	906	523	1,947	0	231	3,608	0.5%
Latin America and Caribbean	2,031	246	5,373	973	12	8,635	1.3%
Africa, Near and Middle East	9,548	1,926	18,906	5,377	79	35,836	5.2%
Asia Pacific	4,824	5,189	13,259	667	401	24,340	3.6%
<b>TOTAL</b>	<b>143,502</b>	<b>71,690</b>	<b>266,569</b>	<b>184,693</b>	<b>18,800</b>	<b>685,254</b>	<b>100.0%</b>

<i>(EAD in EUR m) 31 Dec. 2011</i>	Sovereign	Institutions	Corporates	Retail	Securitisation	Total	Breakdown in %
France	36,846	39,404	114,587	129,583	5,164	325,584	43.7%
United Kingdom	609	17,567	10,713	1,482	297	30,668	4.1%
Germany	2,743	6,934	9,989	6,929	33	26,628	3.6%
Italy	1,555	2,439	7,741	6,081	216	18,033	2.4%
Luxembourg	4,363	292	6,709	1,533	264	13,161	1.8%
Spain	1,293	3,243	7,994	11	511	13,052	1.8%
Netherlands	253	2,081	6,095	7	1,907	10,343	1.4%
Other Western European countries	3,710	6,614	20,550	3,839	2,335	37,049	5.0%
Czech Republic	5,818	1,991	9,165	8,768	2	25,744	3.5%
Romania	3,335	290	4,758	4,383	0	12,766	1.7%
Other Eastern European countries EU	1,302	1,253	6,068	3,737	6	12,366	1.7%
Russia	1,639	1,178	8,681	7,936	0	19,433	2.6%
Other Eastern European countries excluding EU	3,240	885	5,773	2,369	23	12,289	1.6%
United States	33,961	25,228	35,230	150	11,311	105,880	14.2%
Other countries of North America	842	1,172	3,147	0	267	5,428	0.7%
Latin America and Caribbean	1,896	245	6,678	1,287	44	10,151	1.4%
Africa, Near and Middle East	8,700	1,973	20,608	5,107	94	36,482	4.9%
Asia Pacific	4,822	6,036	17,213	575	1,768	30,414	4.1%
<b>TOTAL</b>	<b>116,928</b>	<b>118,825</b>	<b>301,701</b>	<b>183,776</b>	<b>24,242</b>	<b>745,472</b>	<b>100.0%</b>

Table 21: Retail exposure at default (EAD) by geographic region and main countries

Retail portfolio						
<i>(EAD in EUR m)</i> 31 Dec. 2012	Residential mortgages	Revolving credit	Other credit to individuals	Very small enterprises and self-employed	Total	Breakdown in %
France	78,250	7,753	29,193	16,117	131,313	71%
Germany	16	99	3,016	3,657	6,788	4%
Italy	0	185	3,331	1,203	4,719	3%
Other Western European countries	1,094	2	2,176	2,094	5,366	3%
Czech Republic	6,695	528	1,123	932	9,278	5%
Romania	1,372	310	2,155	441	4,278	2%
Other Eastern European countries EU	1,510	80	1,973	335	3,899	2%
Russia	3,049	707	5,813	0	9,569	5%
Other Eastern European countries excluding EU	841	21	1,248	249	2,359	1%
North America	108	0	0	0	108	0%
Latin America and Caribbean	0	0	973	0	973	1%
Africa, Near and Middle East	1,551	0	3,019	807	5,377	3%
Asia Pacific	79	0	474	115	667	0%
<b>TOTAL</b>	<b>94,564</b>	<b>9,686</b>	<b>54,494</b>	<b>25,950</b>	<b>184,693</b>	<b>100%</b>

Retail portfolio						
<i>(EAD in EUR m)</i> 31 Dec. 2011	Residential mortgages	Revolving credit	Other credit to individuals	Very small enterprises and self-employed	Total	Breakdown in %
France	76,215	8,108	29,762	15,499	129,583	70%
Germany	28	83	3,064	3,753	6,929	4%
Italy	0	757	4,028	1,296	6,081	3%
Other Western European countries	1,755	29	2,951	2,137	6,872	4%
Czech Republic	6,110	529	1,234	894	8,768	5%
Romania	1,023	321	2,490	549	4,383	2%
Other Eastern European countries EU	1,223	99	2,115	299	3,737	2%
Russia	2,537	487	4,912	0	7,936	4%
Other Eastern European countries excluding EU	757	22	1,298	292	2,369	1%
North America	150	0	0	0	150	0%
Latin America and Caribbean	0	0	1,287	0	1,287	1%
Africa, Near and Middle East	1,364	0	2,748	995	5,107	3%
Asia Pacific	83	0	429	64	575	0%
<b>TOTAL</b>	<b>91,245</b>	<b>10,435</b>	<b>56,318</b>	<b>25,778</b>	<b>183,776</b>	<b>100%</b>

Table 22: Under the IRB approach for non-retail customers: credit risk exposure by residual maturity and exposure class

Credit risk exposure under the IRB approach for non-retail customers					
<i>(Exposure in EUR m) 31 Dec. 2012</i>	< 1 year	1 to 5 years	5 to 10 years	> 10 years	Total
Sovereign	67,663	46,366	25,006	8,868	147,904
Institutions	22,018	54,388	6,613	15,433	98,452
Corporates	80,325	162,964	26,189	26,418	295,895
Securitisation	9,111	2,654	972	5,841	18,578
<b>TOTAL</b>	<b>179,118</b>	<b>266,371</b>	<b>58,780</b>	<b>56,559</b>	<b>560,829</b>

Credit risk exposure under the IRB approach for non-retail customers					
<i>(Exposure<sup>(1)</sup> in EUR m) 31 Dec. 2011</i>	< 1 year	1 to 5 years	5 to 10 years	> 10 years	Total
Sovereign	49,455	40,728	25,059	8,858	124,100
Institutions	33,707	70,975	14,139	19,933	138,754
Corporates	82,571	170,054	31,359	29,511	313,495
Securitisation	10,788	4,646	1,474	7,509	24,417
<b>TOTAL</b>	<b>176,521</b>	<b>286,403</b>	<b>72,031</b>	<b>65,811</b>	<b>600,765</b>

(1) Amounts adjusted with respect to Pillar 3 as at 31 December 2011.

About 80% of the total credit risk's exposure had a maturity less than five years as at 31 December 2012 (vs. 77% as at 31 December 2011).

## Global credit risk by rating

The breakdown by rating of the Societe Generale Group's Corporate exposure demonstrates the sound quality of the portfolio. At 31 December 2012, 74% of EAD (excluding defaulted exposure) under the IRB method had an investment grade rating. Transactions with non-investment grade counterparties are often backed by guarantees and collateral in order to mitigate the risk incurred.

**Table 23: Under the IRB approach: credit risk exposure by exposure class and internal rating (excluding defaulted exposure)**

Under the IRB approach excluding defaulted exposure											
(in EUR m) 31 Dec. 2012	Internal obligor rating	Gross exposure	On-balance sheet exposure	Off-balance sheet exposure	Average CCF <sup>(1)</sup> (Off-balance sheet)	EAD	RWA	Average LGD	Average PD <sup>(2)</sup>	Average RW <sup>(2)</sup>	Expected Loss
Sovereign	1	111,543	106,726	4,817	34%	107,145	2	0%	0.00%	0%	0
	2	11,659	11,252	407	95%	11,516	439	15%	0.01%	4%	0
	3	7,435	6,479	956	95%	7,218	518	20%	0.04%	7%	1
	4	9,402	6,881	2,520	76%	8,790	1,516	14%	0.21%	17%	3
	5	5,746	5,696	50	89%	5,124	2,907	26%	2.13%	57%	25
	6	1,762	1,365	398	70%	1,564	962	25%	2.84%	62%	16
	7	173	173	0	75%	173	176	21%	15.22%	102%	6
<b>Sub-total</b>		<b>147,719</b>	<b>138,571</b>	<b>9,148</b>	<b>56%</b>	<b>141,531</b>	<b>6,520</b>	<b>4%</b>	<b>0.14%</b>	<b>5%</b>	<b>51</b>
Institutions	1	12,598	10,475	2,124	67%	11,786	338	5%	0.03%	3%	0
	2	17,836	8,168	9,668	40%	9,767	583	15%	0.03%	6%	0
	3	46,517	29,514	17,003	68%	24,947	2,118	21%	0.04%	8%	2
	4	14,941	8,135	6,805	80%	10,905	3,091	27%	0.25%	29%	7
	5	4,999	3,073	1,926	69%	3,407	2,248	29%	1.65%	66%	18
	6	660	405	255	67%	449	493	33%	6.05%	110%	9
	7	582	140	441	57%	390	597	28%	14.08%	153%	20
<b>Sub-total</b>		<b>98,132</b>	<b>59,912</b>	<b>38,220</b>	<b>63%</b>	<b>61,650</b>	<b>9,469</b>	<b>19%</b>	<b>0.30%</b>	<b>15%</b>	<b>56</b>
Corporates	1	4,786	3,499	1,287	76%	4,335	663	68%	0.03%	15%	0
	2	35,203	10,398	24,804	37%	17,244	2,643	42%	0.03%	15%	4
	3	62,462	21,584	40,878	52%	40,012	6,095	35%	0.05%	15%	6
	4	92,057	37,550	54,508	50%	63,363	20,929	28%	0.30%	33%	54
	5	62,735	38,341	24,393	55%	48,649	32,797	28%	1.81%	68%	240
	6	18,155	11,973	6,182	57%	15,079	14,645	27%	6.01%	97%	279
	7	3,482	2,459	1,022	89%	3,329	3,893	24%	15.92%	117%	145
<b>Sub-total</b>		<b>278,880</b>	<b>125,805</b>	<b>153,074</b>	<b>51%</b>	<b>192,011</b>	<b>81,665</b>	<b>32%</b>	<b>1.32%</b>	<b>43%</b>	<b>728</b>
Retail	1	1,700	1,297	403	99%	2,134	222	100%	0.03%	10%	0
	2	2,164	2,004	160	100%	2,161	212	100%	0.03%	10%	1
	3	22,672	21,827	845	101%	22,929	614	18%	0.03%	3%	2
	4	45,752	42,257	3,495	69%	44,736	4,154	17%	0.22%	9%	24
	5	35,158	32,143	3,015	89%	34,871	7,420	19%	1.26%	21%	105
	6	15,840	15,129	711	80%	15,908	6,030	21%	5.53%	38%	203
	7	3,458	3,359	98	73%	3,606	2,660	28%	28.97%	74%	280
<b>Sub-total</b>		<b>126,744</b>	<b>118,017</b>	<b>8,727</b>	<b>82%</b>	<b>126,346</b>	<b>21,311</b>	<b>21%</b>	<b>1.96%</b>	<b>17%</b>	<b>615</b>
Corporates in IRB slotting		2,511	453	2,058	55%	1,595	917	-	-	57%	4
Receivables		2,469	2,446	24	-	2,692	1,680	-	-	62%	24
<b>TOTAL</b>		<b>656,456</b>	<b>445,204</b>	<b>211,251</b>	<b>55%</b>	<b>525,825</b>	<b>121,563</b>	<b>20%</b>	<b>1.03%</b>	<b>23%</b>	<b>1,478</b>

(1) Credit conversion factor.

(2) After taking into account the PD floor.

Under the IRB approach excluding defaulted exposure											
(in EUR m) 31 Dec. 2011	Internal obligor rating	Gross exposure	On-balance sheet exposure	Off-balance sheet exposure	Average CCF (Off-balance sheet)	EAD	RWA	Average LGD	Average PD <sup>(1)</sup>	Average RW <sup>(1)</sup>	Expected Loss
Sovereign	1	91,317	82,778	8,539	42%	84,760	1	0%	0.00%	0%	0
	2	12,855	9,685	3,169	2%	9,620	397	20%	0.02%	4%	0
	3	3,327	3,171	156	74%	3,118	280	27%	0.03%	9%	0
	4	7,359	5,514	1,846	75%	6,902	942	11%	0.21%	14%	2
	5	6,110	5,844	266	59%	5,738	3,169	28%	1.30%	55%	22
	6	1,664	1,116	547	76%	1,532	440	12%	2.09%	29%	8
	7	160	151	10	100%	160	144	18%	15.90%	90%	4
<b>Sub-total</b>		<b>122,792</b>	<b>108,259</b>	<b>14,533</b>	<b>39%</b>	<b>111,830</b>	<b>5,372</b>	<b>5%</b>	<b>0.13%</b>	<b>5%</b>	<b>38</b>
Institutions	1	15,150	12,419	2,731	76%	13,912	531	8%	0.03%	4%	0
	2	33,865	15,899	17,966	91%	27,533	1,659	18%	0.03%	6%	1
	3	73,087	38,669	34,418	93%	53,952	4,084	20%	0.04%	8%	4
	4	11,405	6,342	5,064	88%	9,744	2,537	24%	0.25%	27%	6
	5	3,881	2,720	1,161	66%	3,127	2,069	30%	1.25%	66%	14
	6	628	379	249	53%	512	409	24%	4.74%	80%	8
	7	379	212	168	46%	289	187	14%	7.39%	65%	6
<b>Sub-total</b>		<b>138,396</b>	<b>76,640</b>	<b>61,756</b>	<b>90%</b>	<b>109,069</b>	<b>11,476</b>	<b>18%</b>	<b>0.13%</b>	<b>11%</b>	<b>40</b>
Corporates	1	7,345	3,822	3,522	47%	5,380	718	72%	0.03%	13%	1
	2	36,456	13,389	23,067	44%	21,323	3,022	39%	0.03%	14%	3
	3	74,266	31,437	42,829	58%	53,261	6,906	31%	0.04%	13%	7
	4	98,307	42,722	55,585	53%	70,251	24,523	29%	0.31%	35%	64
	5	62,706	40,434	22,272	55%	52,288	32,570	27%	1.76%	67%	254
	6	18,835	11,671	7,164	61%	15,915	16,761	27%	6.64%	105%	317
	7	2,388	1,887	501	79%	2,208	3,276	29%	17.56%	148%	119
<b>Sub-total</b>		<b>300,302</b>	<b>145,363</b>	<b>154,939</b>	<b>54%</b>	<b>220,627</b>	<b>87,776</b>	<b>31%</b>	<b>1.19%</b>	<b>41%</b>	<b>765</b>
Retail	1	2,238	1,908	330	99%	2,237	233	100%	0.03%	10%	1
	2	2,142	2,010	132	99%	2,181	214	100%	0.03%	10%	1
	3	23,427	22,293	1,134	107%	23,503	609	24%	0.03%	3%	2
	4	47,792	42,967	4,826	60%	45,954	3,224	20%	0.23%	7%	21
	5	32,255	29,061	3,194	76%	31,616	6,776	21%	1.44%	21%	97
	6	13,100	12,348	752	96%	13,335	4,982	24%	5.13%	37%	174
	7	6,616	6,427	189	125%	6,853	4,174	24%	20.87%	61%	361
<b>Sub-total</b>		<b>127,571</b>	<b>117,014</b>	<b>10,557</b>	<b>75%</b>	<b>125,679</b>	<b>20,212</b>	<b>24%</b>	<b>2.14%</b>	<b>16%</b>	<b>657</b>
Corporates in IRB slotting		1,472	579	892	57%	1,090	694		0.00%	64%	4
Receivables		2,541	2,517	24	-	2,624	1,634		0.00%	62%	20
<b>TOTAL</b>		<b>693,074</b>	<b>450,372</b>	<b>242,701</b>	<b>50%</b>	<b>570,919</b>	<b>127,164</b>	<b>22%</b>	<b>0.99%</b>	<b>22%</b>	<b>1,522</b>

(1) After taking into account the PD floor.

Table 24: Under the IRB approach for retail customers: credit risk exposure by exposure class and internal rating (excluding defaulted exposure)

Under the IRB approach, for non-retail customers excluding defaulted exposure											
(in EUR m) 31 Dec. 2012	Internal obligor rating	Gross exposure	On-balance sheet exposure	Off-balance sheet exposure	Average CCF (Off-balance sheet)	EAD	RWA	Average LGD	Average PD <sup>(1)</sup>	Average RW <sup>(1)</sup>	Expected Loss
Residential mortgages	1	218	209	9	100%	218	21	100%	0.03%	10%	0
	2	2,009	1,920	89	100%	2,007	196	100%	0.03%	10%	1
	3	18,824	18,296	527	100%	18,824	412	13%	0.03%	2%	1
	4	31,981	31,420	561	100%	31,973	2,440	14%	0.15%	8%	12
	5	18,682	18,249	433	100%	18,674	2,742	13%	0.67%	15%	20
	6	6,771	6,674	97	100%	6,773	1,847	13%	3.56%	27%	30
	7	437	431	6	100%	438	349	17%	19.04%	80%	15
<b>Sub-total</b>		<b>78 923</b>	<b>77,200</b>	<b>1,723</b>	<b>100%</b>	<b>78,906</b>	<b>8,006</b>	<b>16%</b>	<b>0.64%</b>	<b>10%</b>	<b>79</b>
Revolving credit	1	0	0	0	-	0	0	0%	0.00%	0%	0
	2	0	0	0	-	0	0	0%	0.00%	0%	0
	3	132	27	105	100%	265	3	51%	0.03%	1%	0
	4	2,743	228	2,515	54%	1,595	113	45%	0.33%	7%	2
	5	2,619	681	1,938	80%	2,230	613	42%	1.90%	28%	18
	6	1,464	1,061	403	61%	1,308	830	37%	7.62%	63%	40
	7	545	485	60	86%	536	523	34%	31.74%	98%	52
<b>Sub-total</b>		<b>7,503</b>	<b>2,482</b>	<b>5,022</b>	<b>66%</b>	<b>5,934</b>	<b>2,083</b>	<b>41%</b>	<b>5.35%</b>	<b>35%</b>	<b>113</b>
Other credit to individuals	1	1,482	1,088	395	99%	1,916	200	100%	0.03%	10%	0
	2	155	83	71	100%	155	16	100%	0.03%	10%	0
	3	3,712	3,500	212	103%	3,835	199	40%	0.05%	5%	0
	4	6,990	6,680	309	118%	7,081	1,078	24%	0.36%	15%	7
	5	8,612	8,182	430	110%	8,658	2,659	24%	1.89%	31%	40
	6	4,132	4,039	93	117%	4,148	1,823	27%	6.35%	44%	71
	7	1,466	1,454	12	112%	1,469	975	27%	33.17%	66%	128
<b>Sub-total</b>		<b>26 548</b>	<b>25,026</b>	<b>1,523</b>	<b>108%</b>	<b>27,263</b>	<b>6,950</b>	<b>32%</b>	<b>3.46%</b>	<b>25%</b>	<b>247</b>
Very small enterprises and self-employed	1	0	0	0	-	0	0	14%	0.03%	1%	0
	2	0	0	0	-	0	0	9%	0.03%	1%	0
	3	5	5	1	-	5	0	13%	0.05%	2%	0
	4	4,038	3,929	109	100%	4,087	522	17%	0.51%	13%	3
	5	5,244	5,031	213	100%	5,308	1,406	20%	2.00%	26%	27
	6	3,474	3,356	118	100%	3,679	1,530	23%	7.46%	42%	62
	7	1,009	990	19	-	1,163	813	29%	26.11%	70%	86
<b>Sub-total</b>		<b>13,770</b>	<b>13,310</b>	<b>460</b>	<b>100%</b>	<b>14,243</b>	<b>4,272</b>	<b>21%</b>	<b>4.95%</b>	<b>30%</b>	<b>177</b>
<b>TOTAL</b>		<b>126,744</b>	<b>118,017</b>	<b>8,727</b>	<b>82%</b>	<b>126,346</b>	<b>21,311</b>	<b>21%</b>	<b>1.96%</b>	<b>17%</b>	<b>615</b>

(1) After taking into account the PD floor.

Under the IRB approach, for non-retail customers excluding defaulted exposure											
(in EUR m) 31 Dec. 2011	Internal obligor rating	Gross exposure	On-balance sheet exposure	Off-balance sheet exposure	Average CCF (Off-balance sheet)	EAD	RWA	Average LGD	Average PD <sup>(1)</sup>	Average RW <sup>(1)</sup>	Expected Loss
Residential mortgages	1	214	205	9	100%	214	21	100%	0.03%	10%	0
	2	1,911	1,850	61	100%	1,952	190	100%	0.03%	10%	1
	3	18,869	18,143	726	100%	18,869	372	19%	0.03%	2%	1
	4	32,989	32,268	722	100%	32,981	1,532	18%	0.15%	5%	8
	5	15,225	14,823	402	100%	15,216	2,027	17%	0.84%	13%	18
	6	4,416	4,349	67	100%	4,416	971	17%	2.49%	22%	15
	7	2,590	2,532	58	100%	2,591	1,126	16%	10.51%	43%	37
<b>Sub-total</b>		<b>76,214</b>	<b>74,170</b>	<b>2,044</b>	<b>100%</b>	<b>76,239</b>	<b>6,241</b>	<b>21%</b>	<b>0.74%</b>	<b>8%</b>	<b>79</b>
Revolving credit	1	0	0	0	-	0	0	0%	0.00%	0%	0
	2	0	0	0	-	0	0	0%	0.00%	0%	0
	3	257	34	223	127%	317	5	45%	0.05%	1%	0
	4	3,834	273	3,561	45%	1,912	141	43%	0.36%	7%	3
	5	2,531	520	2,011	61%	1,782	392	38%	1.66%	22%	11
	6	1,572	1,120	452	92%	1,567	794	37%	5.98%	51%	33
	7	721	639	83	186%	803	924	43%	26.73%	115%	80
<b>Sub-total</b>		<b>8,915</b>	<b>2,584</b>	<b>6,331</b>	<b>58%</b>	<b>6,381</b>	<b>2,256</b>	<b>40%</b>	<b>5.41%</b>	<b>35%</b>	<b>127</b>
Other credit to individuals	1	2,024	1,703	321	99%	2,023	212	100%	0.03%	10%	1
	2	231	160	71	99%	230	24	100%	0.03%	10%	0
	3	4,296	4,111	185	108%	4,310	232	42%	0.05%	5%	1
	4	7,256	6,812	443	104%	7,299	1,049	22%	0.39%	14%	7
	5	9,114	8,527	586	104%	9,170	2,826	23%	2.00%	31%	44
	6	4,074	3,951	122	104%	4,097	1,855	28%	6.38%	45%	74
	7	1,717	1,695	22	115%	1,722	1,044	25%	31.14%	61%	134
<b>Sub-total</b>		<b>28,711</b>	<b>26,960</b>	<b>1,751</b>	<b>103%</b>	<b>28,850</b>	<b>7,243</b>	<b>33%</b>	<b>3.51%</b>	<b>25%</b>	<b>260</b>
Very small enterprises and self-employed	1	0	0	0	-	0	0	15%	0.03%	2%	0
	2	0	0	0	-	0	0	0%	0.00%	0%	0
	3	5	5	0	-	7	0	14%	0.05%	2%	0
	4	3,714	3,614	100	100%	3,761	501	17%	0.57%	13%	3
	5	5,385	5,190	194	100%	5,448	1,531	21%	2.11%	28%	24
	6	3,039	2,929	110	100%	3,256	1,362	23%	6.73%	42%	53
	7	1,588	1,562	27	-	1,737	1,079	26%	23.42%	62%	110
<b>Sub-total</b>		<b>13,731</b>	<b>13,300</b>	<b>431</b>	<b>100%</b>	<b>14,208</b>	<b>4,473</b>	<b>21%</b>	<b>5.37%</b>	<b>31%</b>	<b>191</b>
<b>TOTAL</b>		<b>127,571</b>	<b>117,014</b>	<b>10,557</b>	<b>75%</b>	<b>125,679</b>	<b>20,212</b>	<b>24%</b>	<b>2.14%</b>	<b>16%</b>	<b>657</b>

(1) After taking into account the PD floor.



Table 25: Under the standard approach: credit risk exposure by exposure class and external rating

Under the standard approach excluding defaulted exposure							
		31 Dec. 2012			31 Dec. 2011		
<i>(in EUR m)</i>	External Rating	Gross exposure	EAD	RWA	Gross exposure	EAD	RWA
Sovereign	AAA to AA-	1,125	1,096	0	1,242	1,230	0
	A+ to A-	2	2	0	8	8	2
	BBB+ to BBB-	155	155	77	1,802	1,802	901
	BB+ to B-	462	459	459	453	450	450
	<B-	0	0	0	0	0	0
	Without external rating	69	69	65	310	294	96
<b>Sub-total</b>		<b>1,813</b>	<b>1,780</b>	<b>602</b>	<b>3,815</b>	<b>3,784</b>	<b>1,449</b>
Institutions	AAA to AA-	14,864	6,997	1,355	11,256	6,799	1,016
	A+ to A-	379	369	184	602	594	297
	BBB+ to B-	2,438	2,304	2,302	1,968	1,939	1,939
	<B-	-	-	-	1	1	1
	Without external rating	28	27	27	32	30	29
<b>Sub-total</b>		<b>17,709</b>	<b>9,696</b>	<b>3,869</b>	<b>13,859</b>	<b>9,363</b>	<b>3,282</b>
Corporates	AAA to AA-	15,381	2,030	353	32,963	2,910	571
	A+ to A-	1,866	1,608	847	2,278	1,849	1,162
	BBB+ to BB-	12,793	11,730	11,606	15,258	15,259	15,187
	<BB-	1,218	1,131	1,696	1,622	1,497	2,246
	Without external rating	49,419	39,378	38,282	54,959	44,262	41,488
<b>Sub-total</b>		<b>80,677</b>	<b>55,876</b>	<b>52,784</b>	<b>107,080</b>	<b>65,777</b>	<b>60,654</b>
Retail	Without external rating	55,180	49,986	31,599	54,189	49,678	31,628
<b>TOTAL</b>		<b>155,378</b>	<b>117,338</b>	<b>88,853</b>	<b>178,943</b>	<b>128,602</b>	<b>97,013</b>

## Counterparty risk

The ten most important counterparties in terms of counterparty risk account for 18% of the Group's total exposure to counterparty risk. Counterparty risk is mainly concentrated in the major industrialised countries and in counterparties with an investment grade rating.

Table 26: Counterparty risk exposure by exposure class

<i>(in EUR m)</i>	Counterparty risk			
	31 Dec. 2012		31 Dec. 2011	
	EAD	RWA	EAD	RWA
Sovereign	4,916	354	6,461	442
Institutions	20,661	3,707	59,488	7,110
Corporates	34,059	13,125	43,268	18,341
Retail	92	13	63	17
Securitisation	606	134	469	60
<b>TOTAL</b>	<b>60,335</b>	<b>17,333</b>	<b>109,749</b>	<b>25,970</b>

Table 27: Counterparty risk exposure at default (EAD) by geographic region and main countries (which exposure is above EUR 1 bn)

<i>(in EUR m)</i>	Counterparty risk	
	31 Dec. 2012	31 Dec. 2011
France	14,926	18,324
United Kingdom	5,322	17,091
Germany	3,406	8,132
Spain	2,519	2,619
Netherlands	1,562	ND
Other Western European countries <sup>(1)</sup>	7,635	13,493
Czech Republic	ND	2,840
Other Eastern European countries EU <sup>(2)</sup>	2,257	1,947
Eastern Europe excluding EU	531	370
The United States	13,956	33,902
Other countries of North America	1,291	2,303
Latin America and Carribbean	1,576	1,463
Africa, Near and Middle East	1,796	1,633
Asia Pacific	3,557	5,633
<b>TOTAL</b>	<b>60,335</b>	<b>109,749</b>

(1) In 2011, total of Other Western European countries include The Netherlands

(2) In 2012, total of Other Eastern European countries EU include Czech Republic

The decrease of the counterparty risk in 2012 is explained by the portfolio structure's evolution and the implementation of an internal model to determine the EEPE's (Expected Effective Positive Exposure) indicator which serves as the basis for calculating EAD.

Table 28: Under the IRB approach: counterparty risk exposure at default (EAD) by internal rating

Under the IRB approach, counterparty risk		
(EAD in EUR m)	31 Dec. 2012	31 Dec. 2011
<b>Internal obligor rating</b>		
1	3,168	4,052
2	12,955	32,515
3	20,549	47,936
4	10,291	11,164
5	5,610	4,821
6	1,650	2,554
7	747	277
8 to 10	2,426	807
<b>TOTAL</b>	<b>57,396</b>	<b>104,126</b>

## Unimpaired past due exposures, impaired exposures, impairments and expected losses

Table 29: Breakdown of unimpaired past due exposures<sup>(1)</sup> by exposure class

(Unimpaired past due exposures in EUR m)	31 Dec. 2012		31 Dec. 2011	
	Total	o/w past due of less than 31 days in %	Total	o/w past due of less than 31 days in %
Sovereign	45	10%	9	22%
Institutions	71	39%	204	26%
Corporates	2,395	50%	2,646	55%
Retail	4,242	64%	4,524	64%
Securitisation	0	-	-	-
<b>TOTAL</b>	<b>6,752</b>	<b>58%</b>	<b>7,382</b>	<b>60%</b>

(1) For further details on this scope, refer to the dedicated paragraph in Note 4 of the consolidated financial statements on page 310 of the Registration Document.

Table 30: Impaired on-balance sheet exposures and impairments by exposure class and cost of risk

31 Dec. 2012	Impaired on-balance sheet exposures			Individual impairments	Collective impairments	Cost of risk
(in EUR m)	Standard	IRB	Total			
Sovereign	0	101	102	65		
Institutions	72	209	282	104		
Corporates	5,560	6,817	12,377	7,005		
Retail	5,268	6,016	11,284	5,240		
Securitisation	0	3,090	3,090	2,360		
<b>TOTAL</b>	<b>10,900</b>	<b>16,235</b>	<b>27,135</b>	<b>14,773</b>	<b>1,133</b>	<b>3,935</b>

31 Dec. 2011	Impaired on-balance sheet exposures			Individual impairments	Collective impairments	Cost of risk
(in EUR m)	Standard	IRB	Total			
Sovereign	0	1 166	1,166	791		
Institutions	97	249	346	223		
Corporates	5,798	5,602	11,399	6,199		
Retail	6,549	6,233	12,782	7,156		
Securitisation	0	3,537	3,537	2,212		
<b>TOTAL</b>	<b>12,444</b>	<b>16,786</b>	<b>29,230</b>	<b>16,582</b>	<b>1,291</b>	<b>4,330</b>

**Table 31: Impaired on balance sheet exposures and impairments by approach and by geographic region and main countries**

31 Dec. 2012	Impaired exposures			Individual impairments
<i>(in EUR m)</i>	Standard	IRB	Total	Total
France	2,473	8,094	10,567	4,979
United Kingdom	13	222	235	76
Germany	158	350	508	162
Switzerland	18	47	65	4
Italy	624	357	981	437
Spain	19	413	433	142
Luxembourg	8	32	41	56
Other Western European countries	162	386	549	279
Czech Republic	203	767	970	611
Romania	1,798	33	1,831	845
Other Eastern European countries EU	1,032	26	1,059	719
Russia	1,986	17	2,003	1,449
Other Eastern European countries excluding EU	472	648	1,120	903
United States	88	3,241	3,328	2,342
Other countries of North America	0	4	4	2
Latin America and Caribbean	113	161	274	159
Africa, Near and Middle East	1,700	731	2,431	1,434
Asia Pacific	31	706	737	174
<b>TOTAL</b>	<b>10,900</b>	<b>16,235</b>	<b>27,135</b>	<b>14,773</b>

31 Dec. 2011	Impaired exposures			Individual impairments
<i>(in EUR m)</i>	Standard	IRB	Total	Total
France	2,085	7,194	9,279	4,700
United Kingdom	33	235	268	114
Germany	176	459	634	169
Switzerland	30	46	76	8
Italy	818	1,088	1,906	1,223
Spain	54	113	167	81
Luxembourg	12	69	81	63
Other Western European countries	1,940	1,382	3,322	2,242
Czech Republic	221	711	932	549
Romania	1,416	0	1,416	533
Other Eastern European countries EU	1,065	24	1,088	732
Russia	2,167	31	2,198	1,445
Other Eastern European countries excluding EU	544	674	1,218	844
United States	141	3,832	3,973	2,297
Other countries of North America	39	2	41	6
Latin America and Caribbean	98	183	281	166
Africa, Near and Middle East	1,598	222	1,820	1,312
Asia Pacific	10	521	531	95
<b>TOTAL</b>	<b>12,444</b>	<b>16,786</b>	<b>29,230</b>	<b>16,582</b>

Table 32: Impaired on-balance sheet exposures by industry sector

<i>(in EUR m)</i>	31 Dec. 2012		31 Dec. 2011	
	Impaired exposures	%	Impaired exposures	%
Finance & insurance	3,596	13%	4,124	14%
Real Estate	1,613	6%	1,664	6%
Public administration	88	0%	1,211	4%
Food & agriculture	383	1%	412	1%
Consumer goods	537	2%	613	2%
Chemicals, rubber and plastics	181	1%	324	1%
Retail trade	664	2%	590	2%
Wholesale trade	1,603	6%	1,594	5%
Construction	850	3%	691	2%
Transport equip. Manuf.	136	1%	79	0%
Education and Associations	53	0%	33	0%
Hotels & Catering	295	1%	287	1%
Automobiles	152	1%	166	1%
Machinery and equipment	286	1%	341	1%
Forestry, paper	185	1%	139	0%
Metals, minerals	718	3%	454	2%
Media	203	1%	266	1%
Oil and Gas	270	1%	25	0%
Health, social services	78	0%	86	0%
Business services (including conglomerates)	974	4%	821	3%
Collective services	277	1%	123	0%
Personal and domestic services	31	0%	19	0%
Telecom	7	0%	37	0%
Transport & logistics	1,491	5%	1,012	3%
Retail	11,298	42%	12,800	44%
Others	1,164	4%	1,316	5%
<b>TOTAL</b>	<b>27,135</b>	<b>100%</b>	<b>29,230</b>	<b>100%</b>

**Table 33: Under the IRB approach: expected losses (EL) on a one-year horizon by exposure class (excluding defaulted exposures)**

<i>(in EUR m)</i>	Expected losses (EL), excluding defaulted exposures	
	31 Dec. 2012	31 Dec. 2011
Sovereign	51	38
Institutions	56	40
Corporates	756	788
Retail	615	657
Securitisation	0	1
<b>TOTAL</b>	<b>1,479</b>	<b>1,524</b>

The EL/EAD ratio stood at 0.27% at 31 December 2012, stable comparing with 31 December 2011 (0.26%). The ratio is calculated on sovereign, banking, institutions, corporate and retail portfolios.

A comparison between EL and realised losses is not relevant in our opinion insofar as the parameters of the expected loss calculation (PD, LGD, EAD) provide estimations throughout the cycle, whereas the realised loss presents a piece of accounting information pertaining to a particular year.



# 4

## SECURITISATION



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## SECURITISATIONS AND REGULATORY FRAMEWORK

This chapter presents information on Societe Generale's securitisation activities, acquired or carried out for proprietary purposes or for its customers. It describes the risks associated with these activities and the management of said risks. Finally, it contains some quantitative information to describe these activities during 2012 as well as the capital requirements for the Group's regulatory banking book and trading book within the scope defined by prudential regulations.

As defined in prudential regulations, the term securitisation refers to a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranching, having the following characteristics:

- the transaction achieves significant risk transfer;
- payments in the transaction or scheme are contingent on the performance of the exposure or pool of exposures;
- the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or risk transfer scheme.

Securitisation positions are subject to the regulatory accounting treatment defined in the CRD, as transposed into French law through Title V of the 20th February 2007 Decree on capital requirements applicable to credit institutions and investment firms. Such positions held in the regulatory banking book or trading book are given weightings ranging from 7% to 1,250% depending on their credit quality and subordination rank.

## ACCOUNTING METHODS

The securitisation transactions that Societe Generale invests in are recognised in accordance with Group accounting principles, as set forth in the notes to the consolidated financial statements ("Significant accounting principles").

After initial recognition, securitisation positions booked to "Loans and receivables" are measured at amortised cost using the effective interest rate method and impairment may be recorded if appropriate.

Securitisation positions booked to "Available-for-sale financial assets" are measured at their fair value at the closing date. Interest accrued or paid on fixed-income securities is recognised in the income statement using the effective interest rate method under "Interest and similar income – Transactions in financial instruments". Changes in fair value other than income are recorded in shareholders' equity under "Gains and losses recognised directly in equity".

The Group only records these changes in fair value in the income statement when the asset is sold or impaired, in which case they are reported as "Net gains or losses on available-for-sale financial assets". When a decline in the fair value of an Available-for-sale financial asset has been recognised directly in shareholders' equity under "Gains and losses recognised directly in equity" and subsequent objective evidence of impairment emerges, the Group recognises the total accumulated unrealised loss previously booked to shareholders' equity in the income statement under "Cost of risk" for debt instruments and under "Net gains and losses on available for-sale financial assets" for equity securities.

This cumulative loss is measured as the difference between acquisition cost (net of any repayments of principal and amortisation) and the current fair value, less any impairment of the financial asset that has already been booked through profit or loss.

For assets transferred from another accounting category, amortised cost is determined based on estimated future cash flows determined at the date of reclassification. The estimated future cash flows are reviewed at each closing. In the event of an increase in estimated future cash flows, as a result of an increase in their recoverability, the effective interest rate is adjusted prospectively. However, where there is objective evidence of impairment due to an event occurring after the reclassification of the financial assets under consideration, and said event has an adverse impact on initially estimated future cash flows, an impairment on the asset in question is booked to "Cost of risk" on the income statement.

Synthetic securitisations in the form of Credit Default Swaps follow accounting recognition rules specific to trading derivatives.

## Treatment of Special Purpose Vehicles (SPV)

Special Purpose Vehicles are independent legal entities that are set up specifically to manage a transaction or group of similar transactions. They are consolidated whenever they are effectively controlled by the Group, even in cases where the Group has no equity in the entities.

Control of a special purpose vehicle is generally considered to exist if any one of the following criteria applies:

- The SPV is acting exclusively on behalf of, and for the benefit of the Group;
- The Group effectively controls the SPV so that it can obtain the majority of the benefits of the SPV, whether or not this control has been delegated through an “autopilot” mechanism;
- The Group receives the majority of the benefits of the SPV;
- The Group retains the majority of the risks of the SPV.

In consolidating SPVs considered to be effectively controlled by the Group, those shares of entities not held by the Group are recognized as debt in the balance sheet.

When customers loans are securitised and partially sold to external investors, the SPV carrying the loans are consolidated if the Group remains exposed to the majority of the risks and benefits associated with these loans. Furthermore, such loans can neither be used as collateral nor sold outright in other transactions.

## Determination of the fair value of CDOs, RMBS and CMBS

In the absence of observable transactions, the valuation of unhedged super senior and senior tranches of CDOs exposed to the US residential mortgage market (CDOs of US RMBS) was carried out using a model with largely non-observable data or not quoted in an active market.

With the increased dismantling of such CDOs on the market, the underlying RMBS assets can now be priced. As a result, the valuation of the CDOs of RMBS as at 31<sup>st</sup> December 2012 was based on the marked-to-market value of the underlying assets.

The value of CMBS and RMBS is based on their benchmark index, i.e. the ABX indexes for RMBS and the CMBX indexes for CMBS

## MONITORING OF SECURITISATION RISKS

Excluding legacy assets, securitisation risks are monitored according to the rules established by the Group, depending on whether the assets are recorded in the regulatory banking book (via credit risk and counterparty risk) or in the trading book (via market risk and counterparty risk).

Regarding legacy assets, the Risk Division:

- validates all transactions linked to these assets (hedges, disposals, commutations, etc.);
- defines, measures and monitors positions using market risk metrics: VaR and stress tests;
- produces marked-to-stress and impairment calculations, after defining and validating their assumptions;
- analyses each monoline counterparty in order to determine the impairment rate for Group exposures, and calculates the corresponding impairments;
- participates in the governance bodies of the subsidiary hosting these assets.

### Structural risks and liquidity risk

Structural risks and foreign exchange risk associated with securitisation activities are monitored in the same way as for other Group assets. Oversight of structural interest rate risks is described in Chapter 7 of this report.

However, liquidity risk linked to securitisation activities is subject to more specific monitoring, both at the level of the responsible business lines and centrally at the Finance Division level. The internal liquidity monitoring model is used primarily to measure the impact of these activities on the Group's liquidity ratios, stress tests and liquidity gaps. The organisation and oversight of liquidity risk is described in Chapter 8 of this report.

### Operational risk

Securitisation activities are monitored specifically for operational risk. Reports targeting zero tolerance for operational risk in the Group's originator and sponsor activities are established and checked on a monthly basis. Oversight of operational risk is described in Chapter 9 of this report.

## SOCIETE GENERALE'S SECURITISATION ACTIVITIES

Securitisation activities allow the Group to raise liquidity or manage risk exposures, for proprietary or customers' purposes. Within the framework of these activities, the Group can act as originator, sponsor/arranger or investor.

- as an originator, the Group directly or indirectly participates in the initial agreement on assets which subsequently serve as underlyings in securitisation transactions, primarily for refinancing purposes;
- as a sponsor/arranger, the Group establishes and manages a securitisation programme used to refinance customers' assets, mainly via the non-consolidated vehicles Antalis and Barton and via certain other special purpose vehicles;
- as an investor, the Group invests directly in certain securitisation positions, is a liquidity provider or a counterparty of derivative exposures.

The securitisation transactions detailed in tables 34, 35 and 36 represent all the transactions in which the Group acted as originator and/or sponsor and in which the Group maintained some exposure (investment in a tranche, liquidity line or interest rate derivatives). The exposures are shown based on the gross book value, before depreciation, as at 31st December 2012 and at 31st December 2011. All positions are related to the banking book, as no originator or sponsor activities are related to the trading book.

**Table 34: Aggregate amounts of exposures securitised by the Group at 31 December 2012 and 2011 by exposure type**

Exposure securitised at 31 Dec. 2012 <i>(in EUR m)</i>	Banking book				Trading book			
	Traditional transactions		Synthetic transactions		Traditional transactions		Synthetic transactions	
Underlying assets (in EUR m)	Originator	Sponsor <sup>(1)</sup>	Originator	Sponsor	Originator	Sponsor	Originator	Sponsor
Residential mortgages	-	-	-	-	-	-	-	-
Commercial mortgages	-	-	-	-	-	-	-	-
Credit card receivables	-	416	-	-	-	-	-	-
Leasing	1,400	1,829	-	-	-	-	-	-
Loans to corporates and SMEs	119	-	-	-	-	-	-	-
Consumer loans	-	2,410	-	-	-	-	-	-
Trade receivables	-	3,156	-	-	-	-	-	-
Securitisations/Re-securitisations	156	2,961	-	-	-	-	-	-
Other assets	-	644	-	-	-	-	-	-
<b>Total</b>	<b>1,675</b>	<b>11,416</b>	-	-	-	-	-	-

(1) o/w EUR 1,400 million are related to positions originated by the Group.

Exposure securitised at 31 Dec. 2011 <i>(in EUR m)</i>	Banking book				Trading book			
	Traditional transactions		Synthetic transactions		Traditional transactions		Synthetic transactions	
Underlying assets (in EUR m)	Originator	Sponsor	Originator	Sponsor	Originator	Sponsor	Originator	Sponsor
Residential mortgages	-	680	-	-	-	-	-	-
Commercial mortgages	-	125	-	-	-	-	-	-
Credit card receivables	-	1,058	-	-	-	-	-	-
Leasing	-	398	-	-	-	-	-	-
Loans to corporates and SMEs	138	-	-	-	-	-	-	-
Consumer loans	-	2,180	-	-	-	-	-	-
Trade receivables	-	3,116	-	-	-	-	-	-
Securitisations/Re-securitisations	-	3,363	-	-	-	-	-	-
Other assets	-	969	-	-	-	-	-	-
<b>Total</b>	<b>138</b>	<b>11,889</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Table 35 shows exposures securitised by the Group, for which the underlying assets are past due, in default or impaired. The scope of the data collected is the same as for table 34.

**Table 35 : Amounts past due or impaired within the exposures securitised by the Group, by exposure type**

<i>(in EUR m)</i>	Exposures securitised at 31 Dec. 2012				Exposures securitised at 31 Dec. 2011			
	Past due		Impaired		Past due		Impaired	
Underlying assets	Originator	Sponsor	Originator	Sponsor	Originator	Sponsor	Originator	Sponsor
Residential mortgages	-	-	-	-	-	22	-	1
Commercial mortgages	-	-	-	-	-	-	-	-
Credit card receivables	-	16	-	-	-	46	-	70
Leasing	-	1	-	-	-	1	-	1
Loans to corporates and SMEs	-	-	-	-	-	-	-	-
Consumer loans	-	60	-	-	-	70	-	3
Trade receivables	-	676	-	-	-	739	-	204
Securitisations/Re-securitisations	-	-	-	2,070	-	-	-	1,220
Other assets	-	2	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>754</b>	<b>-</b>	<b>2,070</b>	<b>-</b>	<b>878</b>	<b>-</b>	<b>1,500</b>

This information must be considered within the context of the specific structure of each transaction and vehicle, which cannot be described in this report. Taken separately, the level of payments past due or in default does not provide sufficient information on the types of exposures securitised by the Group, mainly because the default criteria may vary from one transaction to another. Furthermore, these data reflect the situation of the underlying assets:

In securitisation transactions, past-due exposures are generally managed via structural mechanisms that protect the most senior positions (held by the bank). A securitisation transaction does not provide the same amount of funding as the level of underlying collateral. In fact, the credit enhancement, which is the difference between the funding raised through the securitisation and the underlying assets, reflects the historical performance of the underlying assets or of similar asset pools, and the stress methodologies applied to said performances by the rating agencies.

Past-due exposures are on the decline, which reflects an improvement in the quality of underlying assets is improving, particularly in the conduits. Impaired exposures belong exclusively to two CDOs of US subprime residential mortgages. Their increase merely reflects the deterioration of the underlying assets in these two transactions and is not attributable to new transactions.

## Societe Generale as originator

As part of its refinancing activities, the Group securitises some of its portfolios of loans granted to individual or corporate customers. With the securities created in these transactions, the Group is able to fund its own operations or expand its portfolio of assets eligible for repurchase transactions, notably with the European Central Bank.

In 2012, four securitisation transactions were carried out:

- a EUR 1.7 billion securitisation of residential mortgages, fully subscribed for by the Group,
- a EUR 2 billion securitisation of loans to corporates and SMEs, fully subscribed for by the Group,
- two securitisations of auto loans, totalling EUR 1.4 billion, placed in the market.

As there was no significant risk transfer with the prudential definition as a result of these transactions, these activities are not included in tables 37 and following because they have no impact on the Group's regulatory capital. The vehicles carrying the transferred loans are consolidated. The Group remains exposed to the majority of the risks and benefits associated with these loans; Furthermore, these loans cannot be used as collateral or sold outright within the framework of another transaction.

Total outstanding assets securitised for the Group with no risk transfer amounted to EUR 20.1 billion at 31 December 2012, including EUR 3.2 billion in consumer loans, EUR 2.3 billion in auto loans, EUR 4.0 billion in loans to professional customers and EUR 10.7 billion in residential mortgages in France.

**Table 36: Assets awaiting securitisation at 31 December 2012 and 2011**

Underlying assets (in EUR m)	Banking book		Trading book	
	31 Dec. 2012	31 Dec. 2011	31 Dec. 2012	31 Dec. 2011
Residential mortgages	-	1,439	-	-
Commercial mortgages	-	-	-	-
Credit card receivables	-	-	-	-
Leasing	600	667	-	-
Loans to corporates and SMEs	-	1,403	-	-
Consumer loans	-	-	-	-
Trade receivables	-	-	-	-
Securitisations/Re-securitisations	-	-	-	-
Other assets	1,118	-	-	-
<b>Total</b>	<b>1,718</b>	<b>3,508</b>	<b>-</b>	<b>-</b>

## Societe Generale as sponsor

The Societe Generale Group carries out securitisation transactions on behalf of its customers or investors. At 31 December 2012, there were two non-consolidated multi-seller vehicles in operation (Barton and Antalis), structured by the Group on behalf of clients. This ABCP (Asset-Backed Commercial Paper) activity funds the working capital requirements of some of the Group's customers by backing short-term financing with traditional assets such as trade receivables or consumer loans. Total assets held by these vehicles and financed through the issuance of commercial paper amounted to EUR 6,938 million at 31 December 2012 (EUR 7,318 million at 31 December 2011).

The Group does not have control of these vehicles, and this status is regularly assessed using the consolidation criteria applicable to special purpose vehicles (see accounting methods above). At 31 December 2012, none of these vehicles was consolidated, insofar as the Group does not control them and is not exposed to the majority of the related risks or benefits.

The default risk on the assets held by these vehicles is borne by the transferors of the underlying receivables or by external investors, including initial loss tranches. Societe Generale bears part of the risk through the issuance of letters of credit in the amount of EUR 649 million (EUR 1,012 million at 31 December 2011) used for credit enhancement and through liquidity lines in the amount of EUR 9,180 million at 31 December 2012 (EUR 10,338 million at 31 December 2011).

ABCP activity remained solid in 2012, with newly securitised outstandings predominantly comprising trade receivables, leasing or consumer loans. It should be noted that ABCP ceased the securitisation of residential and commercial mortgages.

Société Générale also acted as sponsor in four transactions for refinancing purposes, for which the Group is the originator, only two of which are shown in the two categories in Table 34. The other two transactions, fully subscribed for by the Group, are excluded from the table.

## Societe Generale as investor

As part of its sponsor activities, the Group can issue guarantees and liquidity lines for securitisation vehicles or act as a counterparty in derivative transactions in third-party securitisation transactions. These activities are recorded in the banking book as investor activities.

Societe Generale is also exposed to a wide variety of securitised assets as an investor, predominantly within its Corporate and Investment Banking activities. Due to the financial crisis, some of these assets have become illiquid and are no longer in line with the banks strategic objectives and risk profile. Among such assets are certain securitisation transactions: CDOs (Collateralised Debt Obligations) of RMBS (Residential Mortgage-Backed Securities), CMBS (Commercial Mortgage-Backed Securities) and other European or US ABS (Asset-Backed Securities) issued from 2008 to 2009, or Australian ABS. Since 2008, most of these securitisation investments have been sold or run-down. These positions can be held in the regulatory banking book or the trading book depending on the investment strategy associated with the position. Identified in 2008, these assets were grouped together and assigned to a dedicated team in charge of legacy assets. This team implements diversified strategies (selling, portfolio restructuring, hedging) aimed at optimising exit conditions, in accordance with the goal of reducing risk and reallocating resources to strategic Corporate and Investment Banking activities. The team is subject to special governance allowing for optimised interaction between the Corporate and Investment Banking Division, Risk Division and Finance Division.

Finally, Societe Generale also acts as a market maker for securitised assets, resulting in securitisation positions in the Group's trading book. As of 31 December 2011, CRD3 requires the same prudential treatment regardless of prudential classification.

The following tables show the securitisation exposures retained or purchased by the Group by type of underlying asset, by region, by type of tranche, separately for the banking book and trading book. These exposures cannot be seen as part of the specific financial information, as published in the registration document, as the definitions and scope used are different.



**Table 37: Aggregate amounts of securitised exposures retained or purchased in the banking book**

<i>(in EUR m)</i>	31 Dec. 2012			31 Dec. 2011		
	On-balance sheet	Off-balance sheet	Total	On-balance sheet	Off-balance sheet	Total
Residential mortgages	1,926	373	2,299	2,889	940	3,829
Commercial mortgages	828	10	838	1,537	172	1,709
Credit card receivables	0	811	811	128	1,463	1,590
Leasing	93	554	647	132	551	683
Loans to corporates and SMEs	698	63	761	1,958	0	1,958
Consumer loans	235	2,797	3,032	476	3,014	3,490
Trade receivables	229	4,223	4,452	376	4,307	4,683
Securitisations/Re-securitisations	3,613	1,197	4,810	5,169	0	5,169
Other assets	389	1,350	1,739	0	2,128	2,128
<b>Total</b>	<b>8,011</b>	<b>11,379</b>	<b>19,390</b>	<b>12,666</b>	<b>12,574</b>	<b>25,240</b>

At 31 December 2012, securitisation exposures in the banking book amounted to EUR 19,390 million, including EUR 8,011 million recorded on the balance sheet, the rest consisting predominantly of liquidity lines linked to the Group's sponsor conduit activity. The main underlying assets are securitisations, trade receivables, consumer loans and residential mortgages.

In 2012, banking book exposures decreased by EUR 5,850 million, down 23% year-on-year. This decline was especially prominent in on-balance sheet exposures. In 2012, the Group continued its legacy asset disposal programme. The portfolio of securitisations in run-off was halved over the year, mainly in the following underlyings: residential mortgages (RMBS), resecuritisations (CDOs) and loans to corporates (CLOs). Exposures to the conduits managed by the Group fell slightly, mainly in credit card receivables and trade receivables.

Table 38 shows the trading book exposures, excluding the correlation portfolio. The exposures are shown in the same scope as that of the banking book.

**Table 38: Aggregate amounts of securitised exposures retained or purchased in the trading book**

<i>(in EUR m)</i>	31 Dec. 2012		31 Dec. 2011 <sup>(1)</sup>	
	Net long positions	Net short positions	Net long positions	Net short positions
Residential mortgages	138	55	129	155
Commercial mortgages	3,478	162	3,212	226
Credit card receivables	0	0	0	0
Leasing	0	0	0	0
Loans to corporates and SMEs	46	177	69	518
Consumer loans	4	0	4	0
Trade receivables	0	0	0	0
Securitisations/Re-securitisations	43	2,761	125	3,111
Other assets	48	78	124	58
<b>Total</b>	<b>3,757</b>	<b>3,233</b>	<b>3,663</b>	<b>4,068</b>

(1) 2011 amounts restated to show exposures netted for hedging and intra-Group positions. The same definition was used in 2012.

Long positions in the trading book did not move much (+3%). The increase in certain long positions stemmed from the Group's market making activity. However, the decline in short positions (-21% year-on-year) reflected the unwinding of certain derivative positions, mainly in CDOs, in line with the Group's policy of reducing legacy asset positions.

**Table 39: Aggregate amounts of securitised exposures retained or purchased by region in the banking book and the trading book**

(in EUR m)	31 Dec. 2012			31 Dec. 2011 <sup>(1)</sup>		
	Banking book	Trading book		Banking	Trading book	
Underlying assets	Securitisation positions	Net long positions	Net short positions	Securitisation positions	Net long positions	Net short positions
Americas	10,015	3,594	3,121	13,932	3,470	3,178
Asia	328	5	0	29	32	0
Europe	8,927	143	103	10,619	161	839
Others	119	15	9	659	0	50
<b>Total</b>	<b>19,390</b>	<b>3,757</b>	<b>3,233</b>	<b>25,240</b>	<b>3,663</b>	<b>4,068</b>

(1) 2011 amounts restated to show exposures netted for hedging and intra-Group positions. The same definition was used in 2012.

Banking book disposals mainly concerned positions with North American underlyings, and to a lesser extent positions with European underlyings. The Americas region still accounted for 52% of banking book positions at the end of 2012. In the trading book, the reduction of short positions mainly concerned Europe, so much so that the portfolio is predominantly exposed to the Americas region.

**Table 40: Quality of securitisation positions retained or purchased**

(in EUR m)	31 Dec. 2012		
	Banking book	Trading book	
Type of tranche	Securitisation positions	Net long positions	Net short positions
Highest-ranking tranche	17,201	3,200	2,479
Mezzanine tranche	2,119	557	741
Initial loss tranche	69	0	13
<b>Total</b>	<b>19,390</b>	<b>3,757</b>	<b>3,233</b>

In the banking book, senior tranches made up 89% of securitisation positions retained or purchased, thus reflecting the robust quality of the portfolio and the positive results of the legacy asset disposal programme. In the trading book, the highest-ranking tranches accounted for 85% of long positions and 77% of short positions.

## PRUDENTIAL TREATMENT OF SECURITISATION POSITIONS

### Approach for calculating risk-weighted exposures

Whenever traditional or synthetic securitisations, in whose sponsorship, origination, structuring or management Societe Generale is involved, achieve a substantial and documented risk transfer compliant with the regulatory framework, the underlying assets are excluded from the bank's calculation of risk-weighted exposures for traditional credit risk.

For the securitisation positions that Societe Generale decides to hold either on- or off-balance sheet, capital requirements are determined based on the bank's exposure, irrespective of its underlying strategy or role. For the trading book, long and short positions are offset within the limits set forth by law. Risk-weighted assets resulting from securitisation positions are calculated by applying the appropriate risk ratios to the amount of the exposures.

Most of the Group's positions in securitised receivables, both in the banking book and the trading book, are valued using the Internal Ratings Based (IRB) approach, for which there are three calculation methods:

- the external ratings based approach (RBA) must be applied to all rated exposures or those for which a rating can be inferred. Under this approach, risk weightings are calculated so as to also reflect the positions' seniority and granularity.
- the Supervisory Formula Approach (SFA) is a methodology for non-rated exposures, where the risk weight is based on five inputs associated with the nature and structure of the transaction. To use this approach, the capital charge must be calculated using the IRB approach for the portfolio of assets underlying the securitisation exposure.
- finally, the positions arising from the Asset Backed Commercial Paper (ABCP) programmes' off-balance sheet exposures (such as liquidity facilities and letters of credit) are determined using the Internal Assessment Approach (IAA). An equivalence table defined by the regulation is used to calculate risk weightings based on the internal rating determined by the model.

For letters of credit and liquidity facilities issued by the Bank to the securitisation vehicles it sponsors, Societe Generale received approval in 2009 to use its internal ratings-based approach, in accordance with the provisions of Section V of the Decree of February 20, 2007. Accordingly, Societe Generale has developed an Internal Assessment Approach (IAA), whereby an internal rating is assigned to the Group's securitisation exposures, with each rating automatically resulting in a capital weighting based on an equivalence table defined by the regulation.

Like the Group's other internal models, the IAA meets the regulatory standards for the validation of internal models, as defined by the regulation. An annual review of the model is performed to ensure that the configuration is sufficiently conservative. Finally, the model is used to measure impacts in stress scenarios and as a transaction structuring tool.

About 4% of the banking book's securitisation exposures are valued using the Standardised Approach (SA), whereby risk-weighted assets are determined based on the credit rating attributed by an external rating agency to the said exposures (e.g. 20% for instruments rated between AAA and AA- and 50% for instruments rated between A+ and A-, etc.).

## External credit assessment institutions used by Societe Generale

Assets securitised by Societe Generale are usually rated by one or more ECAI (External Credit Rating Agency) rating agencies, the list of which is established by the French prudential supervisory authority ACP (Autorité de Contrôle Prudentiel). The agencies used are DBRS, FitchRatings, Moody's Investors Service and Standard & Poor's. Since 31 October 2011, these four rating agencies have been registered with and supervised by the European Securities and Market Authority (ESMA). For securitisation positions valued using the standardised method, capital requirements are calculated based on the lowest external rating of the securitisation exposure. An equivalence table (Table 11) between external ratings and Societe Generale's internal rating scale is provided in table 11 on page 37 of this report

## Regulatory capital requirements

Tables 41 and 42 show the bank's securitisation exposures and corresponding regulatory capital requirements for the banking book at 31 December 2012 and 31 December 2011. These exposures cover the same scope as that of tables 37, 39 and 40.

**Table 41: Aggregate amounts of securitised exposures retained or purchased in the banking book by approach and by risk weight band at 31 December 2012**

	31 Dec. 2012			
(in EUR m)	Exposure at Default (EAD)		Capital requirements	
Risk weight band	Securitisation	Re-securitisation	Securitisation	Re-securitisation
6 - 10%	1,744	-	12	-
12 - 18%	725	-	9	-
20 - 35%	437	107	11	2
40 - 75%	445	141	24	6
100%	86	83	7	7
150 - 250%	87	246	18	32
>250 - <425%	150	10	53	3
>425% - <850%	64	1	27	1
<b>RBA method</b>	<b>3,739</b>	<b>587</b>	<b>163</b>	<b>50</b>
IAA method	8,924	-	75	-
Supervisory Formula Approach	1,058	-	6	-
1250%/Capital deductions <sup>(1)</sup>	408	3,276	294	1,030
<b>Total IRB approach</b>	<b>14,129</b>	<b>3,863</b>	<b>538</b>	<b>1,080</b>
100% weighting	-	-	-	-
RBA approach	-	-	-	-
Transparency method	807	-	40	-
<b>Total standardised approach</b>	<b>807</b>	<b>-</b>	<b>40</b>	<b>-</b>
<b>Total banking book</b>	<b>14,936</b>	<b>3,863</b>	<b>577</b>	<b>1,080</b>

(1) 1250%-weighted EAD correspond exclusively to fully impaired positions and are shown before impairments of EUR2,360 million.

**Table 42: Aggregate amounts of securitised exposures retained or purchased in the banking book by approach and by risk weight band at 31 December 2012**

31 Dec. 2011				
(in EUR m)	Exposure at Default (EAD)		Capital requirements	
Risk weight band	Securitisation	Re-securitisation	Securitisation	Re-securitisation
6 to 10%	3,667	-	24	-
12 to 18%	618	-	8	-
20 to 35%	678	477	16	11
40 to 75%	278	18	16	1
100%	219	50	19	4
150 to 250%	110	462	23	62
>250 and <425%	62	26	22	7
>425% and <850%	55	105	30	46
<b>RBA method</b>	<b>5,686</b>	<b>1,138</b>	<b>159</b>	<b>131</b>
IAA method	9,075	998	61	35
Supervisory Formula Approach	1,457	-	8	-
1250%/Capital deductions <sup>(1)</sup>	1,296	3,769	1,134	1,719
<b>Total IRB approach<sup>(2)</sup></b>	<b>17,514</b>	<b>5,905</b>	<b>1,362</b>	<b>1,885</b>
100% weighting	15	-	1	-
RBA approach	15	-	1	-
Transparency method	807	-	39	-
<b>Total standardised approach</b>	<b>823</b>	<b>-</b>	<b>40</b>	<b>-</b>
<b>Total banking book</b>	<b>18,337</b>	<b>5,905</b>	<b>1,402</b>	<b>1,885</b>

(1) EAD under the RBA method are shown excluding 1250%-weighted exposures, which are combined with exposures deducted from capital.  
(2) 1250%-weighted EAD correspond exclusively to fully impaired positions and are shown before impairments of EUR 2,212 million.

At 31 December 2012, 96% of banking book securitisation exposures were valued using the IRB method. Under this method, 24% of exposures were weighted using the RBA method, 7% using the supervisory formula approach and 50% using the IAA method. Under the standardised approach, all securitisation positions are valued using the transparency method.

Regulatory capital requirements in respect of banking book securitisation positions fell by EUR 1,630 million in 2012. This decrease predominantly reflected a decline in positions deducted from capital (mainly re-securitisations) and a drop in capital requirements of EUR 100 million excluding deductions. In both cases, the declines highlighted the success of the legacy asset disposal policy described above.

Tables 43 and 44 show capital requirements in respect of trading book securitisation positions. These exposures cover the same scope as that of tables 38, 39 and 40. Trading book securitisation positions are defined by their market value for securities and by their market value-adjusted notional amount for derivatives.

**Table 43: Aggregate amounts of securitised exposures retained or purchased in the trading book by risk weight band**

(in EUR m)	31 Dec. 2012			31 Dec. 2011		
	Net long positions	Net short positions	Capital requirements	Net long positions <sup>(1)</sup>	Net short positions <sup>(1)</sup>	Capital requirements <sup>(2)</sup>
Risk weight band						
6% - 10%	3,013	142	19	2,855	1,047	7
12% - 18%	110	0	1	15	65	1
20% - 35%	164	114	6	253	72	5
40% - 75%	24	5	1	112	9	2
100%	16	0	1	0	0	0
>100% <= 250%	230	0	36	111	190	34
>250% - <=425%	38	9	32	57	0	11
>425% <=850%	61	0	36	59	17	41
<b>EAD subject to risk weight</b>	<b>3,656</b>	<b>269</b>	<b>133</b>	<b>3,461</b>	<b>1,400</b>	<b>100</b>
Supervisory formula method	2	2,737	16	0	2,567	205
Transparency method	0	0	0	0	0	0
<b>IRB method</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total, net of capital deductions</b>	<b>3,658</b>	<b>3,006</b>	<b>149</b>	<b>3,461</b>	<b>3,967</b>	<b>305</b>
<b>1250%/Positions deducted from capital <sup>(2)</sup></b>	<b>99</b>	<b>227</b>	<b>259</b>	<b>203</b>	<b>101</b>	<b>145</b>
<b>Total</b>	<b>3,757</b>	<b>3,233</b>	<b>408</b>	<b>3,663</b>	<b>4,068</b>	<b>450</b>

(1) The amounts of long positions and short positions in the trading book in 2011 were restated to show exposures net of hedges and excluding intra-Group positions. The same definition was used in 2012.

(2) The amount of deductions in respect of the trading book exposure in 2011 was adjusted.

Trading book securitisation positions are valued using the IRB method. Derivative positions, which by definition are not rated, are valued using the supervisory formula approach.

**Table 44: Regulatory capital requirements for securitisations held or acquired in the trading book**

(in EUR m)	31 Dec. 2012				31 Dec. 2011			
	Net long positions	Net short positions	Total risk-weighted positions	Capital requirements	Net long positions	Net short positions	Total risk-weighted positions	Capital requirements
Securitisation	3,648	270	1,694	136	3,453	1,400	931	74
Re-securitisation	11	2,737	172	14	7	2,567	2,881	230
Positions deducted from capital	99	227	-	259	203	101	-	145
<b>TOTAL</b>	<b>3,757</b>	<b>3,233</b>	<b>1,866</b>	<b>408</b>	<b>3,663</b>	<b>4,068</b>	<b>3,812</b>	<b>450</b>

In accordance with the exemption provided for until 31 December 2013, Societe Generale calculates capital requirements in respect of trading book positions as the maximum between the capital requirement relative to long positions for which the Group directly bears the credit risk, and short positions for which the Group is hedged for credit risk (mainly replacement risk), including positions deducted from capital. In 2012, the regulatory capital requirement relative to trading book positions was attributable to long positions, while short positions explained the capital charge in 2011.

Capital requirements in respect of trading book securitisation positions fell by 9% year-on-year to EUR 408 million in 2012. The 24% decline in short positions (primarily derivative positions) was nevertheless offset somewhat by rating migration.

**Table 45: Securitisation exposures deducted from capital by exposure category**

<i>(in EUR m)</i>	Securitisation positions deducted from regulatory capital			
	31 Dec. 2012		31 Dec. 2011 <sup>(1)</sup>	
<b>Underlying assets</b>	Banking book	Trading book	Banking book	Trading book
Residential mortgages	142	48	710	13
Commercial mortgages	93	7	62	-
Credit card receivables	-	-	0	-
Leasing	4	-	3	-
Loans to corporates and SMEs	20	11	88	-
Consumer loans	8	-	14	-
Trade receivables	-	-	0	-
Securitisations/Re-securitisations	1,053	180	1,964	123
Other assets	5	13	10	8
<b>Total<sup>(1)</sup></b>	<b>1,324</b>	<b>259</b>	<b>2,853</b>	<b>145</b>

(1) The amount of deductions in respect of the trading book was adjusted in relation to the figure published in 2011.

2012 saw a sharp decrease (-47%) in deductions in respect deductions from capital. These deductions can primarily be attributed to CDO outstandings in the legacy assets portfolio. The decline in deductions is attributable to disposals of CDOs of RMBS in the trading and banking books, and to a strong decrease in RMBS positions (mainly North American RMBS).





# 5

## EQUITY RISK



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## INVESTMENT STRATEGIES AND PURPOSE

Societe Generale's exposure to its non-trading equity portfolio relates to several of the bank's activities and strategies. It includes equities and equity instruments, mutual fund units invested in equities, and holdings in the Group's subsidiaries and affiliates which are not deducted from shareholders' equity for the purpose of calculating solvency ratios. Generally speaking, due to their unfavourable treatment under regulatory capital, the Group's future policy is to limit these investments.

- In the first place, the Group has a portfolio of industrial holdings which mainly reflect its historical or strategic relations with these companies;
- It also has small minority holdings in certain banks for strategic purposes, with a view to developing its cooperation with these establishments;
- The equities that are not part of the trading book include Group shares in small subsidiaries which operate in France and outside of France, and which are not included in its consolidation scope. This includes various investments and holdings that are ancillary to the Group's main banking activities, particularly its Corporate and Investment Banking, Retail Banking and Securities Services (stock market bodies, brokerages, etc.) activities;
- Lastly, Societe Generale and certain of its subsidiaries may hold equity investments related to their asset management activities (particularly seed capital for mutual funds promoted by Societe Generale), in France and outside of France.

## MONITORING OF BANKING BOOK EQUITY INVESTMENTS AND HOLDINGS

The portfolio of industrial holdings is monitored on a monthly basis by the Group's Finance division, and where necessary value adjustments are recognised quarterly in accordance with the Group's provisioning policy. An annual review of the portfolio is also conducted by a special committee comprising representatives of the Group's Executive Committee, Risk division and Finance division. The purpose of this review is to validate the portfolio strategies and monitor the strategic nature of the holdings, as well as sale opportunities. Investment decisions are also submitted to this Committee for approval.

The holdings that are ancillary to the corporate and investment banking activity are monitored on a quarterly basis by the Group's Finance division, and where necessary value adjustments are recognised quarterly in accordance with the Group's provisioning policy. Decisions on the buying and selling of shares are subject to the approval of an Investment Committee comprising representatives of the Executive Committee, the Risk division, the Finance division and the Compliance division. They are also reviewed by the Corporate and Investment Banking activity's Finance division and the Group Finance division. The decision-making criteria used include the financial position and the contribution of the holdings to the Corporate and Investment Banking activities.

## VALUATION OF BANKING BOOK EQUITIES

From an accounting perspective, Societe Generale's exposure to equities that are not part of its trading book is classified under shares held for sale insofar as the equities may be held for an indefinite period or they may be sold at any time. Societe Generale's exposure to equities that are not part of the trading book is equal to their book value net of provisions.

The table below shows the Bank's exposure at the end of December 2012 and 2011 for both the accounting and the regulatory scope. The regulatory data is not reconciled with the data in the Registration Document notably because the regulatory scope excludes shares held by the Group's insurance subsidiaries on behalf of clients.

**Table 46: Banking book equity investments and holdings**

<i>(in EUR m)</i>	<b>31 Dec. 2012</b>	<b>31 Dec. 2011</b>
<b>Banking book equity investments and holdings - Accounting scope</b>	<b>14,304</b>	<b>10,832</b>
Of which equities and other AFS <sup>(1)</sup> instruments	12,025	8,097
Of which AFS <sup>(1)</sup> equities held over the long term	2,279	2,735
<b>Banking book equity investments and holdings - Prudential scope (EAD<sup>(2)</sup>)</b>	<b>1,447</b>	<b>1,768</b>
Of which listed shares	371	662
Of which unlisted shares	1,076	1,106

(1) AFS: Available for Sale

(2) EAD: Exposure At Default

With regard to the regulatory scope, the exposure to equities and holdings that are not included in the trading book, and calculated as EAD amounted to EUR 1.4 billion at the end of 2012.

Changes in fair value are booked to shareholders' equity under "Unrealised or deferred capital gains and losses". In the event of a sale or durable impairment, changes in the fair value of these assets are recorded in the income statement under "Net gains and losses on available-for-sale financial assets".

Dividends received on equity investments are booked to the income statement under "Dividend income".

For listed shares, the fair value is estimated based on the closing share price. For unlisted shares, the fair value is estimated based on the category of financial instrument and one of the following methods:

- the share of net assets owned;
- the valuation based on recent transactions involving the company's shares (acquisition of shares by third parties, expert valuations, etc.);
- the valuation based on recent transactions involving companies in the same sector (earnings or NAV multiples, etc.)

**Table 47: Net gains and losses on banking book equities and holdings**

<i>(in EUR m)</i>	<b>31 Dec. 2012</b>	<b>31 Dec. 2011<sup>(1)</sup></b>
Gains and losses on the sale of shares	-245	184
Impairment of assets in the equity portfolio	-169	-113
In proportion to the net income on the equities portfolio	94	182
<b>Net gains/losses on banking book equities and holdings</b>	<b>-319</b>	<b>254</b>
Unrealised gains/losses on holdings	1,420	916
<b>Share included in Tier 1 and Tier 2 capital</b>	<b>291</b>	<b>199</b>

## Provisioning policy

The impairment of an available-for-sale financial asset is recognised as an expense in the income statement as soon as an objective indication of impairment arises as a result of one or more events occurring after the asset's initial booking in the accounts.

For listed equities, a significant or protracted fall in the share price below the acquisition cost constitutes an objective indication of impairment. The Group takes this to be the case for listed equities that show unrealised losses on the closing date of more than 50 % of their acquisition cost, and for listed equities that show unrealised losses for a continuous period of 24 months or more preceding the closure date. Other factors, such as the financial situation of the issuer or its growth prospects, may indicate to the Group that its investment may not be recovered even in cases where the above-mentioned criteria are not evident. In such cases, an impairment is booked in the income statement in the amount of the difference between the listed share price on the closing date and its acquisition price.

For unlisted equities, the criteria based on which an impairment is recorded are identical to those mentioned above, and the value of the instruments on the closing date is determined based on the valuation methods described in Note 3 to the Consolidated Financial Statements in Societe General's 2013 Registration Document "Fair value of financial instruments".

## REGULATORY CAPITAL REQUIREMENTS

To calculate the risk-weighted assets under Basel 2, the Group applies the Internal Ratings Based approach for the larger part of its non-trading equity portfolio. The shares in listed companies that are part of a diversified portfolio are allocated a risk-weighting coefficient 190 %, those in other listed companies are allocated a weighting of 290 % and unlisted shares are allocated a weighting of 370 %. Nevertheless, unlisted shares that are part of a diversified portfolio and which were acquired before January 2008 may be allocated a weighting of 150 %.

At 31 December 2012, the Group's risk-weighted assets related to its non-trading equity portfolio, and its capital requirements were as follows:

**Table 48: Capital requirements related to banking book equities and holdings**

<i>(in EUR m)</i>			31 Dec. 2012			31 Dec. 2011		
Equities & holdings	Approach	Weighting	Exposure at default <sup>(1)</sup>	Risk-weighted assets <sup>(1)</sup>	Capital requirements <sup>(1)</sup>	Exposure at default <sup>(1)</sup>	Risk-weighted assets <sup>(1)</sup>	Capital requirements <sup>(1)</sup>
Private equity	Standard	150 %	79	119	9	146	219	18
Private equity	Simple approach	190 %	114	217	17	158	300	24
Listed shares	Simple approach	290 %	349	1,011	81	576	1,671	134
Unlisted shares	Simple approach	370 %	906	3,351	268	887	3,172	254
<b>Total</b>			<b>1,447</b>	<b>4,697</b>	<b>376</b>	<b>1,768</b>	<b>5,362</b>	<b>429</b>

(1) Excluding cash investments

At 31 December 2012, the risk-weighted assets related to the Group's banking book equities and holdings stood at EUR 4.7 billion.

The reduction in capital requirements in 2012 relates to a reduction of around 12 % in EAD-valued equities and holdings compared with 2011. Disposals during the year are the main reason for this reduction.



# 6

## MARKET RISKS



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Market risks are the risks of losses resulting from unfavourable changes in market parameters. They concern all the trading book transactions as well as some of the banking book portfolios.

## ORGANISATION

Although primary responsibility for managing risk exposure lies with the front office managers, the supervision system is based on an independent structure, the Market risk department of the Risk division.

This Department carries out the following tasks:

- ongoing daily analysis (independently from the front office) of the exposure and risks incurred by the Group's market activities and comparison of these exposures and risks with the approved limits;
- definition of risk measurement methods and control procedures, approval of the valuation models used to calculate risks and results, and setting of provisions for market risks (reserves and adjustments to earnings);
- definition of the functionalities of the databases and systems used to assess market risks;
- approval of the limit applications submitted by the business, within the framework of the overall set of limits authorised by the General management and the Board of directors, and monitoring of their use;
- centralisation, consolidation and reporting of the Group's market risks;
- proposals to the Group Risk committee of appropriate limits by Group activity.

In addition to these specific market risk functions, the Market risk department also monitors the gross nominal value of market positions. This system, based on alert levels applied to all instruments and desks, contributes to the detection of possible rogue trading operations.

Within each entity that incurs market risk, risk managers are appointed to implement first level risk controls. The main tasks of these managers, who are independent from the front office, include:

- ongoing analysis of exposure and results, in collaboration with the front office and the accounting departments;
- verification of the market parameters used to calculate risks and results;
- daily calculation of market risks, based on a formal and secure procedure;
- daily monitoring of the limits set for each activity, and constant verification that appropriate limits have been set for each activity.

A daily report on use of limits on VaR (Value at Risk), stress tests (extreme scenarios) and general sensitivity to interest rates is submitted to the General Management and the managers of the business lines, in addition to a monthly report which summarises the key events in the area of market risk management and specifies the use of the limits set by the General management and the Board of directors.



## INDEPENDENT PRICING VERIFICATION

Market products are marked to market, when such market prices exist. Otherwise, they are valued using parameter-based models.

Firstly, each valuation model is independently validated by the Market risk department.

Secondly, the parameter values are subject to regular comparison with external sources:

- if there is a difference between the values used and the external sources, and if the sources are deemed reliable by the Market risk department, the values are aligned with the external data. This process, known as IPV (Independent Pricing Verification), contributes to the internal certification of the accounts;
- if there are no reliable external sources, a conservative valuation is made based on reserves whose calculation methods have been validated by the Market risk department.

## METHODS FOR MEASURING MARKET RISK AND DEFINING LIMITS

The Group's market risk assessment is based on three main indicators, which are monitored through limits:

- the 99% Value-at-Risk (VaR) method: in accordance with the regulatory internal model, this global indicator is used for the day-to-day monitoring of the market risks incurred by the Bank, notably on the scope of its trading activities;
- a stress test measurement, based on a decennial shock-type indicator. Stress Test measurements allow the Group's exposure to systemic risk and exceptional market shocks to be restricted and monitored;
- complementary limits (sensitivity, nominal, concentration or holding period, etc.), which ensure consistency between the overall risk limits and the operational thresholds used by the front office. These limits also allow to monitoring of risks that are only partially detected by VaR or Stress Test measurements.

In accordance with CRD3 (Capital Requirement Directive), the following indicators are also calculated on a weekly basis: stressed VaR, IRC (Incremental Risk Charge) and CRM (Comprehensive Risk Measure). The capital charges arising from these new internal models complement the previous measure (VaR) so as to better take into account extreme risks (in particular rating migration and default) and to limit the procyclical nature of capital requirements.

## 99% VAR CALCULATION METHOD

The Internal VaR Model was introduced at the end of 1996 and has been approved by the French regulator within the scope of the Regulatory Capital requirements.

The method used is the "historical simulation" method, which implicitly takes into account the correlation between all risk factors and is based on the following principles:

- storage in a database of the risk factors that are representative of Societe Generale's positions (i.e. interest rates, share prices, exchange rates, commodity prices, volatility, credit spreads, etc.);
- definition of 260 scenarios, corresponding to one-day variations in these market parameters over a one-year rolling period;
- application of these 260 scenarios to the market parameters of the day;

- revaluation of daily positions, on the basis of the 260 sets of adjusted daily market parameters.

The 99% Value-at-Risk is the largest loss that would occur after eliminating the top 1% of the most adverse occurrences over a one-year historical period. Within the framework described above, it corresponds to the average of the second and third largest losses computed. The VaR assessment is based on a model and a certain number of conventional assumptions whose main limitations are as follows:

- the use of “1-day” shocks assumes that all positions can be unwound or hedged within one day, which is not the case for certain products and crisis situations;
- the use of the 99% confidence interval does not take into account losses arising beyond this point; VaR is therefore an indicator of losses under normal market conditions and does not take into account exceptionally large fluctuations;
- VaR is computed using closing prices, so intra-day fluctuations are not taken into account;
- there are a number of approximations in the VaR calculation. For example, benchmark indices are used instead of more detailed risk factors and not all of the relevant risk factors are taken into account, in particular due to difficulties in obtaining historical daily data.

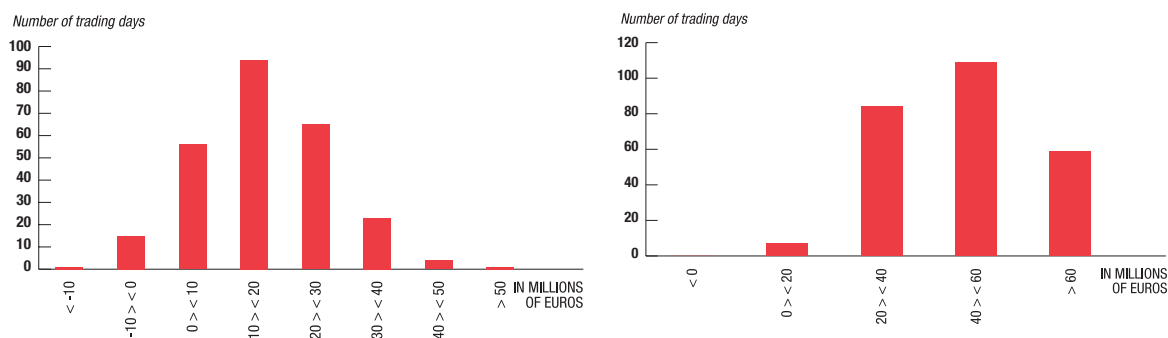
The Market Risk Department of the Risk Division mitigates the limitations of the VaR model by:

- performing stress tests and other additional measurements;
- assessing the relevance of the model through ongoing backtesting to verify whether the number of days for which the negative result exceeds the VaR complies with the 99% confidence interval.

Daily profit and loss used for backtesting includes in particular the change in value of the portfolio (book value) and the impact of new transactions and of transactions modified during the day (including their sales margins), refinancing costs, the various related commissions (brokerage fees, custody fees, etc.), as well as provisions made and parameters adjusted for market risk. Some components calculated at various frequencies (for example, some adjustments for market risk) are allocated on a daily basis.

The following histograms show the distribution of this daily P&L over the last year, as well as the difference between daily P&L and VaR (negative values corresponding to any backtesting breaches): in 2012, daily P&L did not exceed VaR and losses were observed 16 times.

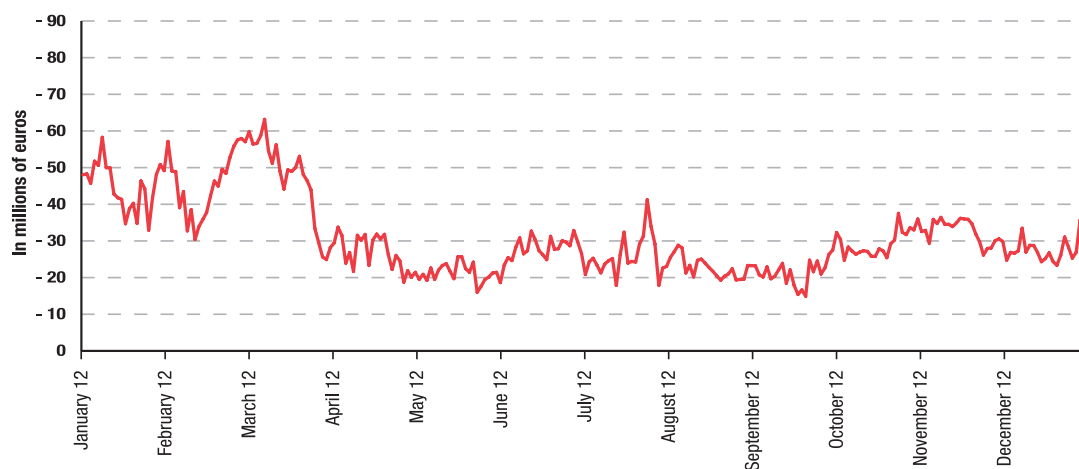
Table 49: Breakdown of the daily P&L and difference between VaR and daily P&L



Today, the market risks for almost all of Corporate and Investment Banking’s activities are monitored using the VaR method, including those related to the most complex products, as well as the main market activities of Retail Banking and Private Banking. The few activities not covered by the VaR method, either for technical reasons or because the stakes are too low, are monitored using stress tests and give rise to capital charges calculated using the standard method or through alternative in-house methods.

The changes in the Group’s trading VaR in 2012, are presented below:

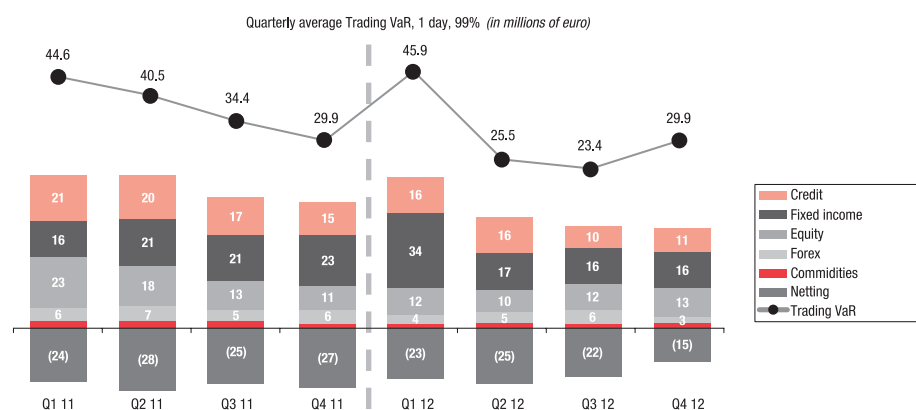
**Table 50: Trading VaR (trading portfolios) changes over the course of 2012 (1 day, 99%)**  
(in millions of euros)



2012 VaR (1 day, 99%)

(In millions of euros)	Minimum	Average	Maximum
<b>VaR</b>	<b>15</b>	<b>31</b>	<b>63</b>

**Table 51: Breakdown<sup>(1)</sup> by risk factor of trading VaR - changes in quarterly average over the 2011-2012 period (in millions of euros)**



Average VaR amounted to EUR 31 million for 2012 compared to EUR 37 million in 2011. VaR, which on average remained relatively low throughout 2012, was subject to the following changes:

- an increase until mid-March due to more risk-on positions that reflected the market normalisation observed during most of the quarter, and the non-renewal of the defensive positions taken at the end of 2011;

(1) In Q3 2012, some Fixed-Income and Forex products were reclassified in the VaR breakdown by risk factor, with historical data restated. This reweighting does not change the VaR model and has no impact on the global VaR amount.

- then a sharp decrease until July due to the reduction of exposures and the implementation of defensive strategies following a comeback of considerable uncertainty regarding peripheral euro zone countries;
- beginning in August and continuing until the end of 2012, VaR increased due to the reduction of the defensive profile with gradually more risk-on positions as the market environment became favourable once more (announcement of the ECB's OMT (Outright Monetary Transactions) programme to buy back public debt and the Fed's latest round of quantitative easing). This increase was nevertheless tempered by the gradual exit of volatile scenarios of the summer of 2011 and November 2011.

Further improvements were made to the VaR model in 2012, particularly with the improved integration of certain risk factors, including:

- interest rates, now taken into account in the internal model for the Equity and Index Derivative scope;
- OIS (Overnight Indexed Swap) rates and Cross Inter Maturities bases for the exotic fixed-income and forex scope;
- cross-currency bases for the entire fixed-income and forex scope.

## STRESSED VAR (SVAR)

Societe Generale has been authorised by the French Prudential Supervisory Authority (*Autorité de Contrôle Prudentiel*) to complement its internal models with the new CRD3 measurements, in particular Stressed VaR, for the same scope as VaR.

The calculation method used is the same as under the VaR approach. This consists in carrying out a historical simulation with 1-day shocks and a 99% confidence interval. Contrary to VaR, which uses 260 scenarios for one-day fluctuations over a rolling one-year period, Stressed VaR uses a fixed one-year historical window corresponding to a period of significant financial tension.

The historical window, which is determined using a method approved by the regulator, captures significant shocks on all risk factors (risks related to equity, interest rates, foreign exchange rates and commodities). It is subject to an annual review.

Table 52: SVaR

(10 days, 99%)	2012				31 Dec. 2012	Q4 11			31 Dec. 2011
	(In EUR m)	Minimum	Average	Maximum		Minimum	Average	Maximum	
<b>SVaR</b>		104	154	290	290	107	153	200	200

(1 day, 99%)	2012			
	(In EUR m)	Minimum	Average	Maximum
<b>SVaR</b>		33	49	92

## STRESS TEST ASSESSMENT

### Methodology

Alongside the internal VaR model, Societe Generale monitors its exposure using stress test simulations to take into account exceptional market occurrences.

A stress test estimates the loss resulting from an extreme change in market parameters over a period corresponding to the time required to unwind or hedge the positions affected (5 to 20 days for most trading positions).

This stress test risk assessment is applied to all of the Bank’s market activities. It is based on 26 historical scenarios and eight theoretical scenarios that include the “Societe Generale Hypothetical Financial Crisis Scenario” (or “Generalised” scenario) based on the events observed in 2008. These scenarios apply shocks to all substantial risk factors including exotic parameters.

Together with the VaR model, this stress test risk assessment methodology is one of the main pillars of the risk management system. The underlying principles are as follows:

- risks are calculated every day for each of the Bank’s market activities (all products combined), using the 26 historical and height hypothetical scenarios;
- stress test limits are established for the Group’s activity as a whole and then for the Bank’s various business lines. They frame the worst value among the results of the 34 historical and hypothetical scenarios;

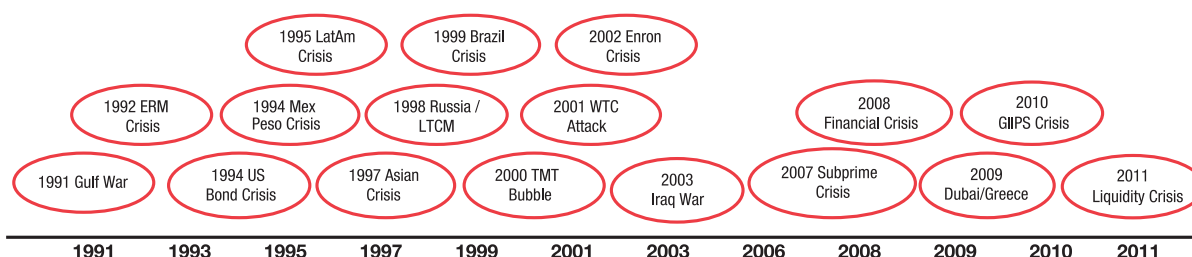
The various stress test scenarios are revised and improved by the Risk Division on a regular basis, in conjunction with the Group’s teams of economists and specialists.

### Historical stress tests

This method consists of an analysis of the major economic crises that have affected the financial markets since 1995 (a date from which the financial markets have become global and subject to increased regulatory requirements): the changes in the prices of financial assets (equities, interest rates, exchange rates, credit spreads, etc.) during each of these crises have been analysed in order to define scenarios for potential variations in these risk factors which, when applied to the bank’s trading positions, could generate significant losses. Using this methodology, Societe Generale has defined 26 historical scenarios, including seven new ones added in 2012:

- six of them cover the periods between Q3 2008 and Q1 2009 and are related to the subprime crisis and its consequences for all financial markets;
- the seventh corresponds to the GIIPS sovereign debt crisis in Q2 2010.

Table 53: Historical stress test scenarios



## Hypothetical stress tests

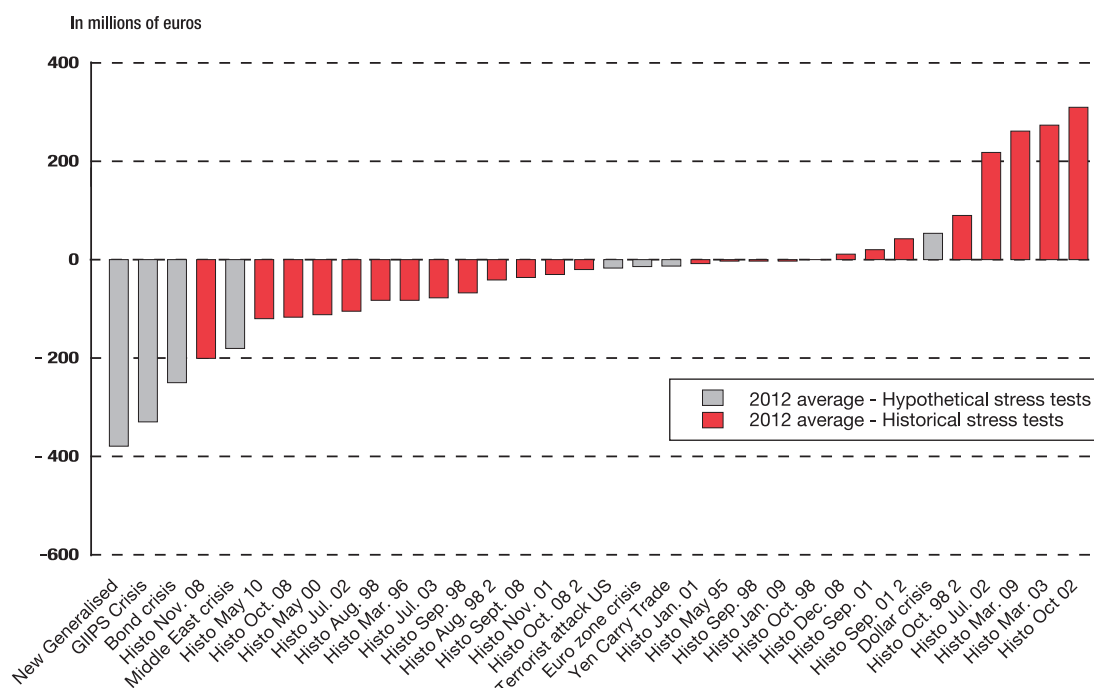
The hypothetical scenarios are defined by the Bank's economists and are designed to simulate the possible sequences of events that could lead to a major crisis in the financial markets (e.g. a major terrorist attack, some political instability in the main oil-producing countries, etc.). The Bank's aim is to select extreme but nonetheless plausible events which would have major repercussions on all the international markets. Societe Generale has therefore adopted eight hypothetical scenarios described below:

- **generalised (the Societe Generale Hypothetical Financial Crisis Scenario):** considerable mistrust of financial institutions after the Lehman Brothers' bankruptcy; collapse of equity markets, sharp decline in implied dividends, significant widening of credit spreads, pivoting of yield curves (rise in short-term interest rates and decline in long-term interest rates), substantial flight to quality;
- **GIIPS crisis:** mistrust in risky sovereign issuers and increased interest in higher-rated sovereign issuers such as Germany, followed by contagion of fears to other markets (equities, etc.);
- **Middle East crisis:** instability in the Middle East leading to a significant shock on oil and other energy sources, a stock market crash, and a steepening of the yield curve;
- **terrorist attack:** major terrorist attack on the United States leading to a stock market crash, sharp decline in interest rates, widening of credit spreads and sharp decline of the US dollar;
- **bond crisis:** crisis in the global bond markets inducing the decoupling of bond and equity yields, strong rise in US interest rates (and a more modest rise for other international rates), moderate decline on the equity markets, flight to quality with moderate widening of credit spreads, rise in the US dollar;
- **US dollar crisis:** collapse of the US dollar against major international currencies due to the deterioration of the US trade balance and budget deficit, rise of interest rates and narrowing of US credit spreads;
- **Euro zone crisis:** withdrawal of some countries from the euro zone following the euro's excessive appreciation against the US dollar: decline in euro exchange rates, sharp rise in euro zone interest rates, sharp fall in euro equities and rise in US equities, significant widening of euro credit spreads;
- **Yen carry trade unwinding:** change in monetary policy in Japan leading to yen carry trade strategies being abandoned: significant widening of credit spreads, decline in JPY interest rates, rise in US and euro zone long-term interest rates and flight to quality.

## Average stress tests in 2012

The scenarios leading to the largest potential losses are hypothetical scenarios, as illustrated in the chart below, which displays average stress tests amounts in 2012 by type of scenario.

Table 54: Average amounts for historical and hypothetical stress tests in 2012 (in millions of euros)



## CAPITAL REQUIREMENTS

Societe Generale's capital requirements related to market risk are essentially determined using an internal model approach (87% in 2012).

Societe Generale received the approval of the French Prudential Supervisory Authority to expand its internal market risk modelling system and, in particular, to include IRC (Incremental Risk Charge) and CRM (Comprehensive Risk Measure), for the same scope as VaR. These new measurements estimate the capital charge on debt instruments that is related to rating migration and issuer default risks within a one-year period. Capital charges are incremental, meaning they are added to charges calculated based on VaR and stressed VaR.

Societe Generale estimates its capital charges using a simulation model that distributes the various risk factors covered by regulatory requirements, while considering the relationships between these factors. IRC and CRM are 99.9% risk factors, meaning the highest risk obtained after eliminating the 0.1% most adverse occurrences.

These internal models are subject to the same governance as other internal models that meet the regulatory Pillar 1 requirements.

In particular:

- a weekly analysis is performed on these metrics;
- a comparison is made with standard-setting stress tests defined by the regulator (25 historical scenarios);
- a review of model assumptions at least on a yearly basis and an ex-post consistency control are carried out;
- the methodology and its implementation were approved by the Internal Audit Department and the French Prudential Supervisory Authority.

In accordance with the regulations, IRC is applied to debt instruments already measured using internal models other than securitisation and the correlation portfolio. In particular, this includes bonds, CDS and related derivative products.

CRM exclusively covers the correlation portfolio, i.e., CDO tranches for liquid issuers and “first-to-default” products as well as their hedging using CDS and indices. Aside from the credit-migration and default risk, the CRM also covers any other pricing risks (for example, spread, collection and correlation risks). Ultimately, the capital charge corresponds to the largest value between the charge calculated by the internal model and 8% of the charge calculated using the standard method for market risks.



Table 55: Capital requirements by risk factor

<i>(In EUR m)</i>	Capital requirement		RWA	
	31 Dec. 2012	31 Dec. 2011	31 Dec. 2012	31 Dec. 2011
<b>Market risks assessed by Internal Approach</b>	<b>1,868</b>	<b>2,149</b>	<b>23,356</b>	<b>26,858</b>
VaR	460	448	5,752	5,598
Stressed VaR	605	522	7,565	6,520
Incremental risk charge (IRC)	603	824	7,543	10,303
Correlation portfolio (CRM)	200	355	2,496	4,437
<b>Market risks assessed by the Standard Approach</b>	<b>423</b>	<b>454</b>	<b>5,282</b>	<b>5,678</b>
Specific risk on securitisation exposures on the trading book	149	305	1,866	3,812
Forex risk	214	67	2,672	837
Interest rate risk	51	62	642	774
Risk on securities	2	14	28	178
Risk on exposure to base product	6	6	74	77
<b>Total</b>	<b>2,291</b>	<b>2,603</b>	<b>28,637</b>	<b>32,536</b>

Capital requirements for market risk, calculated on the basis of 8% of risk-weighted assets, decreased by EUR -0.3bn in 2012. The majority of this decrease can be attributed on one hand in the internal model approach scope, to the reduction of the IRC (decrease of concentrations) and CRM (deleveraging) and on the other hand in the standard approach scope, to the decrease of the securitisation exposures offset by the increase in currency risk.



# 7

## STRUCTURAL INTEREST RATE RISK



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## STRATEGY AND PROCESSES

Societe Generale manages its structural exposure to interest rate risk as well as liquidity and foreign exchange risks, within its global Asset and Liability Management (ALM).

Since January 2011, the management and monitoring of structural risks have been carried out by two separate entities, in accordance with regulatory principles that recommend the separation of the risk oversight and control functions.

- The Balance Sheet and Global Treasury Management Department, which is dedicated to structural risk management. It also monitors and coordinates all Group treasury functions (external Group financing, internal entity financing, centralised collateral management). It also manages the central funding department and executes financial transactions;
- The ALM Risk Monitoring Department, which is dedicated to Group structural risk supervision, and in particular verification of models, monitoring of compliance with limits and management practices by the Group's business divisions, business lines and entities.

This section focuses on interest rate risk management. For more detailed information on managing liquidity and foreign exchange risks, see the Group's latest Registration Document.

Structural exposure to interest rate risk encompasses all exposures due to (i) the commercial activity of the Group's various entities (hereinafter referred to as the "banking book") and ii) the proprietary transactions of the Group's entities (equity transactions, investments and funding). Interest rate risks associated with trading activities are excluded from the structural interest rate risk measurement scope and are dealt with under market risk. The structural and market exposures constitute the Group's overall interest rate exposure.

### Governance

In terms of structural interest rate risk management, governance is based on the following core principles:

- a general policy and overall management standards validated by the Group's Finance Committee and translated into detailed management standards by the Group Finance Division;
- decentralised risk management at the entity level, controlled via limits;
- close supervision by the Group Finance Division of the implementation of standards and interest rate risk management by the entities.

Group standards and procedures set precise guidelines for:

- policy implementation and the management of structural interest rate risk;
- investment standards covering entities' shareholders' equity;
- the manner in which structural and market interest rate risks are to be differentiated.

### Organisation

The Group's Management is involved in managing the banking book's interest rate risk through the Group's quarterly Finance Committee meetings, which approve the management principles and sensitivity limits for each entity. It examines the management reports and analyses prepared by the Finance Division. The Finance Committee is also kept regularly informed of the main changes made to the ALM models used by the retail banking network in France (particularly the amortisation rules for current accounts and regulated savings accounts).

The Group Finance Division is in charge of defining management standards (relating to organisation and methodologies) and validating the models developed and used by the entities. It also notifies Group entities of the respective sensitivity limits under which they must operate. In addition, the Finance Division is responsible for the centralisation and reporting of the interest rate risk and second level controls.

Conversely, Group entities are responsible for the management and control of the interest rate risk at their own level, within the guidelines defined for the Group. Interest rate risk is monitored using the sensitivity of the net present value of the balance sheet and the sensitivity of the net interest margin.

Each Managing Director has the responsibility to comply with the Group policy and apply defined limits, assisted by the Structural Interest Rate Risk Manager. Furthermore, the Group's main retail banking entities have ALM Committees responsible for monitoring the interest rate risk in accordance with Group principles.

The interest rate risk is measured monthly for the Group's main entities, and at least quarterly for the other entities. Every quarter, all the Group entities report their ALM positions to the Group Finance Division, which prepares a consolidated structural interest rate risk management report.

## INTEREST RATE RISK MANAGEMENT METHODOLOGY AND OBJECTIVES

The general principle is to concentrate interest rate risks within capital market activities, where they are monitored and controlled using the methods described in chapter 9, and to reduce structural interest rate and exchange rate risks within the consolidated entities as much as possible.

Wherever possible, commercial transactions are hedged against interest rate and exchange rate risks either through micro-hedging (individual hedging of each commercial transaction) or macro-hedging techniques (hedging of portfolios of similar commercial transactions within a treasury department). These principles also apply for proprietary transactions. The interest rate risk exposure on the banking book therefore results only from residual positions. The sensitivity of residual positions must comply with the limits set for each entity, as approved by the Finance Committee.

The Group analyses all its balance sheet's fixed-rate assets and liabilities to identify any gap, which reflect mismatches in the maturity and/or repricing of the fixed-rate cash flows of assets and liabilities. The maturities and amortisation of outstanding positions are determined based on their contractual terms, or models reflecting historical customer behaviour observed as well as conventional assumptions for certain aggregates (in particular shareholders' equity).

Once the Group has identified the fixed-rate gap by maturity, it calculates the sensitivity to interest rate variations.

Group policy requires that residual risk arising from commercial activity be transferred either to local treasuries or to the Group Treasury according to fund transfer pricing rules. The interest rate risk is then managed within the authorised limits of the related trading books.

For products without a fixed maturity date (the French retail banking network's current and savings accounts, for example), the Group uses amortisation models under which the outstanding amounts are deemed to be composed of a stable portion and a volatile portion (i.e. the difference between the total outstanding amount and the stable portion). For example, for Societe Generale's French retail banking network, the volatile portion of its deposits is scheduled at sight, while the stable portion is determined by using an autoregressive model that is regularly back-tested. Its amortisation profile was defined based on an autoprojective model and on the bank's historical data.

The amortisation of loans takes into account early repayment models that may be sensitive to the level of interest rates.

## KEY INTEREST RATE RISK INDICATORS

Societe Generale uses several indicators to measure its interest rate risk. The three most important indicators are:

- interest rate gap analysis (the difference between outstanding fixed-rate assets and liabilities by maturity): the schedule of fixed rate positions are the main indicators for assessing the characteristics of the hedging operations required, they are calculated on a static basis;
- the *economic value sensitivity* is a supplementary and synthetic indicator used to set limits for the entities. It is calculated as the sensitivity of the economic value of the balance sheet to variations in interest rates. This measurement is calculated for all currencies to which the Group is exposed;
- the *net interest margin* sensitivity to variations in interest rates in various stress scenarios takes into account the sensitivity which is generated by future commercial productions over a three-year rolling horizon. It is calculated on a dynamic basis.

Economic value sensitivity limits are set for each entity and are periodically reviewed by the Group Finance Division. The Group's global sensitivity limit is currently set at EUR 1 billion, which represents 2.5 % of Societe Generale's total regulatory capital.

## INTEREST RATE RISK INDICATORS AT END-2012

### Measurement of the sensitivity of the balance sheet's economic value to interest rate movements

The Group's sensitivity to interest rate variations represented EUR 665 million at 31 December 2012 (for a 1 % parallel and instantaneous rise of the yield curve). In 2012, the Group's global sensitivity remained substantially below the established limit of EUR 1 billion, which represents 2.5 % of Societe Generale's total regulatory capital.

**Table 56: Sensitivity to interest rate changes by currency**

<i>(in EUR m)</i>	Parallel increase in interest rates of 100 bp							Total
	EUR	USD	GBP	JPY	CZK	RUB	Other	
<i>Sensitivity by currency</i>								
At 31/12/2012	359.6	(8.2)	(1.9)	(8.9)	62.3	(27.6)	136.2	<b>504.8</b>
At 31/12/2011	(120.6)	(51.5)	(0.1)	5.8	3.6	(9.2)	76.2	<b>(95.8)</b>

The main assumptions used to measure sensitivity concern loan prepayments and the behaviour of deposits without a contractual term. Loan prepayment assumptions are based on historical data by entity and by type of product.

Modelling the behaviour of deposits without a contractual term identifies a volatile component and a stable component. The volatile component is scheduled on a short-term basis, i.e. one month. The stable component is scheduled to mature over a number of years, depending on the depth and representativeness of the historical data. The risk of a liquidity crisis arising in a given country, as provided by the analyses prepared by the Risk Division, is also taken into account.

The results of the analysis of the Group's sensitivity to interest rate variations are different from those published in the 2011 Registration Document, for three reasons: firstly, the prudential scope is different from the accounting scope. Secondly, in the common scope, it was only possible to take into account 90 % of outstanding amounts when the Registration Document was produced compared with 100 % for Pillar 3. Finally, unlike the Registration Document, the calculations for interest rate risk sensitivity used in this report also take into account optional elements relating to the French Networks, inherent notably in mortgages and mortgage savings plans (PEL).

## Measurement of the sensitivity of the interest margin to interest rate variations

The Group analyses the sensitivity of earnings to variations in market interest rates using stress tests on the net interest margin.

At 31 December 2012, the Group's net interest margin sensitivity was as follows:

**Table 57: Sensitivity of the Group's interest margin**

<i>(in EUR m)</i>	31 Dec. 2012	31 Dec. 2011
Parallel increase in interest rates of 200bp	52.6	124.4
Parallel decrease in interest rates of 200bp	(188.4)	(227.2)
Parallel increase in interest rates of 100bp	5.0	63.6
Parallel decrease in interest rates of 100bp	(111.3)	(110.0)
Steepening	(44.6)	35.0
Flattening	(42.5)	(84.1)

Calculations are based on aggregate estimates at 31 December of a scope of consolidated entities representing 81 % of the total interest margin over a full year, excluding insurance and capital market activities.

The dynamic vision of the balance sheet varies according to the amortisation of outstanding transactions and transaction renewals based on outstanding amounts budgeted for 2013. The flattening scenario used for the simulation allows for a 100bp increase in short-term rates with long-term rates remaining constant. The flattening assumptions used allow for a 100bp increase in long-term rates with short-term rates remaining constant.

The Societe Generale Group's interest margin sensitivity over the full year 2013 is relatively low. In the event of a parallel shift in the yield curves of +200bp, the sensitivity is positive and represents less than 1 % of regulatory capital.

The net interest margin sensitivity mainly stems from the impact on:

- customer deposits: generally little or no interest is paid on deposits, and pricing is only partly impacted by fluctuations in interest rates, as the margin on deposits is mainly derived from reinvestment rates.
- new loan production, for which pricing is not adjusted as quickly as market rates.

The margin sensitivity on outstanding customer transactions results from the renewal of amounts due on reinvested deposits, the residual sensitivity to interest rate variations, which is low thanks to hedging, and the use of variable-rate positions (this is the case for the majority of private banking commitments).

The French and International Retail Banking activities are favourably exposed to a rise in interest rates, as deposits can then be reinvested at higher rates, while margins on outstanding loans remain stable. This increase in margin is, however, partially offset by the fall in margins on new loan production (loan rates do not adjust as quickly as market rates) and by an increase in funding costs. Conversely, retail banking activities are unfavourably exposed to a fall in interest rates as deposits are then reinvested at lower rates and the margin on outstanding loans falls due to prepayments. This fall in margin is partially offset by the rise in margins on new loan production (customer loan rates do not fall as quickly as market rates) and by a reduction in funding costs.

In an environment of low interest rates with a probability that rates will rise, the retail networks' margin is favourably exposed to an increase in interest rates as this means that deposits can be reinvested at higher rates, while the margin on outstanding loans remains stable.

Margins on the Specialised Financial Services businesses generally respond to interest rate shocks inversely to retail network margins. For new production, the time lags in this division mean that the transfer of new prices to customers is very limited. In the event of an increase in interest rates, the interest margin declines temporarily as loan pricing does not react as quickly as market rates. Conversely, if interest rates fall, the Specialised Financial Services business generally benefits from a temporary increase in its margin.



# 8

## LIQUIDITY RISK



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Liquidity risk is defined as the risk of not being able to meet cash flow or collateral requirements when they fall due and at a reasonable price.

A structural liquidity position is defined as resulting from the maturities of all balance sheet or off-balance sheet outstanding positions, according to their liquidity profile, determined either based on the contractual maturity of the transactions, or, for non-maturing products, based on a maturity modelled using historic client behaviour or a conventional maturity.

The Group manages this exposure using a specific framework designed to manage liquidity risk both under normal day-to-day conditions and in the event of a potential liquidity crisis.

## ORGANISATION AND GOVERNANCE

### Organisation of liquidity risk management

Since 1 January 2011, liquidity risk steering, management and monitoring have been provided by two distinct entities of the Group Finance Division, in compliance with the regulatory principles that advocate a separation of risk steering and monitoring functions (for a detailed description of these two entities refer to page 245 of the Registration Document on the structural risks governance).

In addition, several Risk Division departments contribute, together with the Finance Division, to the operational supervision of liquidity risk. Their actions are coordinated by the Cross-Business Risk Monitoring Department for the Group Chief Risk Officer. Specifically, they relate to:

- the independent review of capital market models;
- validation of all the Group's liquidity models within the framework of centralised governance;
- examination of requests for risk limits relating to liquidity risk metrics and monitoring of any limit breaches.

### Governance

The principles and standards applicable to the management of liquidity risks are defined at the Group level.

The business divisions and major Group entities manage liquidity under the direct supervision of the Group Finance Division.

The other operating entities are responsible for managing their own liquidity and for adhering to applicable regulatory constraints, under the supervision of the business division to which they report. The entities submit reports on their structural liquidity risk to the Group via a shared IT system.

In 2012, the Group's Balance Sheet and Global Treasury Management Department had full responsibility for managing the Group's liquidity and functionally supervised the Corporate and Investment Banking division's Treasury Department.

The main functions of the Group's governing bodies in the area of liquidity are listed below:

- **The Group's Board of Directors:**
  - meets on a quarterly basis to examine the liquidity risk situation and to follow up on its past decisions;
  - conducts an annual review of the liquidity risk management and monitoring system;
  - establishes the level of liquidity-related risk tolerance, including the time period during which the Group can operate under conditions of stress ("survival horizon") as part of determining the Group's risk appetite;
  - monitors adherence to the main liquidity limits.
- **General Management:**
  - presents a framework of Group-wide liquidity risk tolerance levels to the Board of Directors for validation to help determine the Group's risk appetite;
  - sets the liquidity limits for the Group and for each business division, and per major Group entity;
  - monitors adherence to liquidity limits by the Group and by each business division;

- validates remedial action plans in the event that liquidity limits are exceeded at the Group or business division level.

■ **The Finance Committee:**

- meets at least quarterly under the chairmanship of the Chairman and Chief Executive Officer or a Deputy Chief Executive Officer with the representatives from the different corporate divisions and business divisions;
- readies the decisions of the General Management in the areas of general policy, liquidity risk tolerance and liquidity limits;
- ensures the adequacy of the risk management and control system;
- examines and validates the measures advocated by the Balance Sheet and Global Treasury Management Department and the ALM Risk Control Department;
- monitors developments in the liquidity situation within the Group's scope of management.

## REGULATORY CHANGES

Regulatory changes in liquidity management are coordinated by two main bodies:

In December 2009, the Basel Committee defined two standardised regulatory ratios, which are intended to regulate bank liquidity positions. The specific definitions of these ratios were published in the finalised text on December 16, 2010. Its main objective is to guarantee the viability of banks one month and one year into the future, under intense stress conditions.

These ratios can be broken down as follows:

- the Liquidity Coverage Ratio (LCR) aims to ensure that banks have enough liquid assets or cash to survive for one month in a combined stress scenario of a market crisis and another specific crisis;
- the Net Stable Funding Ratio (NSFR) aims to promote longer-term funding, over one year, by comparing banks' long-term funding needs with their resources considered to be stable, under specific stress assumptions.

The implementation timetable for these ratios includes an observation phase and a review clause before they take effect:

- for the LCR: observation from January 2012 with implementation scheduled for 1 January 2015;
- for the NSFR: observation from January 2012, with implementation scheduled for 1 January 2018.

*In 2012, the Basel Committee finalised most of its revision work on the short-term ratio. The revised LCR was published on 7 January 2013.*

*Starting in 2013, the Basel Committee will be working on the relationship between the LCR and the credit lines granted by central banks, the liquidity disclosure requirements, liquidity indicators (spreads, diversity of counterparties, etc.) and on NSFR ratio specifications.*

The European Commission has undertaken to transpose the Basel 3 agreements (capital and liquidity) of December 2010 into European law. According to the co-decision procedure known as the "ordinary legislative procedure", EU legislation is adopted jointly by the Parliament and the Council on recommendation from the Commission.

The Regulation that defines the liquidity ratios associated with CRD 4 will be enforced in the form in which it is published. CRD 4 will be transposed into the national law of each of the Member States before its entry into force.

The vote on the text, initially planned for July 2012, should take place in 2013. The date of implementation of the text is not yet known. The most recent compromise confirms that there will be:

- a reporting obligation, for each legal entity, on the items that comprise the LCR and the NSFR ratios, during the EU's own observation period.
- a central role for the European regulator (EBA - European Banking Authority) during the work that will take place before and during the observation period.
- compliance with the LCR by 1 January 2015 at the earliest.

On the basis of the EBA's recommendations the European Commission may modify the definition of the ratios by delegated act after the observation period.

Since 2012, Societe Generale has been working diligently to transpose the Basel document into a banking standard to be enforced Group-wide in terms of standards and oversight. The documentation on the banking standard is updated based on regulatory developments.

- The automation of the liquidity ratio calculation was begun in the first quarter of 2012 and will continue into 2013. The Group has acquired a shared and centralised tool in order to:
  - ensure the consistency of the metrics and their proper application Group-wide;
  - be in a position to generate the required regulatory reports, particularly those required by CRD4.

## UNDERLYING PRINCIPLES OF LIQUIDITY MANAGEMENT

### Group objective, principles and challenges

The Group's overriding objective is to ensure the funding of its activities in the most cost-effective way by managing liquidity risk and by adhering to regulatory limits.

In 2012, the Group strengthened the management of its balance sheet structure, i.e. the absolute limit on borrowing on the financial market, both short term and long term, with a view to securing its liabilities and optimising its funding structure. With this in mind, structural efforts were made to rebalance liabilities toward customer deposits and to rebalance its long-term funding.

Furthermore, during the first half of 2012 the Group conducted, at the request of General Management, a strategic review of all its businesses from a liquidity standpoint in order to optimise the allocation of this scarce resource in the Group-wide management of its businesses and to set medium-term objectives for the business lines consistent with the Group's strategy.

As a result, the Group's operating principles for liquidity management introduced in 2011 were maintained and strengthened in 2012, namely:

#### GROUP FUNDING

1. The dynamic management and coordination of the businesses' funding requirements from the Group, consistent with the Group's fund-raising capacity and in line with the objectives established by the General Management.
2. The scope of the plan for short- and long-term funding, in addition to customer deposits, is managed conservatively, with respect to the concentration on the wholesale short and long-term sources of funding, while ensuring diversification in terms of products and regions.
3. Conservative and close monitoring of short-term liquidity and the Group's footprint in the markets. The Treasury Department of the Corporate and Investment Banking division manages the Group's short-term liquidity by delegation and monitors its liquidity gap under stress scenarios, taking into account assets eligible for central bank refinancing operations. A weekly Liquidity Committee meeting, chaired by the Chief Financial Officer and attended by the Chief Risk Officer, the Head of SG CIB, the Treasurer of SG CIB and the Head of the Balance Sheet and Global Treasury Management Department, assesses the Bank's short-term liquidity situation and makes management decisions according to the market environment by delegation from the Finance Committee.

#### LIQUIDITY RISK

4. Using internal stress tests to ascertain that the time limit during which the Group can continue to operate under liquidity stress conditions, whether systemic, specific or a combination thereof, is met as established by the Board of Directors.
5. Defining, measuring and managing business line liquidity gaps. The businesses must respect the principle of a zero or small gap, averting any risk of mismatch.

6. Actively managing eligible assets. The Group has set the aim of optimising the management of the pool of assets eligible for the various refinancing mechanisms (central bank refinancing operations, société de crédit foncier, securitisation, etc.) using a centralised application that creates an inventory of saleable assets to allow for optimum allocation and secure management of these asset pools.

### REGULATORY REQUIREMENTS

7. Implementing a Group oversight structure, taking due account of regulatory ratios (LCR, NSFR) and overseeing the contribution of the business lines to these ratios.

The key indicator regulatory framework, which was initiated in the first half of 2011 by the Group, created the conditions for setting targets and limits for each business division and major entity in 2012 covering the 2012-2015 period for most key liquidity indicators validated by General Management.

### Key liquidity performance indicators

Oversight of liquidity by the Group Finance Division notably entails:

1. From a quality standpoint: direct supervision of the liquidity of the business divisions and major entities;
2. From a quantity standpoint: supervision of the Group, business divisions and business lines, and monitoring of several key indicators defined in order to keep the General Management informed, some of which are an integral part of the targets and limits defined as part of the Group's Risk Appetite system.

### QUALITATIVE OVERSIGHT OF THE LIQUIDITY REQUIREMENTS OF THE GROUP, BUSINESS DIVISIONS AND MAJOR ENTITIES:

Liquidity supervision of the business divisions and major entities by the Group Finance Division aims at setting out the main business line oversight objectives, as well as ensuring that any necessary operational considerations are reported to the Group.

With this in mind, the Group Finance Division takes part in meetings of the ALM Committees and Funding Committees of the business divisions and major entities, both in France and abroad. It also participates in Group-level cross-business analyses on the targets and trends of the Group and its businesses.

### QUANTITATIVE LIQUIDITY PLANNING FOR THE GROUP, THE DIVISIONS, THE MAJOR ENTITIES AND THE BUSINESS LINES:

Based on a current and forward-looking view, the main oversight indicators are subject to limits and close monitoring.

#### 1. Net Group funding needs of the business divisions and Group Treasury Resources

- a. Budget caps and oversight of the business lines' short- and long-term funding requirements.
- b. Oversight of the absolute and relative level and maturity of liabilities and their suitability for the business lines' funding requirements.
- c. The net funding requirements of the business divisions and major entities in terms of liquidity are supervised and managed monthly, consistent with the Group's market fund-raising capacity, the structure of the Group's balance sheet and the business lines' business and development plan.

#### 2. The Group's regulatory liquidity: monitoring the Basel LCR and NSFR ratios.

- a. Budget limits and consolidated view of liquidity by business division and major entity.
- b. Oversight of the business divisions' contribution to the Group's regulatory liquidity shortage or surplus by means of implementing specific action plans in all of the Group's business lines.

#### 3. Liquidity gaps and stress

- a. Zero or low liquidity gap limits at the Group, business division and major entity level.
- b. Determination by the General Management of the time period during which the Group can continue to operate in a liquidity stress scenario, reviewed quarterly by the Board of Directors and monitored daily by the Finance Division.

#### 4. French Prudential Supervisory Authority's Liquidity Ratio

- a. Monitoring Societe Generale SA's 1-month liquidity ratio under current French law.

In accordance with Instruction No. 2009-05 of 29 June 2009, in 2012, Societe Generale SA. systematically maintained a ratio above the required regulatory minimum.

## UPDATE ON THE PROGRESS OF DEPLOYMENT OF THE GROUP LIQUIDITY MONITORING TOOL

The Group's liquidity information system (BASYLIQ) was rolled out in 2012. It covers the Group's entire prudential reporting scope and consolidates the data output by the operational systems and ALM calculators of the business divisions and entities (SGPM and non-SGPM) into a data model and a single reference system standardised by the Group.

Most of the Group's balance sheet receives detailed input from the ALM calculators (Corporate and Investment Banking, Retail Banking in France, Crédit du Nord, Private Banking and Global Investment Management and Services in part). Other entities report at this stage via a new consolidated reporting phase with an improved level of detail and a higher reporting frequency (monthly). The largest entities in this remaining scope will be gradually switched to a Group ALM management tool.

With this new system, as from March 2012, the static gaps of the Group and of the different liquidity monitoring scopes (Group, business divisions, business lines and entities) have been produced on an automated and monthly basis.

These gaps are based on modelled agreements validated at the Group Validation Committee meetings that have been held since 2011, which have allowed the scopes covered by the models to be expanded (in particular for Corporate and Investment Banking) and most of the existing models to be updated.

The production process for the new Liquidity Information System was, subsequently, gradually broadened and improved in terms of deadlines and stability of the chain as well as the enrichment of the portfolio of indicators and reports produced:

- The Basel ratios (LCR and NSFR) have therefore been generated from BASYLIQ input since the June 2012 closing, across all scopes (except for CIB and the Corporate Center, whose ratios will be generated by a new tool starting with the end-2012 account closing).
- Stress gaps, based on upstream modelling and validation work under various stress scenarios (drawing in particular on the lessons learned from the crisis in the second half of 2011) were approved for use starting at the end of 2012 account closing, across the entire Group areas where liquidity issues are significant.



# 9

## OPERATIONAL RISKS



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## OPERATIONAL RISK MANAGEMENT: ORGANISATION AND GOVERNANCE

Over the last few years, Societe Generale has developed processes, management tools and a control infrastructure to enhance the control and management across the Group of the operational risks that are inherent to its various activities. These include, among others, general and specific procedures, permanent supervision, business continuity plans<sup>(1)</sup>, New Product Committees<sup>(2)</sup> and functions dedicated to the oversight and management of specific types of operational risks, such as fraud, risks related to payment systems, legal risks<sup>(3)</sup>, information system security risks<sup>(4)</sup> and non-compliance risks<sup>(5)</sup>.

### The Operational Risk Department

The Operational Risk Department was incorporated within the Group's Risk Division in 2007. It works in close cooperation with operational risk staff in the Core Businesses and Corporate Divisions.

The Operational Risk Department is notably responsible for:

- running the Operational Risk function;
- devising and implementing Societe Generale's operational risk control strategy, in cooperation with the Core Businesses and Corporate Divisions;
- promoting an operational risk culture throughout the Group;
- defining, at Group level, methods for identifying, measuring, monitoring, reducing and/or transferring operational risk, in cooperation with the Core Businesses and Corporate Divisions, in order to ensure consistency across the Group;
- preparing a global Group business continuity plan (BCP) and crisis management policy, managing the policy and coordinating its implementation.

### The operational risk function

In addition to the Operational Risk Department, the operational risk function includes Operational Risk Managers (ORMs) in the Core Businesses and Corporate Divisions, who are under the operational authority of the Group's Chief Operational Risk Officer.

ORMs operate throughout the Group's entities and are responsible for implementing the Group's procedures and guidelines, and for monitoring and managing operational risks, with the support of dedicated operational risk staff in the business lines and entities and in close collaboration with the respective entities' line management.

Operational Risk Committees have been set up at Group level, as well as at Business Division, Corporate Division and subsidiary levels.

(1) See chapter 5 of the Registration Document, Chairman's Report on internal control and risk management, page 106 and Chapter 9, page 255.

(2) See chapter 5 of the Registration Document, Chairman's Report on internal control and risk management, page 108.

(3) See chapter 9 of the Registration Document, page 259.

(4) See chapter 5 of the Registration Document, Chairman's Report on internal control and risk management, page 112.

(5) See chapter 8 of the Registration Document, page 198 and chapter 9, page 258.



## OPERATIONAL RISK MEASUREMENT

Since 2004, Societe Generale has used the Advanced Measurement Approach (AMA), as proposed by the Capital Requirements Directive, to measure operational risk. This approach notably makes it possible to:

- identify i) the businesses that have the greatest risk exposures and, ii) the types of risk that have the greatest impact on the Group's risk profile and overall capital requirements;
- enhance the Group's operational risk culture and overall management, by introducing a virtuous circle of risk identification, improved risk management and risk mitigation and reduction.

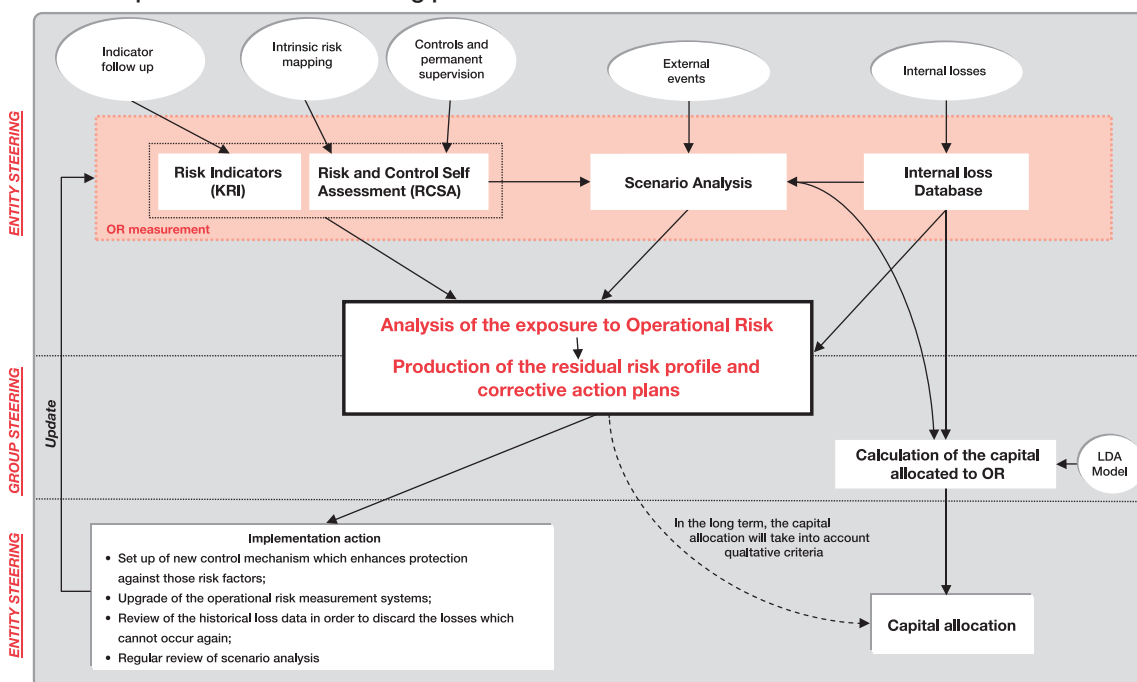
In 2007, the French Prudential Supervisory Authority (ACP) conducted an in-depth review of the system in place at Societe Generale. As a result, it authorised the Group to use the most advanced measurement approach, as defined by the Basel 2 Accord (i.e. the AMA or Advanced Measurement Approach) to calculate the Group's capital requirements for operational risks, starting from 1 January 2008. This authorisation covers more than 90% of the Societe Generale Group's total net banking income. A few subsidiaries still use the standardised approach. A gradual transition to the advanced measurement approach is in place for some of them.

## OPERATIONAL RISK MONITORING PROCESS

The frameworks specifically established by the Basel 2 regulations (the Capital Requirements Directive and "Sound practices for the management and supervision of operational risk") have been implemented, on the basis of existing procedures wherever possible, to support the "virtuous circle" referred to previously. They notably include:

- gathering of internal data on operational risk losses;
- Risk and Control Self-Assessment (RCSA) processes;
- Key Risk Indicators (KRI);
- scenario analyses;
- analysis of external loss data;
- crisis management and business continuity planning;
- combating fraud.

Table 58: Operational risk monitoring process



Societe Generale’s classification of operational risks into eight event categories and forty-nine mutually exclusive sub-categories is the cornerstone of its risk modelling, ensuring consistency throughout the system and enabling analyses across the Group.

Table 59: Event types in operational risk monitoring

	Event type
1	Commercial disputes
2	Disputes with authorities
3	Pricing or risk valuation errors
4	Execution errors
5	Fraud and other criminal activities
6	Rogue trading
7	Loss of operating resources
8	IT system interruptions

### Internal loss data collection

Internal loss data has been compiled throughout the Group since 2003, enabling operational staff to:

- define and implement the appropriate corrective actions (changes to activities or processes, strengthening of controls, etc.);
- build expertise in operational risk management concepts and tools;
- achieve a deeper understanding of their risk areas;
- help foster an operational risk culture throughout the Group.

The minimum threshold above which a loss is recorded is EUR 10,000 throughout the Group, except for Corporate and Investment Banking, where this threshold is EUR 20,000 due to the scope of its activity, the volumes involved and the relevance of regulatory capital modelling points. Below these thresholds, loss information is collected by the Group’s various divisions but is not identified by the Operational Risk Department.

## Risk and Control Self-Assessment (RCSA)

The purpose of Risk and Control Self-Assessment (RCSA) is to assess the Group's exposure to operational risks in order to improve their monitoring. Based on the results of other operational risk management frameworks (internal losses, KRI, etc.), risk areas identified by functions for their respective fields of expertise, and interviews with Group experts, its objectives are as follows:

- identifying and assessing the major operational risks to which each business is inherently exposed (the "intrinsic" risks), while disregarding prevention and control systems. Where necessary, risk mapping established by the functions (e.g. Compliance, Information Systems Security, etc.) contribute to the evaluation of intrinsic risks;
- assessing the quality of major risk prevention and mitigation measures, including their existence and effectiveness in detecting and preventing major risks and/or their capacity to reduce their financial impact;
- assessing the major risk exposure of each business that remains once the risk prevention and mitigation measures are taken into account (the "residual risk"), while disregarding insurance coverage;
- correcting any deficiencies in risk prevention and mitigation measures and implementing corrective action plans;
- facilitating and/or supporting the implementation of key risk indicators;
- adapting the risk insurance strategy, if necessary.

As part of this exercise, major risks of a given scope are described using a double scale of severity and frequency.

## Key Risk Indicators (KRI)

KRIs supplement the overall operational risk management system, by providing a dynamic view of changes in business line risk profiles as well as a warning system. Regular KRI monitoring assists managers of the entities in their assessment of the Group's operational risk exposure obtained from the RCSA, the analysis of internal losses and scenario analyses, by providing them with:

- a quantitative, verifiable risk measurement;
- a regular assessment of the improvements or deteriorations in the risk profile and the control and prevention environment which require particular attention or an action plan.

KRIs that may have a significant impact on the entire Group are reported to the Group's General Management via a relevant KRI dashboard.

## Scenario analyses

Scenario analyses serve two purposes: informing the Group about potential significant areas of risk and contributing to the calculation of the capital required to cover operational risks.

For the calculation of capital requirements, the Group uses scenario analyses to:

- measure its exposure to potential losses arising from low frequency/very high severity events;
- provide an expert's opinion of loss distribution for event categories with insufficient internal loss data history.

In practice, various scenarios are reviewed by experts, who gauge the severity and frequency of the potential impacts for the Bank by factoring in internal and external loss data as well as the internal framework (controls and prevention systems) and the external environment (regulatory, business, etc.). The potential impacts of various scenarios are combined to obtain the loss distributions for the risk category in question.

Analyses are undertaken for two types of scenarios:

- major Group stress scenarios, involving very severe events that cut across businesses and departments, having an external cause in most cases and requiring, if necessary, a business continuity plan (BCP). The scenarios of this type analysed so far have helped to develop the Business Impact Analysis aspects of the BCPs;
- business line scenarios that do not, strictly speaking, fall into the category of business continuity, but are used to measure the unexpected losses to which the businesses may be exposed. Specific actions are performed in order to prevent the portfolio from being diluted over too many scenarios and to maintain the system's focus on risks that could severely impact the Group.

Governance is established in order to, notably:

- allow validation of the scenarios by the senior management of core businesses and Corporate Divisions, through internal control coordination committees (CCCI) for the departments involved;
- conduct an overall review of the Group's risk hierarchy and the appropriateness of scenarios through the "Expert Committees", chaired by the Group Chief Risk Officer and the Corporate Secretary;

## Analysis of external losses

Societe Generale also uses externally available loss databases to enrich the identification and assessment of the Group's exposures to operational risks, by benchmarking internal loss records against industry-wide data.

## Crisis management and business continuity planning

In order to cover the risk of a crisis affecting the Group's staff, buildings and IT systems, the "Crisis Management" function, steered by the Operational Risk Department, aims to prevent health and safety risks, and to define and maintain the crisis system in operating condition.

The Group also prepares to face all kinds of disasters (loss of operating resources, failures, lack of human resources, etc.) by developing business continuity plans. To do this, it draws on a methodological approach based on international standards and regularly tests its emergency mechanisms.

## Combating fraud

The Group pays particular attention to preventing and detecting fraud. Losses due to fraud have dropped steadily since 2008, notably due to the implementation of effective systems in all business and corporate divisions. Since the end of 2009, an anti-fraud coordination unit within the Operational Risk Department has been supplementing these specific systems. Its primary goal is to be a centre of expertise in order to strengthen fraud prevention through Group-wide initiatives (training and awareness-raising) as well as to disseminate best practices issued from lessons learned from established or prevented cases of fraud, or to carry out more focused actions for evaluating and managing specific risks.

## OPERATIONAL RISK MODELLING

The method used by the Group for operational risk modelling is based on the Loss Distribution Approach (LDA).

Under this approach, operational risks are modelled using 22 segments, each representing a type of risk and a Group core business. The frequency and severity of operational risks, based on past internal losses, external losses, or scenario analyses, are estimated and the distribution of annual losses is calculated for each segment. This approach is supplemented by transversal scenario analyses that measure cross-business risks for core businesses, such as, for example, property destruction and pandemic risks.

Aside from the individual risks associated with each segment or cross-business scenario analysis, the model takes into account the diversification between various types of risks and core businesses, as well as the effect of insurance underwriting.

The Group's regulatory capital requirements for operational risks within the scope eligible for the AMA (Advanced Measurement Approach) internal model are then defined as the 99.9% quantile of the Group's annual loss distribution.

Societe Generale's capital requirements for operational risks were EUR 3.3 billion at the end of 2012, representing EUR 41.3 billion in risk-weighted assets. This assessment integrates capital requirements on both the AMA and Standard scopes.

### Insurance cover in risk modelling

In accordance with regulations, Societe Generale incorporates risk cover provided by insurance policies when calculating regulatory capital requirements for operational risks, within the limit of 20% of said requirements.

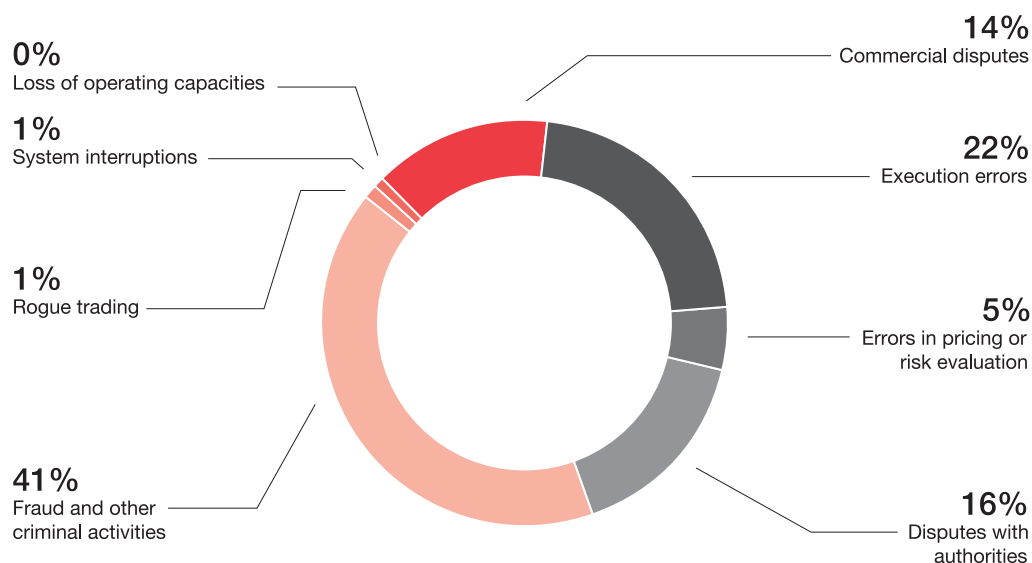
These insurance policies cover part of the Group's major risks, i.e. civil liability, fraud, fire and theft, as well as systems interruptions and operating losses due to a loss of operating resources.

Taking into account risk reduction through insurance policies results in an 18.8% reduction of total capital requirements for operational risks.

## QUANTITATIVE DATA

The following chart breaks down operating losses by risk category for the 2008-2012 period.

Table 60: Operational risk losses: breakdown by SG risk event type (from 2008 to 2012)



Societe Generale's operational risks are concentrated in four risk categories, which account for close to 93% of the Group's total operating losses (excluding the exceptional rogue trading loss):

- on average, fraud accounted for 41% of the losses incurred (34% in external fraud) over the 2008 to 2012 period. The incidents were divided between a handful of large, isolated losses and a number of small losses, mainly consisting of fraud by using forged documents to obtain loans. Frauds are the main source of losses (especially in number of incidents) for the Retail Banking and the Specialised Financial Services activities. A difficult economic background, with tight credit terms, cyber criminality development and, more marginally, domestic and international electronic money fraud increase for all distribution channels, explain the current proportion of frauds. Concerned Business Lines have launched action plans, especially since 2011;

- execution errors accounted for 22% of losses, the second most frequent source of losses for the Group in number of incidents. The amount of losses is globally decreasing but is volatile, linked to business volumes and markets volatility;
- disputes with the authorities accounted for 16% of overall losses, mainly linked to tax reassessments. Disputes with the authorities will likely increase, due to tighter regulations (strengthening of embargo rules, anti-money laundering, etc.);
- commercial disputes accounted for 14% of losses. Despite the economic recession, commercial disputes were limited, with very few major incidents in the last three years. Nevertheless, commercial disputes experienced by other banks (especially in the US) call for continued vigilance, particularly regarding the selection of products sold, their compliance and the quality of their documentation.

The other categories of Group operational risks (rogue trading, IT system interruptions, pricing or risk valuation errors and loss of operating resources) were still fairly insignificant, representing barely 7% of the Group's losses on average over the 2008 to 2012 period.

## OPERATIONAL RISK INSURANCE

### Description of insurance policies

#### GENERAL POLICY

Since 1993, Societe Generale has implemented a global policy of hedging Group operational risks through insurance. This consists in searching the market for the broadest and highest levels of guarantee with regard to the risks incurred and enabling all entities to benefit from these guarantees wherever possible. Coverage is taken out with leading insurers. Where required by local legislation, local policies are taken out, which are then reinsured by insurers that are part of the global programme.

In addition, special insurance policies may be taken out by entities which perform specific activities.

A Group internal reinsurance company intervenes in several policies in order to pool high frequency, low-level risks between entities. This approach contributes to the improvement of the Group's knowledge and management of its risks.

### Description of coverage

#### GENERAL RISKS

Buildings and their contents, including IT equipment, are insured at their replacement value. The guarantee covering acts of terrorism abroad has been renewed.

Liability other than professional liability (i.e. relating to operations, Chief Executive Officers and Directors, vehicles, etc.) is covered by insurance policies around the world. The amounts insured vary from country to country to meet operating requirements.

#### RISKS ARISING FROM OPERATIONS

Insurance is only one of the measures to offset the consequences of the risks inherent in the Group's activity. It complements the risk monitoring policy led by the Group.

#### THEFT/FRAUD

These risks are included in the "Bankers Blanket Bond" policy that insures all the Bank's financial activities around the world. Fraudulent actions by an employee or by a third party acting on its own or with the aid of an employee with the intent to obtain illicit personal gain or through malice (which implies the desire to harm the Group) are covered.

**PROFESSIONAL LIABILITY**

The consequences of any legal action against staff or managers as a result of their professional activity are insured under a global policy

**OPERATING LOSSES**

The consequences of any accidental interruptions to activity are insured under a global policy. This policy supplements the business continuity plans. The amounts insured are designed to cover losses incurred between the time of the event and the implementation of an emergency solution.







# GLOSSARY



**Acronyms**

<b>ACRONYM</b>	<b>DEFINITION</b>
<b>ABS</b>	Asset Backed Securities
<b>CDS</b>	Credit Default Swap
<b>CDO</b>	Collateralised Debt Obligation
<b>CLO</b>	Collateralised Loan Obligation
<b>CMBS</b>	Commercial Mortgage Backed Securities
<b>CRD</b>	Capital Requirements Directive
<b>EAD</b>	Exposure at Default
<b>EL</b>	Expected Loss
<b>LGD</b>	Loss Given Default
<b>PD</b>	Probability of Default
<b>RMBS</b>	Residential Mortgage Backed Securities

**ABX (Asset Backed Securities) index:** synthetic index based on 20 liquid sub-prime RMBS securitisation tranches. It is used in the valuation of securitisations related to sub-prime residential mortgages.

**Asset backed Securities (ABS):** see securitisation.

**Basel 1 (Accord):** prudential framework established in 1988 by the basel Committee to ensure solvency and stability in the international banking system by setting an international minimum and standardised limit on banks' capital bases. It notably establishes a minimum capital ratio—a proportion of the total risks taken on by banks—which must be greater than 8%. (SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012).

**Basel 2 (Accord):** prudential framework used to better assess and limit banks' risks. It is focused on banks' credit, market and operational risks. These provisions prepared by the basel Committee were adopted in Europe through a European directive and implemented in France effective 1 January 2008. (SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012).

**Basel 3 (Accord):** further changes to prudential standards which included lessons from the 2007-2008 financial crisis. They supplement the basel 2 accords by improving the quality and quantity of banks' required capital. They also implement minimum requirements in terms of liquidity risk management (quantitative ratios), define measures to limit the financial system's procyclicality (capital buffers that vary according to the economic cycle) and even strengthen requirements related to systemically significant banks (SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012).

**Basis point:** one hundredth of one per cent (0.01%); i.e., 100 basis points represents 1%.

**Bond:** a bond is a fraction of a loan, issued in the form of a security, which is tradable and—in a given issue—confers the same rights to a claim for the same face value (the issuer being a company, public sector entity or government).

**CMBX (Commercial Mortgage backed Securities) index:** synthetic index based on 25 liquid CMBS securitisation tranches. It is used in the valuation of securitisations related to commercial mortgages.

**Collateral:** transferable asset or guarantee used as a pledge for the repayment of a loan in the event that the borrower cannot meet its payment obligations (SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012).

**Collateralised debt obligation (CDO):** see securitisation.

**Collateralised Loan obligation (CLO):** see securitisation.

**Commercial mortgage backed Securities (CMBS):** see securitisation.

**Comprehensive Risk measurement (CRM):** additional capital charge to the Incremental Risk Charge (IRC) on the correlation portfolio of credit activities required which accounts to specific pricing risks (spread, correlation, recovery, etc.). The CRM is a 99,9 % value at risk that is the largest risk that would occur after eliminating the top 0,1 % of the most adverse occurrences.

**Core Tier 1 ratio:** ratio between Core Tier 1 capital and risk-weighted assets.

**Cost/income ratio:** ratio indicating the share of net banking Income (NBI) used to cover the company's operating costs. It is determined by dividing operating expenses by the NBI.

**Cost of risk in basis points:** the cost of risk in basis points is calculated using the ratio of the net cost of commercial risk to loan outstandings at the beginning of the period.

**CRD3:** European Directive in which the Basel Committee proposals were transposed in July 2010 and implemented beginning 31 December 2011. In July 2009, this committee published new proposals known as Basel 2.5 regarding market risk to better incorporate the risk of default or rating migration for assets in the trading book (tranche and untranche assets), and to reduce the procyclicality of Value at Risk (VaR).

**CRD4:** European Directive which will transpose the Basel 3 Accord proposals (see glossary definition).

**Credit and counterparty risk:** risk of losses arising from the inability of the Group's customers, issuers or other counterparties to meet their financial commitments. Credit risk also includes the counterparty risk linked to market transactions, as well as that stemming from securitisation activities.

**Credit default Swaps (CDS):** insurance mechanism against credit risk in the form of a bilateral financial contract, in which the protection buyer periodically pays the seller in return for a guarantee to compensate the buyer for losses on reference assets (government, bank or corporate bond) if a credit event occurs (bankruptcy, default, moratorium, restructuring) (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Credit derivative:** a financial product for which the underlying asset is a receivable or a security representing a receivable (bond). The purpose of a credit derivative is to transfer credit risk without transferring the asset itself, for hedging purposes. One of the most common forms of credit derivatives is a Credit Default Swap (CDS, see definition) (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Credit Value at Risk (CVaR):** the largest loss that would be incurred after eliminating the top 1% of the most adverse occurrences, used to set the risk limits for individual counterparties.

**Deleveraging:** reduction in the level of banks' debt leverage which can be achieved through various methods, notably by reducing the size of the balance sheet (sale of assets, slowdown in the distribution of new loans) and/or increasing capital (recapitalisation, retained earnings). This financial adjustment process often has negative impacts on the real economy, especially through a contraction of credit supply (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Derivative:** a financial asset or financial contract, the value of which changes based on the value of an underlying asset, which may be financial (equities, bonds, currencies, etc.) or non-financial (commodities, agricultural commodities, etc.). Depending on the circumstances, this change may be accompanied by a leverage effect. Derivatives can take the form of securities (warrants, certificates, structured EMTNs, etc.) or on the form of contracts (forwards, options, swaps, etc.).

**Expected Loss (EL):** losses that may occur given the quality of a transaction's structuring and all measures taken to reduce risk, such as collateral.

**Exposure at default (EAD):** exposure of the Group in case of a counterparty default. It includes on and off-balance sheet exposures. Off balance sheet exposures are converted to a balance sheet equivalent with internal or regulatory conversion factors (such as drawdown assumption).

**Fair value:** the amount for which an asset could be exchanged or a liability settled, between informed and consenting parties under normal market conditions.

**Haircut:** percentage by which the market value of securities is reduced to reflect their value in the context of stress (counterparty or market stress risk). The extent of the reduction reflects the perceived risk.

**Incremental Risk Charge (IRC):** capital charge required as regards to ratings migration and issuer default risks over a one-year period, on debt instruments of the trading book (bonds and CDS). IRC is a 99,9 % value at risk that is the largest risk that would occur after eliminating the top 0,1 % of the most adverse occurrences.

**Impairment:** recording of probable loss on an asset (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Insurance risk:** beyond asset/liability risk management (interest-rate, valuation, counterparty and currency risk), these include underwriting risk, mortality risk and structural risk of life and non-life insurance activities, including pandemics, accidents and catastrophic events (such as earthquakes, hurricanes, industrial disasters, or acts of terrorism or war).

**Internal Capital Adequacy Assessment Process (ICAAP):** process outlined in Pillar 2 of the Basel Accord, by which the Group verifies its capital adequacy with regard to all risks incurred.

**Investment grade:** long-term rating provided by an external ratings agency, ranging from AAA/Aaa to BBB-/Baa3 for a counterparty or underlying issue. A rating of BB+/Ba1 or lower indicates a non-Investment Grade instrument.

**Liquidity:** for a bank, the capacity to cover its short-term maturities. For an asset, this term indicates the potential to purchase or sell it quickly on the market, with a limited discount (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Liquidity Coverage Ratio (LCR):** this ratio is intended to promote short-term resilience of a bank's liquidity risk profile. The LCR requires banks to hold risk-free assets that may be easily liquidated on markets in order to meet required payments for outflows net of inflows during a thirty-day crisis period without central bank support (source: December 2010 Basel document).

**Loss Given default (LGD):** relation between the loss incurred through exposure to a defaulting counterparty and the amount of the exposure at the time of default.

**Market risk:** risk of decline in the value of financial instruments arising from changes in market parameters, the volatility of these parameters and correlations between them. These parameters include but are not limited to exchange rates, interest rates, and the price of securities (equities, bonds), commodities and derivatives.

**Market stress tests:** in order to evaluate market risks, alongside the internal VaR and SVaR model, the Group measures its risks using stress test simulations to take into account exceptional market occurrences, and which is based on 26 historical scenarios and 8 theoretical scenarios.

**Mezzanine:** form of financing between equity and debt. In terms of ranking, mezzanine debt is subordinate to senior debt, but it is senior to equity.

**Monoline insurer:** insurance company participating in a credit enhancement transaction and which guarantees bond issues (for example, a securitisation transaction), in order to improve the issue's credit rating.

**Netting agreement:** a contract in which two parties to a forward financial instrument, securities lending or resale contract agree to offset reciprocal claims arising from these contracts, with the settlement of these claims based only on the net balance, especially in the event of default or termination. A master netting agreement enables this mechanism to be extended to different kinds of transactions, subject to various framework agreements under a master agreement.

**Net earnings per share:** net earnings of the company (adjusted for hybrid securities recorded under equity instruments) divided by the weighted average number of shares outstanding.

**Net Stable funding Ratio (NSFR):** this ratio aims to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding. This structural ratio has a time horizon of one year and has been developed to provide a sustainable maturity structure of assets and liabilities (source: December 2010 basel document).

**Operational risks (including accounting and environmental risks):** risk of losses or sanctions, notably due to failures in procedures and internal systems, human error or external events, etc.

**Own shares:** shares held by the company, especially as part of the Share buyback programme. Own shares are excluded from voting rights and are not included in the calculation of earnings per share.

**Personal commitment:** represented by a deposit, autonomous guarantee or letter of intent. Whoever makes themselves guarantor for an obligation binds themselves to the creditor to honour that obligation, if the debtor does not honour it themselves. An independent guarantee is an undertaking by which the guarantor binds themselves, in consideration of a debt subscribed by a third party, to pay a sum either on first demand or subject to terms agreed upon. A letter of intent is an undertaking to do or not to do, the purpose of which is the support provided to a debtor in honouring their obligation.

**Probability of default (PD):** probability of a counterparty facing the bank of defaulting within one year.

**Rating:** assessment by a ratings agency (Moody's, Fitch Ratings, Standard & Poor's, etc.) of an issuer's financial solvency risk (company, government or other public institution) or of a given transaction (bond loan, securitisation, covered bond). The rating has a direct impact on the cost of raising capital (*SOURCE: TRANSLATION OF BANQUE DE FRANCE GLOSSARY • DOCUMENTS ET DÉBATS • NO. 4 • MAY 2012*).

**Resecuritisation:** securitisation of an already securitised exposure where the risk associated with underlyings is divided into tranches and, therefore, at least one of the underlying exposures is a securitised exposure.

**Residential mortgage backed securities (RMBS):** see securitisation.

**Return on Equity (ROE):** ratio between the net income restated for interest on hybrid securities recorded under equity instruments and restated book equity (especially hybrid securities), which enables return on capital to be measured.

**Risk appetite:** It is defined as the level of risk, by type and by business that the Group is prepared to incur given its strategic targets. Risk appetite is defined using both quantitative and qualitative criteria. The Risk Appetite exercise is one of the strategic oversight tools available to Group governing bodies.

**Risk weight:** percentage of weighting applied to exposures according to their estimated risk.

**Risk Weighted Assets (RWA):** value of exposure multiplied by its risk-weight.

**Securitisation:** transaction that transfers a credit risk (loan exposure) to a Special Purpose Vehicle that issues, for this purpose, tradable securities sold to investors. This transaction may involve a transfer of outstandings (physical securitisation) or a transfer of risk only (credit derivatives). Securitisation transactions may, if applicable, enable securities subordination (tranches). Under CRD and for the purpose of the Pillar 3 report, only tranching issuances are included. The following products are considered securitisations:

- ABS: Asset Backed Securities;
- CDO: Collateralised Debt Obligation, a debt security backed by an asset portfolio (bank loans (residential) or corporate bonds). Interest and principal payment may be subordinated (tranche creation);
- CIO: Collateralised loan Obligation, a CDO backed by an asset portfolio of bank loans;
- CMBS: Commercial Mortgage Backed Securities, a debt security backed by an asset portfolio of corporate real estate loans leading to a mortgage;
- RMBS: Residential Mortgage Backed Securities, a debt security backed by an asset portfolio of residential mortgage loans.

**Share:** equity stake issued by a company in the form of shares, representing a share of ownership and granting its holder (shareholder) the right to a proportional share in any distribution of profits or net assets as well as a right to vote in a General Meeting of Shareholders.

**Stressed Value at Risk (SVaR):** identical to the VaR approach, the calculation method consists of a “historical simulation” with “one-day” shocks and a 99% confidence interval. Unlike the VaR, which uses 260 scenarios of daily variation year-on-year, the stressed VaR uses a fixed one-year window that corresponds to a historical period of significant financial tensions.

**Structural interest rate and currency risk:** risk of loss or of write-downs in the Group’s assets arising from variations in interest or exchange rates. Structural interest rate and exchange rate risks are incurred in commercial activities and proprietary transactions.

**Subprime:** category of borrower—particularly in the United States—with a poor credit history, be it following one or several defaults, a court order, or even bankruptcy. This borrower category has a low capacity to repay, a low credit rating, a high debt level and/or other criteria for high default risk.

**Systemically Important Financial Institution (SIFI):** the Financial Stability Board (FSB) coordinates all of the measures to reduce moral hazard and risks to the global financial system posed by systematically important institutions (Globally Systemically Important Financial Institutions or G-SIFI). These banks meet criteria defined in the Basel Committee rules included in the document titled “Global systemically important banks: Assessment methodology and the additional loss absorbency requirement” and published as a list in November 2011. This list is updated by the FSB each November (29 banks to date).

**Tier 1 capital:** consolidated core capital less prudential deductions.

**Tier 2 capital:** supplementary capital consisting mainly of subordinated notes less prudential deductions.

**Tier 1 ratio:** ratio between Tier 1 capital and risk-weighted assets.

**Transformation risk:** appears as soon as assets are financed through resources with a different maturity. Due to their traditional activity of transforming resources with a short maturity into longer-term maturities, banks are naturally faced with transformation risk which itself leads to liquidity and interest-rate risk. Transformation occurs when assets have a longer maturity than liabilities; anti-transformation occurs when assets are financed through longer-maturity resources.

**Treasury shares:** shares held by a company in its own equity through one or several intermediary companies in which it holds a controlling share either directly or indirectly. Treasury shares are excluded from voting rights and are not included in the calculation of earnings per share.

**Value adjustment:** individual depreciation recognised through accounting.

**Value at Risk (VaR):** composite indicator used to monitor the Group's daily market risk exposure, notably for its trading activities (99% VaR in accordance with the internal regulatory model). It corresponds to the greatest risk calculated after eliminating the top 1% of most unfavourable occurrences observed over a one-year period. Within the framework described above, it corresponds to the average of the second and third largest losses computed.