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Responding to the EDTF recommendations
A review of 2012 year end reporting

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Preface

Welcome to Deloitte's[1] review of banks' responses to the recommendations of the EDTF's report 'Enhancing the Risk Disclosures of Banks'.

Enhanced risk disclosures are an important opportunity for banks to communicate better with their stakeholders.

The majority of the banks reviewed have considered the recommendations of the Enhanced Disclosure Task Force ('EDTF') in their 2012 reporting, although many had little or no time to implement them due to the report being published in October 2012. As a consequence the banks acknowledge that there will be further enhancements to disclosures in subsequent reporting periods. The level of adoption in 2012 is perhaps reflective of some of the requirements of existing reporting whether under International Financial Reporting Standards ('IFRS'), local company law, local regulator guidance and or industry initiatives (for example in the UK where there is an industry code through the British Bankers' Association ('BBA') for enhanced disclosures in financial statements).

In responding to the main themes of the EDTF recommendations, the banks reviewed have implemented a number of the more qualitative requirements including describing governance processes and controls. Where disclosure recommendations have not been fully adopted this is likely to have been due to the limited time available in responding to the report as in some instances banks will need to develop processes that validate and reconcile information provided by risk functions for financial reporting purposes. We expect these disclosures will develop over time as banks are able to consider the recommendations in more detail, how these apply to their specific circumstances and also to reflect upon market practice as this evolves.

Our report highlights examples of good practice from 2012. We hope you find the report valuable and informative. We look forward to discussing our findings with you.

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1 In this review Deloitte refers to Deloitte LLP. Deloitte LLP is the United Kingdom member firm of Deloitte Touche Tohmatsu Limited ('DTTL').

Executive summary

In October 2012, the EDTF established by the Financial Stability Board ('FSB') published a report titled 'Enhancing the risk disclosures of banks, Report of the Enhanced Disclosure Task Force' ('EDTF Report'). The EDTF Report included 32 recommendations on how banks could enhance their risk disclosures.

We have reviewed the adoption of the recommendations of the EDTF and the application of the more detailed guidance and examples in banks' 2012 year end reporting with a view to identifying areas of good practice for others to consider in their 2013 year end planning.

Our review focuses on the nine banks that were part of the EDTF working group, that report under IFRS, and where reports are available for either October, November or December 2012 year ends namely; Barclays, BNP Paribas, Deutsche Bank, HSBC, ING, Royal Bank of Canada ('RBC'), Santander, Societe General and UBS.[2]

Given the EDTF Report was published in late 2012 it is encouraging that the banks reviewed have considered and adopted some of the recommendations in their 2012 reporting and acknowledge that there will be further enhancements to disclosures in subsequent reporting periods.

In particular the areas which the banks reviewed have more consistently adopted are:

- information on regulatory capital including risk weighted asset ('RWA') information at the consolidated level and the inclusion of a reconciliation between accounting and regulatory capital;
- combined annual reports and pillar 3 reports or publication of both reports simultaneously;
- details of principal risks and uncertainties;
- risk governance structures;
- credit risk disclosure for specific portfolios or exposure types; and
- the application more generally of the qualitative recommendations.

Areas that we expect to see further developments in disclosures are:

- the more widespread inclusion of liquidity and funding measures such as the Net Stable Funding Ration ('NSFR') and the Liquidity Coverage Ratio ('LCR'). This might be driven by investor and market demands but is clearly a sensitive disclosure issue for some banks;
- the inclusion of overall risk appetite metrics and how banks have performed against these;
- quantitative information in respect of market risk, particularly around sensitivity information and back testing details and exceptions;
- stress testing information across many areas including market risk, funding and liquidity;
- more consistency in the inclusion of disclosures on asset encumbrance including quantitative detail; and
- generally through consolidating information, currently in various sections of the annual report, and to reduce the volume of disclosures that are not material, to help improve clarity and reduce clutter.

2 The following banks were also members of the EDTF Task Force however they are not Quarter 4 year end reporters, or are not IFRS reporters: Commonwealth Bank of Australia, Mitsubishi UFJ Financial Group and JP Morgan Chase.

1. Overview of the EDTF principles

The EDTF Report identified seven fundamental principles for risk disclosures to:

1. be comprehensive and include all of the bank's key activities and risks;

2. present relevant information;

3. reflect how the bank manages its risks;

4. be consistent over time;

5. be comparable among banks; and

6. be provided on a timely basis.

In addition to these seven principles, the EDTF Report provided 32 more detailed recommendations intended for users to better understand the following key areas:

- a bank's top and emerging risks;
- a bank's business models, the key risks that arise from them and how these are measured;
- an analysis of the sources of a bank's regulatory capital and information on risk-weighted assets (RWAs) and the reasons for changes in both regulatory capital and RWAs;
- a bank's liquidity position, its sources of funding and the extent to which a bank's assets may be encumbered;
- more detailed credit risk disclosures, specifically concentration risk, the extent of a bank's loan forbearance and how this may affect the level of impaired loans and the quality of collateral mitigating credit risk;
- a bank's market risk measures and how this aligns to its balance sheet; and
- risks that may arise from other areas such as operational risk.[3]

3 A summary of the EDTF recommendations can be found in the Deloitte publication 'Promoting Stability: Insights into new recommendations for banks' risks disclosures' (October 2012).

2. Applying the EDTF recommendations

2.1 The approach to applying the recommendations

The majority of the banks reviewed have specifically referred to the EDTF in their 2012 reporting. BNP Paribas, Deutsche Bank and UBS provide a general statement on applying the recommendations and describe that there will be further disclosure enhancements in 2013. Barclays and Santander refer to improvements in their 2013 disclosures in the context of not only the EDTF but other disclosure initiatives such as the European Banking Authority ('EBA') review of Pillar 3 reports[4] and the BBA Disclosure Code and identify specific areas of disclosure developments. Both HSBC and ING have demonstrated more explicitly where and how they have responded to the EDTF recommendations including a list of the recommendations which cross reference to where the information has been disclosed. ING helpfully identify where some of the recommendations have yet to be adopted.

HSBC Annual Report 2012: page 12

Type of risk	Disclosure	Page
General	• Risks to which the business is exposed, risk appetite and stress testing.	124 to 128
	• Top and emerging risks.	130 to 136
Risk Governance and risk management strategies/ business models	• Group Risk Committee.	323 to 328
	• Diagram of risk exposures by global business.	20
Capital adequacy and risk-weighted assets	• Reconciliation of the accounting balance sheet to the regulatory balance sheet.	287
	• Regulatory capital flow statement.	285
	• Analysis of credit risk by Basel asset class.	*Pillar 3 Disclosures 2012* 23 to 28 and 32 to 38
	• Risk-weighted assets flow statements for each risk-weighted asset type.	282 and 284
Liquidity	• Liquid asset buffer.	206 to 207
Funding	• Encumbrance.	211 to 214
	• Maturity analysis by balance sheet line.	485 to 492
	• Sources of funding and funding strategy.	209 to 211
Market risk	• Relationship between the market risk measures for trading and non-trading portfolios and balance sheet classification.	218 to 219
Credit risk	• Policies for impaired loans and reconciliation of movement in impaired loans.	162 and 254 to 259
	• Loan forbearance policies.	257
	• Credit risk mitigation and collateral.	163 to 168
Other risks	• Quantified measures on the management of operational risk.	227 to 230

For a detailed list of all disclosure enhancements prepared in response to the recommendations of the EDTF, along with their locations, see page 119.

4 The report is entitled EBA review; Follow up review of bank's transparency in their 2011 Pillar 3 reports (2012).

HSBC Annual Report 2012: page 119

Detailed list of disclosures in this report arising from EDTF recommendations

Type of risk	Recommendation	Disclosure	Page
General	1	The risks to which the business is exposed.	124 to 126
	2	Our risk appetite and stress testing.	126 to 128
	3	Top and emerging risks, and the changes during the reporting period.	130 to 136
	4	Discussion of future regulatory developments affecting our business model and Group profitability, and its implementation in Europe.	132 and 288 to 292
Risk governance, risk management and business model	5	Group Risk Committee, and their activities.	323 to 328
	6	Risk culture and risk governance and ownership.	124
	7	Diagram of the risk exposure by global business segment.	20
	8	Stress testing and the underlying assumptions.	127 to 128
Capital adequacy and risk-weighted assets	9	Pillar 1 capital requirements, and the impact for global systemically important banks. For calculation of Pillar 1 capital requirements, see pages 10 to 14 of *Pillar 3 Disclosures 2012*.	294 to 296 and 291 to 292
	10	Reconciliation of the accounting balance sheet to the regulatory balance sheet.	287
	11	Flow statement of the movements in regulatory capital since the previous reporting period, including changes in core tier 1, tier 1 and tier 2 capital.	285
	12	Discussion of targeted level of capital, and the plans on how to establish this.	288
	13	Analysis of risk-weighted assets by risk type, global business and geographical region, and market risk RWAs.	282 to 283
	14	For analysis of the capital requirements for each Basel asset class, see pages 10 to 14, 23, 58 and 61 of *Pillar 3 Disclosures 2012*.	
	15	For analysis of credit risk for each Basel asset class, see pages 23 to 28 and 32 to 38 of *Pillar 3 Disclosures 2012*.	
	16	Flow statements reconciling the movements in risk-weighted assets for each risk-weighted asset type.	283 and 284
	17	For discussion of Basel credit risk model performance, see pages 39 to 41 of the *Pillar 3 Disclosures 2012* document.	
Liquidity	18	Analysis of the Group's liquid asset buffer.	206 to 207
Funding	19	Encumbered and unencumbered assets analysed by balance sheet category.	211 to 214
	20	Consolidated total assets, liabilities and off-balance sheet commitments analysed by remaining contractual maturity at the balance sheet date.	485 to 492
	21	Analysis of the Group's sources of funding and a description of our funding strategy.	209 to 211
Market risk	22	Relationship between the market risk measures for trading and non-trading portfolios and the balance sheet, by business segment.	218 to 219
	23	Discussion of significant trading and non-trading market risk factors.	220 to 223
	24	VAR assumptions, limitations and validation.	266 to 267
	25	Discussion of stress tests, reverse stress tests and stressed VAR.	267
Credit risk	26	Analysis of the aggregate credit risk exposures, including details of both personal and wholesale lending.	139 to 141
	27	Discussion of the policies for identifying impaired loans, defining impairments and renegotiated loans, and explaining loan forbearance policies.	162 and 254 to 259
	28	Reconciliations of the opening and closing balances of impaired loans and impairment allowances during the year.	163 and 172
	29	Analysis of counterparty credit risk that arises from derivative transactions.	145
	30	Discussion of credit risk mitigation, including collateral held for all sources of credit risk.	163 to 168
Other risks	31	Quantified measures of the management of operational risk.	227 to 230
	32	Discussion of publicly known risk events.	130 to 136

The 32 recommendations listed above are made in the report 'Enhancing the Risk Disclosures of Banks' issued by the Enhanced Disclosure Task Force of the Financial Stability Board on 29 October 2012.

ING Group Annual Report 2012: pages 344 and 345

Overview of EDTF recommendations on financial disclosure

EDTF Recommendation	Brief Description	Comments
1	Consolidate all risk related information in either Risk Management paragraph or Pillar 3. If not possible, provide an index to aid navigation	Table of contents implemented in both Risk Management section and Pillar 3
2	Define the bank's risk terminology and risk measures and present key parameter values used	Implemented in the Risk Management sections: Business Model and Risk Profile, Economic Capital, and the risk terminology and risk measures described in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
3	Describe and discuss top and emerging risks for the bank	Implemented in the Risk Management section: Risk developments in 2012
4	Once the applicable rules are finalised, outline plans to meet each new key regulatory ratio	To be included when CRR/CRD IV is approved by EU Parliament
5	Summarise prominently the bank's risk management organisation, processes and key functions	Implemented in the Risk Management section Risk Governance and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
6	Describe bank's risk culture, related procedures and strategies	Implemented in the Risk Management sections: Risk Governance, Business Model and Risk Profile and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
7	Describe key risks arising from bank's business model and activities, the bank's risk appetite and how it manages these risks	Implemented in the Risk Management section: Risk Governance, Business Model and Risk Profile and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
8	Describe the use of stress testing within the bank's risk governance and capital frameworks	Implemented in the Risk Management section: Stress Testing and the corresponding descriptions in the Credit Risk, Market Risk and Liquidity Risk sections
9	Provide minimum Pillar 1 capital requirements, including surcharges and buffers, or the minimum internal ratio	Implemented in the Capital Management section and in the Ongoing Changes in the Regulatory environment section of the Risk Management section
10	Summarise composition of capital based on Basel Committee templates	To be addressed in future disclosures
11	Present a flow statement of movements since the prior reporting date in regulatory capital, including changes in common equity tier 1, tier 1 and tier 2 capital	Flow statement of movements are incorporated in the Credit Risk and Market Risk section of the Risk Management section. Changes in available capital are disclosed in Pillar 3.
12	Qualitatively and quantitatively discuss capital planning within a more general discussion of management's strategic planning	Implemented in the Capital Management section and in the Ongoing Changes in the Regulatory environment section of the Risk Management section
13	Provide granular information to explain how risk-weighted assets (RWAs) relate to business activities and related risks.	Implemented in Pillar 3 in the RWA migration table
14	Present a table showing the capital requirements for each method used for calculating RWAs for credit risk per Basel asset class as well as for major portfolios within those classes	Template 11 of the EDTF is added to the SA and AIRB section of Pillar 3; it shows the READ and RWA for the AIRB and SA portfolio per exposure class

Overview of EDTF recommendations on financial disclosure

EDTF Recommendation	Brief Description	Comments
1	Consolidate all risk related information in either Risk Management paragraph or Pillar 3. If not possible, provide an index to aid navigation	Table of contents implemented in both Risk Management section and Pillar 3
2	Define the bank's risk terminology and risk measures and present key parameter values used	Implemented in the Risk Management sections: Business Model and Risk Profile, Economic Capital, and the risk terminology and risk measures described in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
3	Describe and discuss top and emerging risks for the bank	Implemented in the Risk Management section: Risk developments in 2012
4	Once the applicable rules are finalised, outline plans to meet each new key regulatory ratio	To be included when CRR/CRD IV is approved by EU Parliament
5	Summarise prominently the bank's risk management organisation, processes and key functions	Implemented in the Risk Management section Risk Governance and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
6	Describe bank's risk culture, related procedures and strategies	Implemented in the Risk Management sections: Risk Governance, Business Model and Risk Profile and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
7	Describe key risks arising from bank's business model and activities, the bank's risk appetite and how it manages these risks	Implemented in the Risk Management section: Risk Governance, Business Model and Risk Profile and the corresponding descriptions in the Credit Risk, Market Risk, Liquidity Risk and Non-Financial Risk sections
8	Describe the use of stress testing within the bank's risk governance and capital frameworks	Implemented in the Risk Management section: Stress Testing and the corresponding descriptions in the Credit Risk, Market Risk and Liquidity Risk sections
9	Provide minimum Pillar 1 capital requirements, including surcharges and buffers, or the minimum internal ratio	Implemented in the Capital Management section and in the Ongoing Changes in the Regulatory environment section of the Risk Management section
10	Summarise composition of capital based on Basel Committee templates	To be addressed in future disclosures
11	Present a flow statement of movements since the prior reporting date in regulatory capital, including changes in common equity tier 1, tier 1 and tier 2 capital	Flow statement of movements are incorporated in the Credit Risk and Market Risk section of the Risk Management section. Changes in available capital are disclosed in Pillar 3.
12	Qualitatively and quantitatively discuss capital planning within a more general discussion of management's strategic planning	Implemented in the Capital Management section and in the Ongoing Changes in the Regulatory environment section of the Risk Management section
13	Provide granular information to explain how risk-weighted assets (RWAs) relate to business activities and related risks.	Implemented in Pillar 3 in the RWA migration table
14	Present a table showing the capital requirements for each method used for calculating RWAs for credit risk per Basel asset class as well as for major portfolios within those classes	Template 11 of the EDTF is added to the SA and AIRB section of Pillar 3; it shows the READ and RWA for the AIRB and SA portfolio per exposure class

3. The detailed recommendations

The EDTF Working Group developed 32 detailed recommendations that were supported by explanatory commentary and illustrative examples for how to improve disclosures. The adoption of each of the recommendations has been considered below:

3.1 General

Recommendation 1
Present all related risk information together in any particular report. Where this is not practicable, provide an index or an aid to navigation to help users locate risk disclosures within the bank's reports.

The EDTF Report is not prescriptive in terms of where risk information should be presented. In practice, banks have tried to apply these recommendations in their annual reports, Pillar 3 reports and presentations accompanying results announcements. ING describes why risk information may be included in different areas of reporting:

ING Group Annual Report 2012: page 224

Although it is ING Bank's ambition to disclose all risk related items into one comprehensive section, this is in practice not always possible. For instance, the capital-linked recommendations that have been listed by EDTF are included in the Capital Management section. Further, assets and liabilities per contractual maturity via predefined time-bands are displayed in specific notes of the Consolidated Annual Accounts. The additional Pillar 3 information that stems from the Basel II accords provides detailed tables on ING Bank's credit portfolio. An overview of all the EDTF recommendations and how they are being followed-up can also be found in the introduction of this same Pillar 3 section. It is ING Bank's ambition to incorporate most of the information into the risk management section such that all disclosed risk information is present in one section of the Annual Report. This contributes to the EDTF recommendations that strive towards transparent and comparative risk disclosures by global banks.

The majority of the banks reviewed include a specific Risk Management section in their annual report and accounts and/ or their Pillar 3 reporting. In comparison to prior periods, some of the banks have published their 2012 Basel Pillar 3 disclosures ('Pillar 3 reports') at the same time as annual reports. Deutsche Bank, ING and UBS have incorporated Pillar 3 reporting directly into their annual report.

All of the banks reviewed include a summary of the main disclosures provided. However, only some of the banks include more detailed referencing to where specific disclosures can be located across their different reports. This includes page references and cross referencing to either the Pillar 3 report or annual report, to aid navigation.

Barclays include a summary of key risks and where disclosures are included in the annual report and Pillar 3 report.

Barclays Annual Report 2012: page 106 to 107

The management of risk plays a central role in the execution of Barclays strategy.

For the 2012 Annual Report we have aimed to develop our approach to risk reporting to ensure disclosure is transparent and easily navigable:

- To provide the user with insight into the level of risk across our businesses and portfolios, the material risks and uncertainties we face and the key areas of management focus, we present our Risk review;
- To allow the user to explore deeper and find out more about the major risk policies which underlie our risk exposures, we have consolidated policy-based qualitative information under Risk management; and
- We have aimed to provide clear cross-referencing between the Risk review and Risk management sections within the Annual Report, and between the Annual Report and accompanying regulatory information in the Pillar 3 Report (http://group.barclays.com/about-barclays/investor-relations/annual-reports).

Risk Overview		Annual Report		Pillar 3 Report
		Risk review	Risk management	
These pages provide a comprehensive overview of Barclays risk factors and approach to risk management.	Risk factors	108-115		
	Barclays risk management strategy		314-320	
	Our risk culture		314	
	Assigning responsibilities		316	
	Principal risks policy		317	
	Risk management in the setting of strategy		317-320	
	Modelling of risk			86-93

Credit Risk		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Credit risk is the risk of suffering financial loss should the Group's customers, clients or market counterparties fail to fulfil their contractual obligations.	Credit risk overview and risk factors	108-110		
	Analysis of Maximum exposure and collateral and other credit enhancement held	116-117	329-330	
	Balance sheet concentrations of Credit risk	118-121	330-331	24-26
	Balance sheet credit quality	122-123	330-331	29-38, 110-116
	Analysis of loans and advances and impairment	124-128	323-325	38-41
	Retail credit risk	129-135	322-327	
	Wholesale credit risk	136-141	322-327	
	Barclays Credit Market Exposures	142		
	Exposures to Eurozone countries	143-154		
	Analysis of securitisations			57-63, 103-106
	Maturity of credit exposures			27-28
	Capital Requirements for Credit Risk			19-20, 23
	Counterparty Credit Risk exposure and RWAs			46-50
	RWAs and Credit Risk exposure by business and Basel asset class			21-23

Market Risk		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Market risk is the risk of the Group suffering financial loss due to the Group being unable to hedge its balance sheet at prevailing market levels.	Market risk overview and risk factors	111	332-333	
	Analysis of traded market risk exposures	155-156	333-336	52-54
	Analysis of non-traded market risk exposures	156-159	336	55
	Foreign exchange risk	160		
	Other market risks	161		102
	Analysis of securitisations			57-63, 103-106
	Capital Requirements for market risk			52

Funding Risk – Capital		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Capital risk is the risk that the Group is unable to maintain appropriate capital ratios.	Funding risk – Capital overview and risk factors	111-112	340-341	
	Capital Composition	163		15-17
	Movement in total regulatory capital	164		6
	Risk Weighted Assets by risk type and business	165		8, 23, 47, 52, 65
	Movement in Risk Weighted Assets	165-166		7
	Impact of Basel 3	166-168		68-74
	Adjusted Gross Leverage	168-169		
	Implementation of Basel 3 – Leverage Impacts	169-170		74
	Economic capital	171		

Funding Risk – Liquidity		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Liquidity risk is the risk that the Group is unable to meet its obligations as they fall due as a result of a sudden, and potentially protracted, increase in net cash outflows.	Funding risk – Liquidity overview and risk factors	111-112	337-339	
	Liquidity risk stress testing	172-174		
	Liquidity pool	175-176		
	Funding structure	176-179		
	Encumbrance	180-182		
	Credit Ratings	182-183		
	Liquidity Management at Absa Group	183		
	Contractual maturity of financial assets and liabilities	183-186		

Operational Risk		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Operational risk is the risk of direct or indirect impacts resulting from human factors, inadequate or failed internal processes and systems or external events.	Operational risk overview and risk factors	112-115	342-343	107-109
	Operational risk profile	187		66
	Supervision and regulation	190-195		
	Capital Requirements for Operational Risk			65

Reputation Risk		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Reputation risk is the risk of damage to Barclays brand arising from any association, action, or inaction which is perceived by stakeholders to be inappropriate or unethical.	Reputation risk	188		

Conduct Risk		Annual Report		Pillar 3 Report
		Risk review	Risk management	
Conduct Risk is the risk that detriment is caused to the Bank, our customers, clients or counterparties because of the inappropriate execution of our business activities. Conduct Risk, being a material risk faced by the Group, has been categorised as a new Principal Risk in 2013.	Conduct risk	189		

HSBC includes a detailed contents page at the beginning of each risk section.

HSBC Annual Report 2012: page 281

Capital

	Page	App[1]	Tables	Page
Capital overview	282		*Capital ratios*	282
Capital management		293		
Approach and policy		293		
Stress testing		293		
Risks to capital		293		
Risk-weighted asset targets		294		
Capital generation		294		
Capital measurement and allocation		294		
Regulatory capital		294		
Pillar 1 capital requirements		295		
Pillar 2 capital requirements		296		
Pillar 3 disclosure requirements		296		
Risk-weighted assets	282		*RWAs by risk type*	282
			Market risk RWAs	282
			RWAs by global businesses	282
			RWAs by geographical regions	283
Credit risk RWAs	283		*RWA movement by key driver – credit risk – IRB only*	283
Counterparty credit risk and market risk RWAs	284		*RWA movement by key driver - counterparty credit risk – IRB only*	284
			RWA movement by key driver – market risk – internal model based	284
Operational risk RWAs	285			
RWA movement by key driver – basis of preparation and supporting notes		296		
Credit risk drivers – definitions and quantification		296		
Market risk drivers – definitions and quantification		298		
Movement in total regulatory capital in 2012	285		*Source and application of total regulatory capital*	285
Capital structure	286		*Composition of regulatory capital*	286
			Regulatory impact of management actions	287
			Reconciliation of accounting and regulatory balance sheets	287
Regulatory and accounting consolidations	288			
Basel III and its implementation in Europe	288			
Basis of preparation of the estimated effect of the CRD IV end point applied to the 31 December 2012 position		298	*Estimated effect of CRD IV end point rules applied to the 31 December 2012 position*	289
Regulatory adjustments applied to core tier 1 in respect of amounts subject to CRD IV treatment		298		
Changes to capital requirements introduced by CRD IV		300		
Future developments	291			
Systemically important banks	291			
UK regulatory reform	291			
Structural banking reform	292			

1 *Appendix to Capital*

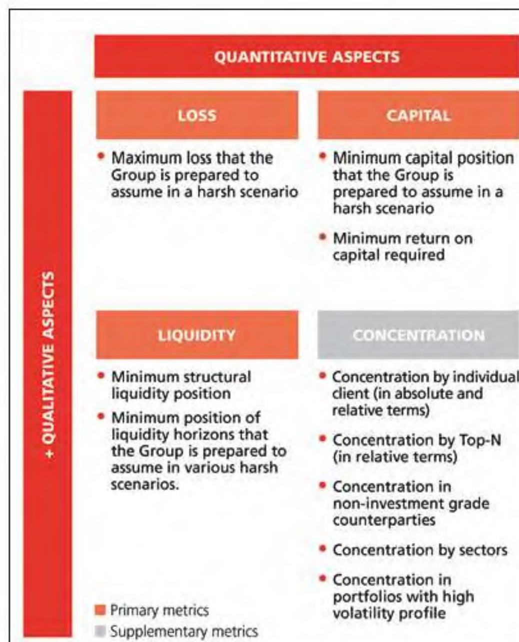
Recommendation 2
Define the bank's risk terminology and risk measures and present key parameter values used.

The majority of the banks reviewed provide an explanation of risk measures. Most of the banks include an overall statement on their risk appetite whilst ING include this information at their different business levels for example, the separate bank and insurance businesses.

Santander articulates risk appetite and related measures, clearly describing in one place how group risk appetite is set and how both the quantitative and qualitative aspects are assessed. An extract of this disclosure is provided below. The detailed disclosure is included in Appendix 1, and provides a more comprehensive description of the graphic below.

Santander Annual Report 2012: page 169

Risk appetite framework
Santander's risk appetite framework contains quantitative and qualitative elements integrated into series of primary and other metrics.



In addition, whilst the majority of banks include selected quantitative risk measures within the more detailed sections of risk disclosures, some of the banks reviewed provide a statement of their overall 'risk appetite metrics', within the summary discussion of risk appetite. HSBC includes quantitative disclosures of its target measures against the actual performance of the bank whereas some of the other banks reviewed describe this in more qualitative terms.

HSBC Annual Report 2012: page 127

Some of the core metrics that are measured, monitored and presented to the Board monthly are tabulated below:

Risk appetite metrics

	Target	**Actual**
Core tier 1 ratio	9.5% to 10.5%	**12.3%**
Return on equity	12% to 15%	**8.4%**
Return on RWAs	1.8% to 2.6%	**1.8%**
Dividend payout ratio	40% to 60%	**55.4%**
Cost efficiency ratio	48% to 52%	**62.8%**
Advances to customer accounts ratio	Below 90%	**74.4%**
Cost of risk (LICs)	Below 20% of operating income	**9.9%**

Recommendation 3

Describe and discuss top and emerging risks, incorporating relevant information in the bank's external reports on a timely basis. This should include quantitative disclosures if possible, and a discussion of any changes in those risk exposures during the reporting period.

Whilst a number of banks reviewed describe their principal risks, these are not necessarily represented through the specific discussion of 'top and emerging risks'. RBC is an example of a bank that describes its risks in the context of 'top and emerging risks'.

RBC Annual Report 2012: page 45 to 48

Top and emerging risks

Our view of risks is not static. An important component of our enterprise risk management approach is to ensure that top risks which are evolving or emerging risks are appropriately identified, managed, and incorporated into existing enterprise risk management assessment, measurement, monitoring and escalation processes.

These practices ensure management is forward-looking in its assessment of risks to the organization. Identification of top and emerging risks occurs in the course of businesses developing and pursuing approved strategies and as part of the execution of risk oversight responsibilities by Group Risk Management (GRM), Finance, Corporate Treasury, Global Compliance and other control functions.

Risk oversight activities which can lead to identification of new, evolving or emerging risks include control mechanisms (e.g. approval of new products, transactions, projects or initiatives), business strategy development, stress testing, portfolio level measurement, monitoring and reporting activities, and the ongoing assessment of industry and regulatory developments.

Details of the top and emerging risks we are facing are discussed below.

Regulatory developments

Certain regulatory reforms have the potential to impact the way in which we operate, both in Canada and abroad. We continue to respond to these and other developments and are working to minimize any potential business or economic impact.

Dodd-Frank – Volcker rule

Implementation rules relating to the proposed Volcker rule have not yet been finalized by U.S. federal financial regulators. In anticipation of final rule issuance, we continue to analyze our trading activities, compliance and risk management programs. However, the full extent to which we will be affected remains unclear. As currently drafted, the rule's extraterritorial reach will impact our capital markets activities and will apply globally to the bank and each of our subsidiaries and affiliates. Under the proposal, certain activities may be permitted to continue in their current form, while others may be permitted if conducted in accordance with certain prescriptive exemptions from the regulation. Some activities may not be permitted to continue. Depending on the manner in which the Volcker Rule is ultimately implemented, these prohibitions may have an adverse impact on our results of operations.

Basel Committee on Banking Supervision global standards for capital and liquidity reform (Basel III)

The Basel Committee's new standards for capital and liquidity establish minimum requirements for common equity, increased capital requirements for counterparty credit exposures, a new global leverage ratio and measures to promote the build up of capital that can be drawn down in periods of stress. Banks around the world are preparing to implement these new standards (commonly referred to as Basel III).

In Canada, the Office of the Superintendent of Financial Institutions Canada (OSFI) expects deposit-taking institutions to meet the minimum 2019 Basel III capital requirements for Common Equity Tier 1 (CET 1) in the first quarter of 2013. We continue to be well capitalized by global standards and our capital ratios remain strong. For further details, refer to the Capital management section.

While the Basel III liquidity standards have not been finalized, we continue to measure our liquidity position and make adjustments that we believe are appropriate in anticipation of the Basel Committee's implementation schedule.

Domestic-Systemically Important Banks (D-SIBs)

The Financial Stability Board and the Basel Committee on Banking Supervision have finalized a principles-based framework to guide national authorities in establishing principles for dealing with D-SIBs. National authorities will begin to apply minimum requirements to banks identified as D-SIBs beginning January 2016. OSFI has not communicated formally on a Canadian D-SIB regime, although we expect one to be put forward. The implementation of a D-SIB regime in Canada may result in us being subject to additional capital and disclosure requirements.

Over-the-Counter Derivatives Reform

Reforms in the over-the-counter (OTC) derivatives markets continue on a global basis, with the governments of the G20 nations proceeding with plans to transform the capital regimes, national regulatory frameworks and infrastructures in which we and other market participants operate. We, along with other Canadian banks, will experience changes in our wholesale banking business, some of which will impact our client- and trading-related derivatives revenues in Capital Markets.

In July 2012, the U.S. Commodity Futures Trading Commission (CFTC) released proposed cross-border guidance regarding the application of U.S. swaps rules to international banks, including requirements to register with the CFTC as a swap dealer. While it awaits finalization of the cross-border guidance and additional rules, the industry continues to urge the CFTC to provide much needed clarification of its rules prior to requiring any institution to register as a swap dealer. In addition, there is a lack of international coordination that may lead to duplication and confusion across the global swaps markets.

The Payments System in Canada

The independent task force appointed by the Federal government completed their review of Canada's payments system in the spring of 2012. Based on the recommendations of the Task Force, the Federal government has announced three initiatives: the establishment of an advisory committee to review payments systems issues; a review of the Code of Conduct for the credit and debit card industry in Canada to determine applicability to emerging mobile payment systems; and a review (over a longer time frame) of the governance framework for the payments sector. The eventual outcome of these reviews could alter the way in which we and other Canadian financial institutions process payment transactions on behalf of consumers. This carries implications for the use of technology, degree of regulatory oversight, and our interactions with global payment systems.

In addition, challenges to payment network rules before the Competition Tribunal, class actions in British Columbia and Ontario regarding the setting of interchange, and the class actions in Quebec regarding the application of Quebec's *Consumer Protection Act* to certain credit card practices continue to have the potential to negatively impact the business practices and revenues of Canadian financial institutions, and could have an adverse impact on our financial performance.

Consumer Protection Measures

Regulators continue to focus on enhancing consumer protection measures, such as increased disclosure requirements and regulation of fees and pricing. In Canada, changes to negative options billing, mortgage prepayment penalties, four day cheque holds, and current dispute resolution processes, along with expanded powers for the Financial Consumer Agency of Canada, were introduced as part of the 2010 Federal Budget. Further changes have been proposed to regulations for mortgage insurance, the Electronic Transaction Code, rules relating to insurance on bank websites, and electronic documents regulations. In addition, the 2011 Federal Budget included announcements about new rules for prepaid cards and for unsolicited credit card cheques. As will be the case for all of the Canadian banks, these and other developments are likely to impact current practices in Canadian Banking and Insurance, including disclosure, documentation, process and system changes.

Regulatory Reform in the U.K. and Europe

The regulatory framework in the U.K. and Europe continues to undergo significant reform and reorganization. Effective the spring of 2013, the Financial Policy Committee (FPC), within the Bank of England, will be responsible for protecting the stability of the financial system as a whole

and for macro-prudential regulation. The new Prudential Regulation Authority (PRA), a subsidiary of the Bank of England, will prudentially supervise digital systems, deposit takers, insurers and a small number of significant investment firms. The Financial Conduct Authority (FCA) will be responsible for regulating conduct in retail and wholesale markets, supervising the trading infrastructure that supports those markets, and for the prudential regulation of firms not prudentially regulated by the PRA. As a result, there may be changes to our existing compliance and operating practices for certain of our regulated entities in the U.K.

We continue to monitor developments in connection with recommendations of the Independent Commission on Banking, endorsed by the U.K. government in June 2012. As currently proposed, our U.K. entities would be exempt from the requirement to separate our retail banking and investment banking activities, by virtue of meeting prescribed *de minimis* thresholds. We expect to be required to comply with the proposed 3% leverage ratio. Given the relatively small size of our U.K. retail banking operations, these changes are not expected to materially impact our global operations or financial results and may lead to some potential benefits for us as U.K. banks restructure and retrench from the investment banking business.

Reforms also continue throughout the European Union. Effective the first half of 2013, the European Market Infrastructure Regulation (EMIR) will require firms to clear certain OTC standardized derivative contracts through central counterparties, establish risk mitigation controls for OTC derivatives transactions that cannot be cleared, and report both cleared and non-cleared contracts to trade repositories. The review of Markets in Financial Instruments Directive (MiFID) is a key initiative seeking to achieve greater trade transparency, enhanced investor protection and more oversight of OTC derivatives and fixed income products, primarily through the introduction of new types of regulated trading platforms and increased governance over certain trading activities. At this time, we expect to incur higher operational and system costs and potential changes in the types of products and services we (and other firms) can offer to clients as a result of these reforms.

Other Dodd-Frank Initiatives

Subsequent to the 2008 financial crisis, U.S. regulators have been enhancing their approach to supervising the largest, most complex banking organizations. As a result, certain of the reforms introduced by Dodd-Frank, the "Enhanced Supervision Rules", set forth in Sections 165 and 166 of the statute, will when finalized, impose capital, liquidity, leverage and similar prudential requirements at the holding company level. Foreign banks, including RBC, which operate in the U.S., outside of a holding company structure, will also be subject to enhanced supervision rules still to be published by the Federal Reserve. The international banking community is emphasizing the appropriateness of deferring to home country prudential oversight.

European debt crisis

Continued instability in the Eurozone and the possibility for contagion from the peripheral to core Eurozone countries increases the risk of sovereign and counterparty default and of a Eurozone member departing the currency union. We continue to follow market events very closely, and manage our exposure accordingly. Compared to the prior year, our exposure to Europe did not change significantly as reductions primarily related to securities were largely offset by the acquisition of the remaining 50% stake in RBC Dexia. Overall, we continue to transact business in a prudent manner and remain comfortable with our exposures in Europe, which are with well-rated counterparties mainly located in core European countries. For further details, refer to the Credit risk section.

In addition to our net exposure to Europe mentioned above, we are also subject to indirect exposure. We have implemented processes to monitor and mitigate indirect credit risk including specific controls related to the management of derivative and repo-style transaction exposures. Indirect market risk related to increased volatility resulting from European sovereign debt concerns are monitored through regular market risk stress testing and hypothetical scenario analysis. From an operational risk perspective, we have implemented contingency planning in the event of a crisis in the Eurozone economy.

Given the potential for a country departing the currency union, we have carried out scenario analysis to assess the related redenomination risk. Potential impacts arising from contracts and balances with peripheral Eurozone countries have been assessed. We are progressing with action plans to mitigate these potential exposures.

Our analysis indicates that further deterioration in the Eurozone economies will result in adverse effects which are within our ability to manage as established through our stress testing, balance sheet analysis and operational assessments.

Business and economic conditions

Our earnings are significantly affected by the general business and economic conditions in the geographic regions in which we operate. These conditions include consumer saving and spending habits as well as consumer borrowing and repayment patterns, business investment, government spending, the level of activity and volatility of the capital markets and inflation. For example, an economic downturn may result in high unemployment and lower family income, corporate earnings, business investment and consumer spending, and could adversely affect the demand for our loan and other products and result in higher provision for credit losses. Given the importance of our Canadian operations, an economic downturn in Canada or in the U.S. impacting Canada would largely affect our personal and business lending activities in our Canadian banking businesses, and could significantly impact our results of operations.

Our earnings are also sensitive to changes in interest rates. A continued low interest rate environment in Canada, the U.S. and globally would result in net interest income being unfavourably impacted by spread compression largely in Personal & Commercial Banking and Wealth Management. While an increase in interest rates would benefit our businesses that are currently impacted by spread compression, a significant increase in interest rates could also adversely impact household balance sheets. This could result in credit deterioration which might negatively impact our financial results, particularly in some of our Personal & Commercial Banking businesses. For further details on economic and market factors which may impact our financial performance, refer to the Personal & Commercial Banking and Wealth Management sections.

Capital Markets and Investor & Treasury Services would be negatively impacted if global capital markets deteriorate resulting in lower client volumes and trading volatility. In Wealth Management, weaker investor confidence and weaker market conditions would lead to lower average fee-based client assets and transaction volumes. Worsening of financial and credit market conditions may adversely affect our ability to access capital markets on favourable terms and could negatively affect our liquidity, resulting in increased funding costs and lower transaction volumes in Capital Markets and Investor & Treasury Services. For further details on economic and market factors which may impact our financial performance, refer to the Wealth Management, Investor & Treasury Services and Capital Markets sections.

High levels of Canadian household debt

Growing Canadian household debt levels and elevated housing prices are resulting in increasing vulnerability to external risk factors. Growth in consumer debt has been driven by rising housing prices and high debt levels could amplify the effect of an external shock to the Canadian economy. When interest rates start increasing the debt service capacity of Canadian consumers will be negatively impacted. This will be more challenging for consumers with floating rate debt or impending mortgage renewals. The combination of increasing unemployment, rising interest rates, and a downturn in real estate markets would pose a risk to the credit quality of our retail lending portfolio. We actively manage our lending portfolios and stress test them against various scenarios. Our stress testing shows that the vast majority of our mortgage clients have sufficient capacity to absorb interest rate increases in the ranges currently forecast. For further discussion relating to our retail portfolio, refer to the Credit risk section.

Cybersecurity

Given our reliance on digital technologies to conduct our operations and grow digital interconnectedness around the globe, we are increasingly exposed to risks related to cybersecurity and cyber incidents. Such incidents may include unauthorized access to our digital systems for purposes of misappropriating assets, gaining access to sensitive information, corrupting data, or causing operational disruption. Although our computer systems continue to be subject to cyber attacks, we have not previously experienced a material breach of cybersecurity. Such an event could compromise our confidential information as well as that of our clients and third parties with whom we interact with and may result in negative consequences, including remediation costs, loss of revenue, additional regulatory scrutiny, litigation and reputational damage. We continue to focus on enhancing technologies, processes and practices designed to protect our networks, systems, computers and data from attack, damage or unauthorized access. We will continue to actively monitor developments, reviewing best practices and implementing additional controls to mitigate losses from these risks.

Recommendation 4

Once the applicable rules are finalised, outline plans to meet each new regulatory ratio, e.g. the net stable funding ratio, liquidity coverage ratio and leverage ratio and once the appropriate rules are in force, provide such key ratios.

The Basel rules for regulatory disclosures such as the LCR and the NSFR remain uncertain. Given this uncertainty, the EDTF did not propose that banks disclose these ratios. However it recommended that some banks might consider outlining their plans to meet each regulatory ratio once the respective rules are finalised.

Given the sensitivity of these disclosures, only a minority of the banks reviewed have included adjusted or 'proforma' regulatory measures in their 2012 year end reporting. UBS is an example of a bank that has disclosed their proforma LCR and NSFR.

UBS Annual Report 2012: page 167

On 31 December 2012, our estimated pro-forma regulatory Basel III LCR was 113%, based on current supervisory guidance from FINMA. We also calculate a management LCR that includes additional high-quality and unencumbered contingent funding sources not eligible in the regulatory Basel III liquidity framework such as dedicated local liquidity reserves and additional unutilized borrowing capacity. At the end of 2012, the management LCR stood at 159%. On 31 December 2012, our estimated pro-forma NSFR was 108%, based on current regulatory guidance. The calculation of our pro-forma Basel III liquidity ratios includes estimates of the impact of the rules and interpretation and will be refined as regulatory interpretations evolve and as new models and the associated systems are enhanced.

3.2 Risk governance and culture

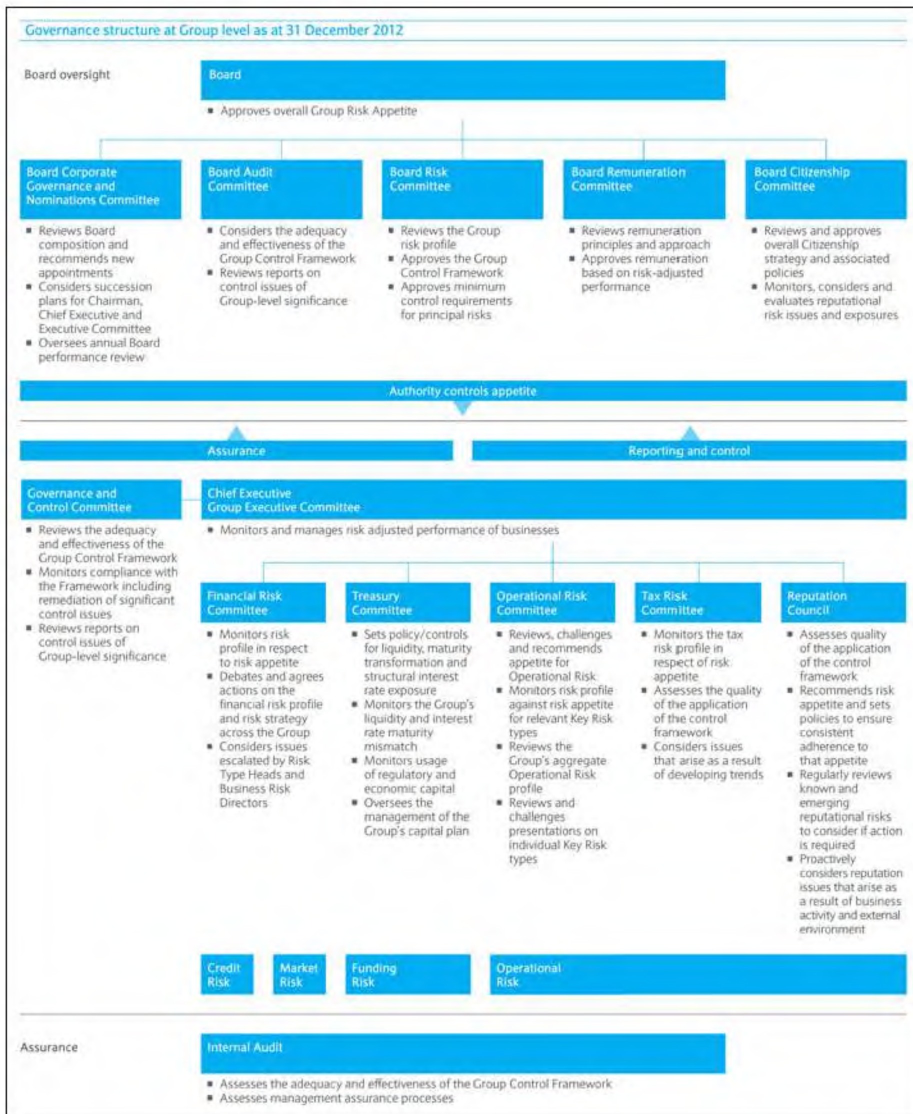
Recommendation 5

Summarise prominently the bank's risk management organisation, processes and key functions.

The EDTF Report highlighted that a number of banks already provided substantial amounts of information on their overall risk governance structure and risk management practices although the level of detail varied.

All the banks reviewed disclose the governance structure for the management of risk. Some of the banks supplement narrative information in a more accessible manner through graphical presentation. Barclays illustrate this in a succinct manner with the inclusion of the specific responsibilities of each of the committees and departments responsible for the management of risk.

Barclays Annual Report 2012: page 315



Recommendation 6
Provide a description of the bank's risk culture, and how procedures and strategies are applied to support the culture.

The articulation of the risk culture of banks has been less developed, an area already highlighted by the EDTF. The level of detail continues to remain an area of difference.

Some of the banks reviewed describe their risk culture in the context of more general statements for managing risk, for example providing an overall statement that the bank protects itself from various types of risk through 'a sound risk culture'. The banks that include more detailed disclosure have a specific section in the annual report that describes risk culture and how this is reinforced in the business through, for example, mandatory training. In addition further detail is provided on how this affects the compensation structure in remuneration disclosures. BNP Paribas and Santander provide examples of the specific actions taken to embed their risk culture within their respective organisations.

Santander Annual Report 2012: page 168

2.2. Risk culture

The importance and attention attached by senior management to risk management is deeply rooted in Santander's DNA. This risk culture is based on the principles of Santander's risk management model and is transmitted to all business and management units and is supported, among other things, by the following drivers:

- **Santander's risk function is independent of the business units.** This enables their criteria and opinions to be taken into account in the various instances where businesses are developed.

- **Santander's structure for delegating powers** requires a large number of operations to be submitted to the risk committees of the bank's central services, be it the global committee of the risk division, the board's risk committee or the Group's executive committee. The high frequency with which these approval and risk monitoring bodies meet (twice a week in the case of the board's risk committee; once a week for the executive committee) guarantees great agility in resolving proposals while ensuring senior management's intense participation in the daily management of risks.

- Santander has detailed **risk management manuals and policies.** Risk and business teams hold regular meetings about the business, which produce actions in accordance with the Group's risk culture. In addition, the risk and business executives participate in the different bodies for resolving operations of the Group's central services, and this facilitates transmission of criteria and focuses that emanate from senior management, both to the teams of executives as well as the rest of the risk committees. The lack of powers in any one individual means that all the decisions are resolved by collegiate bodies. This confers greater rigour and transparency on decisions.

- Risk limits plan. Santander has established a full system of risk limits which is updated at least annually and covers both credit risk as well as the different market risk exposures, including trading, liquidity and structural (for each business unit and risk factor). Credit risk management is supported by credit management programmes (individuals and small businesses), rating systems (exposures to medium and large companies) and pre-classification (large corporate clients and financial counterparties).

- Santander's information systems and aggregation of exposures' systems enable daily monitoring of exposures, verifying systematic compliance with the limits approved, as well as adopting, where necessary, the pertinent corrective measures.

- Main risks are not only analysed at the time of their origination or when irregular situations arise in the process of ordinary recovery. They are overseen permanently for all clients. In addition, the Group's main portfolios are monitored systematically during the month of August.

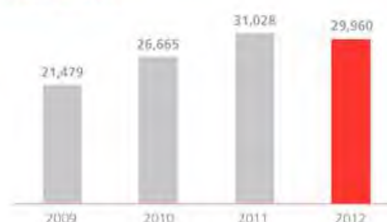
- Other procedures supporting the dissemination of Santander's risk culture are the training sessions carried out by the risks corporate school, the remuneration and incentives policy, which includes performance variables that take into account the quality of risk and the bank's results over the long term, strict compliance by staff with the general codes of conduct and systematic and independent action by the internal auditing services.

Risk training activities

Santander's corporate school of risk management aim is to help consolidate the risk management culture and ensure that all employees in the risks area are trained under the same criteria.

The school, which gave a total of 29,960 hours of training to 4,078 employees in 2012 in 100 activities, is considered a key element to enhance Santander's leadership in this sphere and strengthen the skills of our staff.

TRAINING HOURS



Furthermore, the risks corporate school trains professionals from other business areas, particularly retail banking, so as to align the demanding risk management criteria to business goals.

BNP Paribas Registration Document and Annual Financial Report 2012: page 239

RISK CULTURE

ONE OF THE GROUP'S CORE FOUNDING PRINCIPLES

The BNP Paribas Group has a strong risk culture.

Front-line responsibility for managing risks lies with the divisions, business lines and functions that propose the underlying transactions. They are expected to develop a sense of risk among their employees and to be fully aware of and understand both current and potential future trends in their risks.

Executive Management has chosen to include the risk culture in two of its key corporate culture documents:

- Responsibility Charter

In 2012, Executive Management drew up a formal Responsibility Charter based on four strong commitments, inspired by the Group's core values, management principles and code of conduct. One of the four commitments is "Being prepared to take risks, while ensuring close risk control".

Financing the economy, supporting projects, helping clients to manage their currency or interest rate exposure – all this means accepting a degree of risk. One of BNP Paribas' great strengths is precisely this expertise in managing risk.

The Group believes that tight risk control is its clear responsibility, not only towards its clients but also towards the financial system as a whole. The Bank's decisions on the commitments it makes are reached after a rigorous and concerted process, based on a strong shared risk culture which is present across all levels of the Group. This is true both for credit risk arising from lending activities, where loans are granted only after in-depth analysis of the borrower's position and the project to be financed, and for market risks arising from transactions with clients, which are assessed on a daily basis, tested against stress scenarios and governed by a system of limits.

As a highly diversified Group, both in terms of geography and business activity, BNP Paribas is able to balance risks and their consequences as soon as they materialise. The Group is organised and managed in such a way that any difficulties arising in one business area will not jeopardise the Bank's other business activities.

- Management Principles

One of the Group's four key management principles is «Risk-Aware Entrepreneurship», which highlights the importance of the risk culture:

Risk-aware entrepreneurship means:

- being fully accountable,
- acting interdependently and cooperatively with other entities to serve the global interest of the Group and its clients,
- being constantly aware of the risks involved in our area of responsibility,
- and empowering our people to do the same.

SPREADING THE RISK CULTURE

Strict risk management is an integral part of the Bank's makeup. A culture of risk management and control has always been one of its top priorities.

The Group is striving to spread this culture yet further given its strong growth over the past few years and the current climate of crisis. In May 2010, BNP Paribas launched the Risk Academy, a cross-functional Group initiative, to help spread and promote its risk management culture.

The Risk Academy is an open, group-wide venture, involving all business lines and functions and sponsored by the Bank's Executive Committee. Designed for the benefit of all staff and organised around a progressive, participative framework, its main aims are:

- help strengthen and spread the risk culture within the Group;
- promote training and professional development in the area of risk management;
- run the Bank's risk management communities.

The Risk Academy therefore offers the following products and services under a single umbrella:

- Core Risk Practices, the basic principles forming the underlying theme of the Risk Academy, advocating sound risk management practices;
- e-learning risk awareness module, providing an introduction to the various risks managed by the Bank;
- risk training catalogue for employees involved in risk-related activities;
- online library of documents to help share knowledge about risk management;
- interactive presentations by BNP Paribas risk's experts, implemented in main sites of the Group.

Lastly, the risk culture is also spread throughout the Group by linking compensation to performance and risk (see chapter 7, section entitled "A competitive compensation policy in line with international rules").

Recommendation 7

Describe the key risks that arise from the bank's business models and activities, the bank's risk appetite in the context of its business models and how the bank manages such risks. This is to enable users to understand how business activities are reflected in the bank's risk measures and how those risk measures relate to line items in the balance sheet and income statement.

This is a recommendation where a specific example was provided by the EDTF to illustrate how key risks are aligned to the bank's business model. The response to this recommendation varies, with some banks providing lengthy narrative descriptions of the risks that arise from their business activities. HSBC and Santander adopt the specific approach suggested in the EDTF Report, providing a succinct overview of risk by business segment and financial statement impact in addition to detailed narrative explanations. The HSBC example is included below:

HSBC Annual Report 2012: page 20

Exposure to risks arising from the business activities of global businesses

HSBC

Global business	RBWM	CMB	GB&M	GPB	Other (including Holding Company)
Business activities	• Deposits • Accounts services • Credit and lending • Asset management • Wealth solutions and financial planning • Broking • Life insurance manufacturing	• Deposits • Payments and cash management • Credit and lending • International trade and receivables finance • Commercial insurance and investments	• Deposits • Payments and cash management • Balance sheet management • Credit and lending • Asset and trade finance • Corporate finance • Markets • Securities services	• Deposits • Account services • Credit and lending • Asset management • Financial advisory • Broking • Corporate finance (via GB&M) • Alternative investments	• HSBC holding company and central operations
Balance sheet[22] (US$bn)	• Assets 535 • Customer accounts 562	• Assets 363 • Customer accounts 338	• Assets 1,859 • Customer accounts 332	• Assets 118 • Customer accounts 106	• Assets 187 • Customer accounts 2
RWAs (US$bn)	• Credit risk 232 • Operational risk 45	• Credit risk 366 • Operational risk 31	• Credit risk 259 • Counterparty credit risk 48 • Operational risk 41 • Market risk 55	• Credit risk 18 • Operational risk 4	• Credit risk 25 • Operational risk –
Risk profile	Liquidity and funding risk, Pension risk, Fiduciary risk, Reputational risk, Compliance risk, Sustainability risk and Insurance risk, which is predominantly in RBWM and CMB.				

For footnote, see page 120.

Recommendation 8

Describe the use of stress testing within the bank's risk governance and capital frameworks. Stress testing disclosures should provide a narrative overview of the bank's internal stress testing process and governance.

Of those banks reviewed that describe their stress testing and governance most do so qualitatively describing the process and approach adopted. This may be a reflection of the additional governance and controls that banks require to ensure that this information is produced to the quality and accuracy of information required for external reporting given such disclosures can be market sensitive.

The narrative approach is in line with the EDTF recommendations. However the depth of detail and format of presentation is different. The majority of banks reviewed provide a central overview of their stress testing framework and how this is monitored. Some of the banks provide information on the models used and disclose further detail on the stressed scenarios that the bank has assessed. One of the banks describes the approach to stress testing within their specific business segment disclosures and another only includes stress testing information in the context of market risk rather than as part of the overall governance framework.

The EDTF highlighted some examples of good practice in 2011 reporting. HSBC extends on this in its 2012 annual report disclosures by including some specific examples of the range of stressed scenarios that have been considered.

HSBC Annual Report 2012: page 127

Stress scenario assumptions

Scenario	Mild scenario assumptions	Severe scenario assumptions
Assumptions	• the situation in Greece worsens and there is an orderly default in Greece; • Greek banks also default and, with support from the EU and the International Monetary Fund, are bailed out; • increasing bond yields in Portugal, Ireland, Spain and Italy trigger further fiscal austerity measures, and governments strive to disassociate their countries from Greece; • through financial and trade linkages, an orderly default in Greece results in the spread of contagion to the rest of the world; • the UK, US and emerging markets are adversely affected, albeit to varying degrees; and • slower global demand curbs growth and increases the risk premium on interest rates as well as commodity prices.	• a disorderly default in Greece, where the eurozone governments are unable to ring-fence peripheral countries and their banks; • default of Portugal and Ireland with increases in bond yields for high debt countries; • the ensuing credit crunch together with declining business and consumer confidence more than offset any relief gained from the depreciation of the euro; • investors become increasingly uncomfortable with the US and the UK's fiscal positions, with the severe scenario resulting in a global slowdown; and • emerging economies are less affected by the financial shock.

3.3 Capital adequacy and risk weighted assets

This is an area where disclosures are often split between the annual report and Pillar 3 reporting. As described in the section of our report on the responses to Recommendation 1, some banks have provided an index to navigate between disclosures provided in the annual report and those included in Pillar 3 reports.

Barclays and HSBC disclose the specific improvements they have made in regulatory capital disclosures included within their Pillar 3 reports.

HSBC Pillar 3 Report 2012: page 5

The principal changes to our *Pillar 3 Disclosures 2012*, compared with the prior year, are:

- **new capital disclosures:**
  - a comparison of the differing scope of our financial accounting and regulatory balance sheets;
  - a table setting out the pro forma estimated impact of end point Basel III/CRD IV rules on our core tier 1 ratio (CET1 under Basel III);
  - at FSA request, tables estimating on a pro forma basis the composition of first year transitional CRD IV capital and an end point leverage ratio;
- **more granular risk disclosures:**
  - credit and counterparty credit risk weighted assets ('RWAs') and RWA density, by exposure class and geography;
  - portfolio quality distribution by key Basel II risk metrics;
  - model backtesting data for significant exposure classes and portfolios;
  - additional supporting commentaries; and
- **greater clarity and focus:**
  - enhancement of market risk and counterparty credit risk disclosures;
  - policy and reference detail in Appendices;
  - clearer delineation of our approaches to Pillar 1 and Pillar 2 capital requirements;
  - presentational improvements to assist the reader.

Barclays Pillar 3 Report 2012: page 9

Barclays approach to risk disclosures in the Pillar 3 report

Changes in the Pillar 3 report in 2012

We have made changes to our existing disclosures to enhance investors' and analysts' understanding of our RWA position and method of calculations. These changes also take account of regulator feedback, and industry consultations. We plan to continue enhancing the way we communicate our risk profile with investors and other stakeholders in the future.

- We have added additional information to our Pillar 3 and Annual Report disclosures by breaking down the components of the risk weights calculation further, enhancing the analysis of the relationship between the riskiness of our exposures and the level of RWAs.

See the credit risk exposure tables on pages 19 to 37 (and the Appendix on pages 110 to 116), counterparty credit risk exposures on pages 46 to 50, market risk exposures on pages 52 to 55, operational risk exposures on pages 65 and 66, and securitisation positions on pages 57 to 63.

- We provide a detailed explanation of the year-on-year movements in total RWAs, identifying the contribution of modelling changes, exposure increases, change in risk profile, etc.

See the executive summary on page 4.

- We provide more information on the modelling methodologies for risk weights, to enhance users' understanding of the science, rigour and governance behind risk weight calculations.

See pages 92 and 93 in the IRB section.

- We provide information on our capital leverage and ratios under the current and the anticipated Basel 3 regulatory frameworks.
- To enhance investors understanding of the capital position under the regulatory view (in contrast to accounting), a comparison of financial reporting and regulatory equity is presented

See page 68 for information on the impact of Basel 3.

3.3.1 Capital disclosures

Recommendation 9

Provide minimum Pillar 1 capital requirements, including capital surcharges for G-SIBs and the application of counter-cyclical and capital conservation buffers or the minimum internal ratio established by management.

As capital requirements are subject to national interpretations there are unsurprisingly some differences in the adoption of the EDTF recommendations and in the level of detail provided. The EDTF Report did not include any examples of existing good disclosure in this area. The majority of banks reviewed provide an explanation of the Pillar 1 capital requirements and an explanation of how the banks have applied their interpretation of the Pillar 1 Basel approach.

In responding to some of the underlying recommendations on capital disclosures HSBC usefully explain how it has applied the Pillar 1 requirements against the scope of permissible regulatory requirements against each risk category type.

HSBC Pillar 3 Report 2012: page 12 and 13

Scope of Basel Pillar 1 approaches

The scope of permissible Basel approaches, and those that HSBC has adopted, are described below.

Risk category	Scope of permissible approaches	Approach adopted by HSBC
Credit risk	Basel II applies three approaches of increasing sophistication to the calculation of Pillar 1 credit risk capital requirements. The most basic level, the standardised approach, requires banks to use external credit ratings to determine the risk weightings applied to rated counterparties. Other counterparties are grouped into broad categories and standardised risk weightings are applied to these categories. The next level, the IRB foundation approach, allows banks to calculate their credit risk capital requirements on the basis of their internal assessment of a counterparty's probability of default ('PD'), but subjects their quantified estimates of EAD and LGD to standard supervisory parameters. Finally, the IRB advanced approach allows banks to use their own internal assessment in both determining PD and quantifying EAD and LGD.	For consolidated Group reporting, we have adopted the IRB advanced approach for the majority of our business. Some portfolios remain on the standardised or foundation approaches under Basel II, pending the issuance of local regulations or model approval, or under exemptions from IRB treatment. Further information on our IRB roll-out plan may be found on page 29.
Counterparty credit risk	Three approaches to calculating counterparty credit risk and determining exposure values are defined by Basel II: standardised, mark-to-market and internal model method ('IMM'). These exposure values are used to determine capital requirements under one of the credit risk approaches; standardised, IRB foundation and IRB advanced.	We use the mark-to-market and IMM approaches for counterparty credit risk. Our aim is to increase the proportion of positions on IMM over time.

Risk category	Scope of permissible approaches	Approach adopted by HSBC
Equity	Equity exposures can be assessed under standardised or IRB approaches.	Most equity exposures within the Group are treated under the standardised approach. Our IRB equity exposures are treated under the simple risk weight approach.
Securitisation	Basel II specifies two methods for calculating credit risk requirements for securitisation positions in the non-trading book: the standardised approach and the IRB approach, which incorporates the Ratings Based Approach ('RBM'), the Internal Assessment Approach ('IAA') and the Supervisory Formula Method ('SFM')	For the majority of the securitisation non-trading book positions we use the IRB approach, and within this principally the RBM, with lesser amounts on IAA and SFM. We also use the standardised approach for an immaterial amount of trading book positions.
Market risk	Market risk capital requirements can be determined under either the standard rules or the internal models approach. The latter involves the use of internal VAR models to measure market risks and determine the appropriate capital requirement. The IRC and comprehensive risk measure ('CRM') also apply.	The market risk capital requirement is measured using internal market risk models, where approved by the FSA, or the FSA standard rules. Our internal market risk models comprise VAR, stressed VAR, IRC and, in respect of correlation trading, the CRM.
Operational risk	Basel II allows for firms to calculate their operational risk capital requirement under the basic indicator approach, the standardised approach or the advanced measurement approach.	We have adopted the standardised approach in determining our operational risk capital requirement. Our medium term aim is to seek FSA approval to adopt the advanced measurement approach.

Some of the banks have included a brief explanation of the proposed impact of potential capital surcharges that are applicable to Globally Systemically Important Financial Institutions (GSIFIs). This is often described in the context of the rules rather than any specific analysis.

Recommendation 10

Summarise information contained in the composition of capital templates adopted by the Basel Committee to provide an overview of the main components of capital, including capital instruments and regulatory adjustments. A reconciliation of the accounting balance sheet to the regulatory balance sheet should be disclosed.

The more detailed regulatory disclosures include the potential impact of new Capital Requirements Directive (CRD IV). The disclosure of this information has been reviewed as part of the responses to Recommendation 12.

The reconciliation of accounting capital to regulatory capital has become a standard disclosure for a number of banks over the past few years. For example in the UK, the BBA requested that UK banks provide this information in their public reporting. Most of the banks reviewed have provided a reconciliation of accounting to regulatory capital however the level of supporting explanation varies. Some specifically disclose that the inclusion of Basel reporting templates will be adopted in subsequent reporting periods.

Given the complexity of some of the technical adjustments between accounting and regulatory capital, disclosure providing explanation of these adjustments can be useful. This is an area for further improvement once the capital requirement rules are finalised.

BNP Paribas provides some commentary of the reasons for some of the changes in regulatory capital deductions and Santander discloses some of the principal reasons for changes in regulatory capital.

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➤ TABLE 5a: CHANGE IN ELIGIBLE DEBT

In millions of euros	31 December 2011	New issues	Redemptions	Prudential discount	Others	31 December 2012
T1 eligible debt	3,435	0	(1,409)	0	96	2,122
T2 eligible debt [1]	13,874	112	(2,610)	(993)	172	10,555
T3 eligible debt	2,200			(740)		1,460
TOTAL ELIGIBLE DEBT	**19,509**	**112**	**(4,019)**	**(1,733)**	**268**	**14,137**

(1) T2 eligible debts before prudential discount amount to EUR 13,117 million as at 31 December 2012.

➤ TABLE 5B: CHANGE IN REGULATORY DEDUCTIONS

In millions of euros	31 December 2011	variation	31 December 2012
Goodwill	(11,783)	850	(10,933)
of which goodwill on fully and proportionately consolidated entities [1]	*(11,192)*	*786*	*(10,406)*
of which goodwill on associates	*(591)*	*64*	*(527)*
Intangible assets	(2,146)	(172)	(2,318)
Deductions of 50% for uneligible items	(1,653)	79	(1,574)
of which equity investments in non-consolidated credit or financial institutions more than 10%-owned	*(672)*	*171*	*(501)*
of which investments in credit or financial institutions more than 10%-owned	*(756)*	*(65)*	*(821)*
of which subordinated loans to credit or financial institutions more than 10%-owned	*(222)*	*(26)*	*(248)*
Positive equity accounting difference on insurance companies [2]	(629)	(1,004)	(1,633)
TOTAL ASSETS DEDUCTED FOR PRUDENTIAL PURPOSES	**(16,211)**	**(247)**	**(16,458)**
Changes in fair value of available-for-sale financial assets and reclassified loans and receivables recognised directly in equity [3]	2,616	(3,596)	(980)
Changes in fair value of hedging derivatives recognised directly in equity [4]	(1,099)	(566)	(1,665)
Revaluation of own debt [5]	(950)	967	17
Proposed dividend	(1,430)	(428)	(1,858)
Non-eligible minority interests	(733)	349	(384)
Other	(261)	256	(5)
TOTAL OTHER REGULATORY DEDUCTIONS	**(1,857)**	**(3,018)**	**(4,875)**
TOTAL REGULATORY DEDUCTIONS	**(18,068)**	**(3,265)**	**(21,333)**

(1) The decline in the amount of goodwill deductions is due mainly to the impairment of BNL goodwill and the loss of control of the Klépierre group following its partial sale (see note 5.o to the consolidated financial statements).

(2) The increase in the positive equity accounting difference on insurance companies is due mainly to the impact of changes in assets and liabilities recognised directly in equity, net income for the year and the 2011 dividend payout.

(3) The trend in fair value changes of available-for-sale financial assets and reclassified loans and receivables, which are recognised directly in equity, is due mainly to fixed-income securities.

(4) Changes in fair value of derivatives contracted as part of a hedging relationship are excluded from equity.

(5) The change in fair value of own debt attributable to the BNP Paribas Group issuer risk is fully deducted.

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This chapter gives details of capital requirements by risk type and portfolio (see Table 8) and by geographical area (see Table 9). In Table 8 it can be observed that capital requirements decreased by 1.4% compared to 2011, while the distribution by Pillar I risk type is very similar to last year: credit risk 81%, market risk 6% and operational risk 13%.

The main factors explaining the decrease in risk-weighted assets compared to the previous year, from EUR 562.4 billion to EUR 554.3 billion, are business growth, the change in perimeter due to the sale of the Colombian unit, and to a lesser extent the exchange rate effect.

At 31 December 2012 none of the financial institutions included in the Santander consolidated group had less than the minimum capital required under applicable regulations.

The increase in capital requirements for credit risk under the standardised approach was due mainly to the corporates segment, partly offset by the decrease in other exposures. In Group units subject to the IRB approach, capital requirements decreased by 5% during 2012, mainly due to a decrease in exposure (-3%), while the capital-to-exposure ratio held stable.

By geography, the most significant decline was in Spain. IRB approval for the SMEs portfolio in Portugal had a positive, though modest impact on performance during the year. Capital requirements for market risk are down 11%, while operational risk requirements are up 4%, in line with revenue.

There were no major acquisitions during the year and Colombia was the only significant divestment, with an impact on capital of EUR 25 million.

As capital requirements are on a legal entity basis, it is helpful for users to understand that the scope of consolidation differs between accounting and regulatory regimes. Some of the banks provide explanations of their 'regulatory groups' distinguishing this from the group defined for financial reporting purposes. Barclays included a reconciliation of these balance sheets in its Pillar 3 report and annual report respectively with an explanation of which parts of the bank are within the regulatory scope of consolidation.

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Figure 1: Summary of regulatory scope of consolidation as at 31.12.12[1,2]

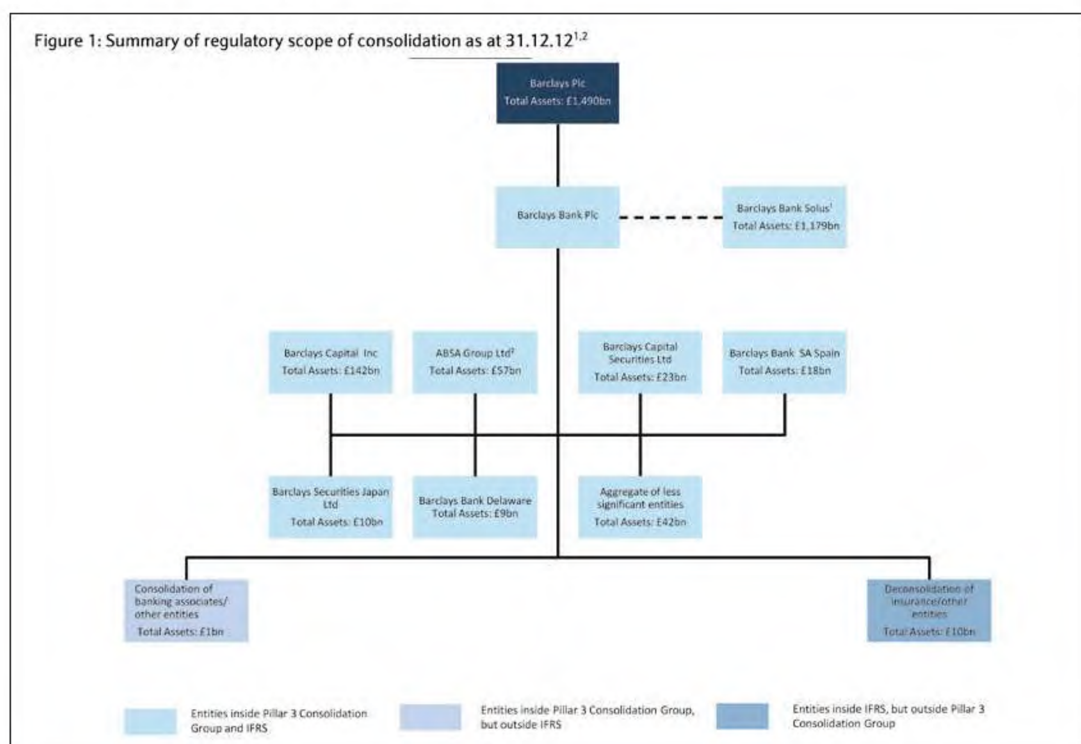

Table 6: Reconciliation between gross assets per IFRS and for regulatory reporting purposes

This table details the reconciliation between Barclays PLC balance sheet for statutory versus regulatory purposes. Please note that the amount shown under the regulatory scope of consolidation is not a risk-weighted asset measure; it is an accounting measure and cannot be reconciled to other tables in this report.

As at 31.12.12	Accounting balance sheet per published financial statements £m	Deconsolidation of insurance/other entities £m	Consolidation of banking associates/other entities £m	Balance sheet per regulatory scope of consolidation £m
Assets				
Cash and balances at central banks and items in the course of collection from other banks	87,631	(1)	184	87,814
Trading portfolio assets	145,030	-	-	145,030
Financial assets designated at fair value	46,061	(1,252)	-	44,809
Derivative financial instruments	469,146	(212)	-	468,934
Available for sale investments	75,109	(2,878)	-	72,231
Loans and advances to banks	40,489	(1,247)	132	39,374
Loans and advances to customers	425,729	(2,976)	1,303	424,056
Reverse repurchase agreements and other similar secured	176,956	(24)	-	176,932
Other assets	24,170	(1,883)	(189)	22,098
Total assets	1,490,321	(10,473)	1,430	1,481,278
Liabilities				
Deposits from banks and items in the course of collection due to other banks	78,583	(5)	1,200	79,778
Customer accounts	385,707	(524)	-	385,183
Repurchase agreements and other similar secured borrowing	217,342	(23)	-	217,319
Trading portfolio liabilities	44,794	-	-	44,794
Financial liabilities designated at fair value	78,280	(451)	-	77,829
Derivative financial instruments	462,468	-	-	462,468
Debt securities in issue	119,581	(5,425)	-	114,156
Subordinated liabilities	24,018	-	-	24,018
Other liabilities	16,591	(3,922)	239	12,908
Total Liabilities	1,427,364	(10,350)	1,439	1,418,453
Shareholders' equity				
Shareholders' equity excluding non-controlling interests	53,586	(118)	(9)	53,459
Non-contolling interests	9,371	(5)	-	9,366
Total shareholders' equity	62,957	(123)	(9)	62,825
Total liabilities and shareholders' equity	1,490,321	(10,473)	1,430	1,481,278

Recommendation 11

Present a flow statement of movements since the prior reporting date in regulatory capital, including changes in common equity tier 1, tier 1 and tier 2 capital.

The flow statement of changes in regulatory capital has been included by a minority of the banks reviewed. A specific example of the expected disclosure was included in the EDTF report. As described in Recommendation 10, some banks include a brief explanation of the reasons for movements in regulatory capital more generally but not detailed explanations of changes in common equity tier 1, tier 1 and tier 2 capital.

HSBC provided the disclosure in the format recommended by the EDTF.

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Movement in total regulatory capital in 2012

(Audited)

Source and application of total regulatory capital

	At 31 December	
	2012	2011
	US$m	US$m
Movement in total regulatory capital		
(Audited)		
Opening core tier 1 capital	**122,496**	116,116
Contribution to core tier 1 capital from profit for the year	**17,827**	14,011
Consolidated profits attributable to shareholders of the parent company	**14,027**	16,797
Removal of own credit spread net of tax	**3,800**	(2,786)
Net dividends	**(5,613)**	(5,271)
Dividends	**(8,042)**	(7,501)
Add back: shares issued in lieu of dividends	**2,429**	2,230
Decrease in goodwill and intangible assets deducted	**1,686**	582
Ordinary shares issued	**594**	96
Foreign currency translation differences	**989**	(2,705)
Other, including regulatory adjustments	**810**	(333)
Closing core tier 1 capital	**138,789**	122,496
Opening other tier 1 capital	**17,094**	17,063
Hybrid capital securities redeemed	**(776)**	–
Unconsolidated investments	**(4,120)**	71
Other, including regulatory adjustments	**61**	(40)
Closing tier 1 capital	**151,048**	139,590
Opening tier 2 capital	**30,744**	34,376
Redeemed capital	**(1,483)**	(3,360)
Other, including regulatory adjustments	**497**	(272)
Closing total regulatory capital	**180,806**	170,334

Recommendation 12

Qualitatively and quantitatively discuss capital planning within a more general discussion of management's strategic planning, including a description of management's view of the required or targeted level of capital and how this will be established.

The level of information varies between the banks reviewed and in general the disclosures contain more explanatory information of capital planning strategies rather than quantitative information. Santander provides a useful illustrative explanation of how capital management aligns to strategic planning and BNP Paribas disclose its capital management approach at both the 'central level' and 'local level'.

Santander Pillar 3 Report 2012: page 15 and 16

SANTANDER GROUP'S BUSINESS MODEL

3.1. Capital in the Santander Group business model

Capital discipline and financial strength

Having a strong balance sheet is a priority objective for Santander. During 2012 the Bank increased its core capital keeping the same trend of the last six years and met the capital requirements set by the European Banking Authority for the largest European banks ahead of the deadline. The Santander Group has not needed state aid in any of the countries in which it is present.

During the third quarter of 2012, international consultants Oliver Wyman, with the support of the world's leading auditors and property appraisal firms, subjected the credit portfolios of Spanish financial institutions to comprehensive stress tests.

This exercise was supervised by international bodies including the European Commission, the ECB and the IMF. In the most adverse of the economic scenarios envisaged in the stress tests, the core capital of Santander in December 2014 would exceed the required minimum by EUR 25,297 million.

Geographical diversification and the subsidiaries model

The geographical diversification of the Santander Group is balanced between mature and emerging markets, which respectively contributed 45% and 55% of 2012 profit. The Bank centres its presence in ten markets: Spain, Germany, Poland, Portugal, United Kingdom, Brazil, Mexico, Chile, Argentina and the United States. In addition, the global business areas develop products that are distributed through the Group's commercial networks to serve customers worldwide.

The Santander Group has based its international expansion on a model of legally independent subsidiaries with responsibility for their own capital and liquidity. The local units have the capital they need in order to carry on their activity autonomously and meet regulatory requirements.

Regulatory and strategic advantages of subsidiarisation:

- The fact that the subsidiaries are legally and financially autonomous limits the scope for contagion among the Group's units in crises, thus reducing systemic risk.
- The subsidiaries are subject to two tiers of supervision and internal control: local and global.
- This model makes it easier to manage and resolve crises, while at the same time creating incentives for good local management.
- Having quoted subsidiaries:
  1. Gives ready access to capital and ensures that market discipline is applied.
  2. Makes it easier to finance acquisitions in the local market.
  3. Ensures high standards of transparency and corporate governance, and strengthens the brand in each country.

3.2. Capital management

The goal of capital management in the Santander Group is to guarantee the entity's solvency and maximise its profitability, while ensuring compliance with internal capital targets and regulatory requirements. It is a fundamental strategic tool for decision making at both local and corporate level. Having a common capital management framework makes it possible to define and standardise the criteria, policies, functions, metrics and processes used in capital management.

Corporate capital management principles

- **Financial autonomy.** The Group's corporate structure is based on a model of legally independent subsidiaries with responsibility for their own capital and liquidity. This model has advantages in respect of funding; limits the risk of contagion, thus reducing systemic risk. Under this control structure the subsidiaries are subjecting to two tiers of supervision and internal control, local and global. The local units have the necessary capital to carry on their activity autonomously and meet regulatory requirements.

- **Centralised monitoring:** The capital management model must ensure a holistic, group-wide view, through a corporate environment of global coordination and review (every business, every geography). The first level of monitoring, carried out by the local units, is reinforced by the monitoring done by the corporate units.

- **Appropriate distribution of capital.** Capital must be allocated according to the effective location of the risks assumed within the Group and in proportion to those risks, so as to optimise the relationship between solvency and profitability. Both the subsidiaries and the parent entity must be adequately capitalised, and capital must be allocated using balanced criteria.

- **Strengthening of capital.** Independently of the need to operate with sufficient capital (available capital) to meet legal requirements (considered a minimum, not a target), the Group needs to ensure that it has the right composition of capital. This is done by encouraging the choice of capital elements of the highest quality (in terms of their loss-absorbing capacity, their likelihood of remaining on the entity's balance sheet over time, and their ranking in the priority of payments), so as to guarantee stability over time and support the Group's sustained growth strategy.

- **Capital conservation.** Capital is a very scarce resource, which must be used as efficiently as possible, given the high cost of generating capital organically and raising capital in the markets. All units must therefore have in place mechanisms to monitor and optimise capital usage.

- **Prudent management.** The fundamental aim of capital management is to preserve the entity's solvency without losing focus on the return on invested capital. This requires setting capital targets that are consistent with each subsidiary's risk profile, both locally and globally; setting limits to the levels and types of risk the subsidiary is willing to assume in the course of its business; and ensuring that the subsidiary maintains capital levels consistent with those risks.

- **Maximum value creation.** Investment decisions are aimed at optimising value creation from invested capital. The goal is to align business management with capital management, based on the analysis and monitoring of a set of metrics that relate the cost of capital to the return on capital investment. This makes it possible to compare the return on transactions, customers, portfolios and businesses on a like-for-like basis.

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CAPITAL MANAGEMENT

OBJECTIVES

BNP Paribas capital management policy objectives consist in guaranteeing solvency at all times and complying with supervisory requirements at global and local levels, meeting expectations both of debt investors and clients, while optimizing the return generated for shareholders, who provide the henceforth required capital.

To achieve these objectives, the main principles underlying the implementation of the policy – anticipation, caution, reactivity and good judgment – are articulated simultaneously along the consolidated and local levels.

CAPITAL MANAGEMENT AT CENTRAL LEVEL

Capital planning has become in the last years a key driver of the Bank's strategic planning process, and even more so, as the implementation of the upcoming Basel 3 regulation has become one of the key strategic objectives for the Group.

Such capital-related targets are built on the Bank's Senior Management expert judgment, which integrates especially anticipated regulatory requirements, evaluation of the market expectations in terms of capitalisation, targeted high quality external rating for the Group and return on Equity objectives.

Consolidated capital targets are directly monitored at central level, through a governance described hereafter, based on bottom-up information flows. This allows defining the level of desirable capital and the means by which to achieve it, feasibility being always evaluated from a cautious point of view.

Capital management at central level relies on two main processes that are closely linked:

- detailed quarterly analysis of actual capital consumption by divisions/ business lines through the reporting process and quarterly update of capital planning process throughout the year;
- the yearly budget process, which plays a central role in the Bank's strategic planning process, and integrates a capital planning component.

The development, approval and update of the capital plan process are based, as far as governance is concerned, on two committees:

- Risk-Weighted Assets Committee: created in early 2007, it is jointly chaired by the Chief Financial Officer and the Chief Risk Officer, with divisions and operational units CFOs attending. Held on a quarterly basis, it reviews RWA and the upcoming quarterly solvency ratio trends;
- Capital Committee: created in June 2009, it is chaired quarterly by the Chief Executive Officer, and addresses the following topics:
  - monitoring and anticipations of RWA and solvency ratio evolutions on a 12 to 18 months time span,
  - identifying of the required adjustments and optimisation (based e.g. on business models, processes and IT), and assessment of the associated impacts,
  - define short and medium term capital use guidelines, and propose options to the Executive Committee,
  - monitoring ACP recommendations implementation that impact Group's RWAs and solvency.

Moreover, capital is also integrated into the Bank's risk decision processes, through the criteria of risk-weighted assets consumption:

- RWA are embedded within risk policy setting and risk decision processes;
- RWA limits are set for country risk management as well as for individual concentration policy;
- as far as market risk is concerned, risk limits expressed in market Value at Risk translate directly into capital metrics.

CAPITAL MANAGEMENT AT LOCAL LEVEL

The Group has to allocate available capital among its different entities. To ensure a free and efficient flow of capital throughout the Group, the capital allocation process within the Group is centralised at head office level and mainly driven by two principles: compliance with local regulatory requirements and analysis of the local business needs and growth prospects; this exercise is always conducted with the objective of minimising capital dispersion.

With respect to the first principle, the CFOs are responsible for the daily management and reporting of their subsidiaries' capital requirements. When a capital need arises, it is analysed on a case-by-case basis by the Finance Department, taking into consideration the subsidiary's present position and future strategy. Furthermore, each year the Group monitors the earnings repatriation process. Regarding dividend distributions, the Group policy stipulates that the entire distributable profit of every entity, including retained earnings, must be paid out, with exceptions reviewed on a case-by-case basis. This policy ensures that the capital remains centralised at Group level and also contributes to reducing the currency risk at Group level.

Local CEOs are responsible for ensuring the subsidiary's ongoing financial viability and competitiveness in terms of capital, where relevant. However, any capital action requested by a subsidiary is assessed by and subject to authorisation from head office.

As regards the branches, the Group reviews their capital allocation annually. Here again, the policy is to maintain the level of capital at the adequate level, the principle being that capital ratios of the branches must not exceed that of their parent company, unless required for tax or regulatory reasons, which are analysed by the relevant departments.

With respect to the second principle, the needs of each entity are analysed by dedicated teams in light of the Group's strategy in the relevant country, the entity's growth prospects and the macroeconomic environment.

In addressing plans to meet targeted capital requirements, the impact of new requirements such as CRD IV is described in the majority of the banks reviewed however the granularity of the disclosures and inclusion of quantitative information differs.

Barclays provides one of the more detailed disclosures, including an explanation of the expected impact of new regulatory capital requirements with an estimate of the impact of these changes and the assumptions applied.

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Impact of Basel 3

The new capital requirements regulation and capital requirements directive that implement Basel 3 proposals within the EU (collectively known as CRD IV) are still under consideration. The requirements are expected to be finalised during 2013, however the implementation date is uncertain.

- CRD IV includes the requirement for a minimum Common Equity Tier 1 (CET1) ratio of 4.5%, a minimum Tier 1 ratio of 6% and a minimum total capital ratio of 8%. There is an additional requirement for a Capital Conservation Buffer (CCB) of 2.5% and Counter-Cyclical Capital Buffer (CCCB) of up to 2.5% to be applied when macroeconomic conditions indicate areas of the economy are over-heating. Our working assumption is that the CCCB would be zero if implemented today;
- In addition globally systemically important banks are expected to hold a buffer of up to 2.5%. For Barclays, this was confirmed in November 2012 by the Financial Stability Board (FSB) to be 2.0% resulting in an expected regulatory target CET1 ratio of 9.0%. This regulatory target capital requirement will phase in between adoption of CRD IV and 2019;
- The proposed changes to the definition of CET1 also include transitional provisions relating to capital deductions and grandfathering of ineligible capital instruments that are in line with the FSA's statement on CRD IV transitional provisions in October 2012;
- Given the phasing of both capital requirements and target levels, in advance of needing to comply with the fully loaded end state requirements Barclays will have the opportunity to continue to generate additional capital from earnings and take management actions to mitigate the impact of CRD IV. Our expectation is that ineligible Additional Tier 1 capital, which qualifies for grandfathering under the transitional relief, will be replaced with eligible capital over time;
- To provide an indication of the potential impact on Barclays, we have estimated our pro forma RWAs and CET1 ratio on both a transitional and fully loaded basis, reflecting our current interpretation of the rules and assuming they were applied as at 1 January 2013. As at that date Barclays pro forma RWAs on a CRD IV basis would have been estimated at approximately £468bn, with a resultant transitional CET1 ratio of approximately 10.6% and a fully loaded CET1 ratio of approximately 8.2%. Further analysis of the impacts are set out on page 167;
- Based on our estimated proforma capital ratios, identified actions and retained earnings, we expect to be in excess of the minimum capital requirements as they are expected to apply over the transitional period and through to the end state position;
- The Basel 3 guidelines include a proposed leverage metric to be implemented by national supervisors initially under a parallel run for disclosure purposes only, and migrating to a mandatory limit over a period of five years. Based on our interpretation of the current proposals, the Group's CRD IV leverage ratio as at 31 December 2012 would be within the proposed limit of 33x, allowing for transitional relief to Tier 1 capital. Further analysis of the impacts are set out on page 167;
- The actual impact of CRD IV on capital ratios may be materially different as the requirements and related technical standards have not yet been finalised, for example provisions relating to the scope of application of the CVA volatility charge and restrictions on short hedges relating to insignificant financial holdings. The actual impact will also be dependent on required regulatory approvals and the extent to which further management action is taken prior to implementation.

Estimated impact of CRD IV

	As at 31 December 2012 £bn	Pro forma CET1 Transitional As at 1 January 2013 £bn	Pro forma CET1 Fully-loaded As at 1 January 2013 £bn
Core Tier 1 capital (FSA 2009 definition)	42.1	42.1	42.1
IFRS 10 impact (introduced on 1 Jan 2013)	–	(0.4)	(0.4)
Core Tier 1 capital post-IFRS 10 (FSA 2009 definition)	42.1	41.7	41.7
Risk Weighted Assets (RWA) (current Basel 2.5 rules)	387	387	387
Core Tier 1 ratio (Basel 2.5)	10.9%	10.8%	10.8%
CRD IV impact on Core Tier 1 capital:			
Adjustments not impacted by transitional provisions			
Conversion from securitisation deductions to RWAs		1.0	1.0
Prudential Valuation Adjustment (PVA)		(1.2)	(1.2)
Other		(0.2)	(0.2)
Adjustments impacted by transitional provisions			
Goodwill and intangibles		7.6	–
Expected losses over impairment		0.6	(1.1)
Deferred tax assets deduction		(0.1)	(1.3)
Excess minority interest		–	(0.9)
Debit Valuation Adjustment (DVA)		–	(0.3)
Pensions		–	(0.1)
Gains on available for sale equity and debt		–	0.7
CET1 capital		49.5	38.4
RWAs (post CRD IV)		468	468
CET1 ratio		10.6%	8.2%

Basis of calculation of the impact of CRD IV

CRD IV, models and waivers

- The proforma ratios, capital computations and RWAs are based on our interpretation of the draft July 2011 CRD IV rules and best expectation of how these draft rules will be updated for subsequent Basel announcements and EU discussions. They assume that all items in the Internal Model Method application to the FSA are approved, and existing FSA waivers, where such discretion is available under CRD IV, will continue.

Capital resources

- Proforma capital numbers at 1 January 2013 are based on 31 December 2012 actuals with an adjustment for IFRS 10 impact (as a result of consolidating some entities that were not previously consolidated and deconsolidating some entities that were previously consolidated);
- Transitional CET1 capital is based on application of the CRD IV transitional provisions and FSA guidance dated 26 October 2012 setting out the minimum pace of transitions with certain exceptions set out in the guidance. In line with this guidance, deferred tax assets deduction is assumed to transition in at 10% in 2013. Other deductions (including goodwill and intangibles, expected losses over impairment and DVA) transition in at 0% in 2013, 20% in 2014, 40% in 2015 and so on;
- PVA was previously assumed to be subject to transitional treatment. Following FSA guidance, the impact of PVA is now factored into CET1 on inception in full. PVA is subject to final rules to be agreed by the EBA and the impact is currently based on methodology agreed with the FSA;
- The draft July 2011 CRD IV rules include the implementation of a capital deduction for financial holdings greater than 10% of CET1 capital, which under Basel 2.5 are subject to equity market risk capital requirements. Under current regulatory rules, the Group's financial holdings net down to £3.3bn exposure after allowing for permitted economic hedging. The current draft of the CRD IV rules applies a further restriction, where the maturity of the hedging instrument is less than one year, which would result in a higher net position of approximately £10.1bn. This would be in excess of 10% of our CET1 and would result in a capital deduction on a fully loaded basis of approximately £4.6bn at CET1 level and a further deduction of approximately £1.4bn at total capital level. However, we have identified management actions that would be taken in the event that the CRD IV draft requirements remain unchanged, and as a result we are highly confident that no capital deduction would be required; and
- Excess minority interest has been calculated on a CRD IV basis and included in our full impact capital base on the assumption that supervisory regimes outside the EU that are implementing Basel 3, and are currently considered equivalent supervisory and regulatory regimes, will continue to be considered equivalent regimes under CRD IV.

RWAs

- It is assumed that EU corporates, pension funds and sovereigns are exempt from CVA volatility charge;
- It is assumed all central counterparties will implement the Committee on Payment and Settlement Systems' and the Technical Committee of the International Organization of Securities' 'Principles for Financial Market Infrastructures' and hence will be deemed to be 'Qualifying'. The final determination of Qualifying status will be made by the appropriate Regulatory Authority;
- The pro forma RWA increase from Basel 3 includes 1250% risk weighting of securitisation positions while pro forma capital includes add back of Basel 2 50/50 securitisation deductions;
- Pro forma RWAs for definition of default assume that national discretion over 180 days definition of default remains for UK retail mortgages;
- 'Other' CRD IV impact to RWAs include adjustments for withdrawal of national discretion of definition of default relating to non-UK mortgage retail portfolios (£1.4bn), deferred tax assets (£2.3bn), material holdings (£2.3bn), other counterparty credit risk (£6.4bn) and other items; and
- RWAs are sensitive to market conditions. Pro forma impact on RWAs for all periods reflects market conditions as at 31 December 2012.

UBS discusses capital planning as part of the commentary on the bank's strategy disclosing both quantitative and qualitative information of its RWA reduction strategy.

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Acceleration of our strategic transformation

Since presenting our strategy at our Investor Day in November 2011, we have successfully executed on our plans to improve our already strong capital position and reduce Basel III risk-weighted assets (RWA) and costs. Just over one year into the transformation of our firm, our Basel III capital ratios remain among the highest in our peer group, and we have reduced Basel III RWA[1] by 35%. Furthermore, we are on track with our CHF 2.0 billion cost reduction program announced in August 2011.

In October 2012, from this position of strength, we announced a significant acceleration in the implementation of our strategy.

Basel III – Risk-weighted assets

Significant reduction in Basel III RWA

1 RWA associated with UBS's option to purchase the SNB StabFund's equity (treated as a participation with full deduction from CET1 capital starting from the second quarter of 2012). 2 In 1Q13, we transferred approximately CHF 67 billion of RWA from the Investment Bank to the Corporate Center. On a pro-forma basis as of year-end, the RWA for the Non-core and Legacy Portfolio would have represented approximately CHF 105 billion, while for the Investment Bank it would have been CHF 64 billion.

This announcement underlined our commitment to transform our Group into a less capital- and balance-sheet-intensive business that is more focused on serving clients and capable of maximizing value for shareholders. We are transforming our Investment Bank, focusing on its traditional strengths in advisory, research, equities, foreign exchange and precious metals, and we are taking additional action to reduce costs and improve efficiency across the Group.

We are exiting certain business lines, predominantly those in fixed income, that have been rendered less attractive by changes in regulation and market developments. After transferring the non-core businesses and positions to be exited to the Corporate Center, we have retained limited credit and rates trading in our Investment Bank, along with structured financing capabilities, to support its solutions-focused businesses. Our leading equities and foreign exchange businesses, including our emerging markets foreign exchange capabilities, continue to be cornerstones of our Investment Bank's services. We have not significantly altered our advisory and capital markets businesses, but have reorganized our existing business functions to better serve our clients. As a result of the abovementioned transfers and additional RWA reductions, our Investment Bank started 2013 operating with approximately CHF 64 billion of Basel III RWA, within its target RWA of CHF 70 billion or less. We are convinced that our new Investment Bank is capable of delivering returns well in excess of its cost of capital, and we are targeting a pre-tax return on attributed equity of greater than 15% starting in 2013 in this division.

Our Corporate Center is tasked with managing non-core assets, previously part of the Investment Bank, in the most value-accretive way for shareholders. These diversified assets will be reported within our "Non-core and Legacy Portfolio" unit within the Corporate Center from the first quarter of 2013. At the end of 2012, this portfolio represented approximately CHF 105 billion in Basel III RWA, which we aim to reduce progressively to approximately CHF 25 billion by the end of 2017. As a result, we are targeting Group RWA of less than CHF 200 billion on a fully applied Basel III basis by the end of 2017.

1 The pro-forma Basel III information is not required to be presented because Basel III requirements were not in effect on 31 December 2012. Such measures are non-GAAP financial measures as defined by SEC regulations. We nevertheless include information on the basis of Basel III requirements because they are effective as of 1 January 2013 and significantly impact our RWA and eligible capital. The calculation of our pro-forma Basel III RWA combines existing Basel 2.5 RWA, a revised treatment for low-rated securitization exposures that are no longer deducted from capital but are risk-weighted at 1250%, and new model-based capital charges. Some of these new models require final regulatory approval and therefore our pro-forma calculations include estimates (discussed with our primary regulator) of the effect of these new capital charges, which will be refined as models and the associated systems are enhanced.

3.3.2 Risk weighted asset disclosures

Recommendation 13

Provide granular information to explain how RWAs relate to business activities and related risks.

The majority of banks reviewed provide information on RWAs as they relate to business divisions and/or geographies in the context of the related risks i.e., by market risk, credit risk and operational risk. The examples from Deutsche Bank and Societe Generale are included.

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on the market risk standardized approach. Further market risk positions covered under the standardized approach include for example exposures in relation to Postbank. More details on the aforementioned internal models are provided in the Section "Trading Market Risk".

In December 2007, we obtained approval to apply the advanced measurement approach ("AMA") to determine our regulatory operational risk capital requirements, the approval does not apply to Postbank. Details on the respective AMA model are given in the Section "Operational Risk". As of December 31, 2010, Postbank also obtained the approval to apply the advanced measurement approach. Capital requirements for operational risk are still displayed for the Group excluding Postbank, and separately for Postbank as we are waiting for regulatory approval to integrate Postbank into our regulatory capital calculation.

Risk-weighted Assets by Model Approach and Business Division

Dec 31, 2012

in € m.	Corporate Banking & Securities	Global Transaction Bank	Asset & Wealth Management	Private & Business Clients	Non-Core Operations Unit	Consolidation & Adjustments and Other	Total
Credit Risk	70,590	26,398	6,134	67,511	40,329	18,235	229,196
Advanced IRBA	63,727	18,464	2,823	38,637	19,501	573	143,725
Central Governments	2,440	818	11	76	266	151	3,762
Institutions	5,686	1,607	93	200	1,333	27	8,946
Corporates	49,258	15,610	2,589	2,796	10,999	395	81,646
Retail	217	20	130	34,529	1,150	0	36,046
Other	6,125	409	1	1,037	5,753	0	13,325
Foundation IRBA	–	–	–	8,726	1,813	–	10,539
Central Governments	–	–	–	32	2	–	35
Institutions	–	–	–	2,217	939	–	3,156
Corporates	–	–	–	6,477	872	–	7,349
Retail	–	–	–	–	–	–	–
Other	–	–	–	–	–	–	0
Other IRBA	2,487	261	455	9,042	8,027	2,321	22,592
Central Governments	–	–	–	–	–	–	–
Institutions	–	–	–	–	–	–	–
Corporates	1,341	240	–	5,574	3,802	–	10,957
Retail	–	–	–	–	–	–	–
Other	1,146	20	455	3,467	4,225	2,321	11,635
Standardized Approach	4,376	7,673	2,856	11,105	10,988	15,340	52,340
Central Governments	2	68	0	87	222	1	379
Institutions	13	16	9	112	77	3	230
Corporates	3,070	7,125	1,038	2,733	4,273	401	18,640
Retail	16	392	134	5,991	2,758	1	9,292
Other	1,275	73	1,675	2,183	3,658	14,935	23,799
Market Risk	35,656	365	1,166	360	15,512	–	53,058
Internal Model Approach	31,280	365	1,166	–	13,761	–	46,571
Standardized Approach	4,376	–	–	360	1,751	–	6,487
Operational Risk	19,221	331	4,904	4,530	22,609	–	51,595
Advanced measurement approach	19,221	331	4,904	4,530	22,609	–	51,595
Total	124,939	27,093	12,451	72,695	80,295	16,377	333,849

Within credit risk, the line item "Other" in Advanced IRBA predominately reflects RWA from securitization positions in the banking book. The Other IRBA mainly contains equity positions as well as non-credit obligation assets in the category "Other". Within the Standardized Approach, about half of the line item "Other" includes RWAs from banking book securitizations with the remainder being exposures assigned to the further exposure classes in the Standardized Approach apart from central governments, institutions, corporate and retail.

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BASEL 2 RISK-WEIGHTED ASSETS (INCLUDING BASEL 2.5 REQUIREMENTS) AT DECEMBER 31, 2012

(In billions of euros)	Credit	Market	Operational	Total
French Networks	86.2	0.1	2.9	**89.2**
International Retail Banking	68.2	0.0	3.7	**71.9**
Corporate & Investment Banking	50.0	26.2	23.5	**99.7**
Specialised Financial Services and Insurance	38.2	0.0	2.3	**40.5**
Global Investment Management and Services	9.9	0.4	4.4	**14.8**
Corporate Centre	1.6	1.9	4.5	**8.0**
Group	**254.1**	**28.6**	**41.3**	**324.1**

Risk-weighted assets (EUR 324.1 billion) by type of activity break down as follows:

- credit risk[1] accounted for 78.4% of risk-weighted assets at December 31, 2012, or EUR 254.1 billion (as compared to EUR 273.3 billion at December 31, 2011);
- market risk accounted for 8.8% of risk-weighted assets at December 31, 2012, or EUR 28.6 billion (as compared to EUR 32.5 billion at December 31, 2011);
- operational risk accounted for 12.7% of risk-weighted assets at December 31, 2012, or EUR 41.3 billion (as compared to EUR 43.4 billion at December 31, 2011).

Credit risk on derivatives essentially relates to instruments with maturities under five years (a detailed breakdown of these instruments is provided in Note 33 to the consolidated financial statements).

Moreover, as the Societe Generale Group has been classified as a financial conglomerate, it is subject to additional supervision by the French Prudential Supervisory Authority *(Autorité de Contrôle Prudentiel).*

Recommendation 14

Present a table showing the capital requirements for each method used for calculating RWAs for credit risk, including counterparty credit risk, for each Basel asset class as well as for major portfolios within those classes. For market risk and operational risk, present a table showing the capital requirements for each method used for calculating them. Disclosures should be accompanied by additional information about significant models used, e.g. data periods, downturn parameter thresholds and methodology for calculating LGD.

Most of the banks reviewed have adopted this recommendation and include disclosures of the capital required and the methodology for RWA calculations across asset classes. HSBC chose to present a separate table for each risk type whereas some of the other banks present this in one comprehensive table such as the example from UBS.

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Table 2: Detailed segmentation of BIS Basel 2.5 risk-weighted assets

	31.12.12				31.12.11
	Net EAD	RWA			RWA
CHF million		Advanced IRB approach	Standardized approach	Total	Total
Credit risk	566,505	73,847	21,733	95,580	116,129
Sovereigns	*142,150*	*3,205*	*222*	*3,427*	*9,290*
Banks	*54,580*	*8,654*	*2,083*	*10,737*	*14,006*
Corporates	*154,433*	*43,250*	*16,312*	*59,562*	*75,385*
Retail	*215,342*	*18,737*	*3,116*	*21,854*	*17,447*
Residential mortgages	128,676	13,888	1,362	15,250	11,164
Lombard lending	82,271	4,111		4,111	3,345
Other retail	4,396	739	1,754	2,493	2,937
Securitization / Re-securitization exposures[1]	21,448	7,136		7,136	7,287
Banking book exposures	*14,995*	*5,497*		*5,497*	*4,147*
Trading book exposures	*6,453*	*1,639*		*1,639*	*3,139*
Non-counterparty related risk	26,610		6,248	6,248	6,050
Settlement risk (failed trades)	141	28	91	118	79
Equity exposures outside trading book[2]	798	2,972		2,972	3,310
Market risk		27,173		27,173	49,241
Value-at-risk (VaR)		*5,686*		*5,686*	*7,935*
Stressed value-at-risk (sVaR)		*7,367*		*7,367*	*13,117*
Incremental risk charge (IRC)		*5,192*		*5,192*	*19,564*
Comprehensive risk measure (CRM)		8,928		8,928	*8,625*
Operational risk[3]		53,277		53,277	58,867
Total BIS	615,501	164,434	28,071	192,505	240,962
Additional RWA according to FINMA regulations[4]				15,190	15,475
Total FINMA RWA[5]				207,695	256,437

1 On 31 December 2012, CHF 2.9 billion of the securitization exposures, including CHF 2.1 billion for the option to acquire the SNB StabFund's equity, were deducted from capital and therefore did not generate RWA (on 31 December 2011, a total of CHF 5.3 billion of securitization exposures were deducted from capital, which included CHF 1.6 billion for the option to acquire the equity of the SNB StabFund). 2 Simple risk weight method. 3 Advanced measurement approach. 4 Reflects an additional charge of 10% on credit risk RWA for exposures treated under the standardized approach, a surcharge of 200% for RWA of non-counterparty related assets and additional requirements for market risk. 5 As of 31 December 2012, the FINMA tier 1 ratio amounts to 19.7% (15.0% for 31 December 2011) and the FINMA total capital ratio to 23.4% (16.2% for 31 December 2011).

For the second part of the recommendation, the HSBC disclosure provides a significant amount of detail concerning models used and model parameters, for example the 'downturn' Loss Given Default ('LGD') adjustment made to specific portfolios. An example of HSBC's wholesale business disclosures is included on the following page. Barclays also provides a useful summary in one place of the models applied.

Retail risk rating systems

Owing to the different country-level portfolio performance characteristics and loss history, there are no global models for our retail portfolios. Our retail models are developed at a local level, based on portfolio behaviour and observed defaults. In the Group overall, we maintain over 800 retail behavioural or risk predictive scorecards and models. Of these, just under 300 are used with our regulator's approval under our IRB permission, the remainder being application or behavioural scorecards.

We classify approximately 20% by number of the retail IRB model population as constituting individually material models. Within this group, the six individual PD models for which we disclose performance data in table 20 below represented approximately 57% of total retail IRB RWAs of US$171bn at year-end 2012. The majority of this was attributable to the four residential mortgage models included in table 15 below, representing our most material retail asset class.

All newly adopted IRB models for retail portfolios, irrespective of size, require FSA approval. For changes to existing IRB models, an FSA approval process applies to all but a list of *de minimis* exemptions representing an immaterial percentage of total Group credit risk RWAs. This approval process sets various quantitative and qualitative thresholds to ensure that all significant model changes go forward for approval.

When developing retail models, segmentation based on risk characteristics is often adopted to enhance the models' discrimination and accuracy. The majority of our retail models are designed for a particular product or group of products in a specific country.We have developed and issued global internal model governance, development, validation and monitoring standards to ensure that locally developed models adhere, as far as possible, to consistent global standards. These permit specific variances in model approach, depending on local regulatory, legal or data requirements, which are used to determine and predict the risks in these portfolios.

Our models incorporate conservatism where required under regulatory rules. Additional levels of conservatism, varying from region to region, may arise from a methodological choice of ours or from a specific regulatory intervention, depending on the local assessment of the risk factors by us and the regulatory authorities. Regulators may additionally impose 'floor' values for various metrics, to achieve the objective that, in practice, modelled outputs and capital requirements calculated from them remain conservative even in benign economic conditions.

Our PD models are developed using statistical estimation based on a minimum of five years of historical data. The modelling approach is typically inherently TTC or, where a PIT approach is predominantly used, as in the UK, this becomes effectively TTC through the application of a regulatory uplift or buffer.

Our retail EAD models are also developed using at least five years of historical observations and typically adopt one of two approaches:

- for closed-end products without the facility for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation; or
- EAD for products with the facility for additional drawdowns is estimated as the outstanding balance of accounts at the time of observation plus a Credit Conversion Factor ('CCF') applied to the undrawn portion of the facility.

Our approach to LGD estimates has more variation, particularly in respect of the downturn period calculation that they generally include. UK mortgage models use a regulatory-defined downturn based on a minimum 40% decline in house prices from peak to trough. In Hong Kong, the downturn LGD for the mortgage model is defined to be the period in 2003-4 when Hong Kong experienced the Severe Acute Respiratory Syndrome and historical default rates and property price declines were at their most severe.

The most material US mortgage models derive LGD based on defaults that occurred in the period 2003-2008, which includes the relatively benign years prior to 2007. To reflect more recent data, during 2012 we completed a recalibration based on defaults that occurred in 2005-2009, given that two years' loss experience post default is used to determine LGD. We then applied an uplift to the modelled parameters for risk management and reporting purposes, as explained in more detail under 'Model performance' on page 39.

Table 15 below sets out exposures, RWA, RWA density and Basel metrics for our most material mortgage models in three major markets. Tables 16 and 17 show IRB exposures by exposure sub-class and portfolio quality bands: first at Group level by internal PD band, then by geographic region using a composite EL measure. In table 16, band seven has lower RWAs because, as assets approach and go into default, our capital requirements are increasingly reflected in an EL deduction from capital, rather than a direct RWA impact.

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Barclays approach to managing risks – Credit Risk (IRB approach)

Table 59: AIRB credit risk models selected features

Component modelled	Portfolio	Number of significant models and size of associated portfolio (RWAs)	Model description and methodology	Number of years loss data	Basel asset classes measured	Applicable industry-wide regulatory thresholds
PD	Investment Bank and Corporate Bank - Large Corporates	Two models; £24.0bn	1. Model uses a Merton-based methodology. 2. Regression model. Inputs include client accounts data.	>10 years	Corporates	PD floor of 0.03%
	Investment Bank and Corporate Bank - Large Corporates, FI, and Sovereigns	One model; £24.0bn	"Rating Agency Equivalent" model converts agency ratings into estimated equivalent long-run historical default rates.	>10 years	Corporate, Financial Institutions and Sovereigns	PD floor of 0.03% for corporates and institutions
	Barclays Corporate - Mid Corporates	One model; £6.3bn	Regression model. Inputs include account behaviour / conduct data.	>10 years	Corporates	PD floor of 0.03%
	UK RBB - Home Finance	One model; £14.9bn	Statistical scorecards estimated using regression techniques. They are calibrated against long-run industry default data.	6-10 years	Residential Mortgages	PD floor of 0.03%
	UKRBB - Business Banking	Two models; £6.6bn	1. Local Business PD: Statistical scorecards calibrated against long-run default data. 2. Financial and Behavioural (FAB) PD behavioural scorecard model estimated using regression techniques. Inputs include conduct data at acccount level.	>10 years	Other Retail	PD floor of 0.03%
	Barclaycard - UK	One model; £9.1bn	Statistical scorecards estimated using regression techniques. They are calibrated against internal default data.	< 3years	Retail QRRE	PD floor of 0.03%
	Europe RBB - Spain Mortgages	One model; £4.1bn	Statistical scorecards calibrated against long-run industry default data.	6-10 years	Residential Mortgages	PD floor of 0.03%
	Africa RBB - Absa Home Loans (excluding Private One accounts)	One model; £4.9bn	Statistical scorecards calibrated against long-run industry default data.	>10 years	Residential Mortgages	PD floor of 0.03%
LGD	Investment Bank - Large Corporates, Financial Institutions and Sovereigns	One model; £49.0bn	Regression model that produces a downturn LGD (for regulatory capital) and a long run average LGD. Inputs include collateral and recoveries data.	3-5 years	Central government or central banks, Institutions, Corporates	A 45% floor for sovereign exposures is applicable as at year-end 2012.
	Barclays Corporate - Large Corporates, Mid Corporates UK RBB - Business Banking	One model; £37.3bn	Statistical model that predicts utilisation of undrawn exposure. It incorporates expert judgement input for off-balance sheet products.	3-5 years	Corporates Other Retail	
	UK RBB - Home Finance	One model; £14.9bn	Data driven estimates of loss and probability of possession are complemented with expert judgment where appropriate.	>10 years	Residential Mortgages	LGD floor of 10% at portfolio level.
	Barclaycard - UK	One model; £9.1bn	Statistical models combining regression and other forecasting techniques.	< 3years	Retail QRRE	
	Europe RBB - Spain Mortgages	One model; £4.1bn	Data driven estimates of loss and probability of possession are complemented with expert judgment where appropriate.	6-10 years	Residential Mortgages	LGD floor of 10% at portfolio level.
	Africa RBB - Absa Home Loans (excluding Private One accounts)	One model; £4.9bn	Data driven estimates of loss and probability of possession are complemented with expert judgment where appropriate.	>10 years	Residential Mortgages	LGD floor of 10% at portfolio level.
EAD	Investment Bank - Large Corporates, Financial Institutions and Sovereigns	One model; £30.5bn	Regression based model predicts Credit Conversion Factors that are used to derive EAD. They are calibrated and adjusted to different customer categories.	3-5 years	Central government or central banks, Institutions, Corporates	
	Barclays Corporate - Large Corporates, Mid Corporates UK RBB - Business Banking	One model; £37.9bn	Statistical model that predicts utilisation of undrawn exposure. It incorporates expert judgement input for off-balance sheet products.	3-5 years	Corporates Other Retail	
	UK RBB - Home Finance	One model; £14.9bn	Rule-based calculation validated using historical data.	>10 years	Residential Mortgages	EAD must be at least equivalent to current balance utilisation at account level.
	Barclaycard - UK	One model; £9.1bn	Statistical scorecards estimated using regression techniques. They are calibrated against internal default data.	< 3years	Retail QRRE	EAD must be at least equivalent to current balance utilisation at account level.
	Europe RBB - Spain Mortgages	One model; £4.1bn	Rule-based calculation validated using historical data.	6-10 years	Residential Mortgages	EAD must be at least equivalent to current balance utilisation at account level.
	Africa RBB - Absa Home Loans (excluding Private One accounts)	One model; £4.9bn	Historic data is used to determine a credit conversion factor, which is applied to the non-defaulted in appropriate cohorts to forecast EAD.	3-5 years	Residential Mortgages	EAD must be at least equivalent to current balance utilisation at account level.

Recommendation 15

Tabulate credit risk in the banking book showing average PD and LGD as well as EAD, total RWAs and RWA density for Basel asset classes and major portfolios within the Basel asset classes at a suitable level of granularity based on internal ratings grades. For non-retail banking book credit portfolios, internal ratings grades and PD bands should be mapped against external credit ratings and the number of PD bands presented should match the number of notch-specific ratings used by credit rating agencies.

The EDTF Report included an example of the recommended disclosure. Almost all of the banks reviewed have disclosed Basel asset classes by the Probability of Default ('PD'), LGD, Exposure at Default ('EAD') and RWA. These disclosures include further granularity with internal grades matched to external credit ratings, as per the EDTF example. In some disclosures, RWA is shown the capital requirement (as a percentage of exposure) rather than an RWA density percentage.

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AIRB credit exposures by internal rating grade

In line with the EDTF recommendations, the table below shows the AIRB portfolio per internal rating grade. Under Basel II rules, the nominal exposures are weighted to determine the RWA (and regulatory capital) of a portfolio, under a 'risk-based approach'. This approach dictates that less capital is required for credit risks which are well-rated, while progressively more capital is required as an obligor's risk (rating) deteriorates. This effect can cause RWA to increase or decrease together with risk rating migration without a significant change in the size of the underlying financial assets, in terms of financial accounting. As such, rating migrations are closely monitored within ING Bank

Exposures (READ) per internal rating grade and corresponding PD, LGD and RWA

Internal rating grade	PD range for each grade	READ in each grade	Average RPD	Average RLGD	RWAs in each grade (or band)	Total RRW	External Rating Equivalent
Performing							
1	0.00-0.01	25,532	0.03*	23.97	733	0.03	AAA
2	0.01-0.02	43,385	0.02	20.83	789	0.02	AA+
3	0.02-0.04	41,726	0.04	19.77	904	0.02	AA
4	0.04-0.05	15,328	0.04	25.81	1,375	0.09	AA-
5	0.05-0.06	26,274	0.05	30.14	2,461	0.09	A+
6	0.06-0.08	45,981	0.07	22.72	4,031	0.09	A
7	0.08-0.11	44,129	0.11	29.01	6,505	0.15	A-
8	0.11-0.17	50,381	0.15	22.55	7,282	0.14	BBB+
9	0.17-0.29	89,193	0.22	21.9	13,314	0.15	BBB
10	0.29-0.51	106,880	0.37	20.27	20,625	0.19	BBB-
11	0.51-0.89	101,638	0.64	19.91	25,313	0.25	BB+
12	0.89-1.54	49,123	1.14	18.94	16,754	0.34	BB
13	1.54-2.67	36,461	1.92	20.37	16,751	0.46	BB-
14	2.67-4.62	22,753	3.34	20.33	12,449	0.55	B+
15	4.62-8.01	15,811	6.55	19.8	10,464	0.66	B
16	8.01-13.88	6,127	10.88	21.07	4,997	0.82	B-
17	13.88-20.00	6,162	18.58	20.45	6,154	1	CCC
18	20.00-30.00	5,820	25.02	16.29	5,157	0.89	CC
19	>30%	4,301	40.48	21.68	4,453	1.04	C
Non-Performing							
20	100%	10,352	100	25.63	9,523	0.92	Default
21	100%	2,667	100	18.11	2,625	0.98	Default
22	100%	2,158	100	25.01	1,347	0.62	Default
Total		752,182	3.28	21.79	174,006	0.23	

Includes the AIRB portfolio only; excludes securitisations, equities and ONCOA.

* For non-sovereign exposures there is a RPD floor of 3 BPS, hence the RPD in the first three grades might look counterintuitive, due to the mixture of sovereign and non-sovereign exposures.

ING Bank's Probability of Default (PD) rating models are based on a 1-22 scale, which corresponds to the same rating grades that are assigned by external rating agencies. Risk Ratings (PD) for performing loans (1-19) are calculated in ING Bank with regulatory approved models. Risk Ratings for non-performing loans (20-22) are set on the basis of an approved subjective methodology by the Global or Regional Restructuring unit. For securitisation portfolios, the external ratings of the tranche in which ING Bank has invested are leading. Overall the risk weights of the ING portfolio are a mixture of low risk weights for Sovereigns and Residential Mortgages combined with higher risk weights for Corporates and Securitisations.

HSBC enhance the disclosures recommended by the EDTF, including detail of PD, LGD and RWA density by country for the bank's residential mortgages portfolio. This is helpful given the different underwriting standards and national specifics of residential mortgage markets.

HSBC Pillar 3 Report 2012: page 36

Capital and Risk Management Pillar 3 Disclosures at 31 December 2012 (continued)

Table 15: Retail IRB exposures secured on real estate property

	At 31 December 2012				
	Exposure value US$bn	PD %	LGD %	RWA density %	RWAs US$bn
Total retail IRB: secured on real estate property	317.4	4.75[1]	23.5[1]	41[1]	130.8
Of which:					
– US residential mortgages[2]	35.1	26.99	64.7	215	75.4
– UK residential mortgages[3]	101.1	1.69	12.7	8	7.7
– Hong Kong residential mortgages[3]	50.6	0.77	10.1	8	3.8

1 *The PD, LGD and RWA density percentages for 'Total retail IRB' represent an exposure weighted average.*
2 *Comprises the US Consumer Lending and Mortgage Services Real Estate First Lien portfolios. The PD and LGD are presented without the quantitative adjustment described on page 41.*
3 *UK excludes the First Direct division of HSBC Bank plc. Hong Kong includes the Hong Kong Area Management Office and Hang Seng Bank.*

Recommendation 16

Present a flow statement that reconciles movements in RWAs for the period for each RWA risk type.

This recommendation was less well adopted by the banks reviewed. Deutsche Bank included a good example of the 'flow statement' splitting RWAs by credit and market risk.

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The table below provides an analysis of key drivers for RWA movements on a Basel 2.5 basis observed for credit and market risk in the reporting period.

Development of Risk-weighted Assets for Credit Risk and Market Risk

	Dec 31, 2012	
in € m.	Counterparty credit risk	thereof: derivatives and repo-style transactions
Credit risk RWA balance, beginning of year	262,764	50,973
Book Quality/Growth	3,400	3,283
Operating Model Improvements	(13,534)	(12,800)
Advanced Model Roll out	(7,325)	(4,180)
Asset Sale/Hedging	(14,470)	(1,567)
Foreign exchange movements	(1,639)	(436)
Credit risk RWA balance, end of year	229,196	35,274

in € m.	Dec 31, 2012
Market risk RWA balance, beginning of year	68,095
Movement in risk levels	(322)
Market data changes and recalibrations	(2,577)
Model updates	(707)
Methodology and policy	(11,215)
Acquisitions and disposals	–
Foreign exchange movements	(216)
Market risk RWA balance, end of year	53,058

The decrease in RWA for counterparty credit risk by 13 % since December 31, 2011 mainly reflects the successful RWA reduction efforts focusing on de-risking as well as model and process enhancements.

Recommendation 17

Provide a focused narrative putting Basel Pillar 3 back-testing requirements into context, including how the bank has assessed model performance and validated its models against default and loss.

The underlying narrative for the EDTF recommendation referred to 'back-testing for each Basel exposure class by major business unit or for individual model parameters such as PD, LGD and credit conversion factors'. The disclosure of banks reviewed varied from a narrative disclosure, comparison of total expected losses with accounting provisions raised (by asset class) to a comparison of expected PD, LGD and EAD by asset class, as in the Barclays example.

Barclays Pillar 3 Report 2012: page 43

IRB Exposure Class\Year	PD of Total Portfolio		LGD of Defaulted Assets		EAD of Defaulted Assets
As at 31.12.12	Estimate %	Actual %	Estimated %	Actual %	Estimate to Actual Ratio
Wholesale					
Central governments or central banks					
Investment Bank	0.36	-	-	-	
Corporate Banking	0.23	-	-	-	-
ABSA	0.74	-	n/a	n/a	n/a
Institutions					
Investment Bank	0.97	0.02	-	-	1.43
Corporate Banking	1.11	-	-	-	-
ABSA	1.05	-	n/a	n/a	n/a
Corporates					
Investment Bank	1.65	0.31	44.00	15.00	1.08
Corporate Banking	2.75	1.70	45.34	44.68	1.11
ABSA	1.85	2.15	n/a	n/a	n/a
Retail					
SME	7.06	5.91	68.21	72.11	1.06
Secured by real estate collateral UK	0.67	0.53	4.39	1.47	1.02
Secured by real estate collateral Rest of World	1.98	2.10	13.67	24.45	1.03
Qualifying revolving retail	1.64	1.77	83.97	82.88	1.02
Other retail	7.44	4.81	62.19	59.59	1.01

3.4 Liquidity

Recommendation 18

Describe how the bank manages its potential liquidity needs and provide a quantitative analysis of the components of the liquidity reserve held to meet these needs, ideally by providing averages as well as period-end balances. The description should be complemented by an explanation of possible limitations on the use of the liquidity reserve maintained in any material subsidiary or currency.

Disclosures on liquidity vary in terms of consistency, the comparability of the information presented and the depth of disclosure in terms of the detailed recommendations of the EDTF. This is a reflection that liquidity disclosures have evolved more recently and, given the market sensitivity of liquidity information, it is important for banks to present a coherent story that is relevant to their specific circumstances.

In response to the EDTF recommendations, all of the banks reviewed describe the approach to liquidity management and this is the focus of most of the disclosures. Some of the banks reviewed describe the qualitative components of liquidity risk, and include selected measures within the main commentary on liquidity management. As noted in the responses to Recommendation 4 of our report, a minority of the banks reviewed disclosed their LCR.

Some banks provide liquidity information in their annual report, and others include the information primarily in Pillar 3 reporting.

Santander included information on key liquidity ratios and how this compares between different reporting periods.

Santander Annual Report 2012: page 234

1. Improvement in basic liquidity ratios

The table shows the evolution in the last few years of the basic metrics for monitoring liquidity at the Group level:

GRUPO SANTANDER MONITORING METRICS

	2012	2011	2010	2009	2008
Net loans/net assets*	**74%**	77%	75%	79%	79%
Net loan-to-deposit ratio	**113%**	117%	117%	135%	150%
Customer deposits and medium and long term funding/net loans	**118%**	113%	115%	106%	104%
Short term wholesale funding/ net liabilities	**2%**	2%	3%	5%	7%
Structural liquidity surplus (%/net liabilities*)	**16%**	13%	14%	8%	4%

* Balance sheet for liquidity management purposes.
Note: in 2011 and 2012, customer deposits include retail commercial paper in Spain (excluding short term wholesale funding).

The table below sets out the most frequently used liquidity ratios for Santander's main units at the end of 2012.

LIQUIDITY RATIOS FOR THE MAIN UNITS
December 2012. (%)

	Net loan-to-deposit ratio	Deposits+M & LT funding/net loans
Spain	96	148
Portugal	108	105
Santander Consumer Finance	178	69
Poland-BZ WBK	87	116
UK	129	108
Brazil	107	122
Mexico	82	132
Chile	132	98
Argentina	83	120
US	108	121
Total Group	**113**	**118**

Note. In Spain, including retail commercial paper in deposits.

A few banks disclose more quantitative information e.g. a table of the bank's liquidity pool. Where information on the liquidity pool is provided, the format of the information presented differs. Some disclose the liquidity pool on a group basis, others on a legal entity basis. There are differences in terms of how the banks reviewed classify the liquidity hierarchy of assets and whether this is based on internal or external methodologies, whether information is provided for movements in the liquidity pool over different periods and stress testing information.

HSBC discloses its liquidity pool based on its principal subsidiaries. The bank's classification of assets in the liquidity hierarchy is based on an internal methodology.

HSBC Annual Report 2012: pages 207 and 263

Liquid assets of HSBC's principal entities

	Estimated liquidity value[44]		
	31 Dec 2012	30 Jun 2012	31 Dec 2011
	Audited	*Unaudited*	*Audited*
	US$m	US$m	US$m
HSBC UK[40]			
Level 1	**138,812**	120,690	114,596
Level 2	**374**	475	344
Level 3	**27,656**	9,320	–
Non-government assets	**–**	–	23,007
	166,842	130,485	137,947
The Hongkong and Shanghai Banking Corporation[41]			
Level 1	**112,167**	104,943	107,056
Level 2	**5,740**	5,929	
Level 3	**3,968**	4,889	–
Non-government assets	**–**	–	2,151
	121,875	115,761	109,207
HSBC USA[42]			
Level 1	**60,981**	62,966	86,060
Level 2	**15,609**	16,511	1,369
Level 3	**5,350**	8,405	–
Other	**6,521**	6,238	–
Non-government assets	**–**	–	19,093
	88,461	94,120	106,522
Total of HSBC's other principal entities[43]			
Level 1	**154,445**	118,616	138,085
Level 2	**18,048**	36,713	2,827
Level 3	**6,468**	11,205	–
Other	**2,447**	–	–
Non-government assets	**–**	–	23,584
	181,408	166,534	164,496

Internal categorisation	**Cash inflow recognised**	**Asset classes**
Level 1	Within one month	Central government Central bank (including confirmed withdrawable reserves) Supranationals Multilateral development banks
Level 2	Within one month but capped	Local and regional government Public sector entities Secured covered bonds and pass-through ABSs Gold
Level 3	From one to three months	Unsecured non-financial entity securities Equities listed on recognised exchanges and within liquid indices

Any entity owned and controlled by central or local/regional government but not explicitly guaranteed is treated as a public sector entity.

Any exposure explicitly guaranteed is reflected as an exposure to the ultimate guarantor.

Barclays and Deutsche Bank provide disclosure of liquidity stress testing. Their stress testing information includes the key assumptions applied and the banks' compliance with internal and external regulatory liquidity stress tests.

Barclays Annual Report 2012: page 174

Comparing internal and regulatory liquidity stress tests

The LRA stress scenarios, the FSA ILG and Basel 3 LCR are all broadly comparable short term stress scenarios in which the adequacy of defined liquidity resources is assessed against contractual and contingent stress outflows. The FSA ILG and the Basel 3 LCR stress tests provide an independent assessment of the Group's liquidity risk profile.

Stress Test	Barclays LRA	FSA ILG	Basel 3 LCR	Basel 3 NSFR
Time Horizon	1 – 3 months	3 months	30 days	1 year
Calculation	Liquid assets to net cash outflows	Liquid assets to net cash outflows	Liquid assets to net cash outflows	Stable funding resources to stable funding requirements

As at 31 December 2012, the Group held eligible liquid assets significantly in excess of 100% of stress requirements for each of the one month Barclays-specific LRA scenario and the Basel 3 LCR requirement:

Compliance with internal and regulatory stress tests

As at 31 December 2012	Barclays LRA (one month Barclays specific requirement)[a] £bn	Estimated Basel 3 LCR (revised text January 2013) £bn
Total eligible liquidity pool	150	155
Asset inflows	–	18
Stress outflows		
Retail and commercial deposit outflows	(29)	(36)
Wholesale funding	(45)	(47)
Net secured funding	(11)	(12)
Derivatives	(10)	(10)
Contractual credit rating downgrade exposure	(13)	(14)
Drawdowns of loan commitments	(6)	(22)
Other	(2)	–
Total stress net cash flows	(116)	(123)
Surplus	34	32
Liquidity pool as a percentage of anticipated net cash flows	129%	126%

Barclays plans to maintain its surplus to the internal and regulatory stress requirements at an efficient level. Barclays will continue to monitor the money markets closely, in particular for early indications of the tightening of available funding. In these conditions, the nature and severity of the stress scenarios are reassessed and appropriate action taken with respect to the liquidity pool. This may include further increasing the size of pool or monetising the pool to meet stress outflows.

Deutsche Bank Annual Report 2012: page 164 and 165

Composition of our liquidity reserves by parent company (including branches) and subsidiaries

	Dec 31, 2012		Dec 31, 2011
in € bn.	Carrying Value	Liquidity Value	Carrying Value
Available cash and cash equivalents (held primarily at central banks)	128	128	140[1]
Parent (incl. foreign branches)	112	112	133
Subsidiaries	16	16	7
Highly liquid securities (includes government, government guaranteed and agency securities)	91	82	65
Parent (incl. foreign branches)	56	52	56
Subsidiaries	35	30	9
Other unencumbered central bank eligible securities	13	10	18
Parent (incl. foreign branches)	12	9	18
Subsidiaries	1	1	0
Total liquidity reserves	232	220	223[1]
Parent (incl. foreign branches)	180	173	207
Subsidiaries	52	47	16

[1] Amounts previously disclosed for December 31, 2011 have been adjusted to include also liquidity reserves which cannot be freely transferred across the group, but which are available to mitigate stress outflows in the entities in which they are held.

The above represents those assets that are unencumbered and which could most readily be used as a source of liquidity over a short-term stress horizon. Carrying value represents market value of Liquidity Reserves. Liquidity value represents the value we give to our Liquidity Reserves, post haircut, under our combined stress scenario assumptions. For an analysis of the pledged assets on the balance sheet, please refer to Note 22 "Assets Pledged and Received as Collateral".

Stress Testing and Scenario Analysis

We use stress testing and scenario analysis to evaluate the impact of sudden and severe stress events on our liquidity position. The scenarios we apply have been based on historic events, such as the 1987 stock market crash, the 1990 U.S. liquidity crunch and the September 2001 terrorist attacks, liquidity crisis case studies and hypothetical events, as well as the lessons learned from the latest financial markets crisis.

They include the prolonged term money-market and secured funding freeze, collateral repudiation, reduced fungibility of currencies, stranded syndications as well as other systemic knock-on effects. The scenario types cover institution-specific events (e.g. rating downgrade), market related events (e.g. systemic market risk) as well as a combination of both, which links a systemic market shock with a multi-notch rating downgrade. We apply stress scenarios to selected significant currencies and entities. Those scenarios are subject to regular reviews and reappraisal.

Under each of these scenarios we assume a high degree of rollovers of maturing loans to non-wholesale customers (in order to support franchise value) whereas the rollover of liabilities will be partially or fully impaired resulting in a funding gap. In this context wholesale funding from the most risk sensitive sources (including unsecured funding from commercial banks, money market mutual funds, as well as asset backed commercial paper) is assumed to contractually roll off in the acute phase of stress. In addition we analyze the potential funding requirements from contingent risks which could materialize under stress. Those include drawings of credit facilities, increased collateral requirements under derivative agreements as well as outflows from deposits with a contractual rating trigger. We then model the steps we would take to counterbalance the resulting net shortfall in funding. Countermeasures would include our Liquidity Reserves, as well as potential further asset liquidity from other unencumbered securities. Stress testing is conducted at a global and individual country level and across significant non-eurozone currencies. We review stress-test assumptions at least annually and have increased the severity of a number of these assumptions through the course of 2012.

Stress testing is fully integrated in our liquidity risk management framework. For this purpose we use the contractual wholesale cash flows per currency and product over an eight-week horizon (which we consider the most critical time span in a liquidity crisis) and apply the relevant stress case to all potential risk drivers from

on balance sheet and off balance sheet products. Beyond the eight week time horizon we analyze on a monthly basis the impact of a more prolonged stress period extending out to twelve months. The liquidity stress testing provides the basis for the bank's contingency funding plan which is approved by the Management Board.

Our stress testing analysis assesses our ability to generate sufficient liquidity under extreme conditions and is a key input when defining our target liquidity risk position. The analysis is performed monthly. The following table shows stress testing results as of December 31, 2012. For each scenario, the table shows what our cumulative funding gap would be over an eight-week horizon after occurrence of the triggering event, how much counterbalancing liquidity we could generate via different sources as well as the resulting net liquidity position.

Stress Testing Results

in € bn.	Funding Gap[1]	Gap Closure[2]	Net Liquidity Position
Systemic market risk	39	217	178
Emerging markets	15	216	201
1 notch downgrade (DB specific)	45	222	177
Downgrade to A-2/P-2 (DB specific)	215	262	47
Combined[3]	227	255	28

[1] Funding gap caused by impaired rollover of liabilities and other projected outflows.
[2] Based on liquidity generation through Liquidity Reserves (after haircuts) and other countermeasures.
[3] Combined impact of systemic market risk and downgrade to A-2/P-2.

The table below presents the amount of additional collateral required in the event of a one- or two-notch downgrade by rating agencies.

Additional Contractual Obligations

		Dec 31, 2012
in € m.	One-notch downgrade	Two-notch downgrade
Contractual derivatives funding or margin requirements	3,593	6,912
Other contractual funding or margin requirements	544	1,080

With the increasing importance of liquidity management in the financial industry, we maintain an active dialogue with central banks, supervisors, rating agencies and market participants on liquidity risk-related topics. We participate in a number of working groups regarding liquidity and support efforts to create industry-wide standards to evaluate and manage liquidity risk at financial institutions. In addition to our internal liquidity management systems, the liquidity exposure of German banks is regulated by the Banking Act and regulations issued by the BaFin.

Maturity Analysis of Assets and Financial Liabilities

Treasury manages the maturity analysis of assets and liabilities. Modeling of assets and liabilities is necessary in cases where a product has no contractual maturity or the contractual maturity does not adequately reflect the liquidity risk position. The most significant example in this context would be deposits from retail and transaction banking customers which generally have no contractual maturity, yet have consistently displayed high stability throughout even the most severe financial crises.

The modeling profiles are part of the overall liquidity risk management framework (see section "Stress Test" for short-term liquidity positions ≤1yr and section "Funding Matrix" for long-term liquidity positions >1yr) which is defined and approved by the Management Board.

The following table presents a maturity analysis of our total assets based on carrying value and upon earliest legally exercisable maturity as of December 31, 2012.

3.5. Funding

As with the findings of the review of liquidity disclosures there are some differences in the level of adoption of the funding disclosure recommendations. There is typically more descriptive analysis than quantitative information.

> **Recommendation 19**
> Summarise encumbered and unencumbered assets in a tabular format by balance sheet categories, including collateral received that can be rehypothecated or otherwise redeployed. This is to facilitate an understanding of available and unrestricted assets to support potential funding and collateral needs.

There has been limited adoption of Recommendation 19. This reflects the fact that for some banks disclosures on asset encumbrance is new for the 2012 reporting period.
HSBC has provided numerical information in the tabular format suggested in the EDTF recommendations.
The bank also explains the definitions applied in determining the level of encumbrance.

HSBC Annual Report 2012: page 213 and 214

Analysis of on-balance sheet encumbered and unencumbered assets
(Unaudited)

	Encumbered	Unencumbered		Unencumbered – cannot be pledged as collateral		
	Assets pledged as collateral US$m	Readily realisable assets US$m	Other realisable assets US$m	Reverse repo/stock borrowing receivables & derivative assets US$m	Cannot be pledged as collateral US$m	Total US$m
At 31 December 2012						
Cash and balances at central banks	–	139,963	220	–	1,349	141,532
Items in the course of collection from other banks	–	–	–	–	7,303	7,303
Hong Kong Government certificates of indebtedness	–	–	–	–	22,743	22,743
Trading assets	143,019	116,395	10,330	134,752	4,315	408,811
– Treasury and other eligible bills	2,309	23,973	–	–	–	26,282
– debt securities	97,157	47,311	205	–	4	144,677
– equity securities	5,592	35,420	622	–	–	41,634
– loans and advances to banks	20,588	1,909	2,582	50,376	2,816	78,271
– loans and advances to customers	17,373	7,782	6,921	84,376	1,495	117,947
Financial assets designated at fair value	–	447	610	–	32,525	33,582
– Treasury and other eligible bills	–	14	–	–	40	54
– debt securities	–	431	128	–	11,992	12,551
– equity securities	–	2	482	–	20,384	20,868
– loans and advances to banks	–	–	–	–	55	55
– loans and advances to customers	–	–	–	–	54	54
Derivatives	–	–	–	357,450	–	357,450
Loans and advances to banks	1,191	4,722	81,802	35,461	29,370	152,546
Loans and advances to customers	40,792	85,626	827,903	34,664	8,638	997,623
Financial investments	46,678	300,255	7,990	–	66,178	421,101
– Treasury and other eligible bills	2,024	84,991	156	–	379	87,550
– debt securities	44,654	214,545	4,112	–	64,451	327,762
– equity securities	–	719	3,722	–	1,348	5,789
Assets held for sale	–	–	19,269	–	–	19,269
Other assets	1,600	18,601	11,621	–	22,894	54,716
Current tax assets	–	–	–	–	515	515
Prepayments and accrued income	–	–	–	–	9,502	9,502
Interest in associates and joint ventures	–	–	17,480	–	354	17,834
Goodwill and intangible assets	–	–	–	–	29,853	29,853
Property, plant and equipment	–	–	6,772	–	3,816	10,588
Deferred tax	–	–	–	–	7,570	7,570
	233,280	666,009	983,997	562,327	246,925	2,692,538

Definitions of the categories included in the table 'Analysis of encumbered and unencumbered assets':

- *Encumbered assets* are assets on our balance sheet which have been pledged as collateral against an existing liability, and as a result are assets which are unavailable to the bank to secure funding, satisfy collateral needs or be sold to reduce potential future funding requirements.
- *Unencumbered – readily realisable assets* are assets regarded by the bank to be readily realisable in the normal course of business, to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, and are not subject to any restrictions on their use for these purposes.
- *Unencumbered – other realisable assets* are assets where there are no restrictions on their use to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, but are not readily realisable in the normal course of business in their current form.
- *Unencumbered – reverse repo/stock borrow receivables and derivative assets* are assets related specifically to reverse repo, stock borrowing and derivative transactions. These are shown separately as these on-balance sheet assets cannot be pledged, but often give rise to the receipt of non-cash assets which are not recognised on the balance sheet, and can additionally be used to raise secured funding, meet additional collateral requirements or be sold.
- *Unencumbered – cannot be pledged as collateral* are assets that have not been pledged but which we have assessed could not be pledged and therefore could not be used to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, for example assets held by the Group's insurance subsidiaries that back liabilities to policyholders and support the solvency of these entities.

Historically, the Group has not recognised any contingent liquidity value for assets other than those assets defined under the LFRF as being liquid assets, and any other negotiable instruments that under stress are assumed to be realisable after three months, even though they may currently be realisable. This approach has generally been driven by our risk appetite not to place any reliance on central banks. In a few cases, we have recognised the contingent value of discrete pools of assets, but the amounts involved are insignificant. As a result, we have reported the majority of our loans and advances to customers and banks in the category 'Other realisable assets' as management would need to perform additional actions in order to make the assets transferable and readily realisable.

One of the detailed recommendations on asset encumbrance was the disclosure of the additional contractual obligations that would arise in the event of downgrades by rating agencies or downgrades of counterparties for other contractual arrangements. Some of the banks reviewed provided this disclosure in respect of the potential impact of a downgrade on their own rating. Barclays present this based on the example provided in the EDTF Report.

Barclays Annual Report 2012: page 183

Contractual credit rating downgrade exposure (cumulative cash flow)

As at 31 December 2012	Cumulative cash outflow One-notch downgrade £bn	 Two-notch downgrade £bn
Securitisation derivatives	5	7
Contingent liabilities	7	7
Derivatives margining	–	1
Liquidity facilities	1	2
Total contractual funding or margin requirements	13	17

Deutsche Bank Annual Report 2012: page 165

Our stress testing analysis assesses our ability to generate sufficient liquidity under extreme conditions and is a key input when defining our target liquidity risk position. The analysis is performed monthly. The following table shows stress testing results as of December 31, 2012. For each scenario, the table shows what our cumulative funding gap would be over an eight-week horizon after occurrence of the triggering event, how much counterbalancing liquidity we could generate via different sources as well as the resulting net liquidity position.

Stress Testing Results

in € bn.	Funding Gap[1]	Gap Closure[2]	Net Liquidity Position
Systemic market risk	39	217	178
Emerging markets	15	216	201
1 notch downgrade (DB specific)	45	222	177
Downgrade to A-2/P-2 (DB specific)	215	262	47
Combined[3]	227	255	28

[1] Funding gap caused by impaired rollover of liabilities and other projected outflows.
[2] Based on liquidity generation through Liquidity Reserves (after haircuts) and other countermeasures.
[3] Combined impact of systemic market risk and downgrade to A-2/P-2.

The table below presents the amount of additional collateral required in the event of a one- or two-notch downgrade by rating agencies.

Additional Contractual Obligations

	Dec 31, 2012	
in € m.	One-notch downgrade	Two-notch downgrade
Contractual derivatives funding or margin requirements	3,593	6,912
Other contractual funding or margin requirements	544	1,080

With the increasing importance of liquidity management in the financial industry, we maintain an active dialogue with central banks, supervisors, rating agencies and market participants on liquidity risk-related topics. We participate in a number of working groups regarding liquidity and support efforts to create industry-wide standards to evaluate and manage liquidity risk at financial institutions. In addition to our internal liquidity management systems, the liquidity exposure of German banks is regulated by the Banking Act and regulations issued by the BaFin.

Recommendation 20

Tabulate consolidated total assets, liabilities and off-balance sheet commitments by remaining contractual maturity at the balance sheet date. Present separately (i) senior unsecured borrowing (ii) senior secured borrowing (separately for covered bonds and repos) and (iii) subordinated borrowing. Banks should provide a narrative discussion of management's approach to determining the behavioural characteristics of financial assets and liabilities.

The majority of the banks reviewed disclose tables of the contractual maturity of on balance sheet assets and liabilities. The requirement to provide this informatin for liabilities is already part of IFRS. Some of the banks include the maturity analysis for off balanace sheet commitments for both commitments received and given. The HSBC disclosure provides the information in accordance with the eight maturity buckets included in the EDTF example and the detail for secured and unsecured borrowings. There is more limited commentary across the banks reviewed, that describes the behavioural characteristics of financial assets and liabilities.

HSBC Annual Report 2012: page 486, 487 and 490

Maturity analysis of assets and liabilities

	At 31 December 2012								
	Due less than 1 month US$m	Due between 1 and 3 months US$m	Due between 3 and 6 months US$m	Due between 6 and 9 months US$m	Due between 9 months and 1 year US$m	Due between 1 and 2 years US$m	Due between 2 and 5 years US$m	Due over 5 years US$m	Total US$m
Financial assets									
Cash and balances at central banks	141,532	–	–	–	–	–	–	–	141,532
Items in the course of collection from other banks	7,303	–	–	–	–	–	–	–	7,303
Hong Kong Government certificates of indebtedness	22,743	–	–	–	–	–	–	–	22,743
Trading assets	382,654	12,506	9,829	248	3,169	405	–	–	408,811
– Reverse repos	92,525	12,506	9,829	248	3,169	405	–	–	118,682
– Other trading assets	290,129	–	–	–	–	–	–	–	290,129
Financial assets designated at fair value	437	576	425	526	239	2,462	3,545	25,372	33,582
Derivatives	354,222	65	252	22	227	596	1,127	939	357,450
– Trading	353,803	–	–	–	–	–	–	–	353,803
– Non-trading	419	65	252	22	227	596	1,127	939	3,647
Loans and advances to banks	104,397	22,683	5,859	2,292	5,032	6,238	2,027	4,018	152,546
– Reverse repos	28,833	3,101	2,071	356	963	138	–	–	35,462
– Other loans and advances to banks	75,564	19,582	3,788	1,936	4,069	6,100	2,027	4,018	117,084
Loans and advances to customers	221,242	69,709	47,507	29,659	71,928	59,100	194,147	304,331	997,623
– Personal	49,042	8,578	7,242	6,763	9,547	17,696	66,684	241,329	406,881
– Corporate and commercial	138,999	49,166	35,463	19,334	53,766	38,070	119,330	55,910	510,038
– Financial	33,201	11,965	4,802	3,562	8,615	3,334	8,133	7,092	80,704
Of which:									
– Reverse repos	19,847	10,640	2,310	1,050	554	250	–	–	34,651
Financial investments	28,085	51,339	33,996	14,072	26,478	61,443	93,127	112,561	421,101
Assets held for sale	4,953	298	515	125	669	519	1,079	9,964	18,122
Accrued income	2,776	2,325	739	493	542	164	217	1,284	8,540
Other financial assets	13,383	3,486	1,759	337	745	332	372	3,170	23,584
Total financial assets	1,283,727	162,987	100,881	47,774	109,029	131,259	295,641	461,639	2,592,937
Non financial assets	–	–	–	–	–	–	–	99,601	99,601
Total assets	1,283,727	162,987	100,881	47,774	109,029	131,259	295,641	561,240	2,692,538

	Due less than 1 month US$m	between 1 and 3 months US$m	between 3 and 6 months US$m	between 6 and 9 months US$m	between 9 months and 1 year US$m	between 1 and 2 years US$m	between 2 and 5 years US$m	Due over 5 years US$m	Total US$m
Financial liabilities									
Hong Kong currency notes in circulation	22,742	–	–	–	–	–	–	–	22,742
Deposits by banks	79,100	12,029	1,957	437	2,155	1,695	9,440	616	107,429
– Repos	6,593	4,645	711	–	–	–	–	–	11,949
– Other deposits by banks	72,507	7,384	1,246	437	2,155	1,695	9,440	616	95,480
Customer accounts[1]	1,193,736	67,638	34,010	11,939	16,019	7,034	8,985	653	1,340,014
– Personal	539,792	35,260	21,939	7,900	11,100	4,687	3,916	307	624,901
– Corporate and commercial	473,370	24,018	9,044	2,925	3,354	1,069	1,193	305	515,278
– Financial	180,574	8,360	3,027	1,114	1,565	1,278	3,876	41	199,835
Of which: repos	22,446	3,869	1,047	345	567	344	–	–	28,618
Items in the course of transmission to other banks	7,131	7	–	–	–	–	–	–	7,138
Trading liabilities	240,212	29,003	4,707	1,820	5,197	3,867	9,736	10,021	304,563
– Repos	96,690	27,002	3,319	985	2,227	–	–	–	130,223
– Debt securities in issue	380	2,001	1,388	835	2,970	3,867	9,736	10,021	31,198
– Other trading liabilities	143,142	–	–	–	–	–	–	–	143,142
Financial liabilities designated at fair value	427	81	2,068	2,163	1,605	2,916	28,902	49,558	87,720
– Debt securities in issue: covered bonds	–	–	–	–	–	–	4,633	–	4,633
– Debt securities in issue: otherwise secured	–	8	2,023	–	22	2,040	228	221	4,542
– Debt securities in issue: unsecured	392	49	1	2,117	1,357	690	23,495	15,933	44,034
– Subordinated liabilities and preferred securities	–	–	–	–	–	–	21	21,538	21,559
– Other	35	24	44	46	226	186	525	11,866	12,952
Derivatives	352,696	75	43	29	2,408	628	1,212	1,795	358,886
– Trading	352,195	–	–	–	–	–	–	–	352,195
– Non-trading	501	75	43	29	2,408	628	1,212	1,795	6,691
Debt securities in issue	23,738	12,368	6,355	2,840	27,992	11,992	29,100	5,076	119,461
– Covered bonds	–	–	1,133	422	757	2,328	1,920	486	7,046
– Otherwise secured	14,598	1,894	–	184	753	1,634	5,779	950	25,792
– Unsecured	9,140	10,474	5,222	2,234	26,482	8,030	21,401	3,640	86,623
Liabilities of disposal groups held for sale	2,475	242	433	254	188	166	45	–	3,803
Accruals	3,369	4,173	907	521	1,200	232	419	842	11,663
Subordinated liabilities	32	44	–	10	–	1,481	1,516	26,396	29,479
Other financial liabilities	19,837	4,881	2,115	519	867	599	1,409	2,190	32,417
Total financial liabilities	1,945,495	130,541	52,595	20,532	57,631	30,610	90,764	97,147	2,425,315
Non financial liabilities	–	–	–	–	–	–	–	84,094	84,094
Total liabilities	1,945,495	130,541	52,595	20,532	57,631	30,610	90,764	181,241	2,509,409

Maturity analysis of off-balance sheet commitments received

	Due less than 1 month US$m	Due between 1 and 3 months US$m	Due between 3 and 6 months US$m	Due between 6 and 9 months US$m	Due between 9 months and 1 year US$m	Due between 1 and 2 years US$m	Due between 2 and 5 years US$m	Due over 5 years US$m	Total US$m
At 31 December 2012									
Loan and other credit-related commitments	**2,455**	**3**	**8**	**5**	**8**	**25**	**75**	**98**	**2,677**
At 31 December 2011									
Loan and other credit-related commitments	5,280	2	36	3	6	19	508	143	5,997

Maturity analysis of off-balance sheet commitments given

	Due less than 1 month US$m	Due between 1 and 3 months US$m	Due between 3 and 6 months US$m	Due between 6 and 9 months US$m	Due between 9 months and 1 year US$m	Due between 1 and 2 years US$m	Due between 2 and 5 years US$m	Due over 5 years US$m	Total US$m
At 31 December 2012									
Loan and other credit-related commitments	**408,815**	**43,394**	**8,389**	**5,191**	**37,751**	**11,598**	**45,910**	**18,421**	**579,469**
Of which:									
– Personal	**153,255**	**6,999**	**704**	**185**	**19,049**	**1,216**	**1,616**	**8,159**	**191,183**
– Corporate and commercial	**225,899**	**34,368**	**6,365**	**4,951**	**15,412**	**9,488**	**37,179**	**8,593**	**342,255**
– Financial	**29,661**	**2,027**	**1,320**	**55**	**3,290**	**894**	**7,115**	**1,669**	**46,031**
At 31 December 2011									
Loan and other credit-related commitments	373,426	47,187	20,076	35,673	38,368	32,230	78,831	29,113	654,904
Of which:									
– Personal	246,570	7,569	2,124	4,848	4,431	7,507	12,262	7,706	293,017
– Corporate and commercial	114,741	36,866	15,289	19,589	25,890	20,767	57,853	18,281	309,276
– Financial	12,115	2,752	2,663	11,236	8,047	3,956	8,716	3,126	52,611

Recommendation 21

Discuss the bank's funding strategy, including key sources and any funding concentrations, to enable effective insight into available funding sources, reliance on wholesale funding, any geographical or currency risks and changes in those sources over time.

As identified in the EDTF Report, a number of banks already provide a narrative description of their funding strategy. The EDTF recommended enhanced disclosures in the following areas: the funding plan, funding concentrations, funding sources, the internal funding process and stress testing.

The majority of banks reviewed discuss the governance approach to funding. Funding strategies are referred to although the disclosures differ in the level detail. Santander provides one of the more detailed explanations of its funding strategy and how this has evolved over recent years.

Santander Annual Report 2012: page 230 and 231

7.3.1. Funding strategy

Santander's financing activity over the last few years has achieved its objective of adequately funding the Group's recurring activity in a very demanding environment characterised by a greater perception of risk, scarce liquidity in certain maturity terms and their higher cost.

This good performance was supported by extending the management model to all the Group's subsidiaries, including new ones, and, on top of that, adapting the subsidiaries' strategy to the increasing requirements of markets. These requirements have not been the same for all markets and have attained much higher levels of difficulty and pressure in some areas such as on the periphery of Europe.

It is possible, however, to extract a series of **general trends** implemented by Santander's subsidiaries in their funding and liquidity management strategies **in the last three years**. They are the following:

- **Lower growth in lending because of the environment**, particularly in countries such as Spain and Portugal

  undergoing adjustments. On the other hand, growth in emerging markets (Latin America) and in units and businesses under development (US, Germany, Poland and UK SMEs).

  Group loans excluding repos increased by around EUR 40,000 million since the end of 2009 (+6%), including those by new units incorporated to the Group (Poland and Germany).

- **Priority focus on capturing customer funds**. Group deposits excluding repos but including retail paper rose by EUR 122,000 million (+26%), a growth three times more than that of lending.

  All countries increased deposits, particularly those units that grew the most in lending and those under higher stress from the markets. Among the first group are Brazil, Mexico and Chile with a combined rise in deposits of 31% in local currency, and among the second Spain and Portugal whose deposits grew by 33% in the last three years.

- **Maintain adequate and stable levels of medium and long term wholesale funding** at the Group level (22% of balance sheet for liquidity management purpose at the end of 2012 vs. 23% in 2009). The decentralised model for subsidiaries helped to maintain a high level of activity in wholesale markets in a more demanding period.

  Of note was the greater activity in the UK resulting from the change in regulatory conditions, and of the main Latin American countries (Brazil, Mexico and Chile) because of their strong growth in lending.

  In Europe, the securitisation activity of Santander Consumer Finance was extended to new markets such as Finland, Sweden and Norway, converting their units into pioneers in securitisation of auto finance. Also noteworthy was the incorporation in 2012 of SHUSA, Santander Group's holding in the US, to the pool of the Group's significant issuers.

  Lastly, in Spain, where business required reduced liquidity needs in the last three years, the Group maintained a conservative issuance policy (EUR 54,000 million of medium and long term debt in 2010-2012, close to 80% of maturities and amortisations), taking advantage of the strength of the Santander brand and credit quality.

- **Ensure a sufficient volume of assets eligible for discount in central banks and other public institutions** as part of the liquidity reserve (as set out in page 235 of this report) to meet stress situations in wholesale markets.

  The Group increased its total discounting capacity in 2012 to around EUR 130,000 million (close to EUR 100,000 million in 2010 and 2011). This required from the subsidiaries a continuous strategy to generate assets eligible for discount in order to compensate for the reduction in the value of guarantees as a result of downgrading of ratings in the period, particularly of sovereign debt and related assets.

  A large part of this total discounting capacity was generated by the units in the euro zone. These benefited from the quality of their assets and from the extraordinary monetary policy measures implemented by the European Central Bank (ECB) at the end of 2011 and the beginning of 2012 (basically, widening of collateral and three-year liquidity auctions) in order to boost its liquidity buffer notably.

  At the end of 2012, Santander had a total volume eligible for discounting that comfortably exceeded the commercial gap (i.e. the difference between net loans and deposits) at Group level. It represents more than 160% of the gap after the dynamics of the aforementioned volumes, which were developed more intensely in 2012.

  During 2012, and faced with the situation in the euro markets, Santander followed a prudent policy of depositing in the same central banks included in the Eurosystem most of the funds raised from them, as an immediate liquidity reserve, making its global net position virtually zero.

  In January 2013, the improvement in the Group's liquidity position and that of the units in Spain, combined with an easing in the wholesale funding markets, led Santander to return all of the funds taken by Banco Santander and Banesto in the first auction of Long Term Refinancing Operations (LTROs) conducted by the ECB in December 2011. Santander returned EUR 24,000 million deposited in the Eurosystem central banks, the maximum allowed in the first repayment window offered by the ECB.

The banks reviewed take a different approach to disclosing the different sources of funding. For example, some apply a line by line balance sheet approach whereas others present an aggregated view in a graphical format, as for example, presented by Barclays.

Barclays Annual Report 2012: page 176

Funding Structure

The basis for sound liquidity risk management is a solid funding structure that reduces the probability of a liquidity stress leading to an inability to meet funding obligations as they fall due. The Group's overall funding strategy is to develop a diversified funding base (both geographically and by depositor type) and maintain access to a variety of alternative funding sources, to provide protection against unexpected fluctuations, while minimising the cost of funding.

Within this, the Group aims to align the sources and uses of funding. As such, retail and commercial customer loans and advances are largely funded by customer deposits. Other assets together with other loans and advances and unencumbered assets, are funded by long term wholesale debt and equity.

Trading portfolio assets and reverse repurchase agreements are largely funded in the wholesale markets by repurchase agreements and trading portfolio liabilities, while derivative assets are largely matched by derivatives liabilities. The liquidity pool is predominantly funded through wholesale markets. These funding relationships are summarised below as of 31 December 2012:

Assets		Liabilities	
Customer loans and advances[a]	£364bn	Customer deposits[a]	£336bn
Group liquidity pool	£150bn	<1 Year wholesale funding	£101bn
		>1 Year wholesale funding	£138bn
Other assets	£163bn	Equity and other liabilities	£108bn
Reverse repurchase agreements and matched assets and liabilities[c]	£347bn	Repurchase agreements and matched assets and liabilities[c]	£347bn
Derivative financial instruments[b]	£466bn	Derivative financial instruments[b]	£460bn

Each of the banks take a different approach to disclosing the sources of funding and how this is allocated. Much of this information remains at a high level with more descriptive explanations. Barclays, Deutsche Bank, HSBC and UBS all provide more detailed information disclosing the sources of funding. Barclays, HSBC and UBS extend this further, explaining how this funding is allocated across their businesses. In addition there is specific detail on the requirements for wholesale funding.

UBS provides one of the more detailed disclosures including the diversification of funding, and funding by currency and product.

UBS Annual Report 2012: page 167-169

Funding management

With the implementation of the revised Treasury Operating model, funding processes that had previously been undertaken by the treasury trading and the short term interest rate units in the Investment Bank's fixed income, currencies and commodities (FICC) business were transferred and consolidated in Group Treasury.

Group Treasury manages operational cash and collateral within established limits and controls defined by Treasury Risk. This permits close control of both our cash position and our stock of high-quality liquid securities and ensures that the firm's general access to wholesale cash markets is centralized in Group Treasury. Group Treasury in turn meets internal demands for funding by channeling funds from units generating surplus cash to those in need of financing.

Our funding activities are planned by analyzing the overall liquidity and funding profile of our balance sheet, taking into account the amount of stable funding that would be needed to support ongoing business activities through periods of difficult market conditions.

Our liability portfolio is broadly diversified by market, product and currency. Our wealth management businesses and Retail & Corporate represent significant, cost-efficient and reliable sources of funding. In addition, we have numerous short-, medium- and long-term funding programs under which we issue senior unsecured and structured notes. These programs allow institutional and private investors in Europe, the US and Asia Pacific to customize their investments in UBS's debt. We also generate long-term funding by pledging a portion of our portfolio of Swiss residential mortgages as collateral for the Swiss Pfandbriefe and our own covered bond program. A short-term secured funding program sources funding globally, generally for the highest-quality assets. Collectively, these broad product offerings and the global scope of our business activities underpin our funding stability. We expect to have lower funding needs in the future as we continue to implement our strategy. Accordingly, we intend to repurchase debt selectively, as illustrated by our announcement in February 2013 of cash tender offers for various issues of outstanding notes. Group Treasury regularly monitors our funding status including concentration risks to ensure we maintain a well-balanced and diversified liability structure and reports its findings on a monthly basis to the Group ALCO.

Funding position and diversification

The composition of our funding sources shifted in 2012 from secured to unsecured funding and within our unsecured funding sources from short-term wholesale products into client deposits from our wealth management and Retail & Corporate businesses and long-term debt issued.

Overall our customer deposits increased by CHF 29 billion to CHF 372 billion, or 50% of our total funding sources compared with 42% at year-end 2011. Deposits from our wealth management businesses and from Retail & Corporate contributed 98%, or CHF 363 billion, of the total customer deposits (shown in the "UBS asset funding" graph) compared with 95% at year-end 2011. Our outstanding long-term debt, including financial liabilities at fair value, increased by CHF 7 billion during the year to CHF 165 billion. Long-term debt represented 22% of our funding sources as shown in the "UBS: funding by product and currency" table, up from 19% at prior year-end. During the year, we raised CHF 2.7 billion equivalent of public benchmark bonds with an average maturity of 3.3 years while CHF 6.4 billion matured. In addition, we issued CHF 5.0 billion equivalent of covered bonds with an average maturity of 4.4 years and Swiss Pfandbriefe of CHF 1.7 billion. Furthermore, we continued to raise medium- and long-term funds through medium-term notes and private placements throughout the year. In 2012, we executed two issuances of loss-absorbing notes which qualify as tier 2 capital under Basel III rules, and count as progressive buffer capital in compliance with the "too-big-to-fail" law under Swiss regulations for systemically important banks, as well as contributing to our targeted loss-absorbing capital. On 22 February 2012, we issued USD 2.0 billion of tier 2 notes, and on 17 August 2012 we issued a further USD 2.0 billion of tier 2 loss-absorbing notes. Both issuances have a maturity of 10 years.

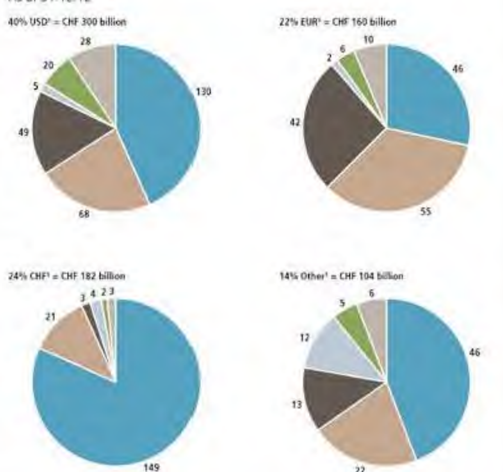
Our short-term interbank deposits (due to banks) and outstanding short-term debt, as a percentage of total funding sources, decreased from 12.4% to 7.5%, mainly reflecting reduced funding requirements as a result of the continued deleveraging of our balance sheet, but also due to the effects of the negative interest charge imposed on financial institutions for Swiss franc clearing accounts effective 21 December 2012.

The secured financing (repurchase agreements and securities lent against cash collateral received) percentage of our funding sources decreased to 6.2% from 13.5%, as shown in the "UBS: funding by product and currency" table. At the end of the year, we borrowed CHF 121 billion less cash on a collateralized basis than we lent, lower than the previous year-end net balance of

Funding by currency

CHF billion

As of 31.12.12



1 Stated as a percent of the total funding sources of CHF 746 billion as of 31 December 2012, comprising repurchase agreements, cash collateral on securities lent, due to banks, short-term debt issued, due to customers, long-term debt (including financial liabilities at fair value), cash collateral payables on derivative transactions and prime brokerage payables. 2 Consists of cash collateral payables on derivative instruments and prime brokerage payables.

UBS: funding by product and currency

	All currencies		CHF		EUR		USD		Others	
In %[1]	31.12.12	31.12.11	31.12.12	31.12.11	31.12.12	31.12.11	31.12.12	31.12.11	31.12.12	31.12.11
Securities lending	1.2	1.0	0.4	0.0	0.2	0.2	0.5	0.6	0.2	0.2
Repurchase agreements	5.0	12.5	0.0	0.0	1.1	1.7	3.3	10.0	0.6	0.9
Due to banks	3.1	3.7	0.5	0.7	0.2	0.5	0.7	0.9	1.6	1.7
Short-term debt issued	4.4	8.7	0.3	0.2	0.8	1.4	2.7	6.0	0.6	1.0
Retail savings / deposits	18.0	14.0	11.8	9.7	0.8	0.7	5.4	3.5	0.0	0.0
Demand deposits	21.6	16.7	7.8	6.2	4.2	2.9	6.4	5.0	3.2	2.6
Fiduciary deposits	3.3	3.5	0.1	0.1	0.8	1.0	2.0	1.9	0.5	0.5
Time deposits	6.9	7.8	0.2	0.3	0.5	1.4	3.7	3.5	2.5	2.7
Long-term debt issued	22.1	19.4	2.8	2.4	7.3	7.1	9.1	7.1	2.9	2.7
Cash collateral payables on derivative instruments	9.5	8.2	0.3	0.3	5.0	3.7	3.2	3.4	0.9	0.9
Prime brokerage payables	4.8	4.5	0.1	0.1	0.5	0.5	3.3	3.0	0.8	0.9
Total	100.0	100.0	24.4	20.1	21.5	21.1	40.2	44.8	13.9	14.0

1 As a percent of total funding sources defined as the CHF 746 billion and the CHF 817 billion respectively on the balance sheet as of 31 December 2012 and 31 December 2011, comprising repurchase agreements, cash collateral on securities lent, due to banks, short-term debt issued, due to customers, long-term debt (including financial liabilities at fair value), cash collateral payables on derivative transactions and prime brokerage payables.

CHF 162 billion. The decrease in secured funding and lending was mainly related to the ongoing deleveraging of our balance sheet. As of 31 December 2012, our coverage ratio of customer deposits to our outstanding loan balance was 133%, compared with 128% at the prior year-end.

Due to our progress in reducing balance sheet assets, we have generated capacity within our liquidity and funding position to be able to execute tender offers which will lower our interest expense in the future and will allow for liability structure optimization. We executed the 5 February 2013 announced cash tender offers with respect to 14 senior unsecured note issuances, denominated in US dollar, euro and Italian lira, with tenors between June 2013 and January 2027 and set a total repurchase value of CHF 5.1 billion.

Due to our progress in reducing balance sheet assets, we have generated capacity within our liquidity and funding position to be able to execute tender offers which will lower our interest expense in the future and will allow for liability structure optimization. We executed the 5 February 2013 announced cash tender offers with respect to 14 senior unsecured note issuances, denominated in US dollar, euro and Italian lira, with tenors between June 2013 and January 2027 and set a total repurchase value of CHF 5.1 billion.

There is limited disclosure of funding stress tests with only some of the banks providing quantitative information.

Deutsche Bank Annual Report 2012: page 165

Our stress testing analysis assesses our ability to generate sufficient liquidity under extreme conditions and is a key input when defining our target liquidity risk position. The analysis is performed monthly. The following table shows stress testing results as of December 31, 2012. For each scenario, the table shows what our cumulative funding gap would be over an eight-week horizon after occurrence of the triggering event, how much counterbalancing liquidity we could generate via different sources as well as the resulting net liquidity position.

Stress Testing Results

in € bn.	Funding Gap[1]	Gap Closure[2]	Net Liquidity Position
Systemic market risk	39	217	178
Emerging markets	15	216	201
1 notch downgrade (DB specific)	45	222	177
Downgrade to A-2/P-2 (DB specific)	215	262	47
Combined[3]	227	255	28

1 Funding gap caused by impaired rollover of liabilities and other projected outflows.
2 Based on liquidity generation through Liquidity Reserves (after haircuts) and other countermeasures.
3 Combined impact of systemic market risk and downgrade to A-2/P-2.

3.6. Market risk

Recommendation 22

Provide information that facilitates users' understanding of the linkages between line items in the balance sheet and income statement with positions included in the trading market risk disclosures (using the bank's primary risk management measures such as VaR) and non-trading market risk disclosures such as risk factor sensitivities, economic value and earnings scenarios and/or sensitivities.

Whilst there is significant disclosure of market risk, including Value at Risk ('VaR') metrics, most of the banks removed have not adopted the specific example provided in the EDTF Report. Explanations are more often provided with selected measures and with metrics presented across different sections of the annual report. This information is sometimes not clearly linked to the primary financial statements. Santander has applied the specific EDTF recommendation of linking market risk data to the balance sheet.

Santander Annual Report 2012: page 215

6.2.1.6. Linkage with balance sheet items. Other alternative risk measures

Below are the parts of the balance sheet of the Group's consolidated position that are subject to market risk, showing the positions whose main risk metric is the VaR and where monitoring is also carried out with other metrics.

RELATION OF RISK METRICS TO BALANCE SHEET OF GROUP'S CONSOLIDATED POSITION
Million euros

		Main market risk metrics		
	Balance	VaR	Others	Main risk factor for balance in "others"
Assets subject to market risk	**310,929**	**204,668**	**106,261**	
Trading portfolios	177,917	176,781	1,136	Interest rate, credit spread
Other financial assets at reasonable value	28,356	27,887	469	Interest rate, credit spread
Financial assets available for sale	92,266	-	92,266	Interest rate, equities
Equities	4,454	-	4,454	Equity stakes
Hedging derivatives	7,936	-	7,936	Interest rate, exchange rate
Liabilities subject to market risk	**195,104**	**194,754**	**621**	
Trading portfolio	143,242	143,242	271	Interest rate, credit spread
Other financial liabilities at reasonable value	45,418	45,068	350	Interest rate, credit spread
Hedging derivatives	6,444	6,444	-	

Recommendation 23

Provide further qualitative and quantitative breakdowns of significant trading and non-trading market risk factors that may be relevant to the bank's portfolios beyond interest rates, foreign exchange, commodities and equity measures.

Most banks reviewed provide a summary of the significant trading risks. Barclays disclose this in a pictorial format by business unit and risk type.

Barclays Annual Report 2012: page 335

Concentration of market risk by business unit and risk type

	IR	Spread	FX	Equity	Commodity	Inflation	Credit	Basis
Foreign exchange	○	○	●	○	○	○	○	◉
Commodities	○	○	○	○	●	○	○	○
Prime services	◉	○	○	◉	○	○	○	◉
Emerging markets	◉	○	○	○	○	○	◉	◉
FI Rates	◉	◉	○	○	○	○	○	○
Syndicate	○	○	○	○	○	○	●	○
Absa Capital	◉	○	○	○	○	○	○	○
FI credit	○	○	○	○	○	○	●	○
Securitised products	◉	○	○	○	○	○	●	○
Municipals	◉	○	○	○	○	○	◉	○
FICC total	○	◉	○	○	○	○	◉	○
Equities total	○	○	○	●	○	○	○	○
Treasury total	◉	●	○	○	○	○	○	○
Counterparty risk trading	○	○	○	○	○	○	●	○
Other credit	○	○	○	◉	○	○	◉	○

● Primary contribution
◉ Significant contribution
○ Limited or nil contribution

Santander discloses market risking based on VaR across different geographical locations and includes quantitative information over the financial period.

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Risk by factor

The minimum, average, maximum and year-end 2012 values in VaR terms are shown below:

VaR STATISTICS BY RISK FACTOR[1,2]

Million euros. VaR at 99%, with a time frame of one day

		2012				2011		2010	
		Minimum	Average	Maximum	Year-end	Average	Year-end	Average	Year-end
Total trading	**Total VaR**	**9.4**	**14.9**	**22.4**	**18.5**	**22.4**	**15.9**	**28.7**	**29.6**
	Diversification effect	(9.1)	(15.2)	(25.8)	(13.5)	(21.8)	(16.7)	(29.1)	(27.8)
	Interest rate VaR	7.4	11.8	23.3	12.0	14.8	14.6	16.4	19.0
	Equity VaR	4.1	7.0	11.2	7.1	4.8	3.7	8.0	8.8
	FX VaR	1.9	5.0	12.2	3.5	9.0	4.2	11.4	13.9
	Credit spread VaR	2.2	6.1	13.0	9.1	15.0	9.6	20.9	14.7
	Commodities VaR	0.2	0.4	0.7	0.3	0.6	0.4	1.3	1.0
Latin America	**Total VaR**	**5.0**	**10.1**	**20.5**	**8.9**	**11.7**	**10.7**	**18.2**	**13.9**
	Diversification effect	(3.1)	(6.4)	(12.5)	(3.8)	(6.4)	(8.7)	(8.3)	(12.6)
	Interest rate VaR	5.2	8.8	20.0	8.8	11.2	10.5	14.5	14.8
	Equity VaR	0.7	3.1	9.7	1.6	3.5	2.2	5.8	5.3
	FX VaR	0.5	3.1	9.8	1.3	3.7	1.2	7.1	6.5
US and Asia	**Total VaR**	**0.5**	**0.9**	**2.0**	**0.8**	**1.2**	**0.9**	**1.3**	**0.9**
	Diversification effect	(0.2)	(0.5)	(1.1)	(0.3)	(0.5)	(0.4)	(0.7)	(0.3)
	Interest rate VaR	0.4	0.7	1.3	0.6	0.9	0.9	1.2	0.9
	Equity VaR	0.0	0.2	0.8	0.1	0.1	0.1	0.2	0.0
	FX VaR	0.1	0.6	1.7	0.4	0.6	0.4	0.6	0.3
Europe	**Total VaR**	**7.2**	**11.0**	**16.5**	**16.4**	**15.5**	**10.1**	**14.8**	**25.1**
	Diversification effect	(7.7)	(12.9)	(20.6)	(9.9)	(15.1)	(13.0)	(18.9)	(14.6)
	Interest rate VaR	5.4	7.9	15.4	6.8	11.5	11.9	8.9	12.5
	Equity VaR	4.1	6.2	9.9	6.3	3.9	3.6	6.7	6.5
	FX VaR	1.0	4.1	13.1	4.0	8.5	3.9	9.8	9.6
	Credit spread VaR	2.1	5.4	10.0	8.9	6.0	3.3	7.0	9.0
	Commodities VaR	0.2	0.4	0.7	0.3	0.6	0.4	1.3	2.1
Global activities	**Total VaR**	**0.8**	**2.7**	**10.2**	**1.2**	**10.5**	**9.7**	**16.1**	**10.7**
	Diversification effect	(0.2)	(0.6)	(5.0)	(0.3)	(1.1)	(0.9)	(1.1)	(1.2)
	Interest rate VaR	0.2	0.3	0.6	0.2	0.4	0.5	0.6	0.5
	Credit spread VaR	0.6	2.6	10.4	1.3	10.3	8.4	16.0	10.5
	FX VaR	0.0	0.4	1.9	0.1	0.9	1.8	0.6	0.9

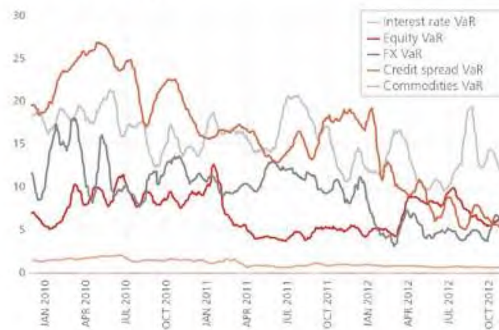
[1] The VaR of global activities includes operations that are not assigned to any particular country.

[2] In Latin America, the US and Asia, the VaR levels of the spread credit and commodity factors are not shown separately because of their scant or zero materiality.

The average VaR declined again in 2012 by EUR 7.5 million over 2011. The reduction occurred in all risk factors except for equities, which increased from EUR 4.8 million to EUR 7 million. Of note was the drop in the average VaR of interest rates and exchange rates in Europe and the credit spread in global activities.

VaR BY RISK FACTOR

Million euros. VaR at 99% with a time frame of one day (15-day moving average)



The VaR evolution by risk factor in general also declined, with peaks and troughs sharper in the case of the VaR by credit spread, partly due to the exclusion of the risk spread of securitisations and credit correlation which by BIS 2.5 is considered as banking book for the purposes of regulatory capital as of 15 November 2011. The temporary changes in the VaR of various factors was due more to the temporary rises in the volatility of market prices than to significant changes in positions.

6.2.1.2. Distribution of risks and management results[13]

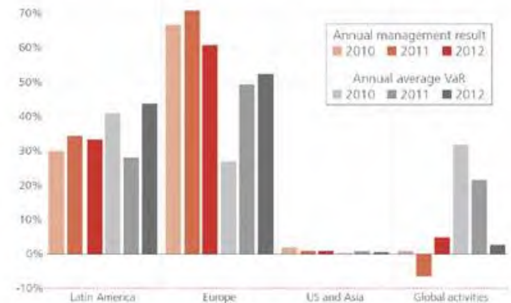
6.2.1.2.1. Geographic distribution

In trading activity, the average contribution of Latin America to the Group's total VaR in 2012 was 44% compared with a contribution of 33.3% in economic results. Europe, with 52.6% of global risk, contributed 60.6% of results, as its treasury activity was more focused on providing service to professional and institutional clients compared with that of Latin America. However, there was a gradual homogenisation in the profile of activity in the Group's different units.

Below is the geographic contribution (by percentage), both in risks, measured in VaR terms, as well as in results (economic terms).

VaR BINOMIAL-MANAGEMENT RESULTS: GEOGRAPHIC DISTRIBUTION

Average VaR (at 99%, with a time frame of one day) and annual accumulated management result (million euros)

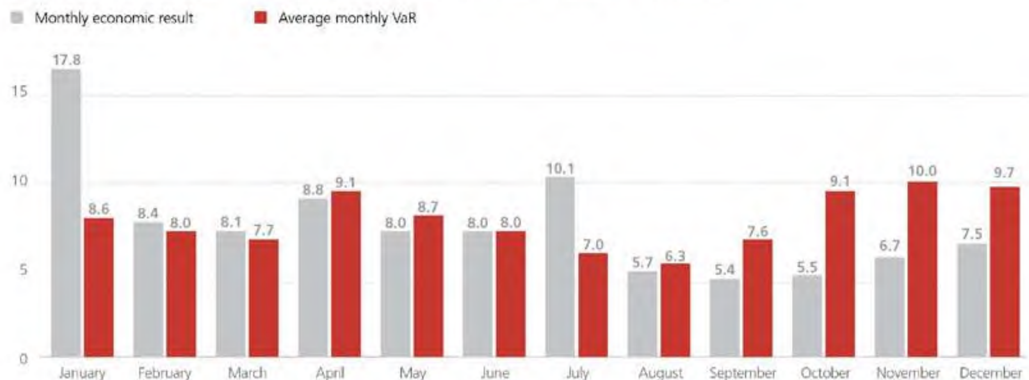


6.2.1.2.2. Monthly distribution of risks and results

The next chart shows the risk assumption profile, in terms of VaR, compared to results in 2012. The average VaR remained stable, while results evolved in a more irregular way during the year. January and July were positive months, particularly January, and August to October negative, with results below the annual average.

DISTRIBUTION OF RISK BY TIME AND RESULTS IN 2012: PERCENTAGES OF ANNUAL TOTALS

Average VaR (at 99%, with a time frame of one day) and annual accumulated management result (million euros)



[13] Results in terms that can be assimilated to the gross margin (excluding operating costs, financial ones are the only cost)

Some additional descriptions were provided for certain other market risks relevant to the business within the 'Market risk sections' of the annual report such as pension risk, structural risks, and real estate risk. Deutsche Bank and Barclays include a specific statement on other non-trading risks.

Deutsche Bank Annual Report 2012: page 151

Other Risks

In addition to the above risks, Market Risk Management has the mandate to monitor and manage market risks that arise from capital and liquidity risk management activities of our treasury department. Besides the structural foreign exchange capital hedging process this includes market risks arising from our equity compensation plans.

Market risks in our asset management activities in AWM, primarily results from principal guaranteed funds, but also from co-investments in our funds.

Santander includes more detailed information of the types of risk assessed within market risk with additional quantitative data for some of these risks, for example for structural risk.

Santander Annual Report 2012: page 206 to 207 and 216 to 217

There are **other types of market risk,** whose coverage is more complex. They are the following:

- **Correlation risk** is the sensitivity of the value of a portfolio to changes in the relation between risk factors, be they of the same type (for example, between two exchange rates) or of a different nature (for example, between an interest rate and the price of a commodity).
- **Market liquidity risk** is that of a Group entity or the Group as a whole finding itself unable to get out of or close a position in time without impacting on the market price or on the cost of the transaction. This risk can be caused by a fall in the number of market makers or institutional investors, the execution of large volumes of operations, market instability and increases with the concentration existing in certain products and currencies.
- **Risk of prepayment or cancellation.** When in certain operations the contract allows, explicitly or implicitly, cancellation before the maturity without negotiation there is a risk that the cash flows have to be reinvested at a potentially lower interest rate. This mainly affects loans or mortgage securities.
- **Underwriting risk.** This occurs as a result of an entity's participation in underwriting a placement of securities or another type of debt, assuming the risk of partially owning the issue or the loan due to non-placement of all of it among potential buyers.

On the basis of the origin of the risk, activities are segmented in the following way:

(a) **Trading**. This includes financial services to customers and purchase-sale and positioning mainly in fixed-income, equity and currency products.

(b) **Structural risks**. Constituted by market risks inherent in the balance sheet excluding the trading portfolio. They are:

- **Structural interest rate risk**. This arises from mismatches in the maturities and repricing of all assets and liabilities.
- **Structural exchange rate risk/hedging of results**. Exchange rate risk occurs when the currency in which the investment is made is different from the euro in companies that consolidate and those that do not (structural exchange rate). In addition, exchange rate hedging of future results generated in currencies other than the euro (hedging of results).
- **Structural equity risk**. This involves investments via stakes in financial or non-financial companies that are not consolidated, as well as portfolios available for sale formed by equity positions.

6.2.2. Structural market risks[17]

6.2.2.1. Structural interest rate

6.2.2.1.1. Europe and the United States

Generally, in these mature markets and in a context of low interest rates, the general positioning has been to maintain balance sheets with positive sensitivity to interest rate rises, both for the net interest margin (NIM) as well as for the economic value (market value of equity, MVE).

In any case, the exposure level in all countries is very low in relation to the annual budget and the amount of equity.

At the end of 2012, the sensitivity of the NIM at one year to parallel rises of 100 basis points was concentrated in the euro interest rate curve, the US dollar and sterling, with the parent bank, the US subsidiary and Santander UK the units that contributed the most (EUR 183 million, $60 million and £14 million, respectively). Also important in the euro interest rate curve is the contribution of the risk of Banesto and Santander Consumer Finance. The sensitivity of the margin to the rest of convertible currencies is not significant.

At the same date, the main sensitivity of equity to parallel rises in the yield curve of 100 basis points was in the euro interest rate curve in the parent bank (EUR 527 million). As regards the dollar and sterling curves, the amounts were $297 million and £215 million, respectively).

6.2.2.1.2. Latin America

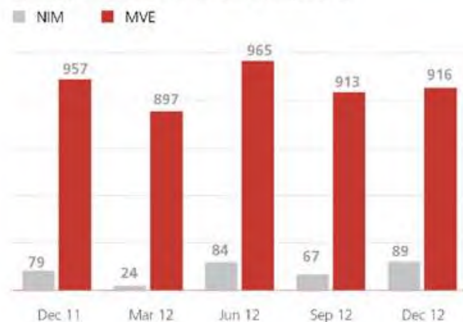
Due to differences in the macroeconomic context and the degree of maturity of these markets, the positioning with regard to the NIM was not homogeneous. There are countries with balance sheets positioned for interest rate rises and others for interest rate falls.

With regard to MVE, the general positioning of the balance sheets was such that the average duration of the asset was higher than that of the liability (negative sensitivity to interest rate rises).

In any case, the exposure level in all countries is very low in relation to the annual budget and the amount of equity.

EVOLUTION OF THE LATIN AMERICA STRUCTURAL INTEREST RISK PROFILE

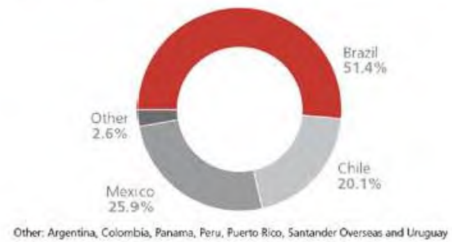
Sensitivity of NIM and MVE to 100 b.p. Million euros



For Latin America as a whole, the consumption of risk at December 2012, measured to 100 b.p. of the financial margin[18], stood at EUR 89 million (EUR 79 million at December 2011). It can be seen from the chart below that over 95% of the risk was concentrated in three countries: Brazil, Chile and Mexico.

NIM SENSITIVITY BY COUNTRIES TO 100 B.P.

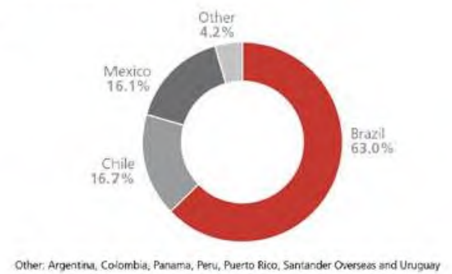
% of the total



Other: Argentina, Colombia, Panama, Peru, Puerto Rico, Santander Overseas and Uruguay

MVE SENSITIVITY BY COUNTRIES TO 100 B.P.

% of the total



Other: Argentina, Colombia, Panama, Peru, Puerto Rico, Santander Overseas and Uruguay

LATIN AMERICA: REPRICING GAP OF INTEREST RATES* (31 DECEMBER 2012)
Million euros

	Total	3 months	6 months	1 year	3 years	5 years	>5 years	Non sensitive
Assets	**335,544**	110,329	28,284	28,334	55,765	19,476	24,093	69,263
Local currency	**295,569**	89,498	22,386	25,453	51,589	17,566	21,242	67,836
Dollar	**39,975**	20,832	5,898	2,881	4,175	1,910	2,850	1,428
Liabilities	**335,544**	157,545	6,767	20,145	41,762	7,855	7,661	93,808
Local currency	**293,407**	139,213	3,695	15,495	37,005	2,933	3,751	91,315
Dollar	**42,137**	18,332	3,073	4,650	4,758	4,922	3,910	2,493
Off-balance sheet	**0**	5,814	1,025	758	(3,482)	(3,447)	(1,524)	856
Gap	**0**	**(41,402)**	**22,542**	**8,948**	**10,520**	**8,174**	**14,908**	**(23,689)**

* Aggregate gap of all currencies in the balance sheets of Latin American units, expressed in euros.

Recommendation 24

Provide qualitative and quantitative disclosures that describe significant market risk measurement model limitations, assumptions, validation procedures, use of proxies, changes in risk measures and models through time and descriptions of the reasons for back-testing exceptions, and how these results are used to enhance the parameters of the model.

The banks' disclosures are primarily qualitative. The majority disclose the governance of market risk and more specifically over model processes although the level of information varies, including how risk limits are set and monitored.

Model methodologies are described at a high level with, in some cases, references to external regulatory model approvals. Some banks set out the limitation of VaR models. Barclays, Deutsche Bank and HSBC disclose specific limitations.

UBS provides further detail on changes to its VaR model during 2012 and the results of backtesting. Santander discloses its backtesting methodology and the backtesting of business portfolios.

UBS Annual Report 2012: page 156 and 157

Value-at-risk developments in 2012

Audited

The Group's management VaR decreased to CHF 18 million on 31 December 2012 from CHF 36 million on 31 December 2011. This decrease was mainly due to active steps taken by the Investment Bank to reduce trading risks following the announcement in October 2012 regarding the accelerated implementation of our strategy. Average management VaR was CHF 33 million for 2012 compared with CHF 60 million in 2011 (excluding the effects of the 2011 unauthorized trading incident). The main contributors to Group VaR continue to be credit spread risk and, to a lesser extent, interest rate risk.

In the fourth quarter 2012, we improved the component of our VaR model used to calculate equity price risk by replacing the existing single-factor model with a multi-factor model, which better captures the correlations among equity returns. The effects of this model change on Group management, regulatory and stressed VaR figures, prior to and at the time of implementation, were reductions of between 10% and 20%.

Backtesting

Audited

Backtesting compares 1-day 99% confidence level regulatory VaR calculated on positions at the close of each business day with the revenues generated by those positions on the following business day. Backtesting revenues exclude non-trading revenues, such as fees and commissions, and estimated revenues from intraday trading. A backtesting exception occurs when backtesting revenues are negative and the absolute value of those revenues is greater than the previous day's VaR.

We had one backtesting exception at Group level in 2012 compared with three in the prior year. We investigate all backtesting exceptions and any exceptional revenues on the profit side of the VaR distribution. In addition, we report all backtesting results to senior business management, the Group Chief Risk Officer and the business divisions' chief risk officers.

Audited

Backtesting exceptions are also reported to internal and external auditors and to the relevant regulators.

The chart "Group: development of backtesting revenues against value-at-risk" shows the 12-month development of 1-day 99% VaR against backtesting revenues of the Group for the whole year of 2012. The histogram "Investment Bank: all revenue distribution" shows the Investment Bank's full trading revenues distribution in 2012.

Santander's policy for approving new transactions related to these products remains very prudent and conservative. It is subject to strict supervision by the Group's senior management. Before approving a new transaction, product or underlying asset, the risks division verifies:

- The existence of an appropriate valuation model to monitor the value of each exposure: Mark-to-Market, Mark-to-Model or Mark-to-Liquidity.
- The availability in the market of observable data (inputs) needed to be able to apply this valuation model.

And provided these two points are always met:

- The availability of appropriate systems, duly adapted to calculate and monitor every day the results, positions and risks of new operations, and;
- The degree of liquidity of the product or underlying asset, in order to make possible their coverage when deemed opportune.

6.2.1.4. Gauging and contrasting measures

In 2012, the Group continued to regularly conduct analysis and contrasting tests on the effectiveness of the Value at Risk (VaR) calculation model, obtaining the same conclusions that enable us to verify the model's reliability. The objective of these tests is to determine whether it is possible to accept or reject the model used to estimate the maximum loss of a portfolio for a certain level of confidence and a specific time frame.

The most important test is backtesting, analysed at the local and global levels by the market risk control units. The methodology of backtesting is implemented in the same way for all the Group's portfolios and sub-portfolios.

Backtesting consists of comparing the forecast VaR measurements, with a certain level of confidence and time frame, with the real results of losses obtained in a same time frame.

Santander calculates and evaluates three types of backtesting:

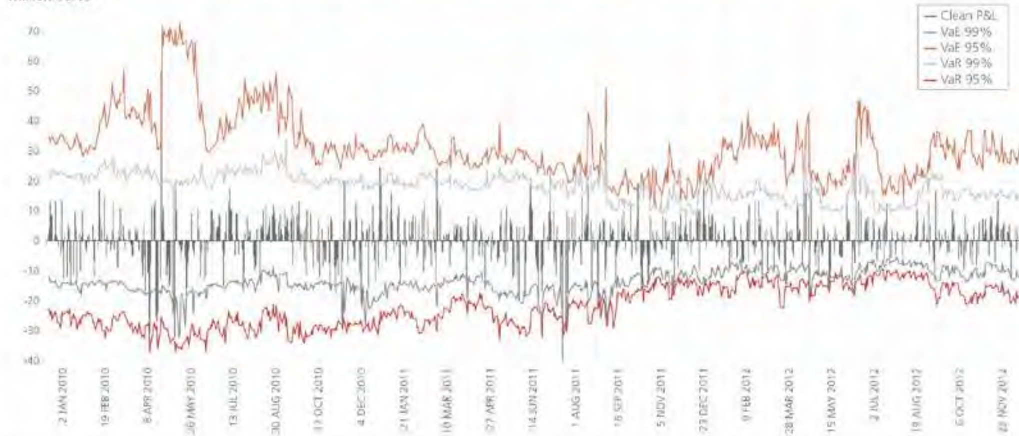
- "Clean" backtesting: the daily VaR is compared with the results obtained without taking into account the intraday results or the changes in the portfolio's positions. This method contrasts the effectiveness of the individual models used to assess and measure the risks of the different positions.
- "Dirty" backtesting: the daily VaR is compared with the day's net results, including the results of the intraday operations and those generated by commissions.
- "Dirty" backtesting without mark-ups or commissions: the daily VaR is compared with the day's net results from intraday operations but excluding those generated by mark-ups and commissions. This method aims to give an idea of the intraday risk assumed by the Group's treasuries.

For the first case and the total portfolio, there were three exceptions in 2010 of VaR at 99% (days when the daily loss was higher than the VaR): two in May - the first due to a more than usually high rise in the Brazilian currency inflation-indexed curve after the publication of a higher than expected inflation figure, and the second because of higher than normal increases in Spain's and Mexico's interest rate curves -, and one in June, due to the sudden widening of credit spreads, falls in stock markets and the depreciation of most currencies against the US dollar as a result of the deterioration of expectations on the outcome of the summit of EU heads of state (June 29).

The number of exceptions responded to the expected performance of the VaR calculation model, which works with a confidence level of 99% and an analysis period of one year (over a longer period of time, an average of two or three exceptions a year is expected).

BACKTESTING OF BUSINESS PORTFOLIOS: DAILY RESULTS VERSUS PREVIOUS DAY'S VALUE AT RISK

Million euros



Recommendation 25

Provide a description of the primary risk management techniques employed by the bank to measure and assess the risk of loss beyond reported risk measures and parameters, such as VaR, earnings or economic value scenario results, through methods such as stress tests, expected shortfall, economic capital, scenario analysis, stressed VaR or other alternative approaches. The disclosure should discuss how market liquidity horizons are considered and applied within such measures.

As with the other market risk recommendations these disclosures are often discursive in nature. Most of the banks reviewed provide an explanation of stress testing in addition to VAR approaches. HSBC provides a qualitative explanation of its application of stress testing. There was limited explanation of tail risk and the management of market liquidity horizons. Barclays included some quantitative information.

HSBC Annual Report 2012: page 267

Stress testing
(Audited)

In recognition of the limitations of VAR, we augment it with stress testing to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables.

Stress testing is implemented at the legal entity, regional and the overall Group levels. A standard set of scenarios is utilised consistently across all regions within the Group. Scenarios are tailored in order to capture the relevant events or market movements at each level. The risk appetite around potential stress losses for the Group is set and monitored against referral limits.

The process is governed by the Stress Testing Review Group forum which, in conjunction with regional risk management, determines the scenarios to be applied at portfolio and consolidated levels, as follows:

- single risk factor stress scenarios that are unlikely to be captured within the VAR models, such as the break of a currency peg;
- technical scenarios consider the largest move in each risk factor without consideration of any underlying market correlation;
- hypothetical scenarios consider potential macroeconomic events, for example, the slowdown in mainland China and the potential effects of a sovereign debt default, including its wider contagion effects; and
- historical scenarios incorporate historical observations of market movements during previous periods of stress which would not be captured within VAR.

Stress testing results are submitted to the GMB and Risk Management Committee ('RMC') meetings in order to provide senior management with an assessment of the financial effect such events would have.

In addition, the reverse stress test is based upon the premise that there is a fixed loss. The stress test process identifies which scenarios lead to this loss. The rationale behind the reverse stress test is to understand scenarios which are beyond normal business settings that could have contagion and systemic implications.

Stressed VAR and stress testing, together with reverse stress testing and the management of gap risk (see page 268), provide management with insights regarding the 'tail risk' beyond VAR. HSBC appetite for tail risk is limited.

Barclays Annual Report 2012: page 155

Tail risk measures also indicate a similar decline in risk profile, with a particularly sharp fall in 3W. However, some of this decline can be attributed to the rolling of the time period within the historical simulation.

The daily average, maximum and minimum values of DVaR, Expected Shortfall and 3W (audited)

For the year ended 31 December	2012			2011		
DVaR (95%)	Average £m	High[a] £m	Low[a] £m	Average £m	High[a] £m	Low[a] £m
Interest rate risk	14	23	7	17	48	8
Inflation risk	3	7	2	4	9	2
Spread risk	23	31	17	25	40	17
Credit risk	26	44	18	29	48	17
Basis risk	11	21	5	6	6	6
Foreign exchange risk	6	10	2	5	8	2
Equity risk	9	19	4	18	34	9
Commodity risk	6	9	4	12	18	7
Diversification effect[b]	(60)	na	na	(54)	na	na
Total DVaR	38	75	27	57	88	33
Expected Shortfall[c]	47	91	30	71	113	43
3W[d]	77	138	44	121	202	67

- Interest rate risk measures the impact of changes in interest (swap) rates and volatilities on cash instruments and derivatives;
- Inflation risk measures the impact of changes in inflation rates and volatilities on cash instruments and derivatives;
- Spread risk measures the impact of changes to the swap spread, i.e. the difference between swap rates and government bond yields;
- Credit risk measures the impact of changes to the credit spread of credit risky sovereign bonds, corporate bonds, securitised products or credit derivatives such as Credit Default Swaps;
- Basis risk measures the impact of changes in Interest rate tenor basis (e.g. the basis between swaps vs. 3M LIBOR and swaps vs. 6M LIBOR) and cross currency basis;
- Foreign exchange risk measures the impact of changes in foreign exchange rates and volatilities;
- Equity risk measures the impact of changes in equity prices, volatilities and dividend yields;
- Commodity risk measures the impact of changes in commodity prices and volatilities, including the basis between related commodities; and
- Diversification effect reflects the fact the risk of a diversified portfolio is smaller than the sum of the risks of its constituent parts. It is measured as the sum of the individual asset class DVaR estimates less the total DVaR.

3.7 Credit risk

Recommendation 26

Provide information that facilitates users' understanding of the bank's credit risk profile, including any significant credit risk concentrations. This should include a quantitative summary of aggregate credit risk exposures that reconciles to the balance sheet, including detailed tables for both retail and corporate portfolios that segments them by relevant factors. The disclosure should also incorporate credit risk likely to arise from off balance sheet commitments by type.

Credit risk is one of the areas where the main recommendations of the EDTF Report have been applied. The majority of the banks reviewed provide detailed disclosures of credit risk exposures by the main concentrations as relevant for their business. Santander discloses changes in credit risk over a period and where this has arisen in its business. This is augmented by specific disclosures on exposures to sovereigns, financial institutions, wholesale lending portfolios and other real estate portfolios. The level of detail includes geography, the business to which this relates and credit quality. This also include information areas of concentration by credit risk type. Barclays include information on concentrations based on industry sector and geography and different asset classes.

Santander Annual Report 2012: page 177

EVOLUTION OF GROSS EXPOSURE TO CREDIT RISK
Million euros. Data at 31 December 2012

	2012	2011	2010	Change /2011	Change /2010
Spain	**411,510**	**421,142**	**427,092**	**(2.3%)**	**(3.6%)**
Parent bank	**285,972**	278,663	276,105	2.6%	3.6%
Banesto	**93,921**	101,264	108,556	(7.3%)	(13.5%)
Others	**31,617**	41,215	42,430	(23.3%)	(25.5%)
Rest of Europe	**473,337**	**447,754**	**428,525**	**5.7%**	**10.5%**
Germany	**40,659**	33,541	22,984	21.2%	76.9%
Portugal	**39,243**	41,241	43,272	(4.8%)	(9.3%)
UK	**344,413**	327,321	325,624	5.2%	5.8%
Others	**49,023**	45,651	36,645	7.4%	33.8%
Latin America	**266,304**	**272,297**	**271,106**	**(2.2%)**	**(1.8%)**
Brazil	**163,915**	176,317	174,263	(7.0%)	(5.9%)
Chile	**46,722**	43,406	43,296	7.6%	7.9%
Mexico	**37,836**	32,777	35,361	15.4%	7.0%
Others	**17,832**	19,797	18,186	(9.9%)	(2.0%)
United States	**79,707**	**73,717**	**78,590**	**8.1%**	**1.4%**
Rest of world	**539**	**964**	**1,009**	**(44.1%)**	**(46.6%)**
Total Group	**1,231,398**	**1,215,874**	**1,206,322**	**1.3%**	**2.1%**

(1) Balances with customers include contingent risks (see the auditor's report and annual consolidates statements, note 35) and exclude repos (EUR 4,707 million) and other customer financial assets (EUR 23,686 million).
(2) Balances with credit entities and central banks include contingent risks and exclude repos, the trading portfolio and other financial assets. Of the total, EUR 104,454 million are deposits in central banks.
(3) Total fixed income excludes the trading and investment portfolio of third party takers of insurers.
(4) ECR (equivalent credit risk: net value of replacement plus the maximum potential value. Includes mitigants).

Barclays Annual Report 2012: page 121

Credit risk concentrations by industry (audited)

As at 31 December 2011	Banks £m	Other financial institutions £m	Manufacturing £m	Construction and property £m	Government and central bank £m	Energy and water £m	Wholesale and retail distribution and leisure £m	Business and other services £m	Home loans £m	Cards, unsecured loans and other personal lending £m	Other £m	Total £m
On-balance sheet:												
Cash and balances at central banks	–	–	–	–	106,894	–	–	–	–	–	–	106,894
Items in the course of collection from other banks	1,810	–	–	–	2	–	–	–	–	–	–	1,812
Trading portfolio assets	4,857	27,992	1,585	480	83,631	3,191	448	1,773	–	–	781	124,738
Financial assets designated at fair value	6,050	3,320	75	10,447	6,354	1,053	332	3,547	–	1	450	31,629
Derivative financial instruments	401,465	96,781	4,044	4,853	8,321	12,960	3,309	3,928	–	19	3,284	538,964
Loans and advances to banks	44,707	–	–	–	2,739	–	–	–	–	–	–	47,446
Loans and advances to customers	–	89,650	12,904	28,711	6,129	7,414	16,206	26,300	171,272	50,062	23,286	431,934
Reverse repurchase agreements and other similar secured lending	61,544	86,930	195	201	3,842	127	63	235	–	–	528	153,665
Available for sale debt securities	15,961	7,142	213	137	38,511	126	90	820	370	–	240	63,610
Other assets	506	374	–	54	492	–	7	310	2	818	57	2,620
Total on-balance sheet	536,900	312,189	19,016	44,883	256,915	24,871	20,455	36,913	171,644	50,900	28,626	1,503,312
Off-balance sheet:												
Securities lending arrangements	–	35,996	–	–	–	–	–	–	–	–	–	35,996
Guarantees and letters of credit pledged as collateral security	990	3,947	1,534	757	630	1,615	913	2,213	–	310	1,272	14,181
Acceptances, endorsements and other contingent liabilities[a]	599	1,214	1,075	459	7	865	527	2,945	–	38	537	8,266
Documentary credits and other short term trade related transactions	428	128	40	1	–	–	215	480	–	65	1	1,358
Standby facilities, credit lines and other commitments	785	32,511	23,429	9,114	3,573	20,764	12,052	17,012	15,663	90,062	15,317	240,282
Total off-balance sheet	2,802	73,796	26,078	10,331	4,210	23,244	13,707	22,650	15,663	90,475	17,127	300,083
Total	539,702	385,985	45,094	55,214	261,125	48,115	34,162	59,563	187,307	141,375	45,753	1,803,395

Barclays, Deutsche Bank and HSBC provide disclosure of off balance sheet commitments. Some of the other banks disclose this in terms of the regulatory credit risk exposures linked to RWA information.

Recommendation 27

Describe the policies for identifying impaired or non-performing loans, including how the bank defines impaired or non-performing, restructured and returned-to-performing (cured) loans as well as explanations of loan forbearance policies.

Most of the banks reviewed provide a definition for non-performing or renegotiated or restructured loans. The extent of disclosure as to how the bank assesses such loans varies with some describing this against more specific metrics and others describing this in the context of internal reporting and the regulatory definitions of different jurisdictions.

UBS describe non-performing loans based on a definition that is used for SEC reporting; Santander describes the internal processes for identifying and managing non performing and restructured loans as part of its main credit risk disclosures. Deutsche Bank includes.

UBS Annual Report 2012: page 502

Impaired and non-performing loans

A loan (included in Due from banks or Loans) is classified as non-performing: 1) when the payment of interest, principal or fees is overdue by more than 90 days and there is no firm evidence that it will be made good by later payments or the liquidation of collateral; 2) when insolvency proceedings have commenced; or 3) when obligations have been restructured on concessionary terms. For IFRS reporting purposes, the definition of impaired loans is more comprehensive, covering both non-performing loans and other situations where objective evidence indicates that UBS may be unable to collect all amounts due. Refer to "Impairment and default – distressed claims" in the "Risk, treasury and capital management" section of this report for comprehensive information about UBS's impaired loans, of which non-performing loans are a component. Also, see "Note 1 Summary of significant accounting policies" to the consolidated financial statements for more information on the various risk factors that are considered to be indicative of impairment.

The table below provides an analysis of the Group's non-performing loans.

UBS Annual Report 2012: page 336 and 337

Renegotiated loans

A renegotiated loan is defined as a loan that has been subject to restructuring, or for which additional collateral has been requested that was not contemplated in the original contract.

Typical key features of terms and conditions granted through renegotiation to avoid default include the provision of special interest rates, postponement of interest or amortization payments, modification of the schedule of repayments or amendment of loan maturity. There is no change in the EIR following a renegotiation.

If a loan is renegotiated with concessionary conditions (i.e. new terms and conditions are agreed which do not meet the normal market criteria for the quality of the obligor and the type of loan) the position is still classified as non-performing and is rated as being in counterparty default. It will remain so until the loan is collected or written off and will be assessed for impairment on an individual basis.

If a loan is renegotiated on a non-concessionary basis (e.g. additional collateral is provided by the client, or new terms and conditions are agreed which meet the normal market criteria, for the quality of the obligor and the type of loan), the loan will be re-rated using the Group's regular rating scale. In these circumstances, the loan is removed from impaired status and therefore included in our collective assessment of loan loss allowances. For the purposes of measuring credit losses, within the collective loan loss assessment these loans are not segregated from other loans which have not been renegotiated. Management regularly reviews all loans to ensure that all criteria according to the loan agreement continue to be met and that future payments are likely to occur.

A restructuring of a loan could lead to a fundamental change in the terms and conditions of a loan resulting in the original loan being derecognized and a new loan being recognized. A change is considered fundamental if the present value of the contractual cash flows (as a proportion of notional) have been changed by 10% or more, or there has been a significant change in the risk profile of the instrument.

If a loan is derecognized in these circumstances, the new loan is measured at fair value at initial recognition. Any allowance taken to date against the original loan is eliminated and is not attributed to the new loan. Consequently, the new loan is not considered impaired and is included within the general collective loan assessment for the purpose of measuring credit losses.

11) Allowances and provisions for credit losses

An allowance or provision for credit losses is established if there is objective evidence that the Group will be unable to collect all amounts due (or the equivalent value thereof) on a claim based on the original contractual terms (refer to Note 9b). A "claim" means a loan or receivable carried at amortized cost, or a commitment such as a letter of credit, a guarantee, or another similar instrument. Objective evidence of impairment includes significant financial difficulty for the issuer or counterparty; default or delinquency in interest or principal payments; or probability that the borrower will enter bankruptcy or financial reorganization.

An allowance for credit losses is reported as a reduction of the carrying value of a claim on the balance sheet. For an off-balance-sheet item, such as a commitment, a provision for credit loss is reported in *Other liabilities*. Changes to allowances and provisions for credit losses are recognized as a *Credit loss expense*.

Allowances and provisions for credit losses are evaluated at both a counterparty-specific level and collectively based on the following principles:

Counterparty-specific: A loan is considered impaired when management determines that it is probable that the Group will not be able to collect all amounts due (or the equivalent value thereof) based on the original contractual terms. Individual credit exposures are evaluated based on the borrower's character, overall financial condition, resources and payment record; the prospects for support from any financially responsible guarantors; and, where applicable, the realizable value of any collateral. The estimated recoverable amount is the present value, using the claim's original EIR, of expected future cash flows including amounts that may result from restructuring or the liquidation of collateral. If a loan has a variable interest rate, the discount rate for measuring any impairment loss is the current EIR. Impairment is measured and allowances for credit losses are established based on the difference between the carrying amount and the estimated recoverable amount. Upon impairment, the accrual of interest income based on the original terms of the loan is discontinued. The increase of the present value of the impaired loan due to the passage of time is reported as *Interest income*.

All impaired loans are reviewed and analyzed at least annually. Any subsequent changes to the amounts and timing of the expected future cash flows compared with prior estimates result in a change in the allowance for credit losses and are charged or credited to *Credit loss expense/recovery*. An allowance for impairment is reversed only when the credit quality has improved to such an extent that there is reasonable assurance of timely collection of principal and interest in accordance with the original contractual terms of the claim, or the equivalent value thereof. A write-off is made when all or part of a claim is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses or, if no allowance has been established previously, directly to *Credit loss expense/recovery*. Recoveries, in part or in full, of amounts previously written off are credited to *Credit loss expense/recovery*.

A loan is classified as non-performing when the payment of interest, principal or fees is overdue by more than 90 days and there is no firm evidence that it will be made good by later payments or the liquidation of collateral; when insolvency proceedings have commenced against the firm; or when obligations have been restructured on concessionary terms. Loans are evaluated individually for impairment when amounts have been overdue by more than 90 days, or sooner if other objective evidence indicates that a loan may be impaired.

Collectively: All loans for which no impairment is identified at a counterparty-specific level are grouped on the basis of the bank's internal credit grading system that considers credit risk characteristics such as asset type, industry, geographical location, collateral type, past-due status and other relevant factors, to collectively assess whether impairment exists within a portfolio. Future cash flows for a group of financial assets that are collectively evaluated for impairment are estimated on the basis of historical loss experience for assets with credit risk characteristics similar to those in the group. Historical loss experience is adjusted on the basis of current observable data to reflect the effects of current conditions of the group of financial assets on which the historical loss experience is based and to remove the effects of conditions in the historical period that do not exist currently in the portfolio. Estimates of changes in future cash flows for the group of financial assets reflect, and are directionally consistent with, changes in related observable data from year to year. The methodology and assumptions used for estimating future cash flows for the group of financial assets are reviewed regularly to reduce any differences between loss estimated and actual loss experience. Allowances from collective assessment of impairment are recognized as *Credit loss expense/recovery* and result in an offset to the aggregated loan position. As the allowance cannot be allocated to individual loans, the loans are not considered to be impaired and interest is accrued on each loan according to its contractual terms. If objective evidence becomes available that indicates that an individual financial asset is impaired, it is removed from the group of financial assets assessed for impairment on a collective basis and is assessed separately as a counterparty-specific claim.

Reclassified securities and acquired securities carried at amortized cost: Estimated cash flows associated with financial assets reclassified from the held for trading category to loans and receivables in accordance with the requirements in item 10) above and other similar assets acquired subsequently, are revised periodically. Adverse revisions in cash flow estimates related to credit events are recognized in the income statement as *Credit loss expense*. For reclassified securities, increases in estimated future cash receipts as a result of increased recoverability are recognized as an adjustment to the EIR on the loan from the date of change (refer to Notes 12 and 29b).

Recommendation 28

Provide a reconciliation of the opening and closing balances of non-performing or impaired loans in the period and the allowance for loan losses. Disclosures should include an explanation of the effects of loan acquisitions on ratio trends, and qualitative and quantitative information about restructured loans.

The majority of the banks reviewed have implemented the recommended reconciliation table included in the EDTF Report. This is usually based on asset class. This is supported by aged analysis and a more granular analysis of specific portfolios.

Barclays disclose the movements in the allowance for impairment by asset class.

Barclays Annual Report 2012: page 127

Impairment allowances (audited)

Impairment allowances decreased £921m to £9,676m, driven primarily by a reduction in the retail portfolios due to improved underlying credit performance and delinquency. Amounts written off decreased £1,046m to £4,119m driven, in part, by the 2011 change in write-off policy, which resulted in higher write-offs in the prior year.

Movements in allowance for impairment by asset class (audited)

	At beginning of year £m	Acquisitions and disposals £m	Unwind of discount £m	Exchange and other adjustments £m	Amounts written off £m	Recoveries £m	Amounts charged to income statement £m	Balance at 31 December £m
2012								
Home loans	834	–	(45)	(33)	(382)	24	457	855
Credit cards, unsecured and other retail lending	4,540	(59)	(144)	(248)	(2,102)	119	1,674	3,780
Corporate loans	5,223	(21)	(22)	(5)	(1,635)	69	1,432	5,041
Total impairment allowance	10,597	(80)	(211)	(286)	(4,119)	212	3,563	9,676
2011								
Home loans	854	(2)	(80)	(101)	(184)	14	333	834
Credit cards, unsecured and other retail lending	5,919	(4)	(154)	(145)	(3,292)	139	2,077	4,540
Corporate loans	5,659	(12)	(9)	(194)	(1,689)	112	1,356	5,223
Total impairment allowance	12,432	(18)	(243)	(440)	(5,165)	265	3,766	10,597

Loan ratio trends, such as the disclosure of loan loss coverage ratios, are discussed in the context of additional disclosures required for SEC reporting (where this is applicable). Whilst the EDTF Report did not prescribe where disclosures should be presented some of the banks present this in different sections of their annual reports which can make it difficult to navigate between the policies applied to manage credit risk and the numerical disclosures.

Santander discloses its policies for restructured loan portfolios including a quantitative summary. The disclosure also refers to where a more detailed breakdown can be located in the annual report.

Santander Annual Report 2012: page 182 to 184

Restructured/refinanced portfolio

The general term restructured/refinanced portfolio, in accordance with Bank of Spain circular 6/2012, refers to those operations in which the client has presented, or it is envisaged might present, financial difficulties in meeting their payment obligations in the prevailing contractual terms and, for this reason, it could be advisable to modify, cancel or even formalise a new transaction.

The restructuring/refinancing of debts is part of the usual risk management with clients, although it is at times of economic weakening that it assumes greater importance.

Grupo Santander follows very rigorous definitions and policies in this management process, which is conducted in accordance with the best practices and within the strictest compliance with regulatory requirements.

Grupo Santander has a detailed corporate policy for restructuring/refinancing, which meets the Bank of Spain's rules via circulars 4/2004 and 6/2012 and which is applied to all countries and clients[4]. This policy establishes rigorous criteria that underscore Santander's prudence in assessing these risks, noteworthy among which are those regarding its restricted use and the classification of this type of operation:

- There must be restrictive use of restructurings, which must be accompanied by guarantees or additional efforts by the client, avoiding actions that only postpone recognition of the non-performing loan.
- The aim is to recover all the amounts owed, which entails recognising as soon as possible the amounts that it is estimated cannot be recovered. Delaying immediate recognition of losses would be contrary to good management practices.
- The restructuring must always envisage maintaining the existing guarantees and, wherever possible, improving them and/or increasing the coverage. Effective guarantees not only serve to mitigate the severity, but also can reduce the probability of default.
- This practice should not mean granting additional financing to the client, nor serve to refinance the of debt other banks, nor be used as an instrument of cross-selling.
- It is necessary to assess all the refinancing alternatives and their effects, ensuring that the results would be better than those likely to be achieved in the event of not doing it.
- The new operation cannot mean an improvement in the classification as long as a satisfactory experience with the client does not exist.

All Grupo Santander's institutions apply these principles, adapting them to local needs and rules and always subordinated to complying with any stricter local rule that has to be implemented.

From the management standpoint, taking into account the client's different situation of irregularity at the time of the restructuring/refinancing, there are two types of operation:

- Those that arise from a non-doubtful loan situation. These operations refer to clients who, due to a change in their economic circumstances, are envisaged could experience an eventual reduction in their payment capacity, although at the time they are up to date with payments or have not failed to make payments for more than three months. This contingency can be resolved by adapting the debt conditions to the client's new payment capacity, which facilitates compliance with their obligations. Of the total restructured/refinanced portfolio, 77% corresponds to this type of operation.
- Operations that arise from a doubtful situation whether for subjective or objective reasons, when at least three months have passed since the first non-payment. These operations do not signify a release of provisions, as the doubtful risk classification remains, unless the criteria set out in the regulatory rules based on Bank of Spain circulars are fulfilled (payment of ordinary interest pending and, in all cases, contribution of new effective guarantees or a reasonable certainty of payment capacity), as well as the cautions which, under a criterion of prudence, are set out in the Group's corporate policy (sustained payment during a period on the basis of the features of the operation and the type of guarantees existing).

These operations are classified in accordance with their features in the following way:

- Doubtful: those restructurings in a process of normalisation or which, being classified as normal or sub standard, during the life of the operation, present new payment difficulties. In the event of this deterioration intensifying, in accordance with the criterion of corporate prudence, the loan will be considered as a write-off.
- Substandard: those restructurings emanating from doubtful loans which have met sustained payment for a certain period on the basis of the features of the operation and the type of guarantees existing.

  In the particular case of those operations with a grace period on capital payments, the restructuring will be classified as sub standard risk, if it is not already classified as doubtful risk, and must be maintained as such until the grace period ends
- Normal: those restructurings emanating from doubtful or substandard loans which have exceeded a period of observation which shows the re-establishment of the payment capacity in accordance with the periods established in the corporate policy.

[4] The main principles of restructuring are rigorously applied to standardised clients, while tending to one-off exceptional circumstances. In the case of individualised clients these principles can be used as a reference element, but individualised analysis of each case is particularly important, both for their correct identification as well as their subsequent classification, monitoring and adequate provisioning.

According to this policy, the operations in normal situation must be kept under this special watch for a minimum, precautionary period of two years and have amortised 20% of the principal of the loan, except for those articulated via some type of hair cut which will be maintained until its extinction.

The total portfolio stood at EUR 55,714 million at the end of 2012 and was distributed as follows:

RESTRUCTURED/REFINANCED PORTFOLIO
Million euros

	Normal	Substandard		Doubtful		Total	
	Portfolio	Portfolio	Specific coverage	Portfolio	Specific coverage	**% of total portfolio**	Specific coverage
Operations arising from non-doubtful situation	18,638	13,179	10%	11,117	41%	**77%**	14%
Operations arising from doubtful situation	3,601	2,079	23%	7,100	48%	**23%**	30%
Total	**22,239**	**15,258**	**12%**	**18,217**	**43%**	**100%**	**17%**

A more detailed breakdown of this portfolio can be found in the Auditor's Report and Annual Consolidated Accounts (Note 54).

From the credit classification standpoint, 67% of the total is classified in a non-doubtful status, while the other 33% which was in a doubtful situation, had a specific coverage of 43%.

Preventative risk management in this portfolio shows that **77% comes from a non-doubtful origin**, while that from doubtful situations only accounts for 1.5% of the Group's total credit risk with clients.

From the standpoint of its guarantees, more than 70% of the total portfolio has real guarantees (more than 92% in the case of the portfolio of companies with real estate purpose).

Of the Group's total portfolio, Spain's accounts for 59% (EUR 32,867 million) with the following features:

- The amount corresponding to **companies with a real estate purpose was EUR 11,256 million,** 72% of which is classified as doubtful or sub standard with specific coverage of 46%. Total coverage of this portfolio including the provisions set aside for the normal portfolio which correspond to it is 44%. **Following the provisions made in 2012, the real estate provisioning is effectively completed.**

- Of the total portfolio in Spain, **34% was in a doubtful situation with coverage of 42%.**

- From a management standpoint, it is important to highlight the **preventative management of risk together with the high level of existing guarantees:**

  - 89% (EUR 29,380 million) emanates from operations that come from a non-doubtful situation and 82% have real guarantees.

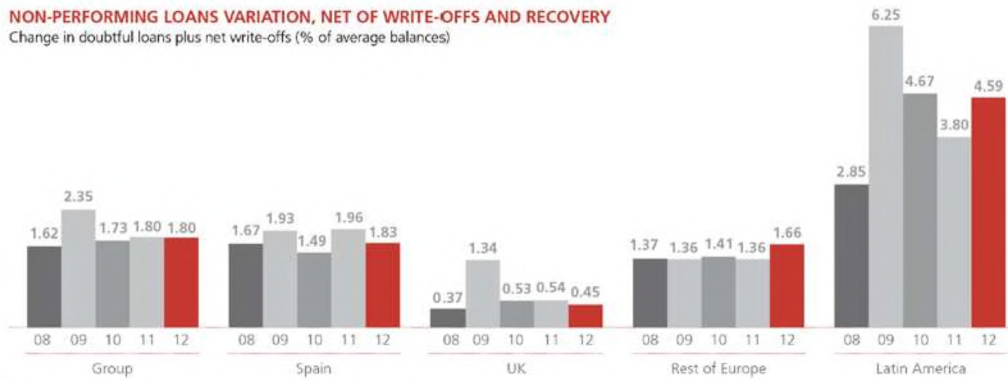
  - Only the remaining 11% (EUR 3,487 million) emanates from doubtful situation operations and 84% have real guarantees.

In the rest of the countries where the Group operates the restructured/refinanced portfolio does not account in any of them, for more than 1% of the Group's total credit risk with clients.

Management metrics[5]
Credit risk management uses other metrics to those already mentioned, particularly management of non-performing loans variation plus net write-offs (known in Spanish as VMG) and expected loss. Both enable risk managers to form a complete idea of the evolution and future prospects of the portfolio.

Unlike non-performing loans, the VMG refers to the total portfolio deteriorated over a period of time, regardless of the situation in which it finds itself (doubtful loans and write-offs). This makes the metric a main driver when it comes to establishing measures to manage the portfolio.

The **VMG** is frequently considered in relation to the average loan that generated it, giving rise to what is known as the risk premium, whose evolution can be seen below.



2008: Includes ABN, but not Alliance & Leicester. 2009: Does not include either Sovereign or Venezuela. 2011: Does not include Bank Zachodni WBK. 2012: Does not include Colombia or UCI.

Recommendation 29

Provide a quantitative and qualitative analysis of the bank's counterparty credit risk that arises from its derivatives transactions. This should quantify notional derivatives exposure, including whether derivatives are over-the-counter (OTC) or traded on recognised exchanges. Where the derivatives are OTC, the disclosure should quantify how much is settled by central counterparties and how much is not, as well as provide a description of collateral agreements.

The gross notional exposure of derivatives is disclosed by some banks. Barclays, Deutsche Bank, HSBC and Santander provide this information as part of their credit risk reporting. Santander elect to present the gross notional value and mark to market value of derivative contracts in separate tables as shown on the following page.

Deutsche Bank Annual Report 2012: page 85

The notional amount of OTC derivatives settled through central counterparties amounted to € 10.0 trillion as of December 31, 2012, and to € 10.8 trillion as of December 31, 2011.

Notional amounts and gross market values of derivative transactions

Dec 31, 2012

	Notional amount maturity distribution						
in € m.	Within 1 year	> 1 and ≤ 5 years	After 5 years	Total	Positive market value	Negative market value	Net market value
Interest rate related:							
OTC	15,419,788	15,366,636	10,478,308	41,264,732	584,620	554,944	29,676
Exchange-traded	2,899,159	1,169,563	4,114	4,072,836	153	144	9
Total Interest rate related	18,318,947	16,536,199	10,482,422	45,337,568	584,773	555,088	29,685
Currency related:							
OTC	4,290,214	1,188,952	428,949	5,908,115	94,639	101,738	(7,099)
Exchange-traded	19,381	470	–	19,851	8	7	1
Total Currency related	4,309,595	1,189,422	428,949	5,927,966	94,647	101,745	(7,098)
Equity/index related:							
OTC	329,531	261,697	79,088	670,316	22,415	29,027	(6,612)
Exchange-traded	417,334	114,654	3,653	535,641	7,476	6,201	1,275
Total Equity/index related	746,865	376,351	82,741	1,205,957	29,891	35,228	(5,337)
Credit derivatives	499,717	1,914,989	207,623	2,622,329	49,733	46,648	3,085
Commodity related:							
OTC	45,284	56,194	5,417	106,895	10,121	10,644	(523)
Exchange-traded	194,470	107,099	1,659	303,228	4,617	4,173	444
Total Commodity related	239,754	163,293	7,076	410,123	14,738	14,817	(79)
Other:							
OTC	62,890	23,991	399	87,280	2,887	2,818	69
Exchange-traded	12,533	1,278	5	13,816	18	36	(18)
Total Other	75,423	25,269	404	101,096	2,905	2,854	51
Total OTC business	20,647,424	18,812,459	11,199,784	50,659,667	764,415	745,819	18,596
Total exchange-traded business	3,542,877	1,393,064	9,431	4,945,372	12,272	10,561	1,711
Total	24,190,301	20,205,523	11,209,215	55,605,039	776,687	756,380	20,307
Positive market values after netting and cash collateral received	–	–	–	–	70,054	–	–

Some of the underlying recommendations have also been adopted for example distinguishing between derivative arrangements cleared through central counterparties versus bilateral transactions (although there is limited disclosure of one-way collateral arrangements). Santander note that most of its derivative transactions are bilateral.

Santander Annual Report 2012: page 192 and 194

5.4. Other credit risk optics

5.4.1. Credit risk by activity in the financial markets

This section covers credit risk generated in treasury activities with clients, mainly with credit institutions. This is developed through financing products in the money market with different financial institutions, as well as derivatives to provide service to the Group's clients.

Risk is controlled through an integrated system and in real time, enabling us to know at any moment the exposure limit available with any counterparty, in any product and maturity and in all of the Group's units.

Risk is measured by its prevailing market as well as potential value (value of risk positions taking into account the future variation of underlying market factors in contracts). The equivalent credit risk (ECR) is the net replacement value plus the maximum potential value of these contracts in the future. The capital at risk or unexpected loss is also calculated (i.e. the loss which, once the expected loss is subtracted, constitutes the economic capital, net of guarantees and recovery).

Exposure in derivatives

The total exposure to credit risk from activities in the financial markets amounted to EUR 52,184 million and is concentrated in high quality counterparties (76.6% of the risk with counterparties has a rating equal to or more than A-).

OTC DERIVATIVES DISTRIBUTION BY EQUIVALENT CREDIT RISK AND MARKET VALUE INCLUDING THE MITIGATION IMPACT*

Million euros

	End 2012		End 2011		End 2010	
	Gross Exposure	Gross MtM	Gross Exposure	Gross MtM	Gross Exposure	Gross MtM
CDS Protection Acquired	699	610	2,269	2,316	1,324	1,144
CDS protection sold	478	467	231	228	131	622
Total credit derivatives	1,177	1,077	2,500	2,544	1,455	1,766
Equity forwards	616	339	437	147	369	(146)
Equity options	2,582	1,203	2,635	1,516	3,028	1,834
Equity spot	0	0	0	4	1	21
Equity swaps	1,347	176	914	385	677	237
Total equity derivatives	4,544	1,719	3,986	2,053	4,076	1,947
Fixed-income forwards	143	5	59	0	121	30
Fixed-income spot	0	0	0	0	1	0
Total fixed income derivatives	143	5	136	0	135	31
Forward and spot rates	4,409	1,235	6,340	1,648	5,271	1,812
Exchange-rate options	1,744	662	2,058	604	1,319	466
Other exchange rate derivatives	6	1	5	0	13	2
Exchange-rate swaps	27,230	9,422	28,837	10,599	24,957	10,545
Total exchange rate derivatives	33,389	11,321	37,241	12,851	31,560	12,825
Asset Swaps	928	870	904	850	342	692
Call Money Swaps	1,141	673	1,544	573	951	324
Interest rate structures	2,487	2,137	2,364	1,866	2,029	1,709
Forward interest rates - FRAs	104	40	174	69	17	16
IRS	117,127	89,278	106,414	72,048	52,810	46,731
Other interest-rate derivatives	5,827	4,415	5,471	3,608	3,174	3,069
Total interest-rate derivatives	127,614	97,412	116,871	79,014	59,324	52,540
Commodities	459	286	877	402	580	313
Total commodity derivatives	459	286	877	402	580	313
Total gross derivatives	167,326	111,821	161,611	96,864	97,131	69,422
Total net derivatives (without collateral)**	62,738	6,922	64,866	7,381	53,766	3,002
Collateral	(10,555)	-	(11,508)	-	(6,873)	-
Total net	52,184	6,922	53,358	7,381	46,893	3,002

* Opening of the exposure by products in gross risk as it is methodologically not possible to separate out net risk by product.
** Market value used to include the effects of mitigant agreements to calculate the exposure by counterparty risk.

GEOGRAPHIC DISTRIBUTION OF RISK IN DERIVATIVES

OTC derivatives, organised markets and clearing houses

The Group's policies seek to anticipate wherever possible the implementation of measures resulting from new regulations regarding operations of OTC derivatives, both if settled by clearing house or if remaining bilateral. Since 2011, there has been a gradual standardisation of OTC operations in order to conduct clearing and settlement via houses of all new trading operations required by the new rules, as well as foster internal use of the electronic execution systems.

As regards the operations of organised markets, credit risk is not considered as incurred as this risk is eliminated by the organised markets acting as counterparty in the operations, given that they have mechanisms that enable them to protect their financial position via systems of deposits and improved guarantees and processes that ensure the liquidity and transparency of transactions. The following table show the relative share in total derivatives of new operations settled by clearing house at the end of 2012 and the significant evolution of operations settled by clearing house since 2011.

RISK DISTRIBUTION WITH OTC DERIVATIVES ON THE BASIS OF MARKET TRADING AND TYPE OF DERIVATIVE
Nominal in million euros

	Bilateral		CCP*		
	Nominal	%	Nominal	%	Total
Credit derivatives	95,030	100%	-	0%	**95,030**
Equity derivatives	72,141	100%	138	0%	**72,279**
Fixed-income derivatives	6,530	99%	33	1%	**6,563**
Exchange rate derivatives	586,232	100%	988	0%	**587,220**
Interest rate derivatives	2,164,197	76%	669,750	24%	**2,833,947**
Commodities derivatives	1,871	100%	-	0%	**1,871**
Total	**2,926,002**	**81%**	**670,908**	**19%**	**3,596,610**

* Central Counterparties.

RISK DISTRIBUTION ON THE BASIS OF SETTLEMENT IN CCPS AND BY TYPE OF DERIVATIVE AND EVOLUTION
Gross exposure. Million euros

	2012	2011	2010
Equity derivatives	**4**	2	61
Exchange rate derivatives	**11**	13	12
Interest rate derivatives	**17,711**	12,770	23
Total	**17,726**	12,785	96

The Group actively manages operations not settled by clearing house and seeks to optimise their volume, given the requirements of spreads and capital that the new regulations impose on them.

In general, the operations with financial institutions are done under netting and collateral agreements, and a continued effort is being made to ensure that the rest of operations are covered under this type of agreement.

RISK DISTRIBUTION ON THE BASIS OF THE COLLATERAL TYPE BY OTCS NOT SETTLED IN CCPS
Million euros

	Gross exposure	MtM
With collateral	103,016	(1,810)
Without collateral	46,584	13,344

In general, the collateral contracts that the Group signs are bilateral. There are some exceptions mainly with multilateral entities and securitisation funds.

Activity in credit derivatives

Grupo Santander uses credit derivatives to cover loans, customer business in financial markets and within trading operations. The volume of this activity is small compared to that of our peers and, moreover, is subject to a solid environment of internal controls and minimising operational risk.

The risk of these activities is controlled via a broad series of limits such as VaR, nominal by rating, sensitivity to the spread by rating and name, sensitivity to the rate of recovery and to correlation. Jump-to-default limits are also set by individual name. geographic area, sector and liquidity.

In notional terms, the CDS position incorporates EUR 47,105 million of acquired protection and EUR 42,529 million of sold protection.

At 31 December 2012, for the Group's trading activity, the sensitivity of lending to increases in spreads of one basis point was minus EUR 0.3 million, similar to 2011, and the average VaR during the year was EUR 2.9 million, significantly lower than in 2011 (average VaR of EUR 10.6 million).

Recommendation 30

Provide qualitative information on credit risk mitigation, including collateral held for all sources of credit risk and quantitative information where meaningful. Collateral disclosures should be sufficiently detailed to allow an assessment of the quality of collateral. Disclosures should also discuss the use of mitigants to manage credit risk arising from market risk exposures (i.e. the management of the impact of market risk on derivatives counterparty risk) and single name concentrations.

The presentation of this information varies. Some banks describe the overall credit risk mitigation process whereas others discuss this in terms of specific asset classes. A significant amount of quantitative information is provided particularly in respect of retail and corporate loan portfolios on a business segment or geographical basis.

The use of credit default swap instruments to mitigate credit risk is often described but excluded from the quantitative analysis of specific asset classes or business, often because this is held at a portfolio level. The related disclosures are more often presented in terms of the banks overall derivative exposures as described (to an extent) in recommendation 29 rather than the impact this specifically has for managing other credit risks.

Deutsche Bank Annual Report 2012: page 67

Maximum Exposure to Credit Risk

Dec 31, 2012

in € m.[1]	Maximum exposure to credit risk[2]	Credit Enhancements			
		Netting	Collateral	Guarantees and Credit derivatives[3]	Total credit enhancements
Due from banks	27,885	–	–	1	1
Interest-earning deposits with banks	119,548	–	2	35	37
Central bank funds sold and securities purchased under resale agreements	36,570	–	36,341	–	36,341
Securities borrowed	23,947	–	23,308	–	23,308
Financial assets at fair value through profit or loss[4]	1,119,100	657,826	211,397	3,968	873,191
Financial assets available for sale[4]	47,110	–	1,287	703	1,990
Loans[5]	401,975	–	208,529	37,841	246,370
Other assets subject to credit risk	85,806	69,546	6,653	12	76,211
Financial guarantees and other credit related contingent liabilities[6]	68,361	–	7,810	8,444	16,254
Irrevocable lending commitments and other credit related commitments[6]	129,657	–	4,771	10,558	15,329
Maximum exposure to credit risk	2,059,959	727,372	500,098	61,562	1,289,032

[1] All amounts at carrying value unless otherwise indicated.
[2] Does not include credit derivative notional sold (€ 1,274,960 million) and credit derivative notional bought protection. Interest-earning deposits with banks mainly relate to Liquidity Reserves.
[3] Credit derivatives are reflected with the notional of the underlying.
[4] Excludes equities, other equity interests and commodities.
[5] Gross loans less (deferred expense)/unearned income before deductions of allowance for loan losses.
[6] Financial guarantees, other credit related contingent liabilities and irrevocable lending commitments (including commitments designated under the fair value option) are reflected at notional amounts.

There are some improvements in qualitative explanations for the valuation approach to collateral. HSBC discloses that commercial real estate collateral valuations are determined through a 'combination of professional and internal valuations and physical inspections' and that the frequency of the valuations vary based on market conditions and the underlying performance of the loans.

3.8 Other risks

Recommendation 31 and 32

31. Describe 'other risk' types based on management's classifications and discuss how each one is identified, governed, measured and managed. In addition to risks such as operational risk, reputational risk, fraud risk and legal risk, it may be relevant to include topical risks such as business continuity, regulatory compliance, technology, and outsourcing.

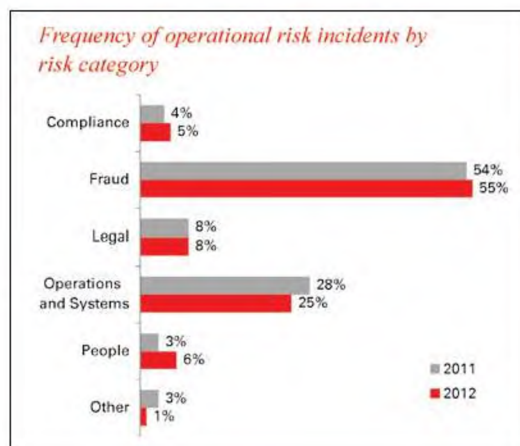
32. Discuss publicly known risk events related to other risks, including operational, regulatory compliance and legal risks, where material or potentially material loss events have occurred. Such disclosures should concentrate on the effect on the business, the lessons learned and the resulting changes to risk processes already implemented or in progress. Some banks disclose operational losses from period to period. Similarly, some banks disclose the use of risk mitigation and transfer techniques (such as the use of insurance). Such information is useful and, where practical, banks are encouraged to provide it.

Most of the banks reviewed include a section on operational risks. There is also a separate explanation of other risk categories, for example reputational risk, fiduciary risk and regulatory risk either as part of the same disclosures or as separate sections of the risk management report. This has been an evolving disclosure in response to the public interest nature of banks. There is also reference to specific regulatory matters relevant to a number of banks in the reporting period e.g. payment protection insurance claims or the LIBOR issues.

The majority of this information is qualitative and covers: a definition of the risk, the governance structure and processes for managing the risk.

For operational risk some of the banks reviewed include information on the quantum of operational risk incidents during 2012 in addition to their financial impact.

HSBC Annual Report 2012: page 229 and 230



Appendix 1: Detailed disclosure examples

EDTF Recommendation 2:

Santander Annual Report 2012: Risk Appetite disclosure: pages 168 to 171

2.3. Grupo Santander's risk appetite

Santander defines risk appetite as the amount and type of risks considered reasonable to assume for implementing its business strategy, so that the Group can maintain its ordinary activity in the event of unexpected circumstances that could have a negative impact on its levels of capital, profitability and/or share price.

The board is responsible for annually setting and updating the risk appetite, monitoring the Bank's risk profile and ensuring the consistency between both of them. Risk appetite is set for the whole of the Group as well as for each of the main business units in accordance with a corporate methodology adapted to the circumstances of each unit/ market. At the local level, the boards of the subsidiaries are responsible for approving the respective risk appetite proposals once they have been validated by the Group's executive committee.

Senior management is responsible for achieving the desired risk profile —which is reflected in the annual budget and in the medium-term strategic plan— as well as for daily risk management, so that the usual limit structures set for each risk are adequately connected to the metrics established for the risk appetite.

These structures of limits for each risk are in addition to the risk appetite and essential for articulating effective risk management in the daily course of business. In the event that risk appetite levels set are met and once the board is informed, the necessary management measures have to be adopted for effectively adjusting the risk profile.

The board's risk committee and the Group's executive committee verify compliance with the risk appetite at Group and business units on a quarterly basis.

Effective implementation of the risk appetite framework was deepened in 2012 through the corresponding quarterly reviews as well as their development in some of the Group's main units.

Risk appetite framework

Santander's risk appetite framework contains quantitative and qualitative elements integrated into series of primary and other metrics.

Quantitative elements of risk appetite

The primary quantitative metrics of the risk appetite are:

- The maximum **losses** that the institution is willing to assume.
- The minimum **capital** position that the institution wants to have.
- The minimum **liquidity** position that the institution wants to keep.

These metrics are calculated using severe stress scenarios, unlikely to occur, but possible.

In addition, the Group has a series of transversal metrics to limit the excessive concentration of the risk profile, both by risk factors as well as in terms of clients, businesses, countries and products.

QUANTITATIVE ASPECTS

+ QUALITATIVE ASPECTS

LOSS	CAPITAL
• Maximum loss that the Group is prepared to assume in a harsh scenario	• Minimum capital position that the Group is prepared to assume in a harsh scenario • Minimum return on capital required

LIQUIDITY	CONCENTRATION
• Minimum structural liquidity position • Minimum position of liquidity horizons that the Group is prepared to assume in various harsh scenarios.	• Concentration by individual client (in absolute and relative terms) • Concentration by Top-N (in relative terms) • Concentration in non-investment grade counterparties • Concentration by sectors • Concentration in portfolios with high volatility profile

■ Primary metrics
■ Supplementary metrics

Losses

One of the three primary metrics used to formulate Santander's risk appetite is the maximum unexpected impact on results the institution is prepared to assume in unfavourable scenarios, with a low, but possible, probability of occurring.

These scenarios mainly affect both losses resulting from the exposure to retail and wholesale credit risk (both the direct credit loss as well as the reduced revenue), as well as the potential unfavourable impact resulting from the exposure to market risk. After applying these credit and market impacts to budgeted results, in the context of monitoring risk appetite, senior management ensures that the resulting spread is sufficient to absorb the unexpected impacts from technological and operational risk, and from compliance and reputational risk.

The time frame in which the negative impacts for all risks considered materialise is normally 12 months, except in the case of credit risk where an additional impact analysis is conducted using a three-year time frame. The time frame for formulating risk appetite is annual.

As regards the metric of losses, according to Santander's risk appetite the combined impact in all risks resulting from these scenarios must be less than net operating income after ordinary provisions (i.e. ordinary profit before tax).

Capital position

Santander operates with a comfortable capital base which enables it not only to fulfil regulatory requirements but also have a reasonable surplus of capital. The bank has set a core capital ratio target of more than 9% (Basel II) and has also set minimum goals for the Group's return on risk-adjusted capital (RORAC).

In addition and in the face of the aforementioned unfavourable scenarios, Santander's risk appetite establishes that its risk profile must be such that the unexpected impact of these scenarios does not involve a deterioration of more than 100 basis points in the core capital ratio.

This capital focus included in the risk appetite is consistent with the Group's capital objective approved within the capital planning process (Pillar II) implemented in the Group and covering a three-year period.

Liquidity position

The Group's liquidity management model is based on the following principles:

- Decentralised liquidity model.
- Needs derived from medium and long term activity must be funded by medium and long term instruments.
- High contribution of customer deposits in an essentially retail banking balance sheet.
- Diversification of wholesale funding sources by: instruments/investors; markets/currencies and maturities.
- Limited recourse to short-term funding.
- Availability of a sufficient liquidity reserve, including discounting capacity in central banks to be used in adverse situations.

Bearing in mind the Group's decision to structure on the basis of autonomous subsidiaries, liquidity management is executed at the level of each subsidiary, while supervised by a corporate control. All the subsidiaries must be self-sufficient as regards availability of liquidity.

Santander's risk appetite establishes, as regards the liquidity metric, a structural funding ratio of more than 100% (customer deposits, equity and medium and long term issues have to be higher than the structural funding needs defined as lending and stakes in Group companies), as well as demanding objectives of liquidity position and time frames in the face of short term, systemic and idiosyncratic stress scenarios.

Additional quantitative metrics of risk appetite concentration

Santander wants to maintain a widely diversified risk profile from the standpoint of its exposure to large risks, certain markets and specific products. In the first instance, this is achieved by virtue of Santander's retail banking focus with a high degree of international diversification.

Concentration risk: this is measured by the following metrics upon which set risk appetite thresholds as a proportion of equity or of lending (in general terms):

- **Client** (as a proportion of equity): a) net individual maximum exposure to corporate clients (additionally, clients with internal ratings below investment grade and exceeding a certain exposure are also monitored); b) net maximum aggregate exposure to the Bank's 20 largest corporate clients (Top 20); c) net maximum aggregate exposure of the exposures considered as large risks (corporate and financial clients); d) maximum impact on profit before tax of a simultaneous failure of the five largest corporate exposures (jump to default Top 5).
- **Sector:** maximum percentages of exposure of the portfolio of companies in an economic sector, in relation to lending (at both the total level as well as for the segment of companies).
- **Portfolios with high risk profile** (defined as those retail portfolios with a percentage of risk premium that exceed an established threshold): maximum percentages of exposure to this type of portfolio in proportion to lending (at both the total and retail levels) and for different business units.

Qualitative elements of risk appetite

The qualitative elements of the risk appetite framework define, in general and for the main risk factors, the positioning that Santander's senior management wishes to adopt or maintain in the course of its business model. Generally speaking, the framework is based on maintaining the following qualitative objectives:

- A medium-low and predictable risk profile based on a diversified business model, focused on retail banking and with an internationally diversified presence and significant market shares, and a wholesale banking model centred on relations with clients in the Group's main markets.
- A rating objective in the range of between AA- and A-, both at Group level and in local units (in local scale), on the basis of both the environment as well as the sovereign risk performance.
- A stable and recurring policy to generate earnings and remunerate shareholders, on a strong capital and liquidity base and a strategy of diversification by funding sources and maturities.
- An organisational structure based on subsidiaries which are autonomous and self-sufficient in capital and liquidity, minimising the use of instrumental companies, and ensuring that no subsidiary has a risk profile that jeopardises the Group's solvency.
- An independent risk function with very active involvement of senior management which guarantees a strong risk culture focused on protecting and ensuring an adequate return on capital.
- A management model that ensures a global and inter-related view of all risks, through an environment of control and robust monitoring of risks, with global responsibilities: all risk, all businesses, all countries.
- Focus in the business model on those products that the Group knows sufficiently well and has the management capacity (systems, processes and equity).
- The confidence of clients, shareholders, employees and professional counterparties, ensuring that activity is carried out in line with Santander's social and reputational commitment, in accordance with the Group's strategic objectives.
- Adequate and sufficient availability of staff, systems and tools that guarantee maintaining a risk profile compatible with the established risk appetite, both at the global and local levels.
- A remuneration policy that has the necessary incentives to ensure that the individual interests of employees and executives are aligned with the corporate framework of risk appetite and that these are consistent with the Bank's long-term results.

The Group's risk appetite framework also covers other specific qualitative objectives for the various types of risk.

Risk appetite and living will

The Group has an organisational structure based on subsidiaries which are autonomous and self-sufficient in terms of capital and liquidity, ensuring that no subsidiary reaches a risk profile that could jeopardise the Group's solvency.

Grupo Santander was the first of the international financial institutions considered globally systemic by the Financial Stability Board to present (in 2010) to its consolidated supervisor (the Bank of Spain) its corporate living will including, as required, a viability plan and all the information needed to plan a possible liquidation (resolution plan). Furthermore, and even though not required, more summarised individual plans were drawn up for the main geographic units, including Brazil, Mexico, Chile, Portugal and the UK.

A third version of the corporate plan in this respect was drawn up in 2012. As with the first two versions in 2010 and 2011, the Group presented the third version of its recovery plan to its crisis management group (CMG) in July 2012. This plan consists of the corporate plan (for Banco Santander) and individual plans for many of its most important local units (UK, Brazil, Mexico and Sovereign). It is important to point out in the UK case that the plan was also prepared, in parallel to its in-house development, with respect to local regulatory initiatives.

The significant contribution of the living will exercise to the conceptual delimitation of the risk appetite, and the Group's risk profile, should also be noted.

Glossary

Abbreviation	Definition
BBA	British Bankers' Association
CCP	Central counterparties
CDS	Credit Default Swap
CRD IV	Capital Requirements Directive
EAD	Exposure at Default
EBA	European Banking Authority
EDTF	Enhanced Disclosure Task Force
FSB	Financial Stability Board
G-SIBs	Global-Systematically Important Banks
GSIFIs	Globally Systemically Important Financial Institutions
IRB	Internal Rating-Based
IFRS	International Financial Reporting Standards
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LIBOR	London Interbank Offered Rate
NSFR	Net Stable Funding Ratio
OTC	Over-the-counter
PD	Probability of Default
RWA	Risk-weighted assets
SEC	US Securities and Exchange Commission
VaR	Value at Risk

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Designed and produced by The Creative Studio at Deloitte, London. 27445A