

Research

Banks' financial disclosures during the financial crisis

## *In brief*

Mazars is an international organisation specialising in **audit, accounting, tax, legal and advisory services**.

Our integrated partnership brings together **more than 10,500 professionals from 50 countries**, all of whom are bound by a shared commitment to quality and a determination to exceed the current technical and ethical standards.

Mazars is the key market challenger. Our multi-cultural organisation and complete range of services allow us to provide tailored and flexible solutions to large corporate multinational firms and to assist smaller companies with their development, as well as serving high-net-worth individuals.

# Contents

■ INTRODUCTION .....	2
■ SCOPE OF THE RESEARCH .....	3
■ 1. MORE DETAILED DISCLOSURES ON THE IMPACT OF THE FINANCIAL CRISIS .....	4
■ 2. WIDESPREAD USE OF THE AMENDMENT TO IAS 39 .....	8
■ 3. IMPROVED RISK MANAGEMENT DISCLOSURES .....	11
■ 4. REASONABLY CONSISTENT QUANTITATIVE DATA ON FAIR VALUE .....	17
■ CONCLUSION .....	23

**NB:** The examples which follow are provided as illustration only. These examples are not intended to represent the whole range of good practices identified in the research.

# Introduction

In response to the turbulence in the financial markets over the last months, the regulatory authorities have taken the following actions:

- the IASB published an amendment to IAS 39 in October 2008, which permits the reclassification of financial assets in certain circumstances;
- several documents were published which helped to clarify the concept of 'inactive markets' in the context of recognition of financial instruments at fair value. They were: the conclusions of the IASB's Expert Advisory Board in November 2008, a good practice report from the Committee of European Banking Supervisors in June 2008, and a joint recommendation from the AMF, Commission Bancaire, CNC and ACAM on 15 October 2008.

These developments in the recognition of financial instruments have been accompanied by a demand for more detailed financial disclosures on:

- the reclassification of financial instruments;
- the risk management;
- the management judgements made in calculating fair value.

These recommendations support those published in spring 2008 by the Senior Supervisors Group of the Financial Stability Forum, which recommended that financial establishments should disclose their exposure to certain products (detailed below), with effect from 30th June 2008 publications:

- *collateralised debt obligations (CDOs)*;
- *residential/ commercial mortgage-backed securities (RMBSs or CMBSs)* ;
- *special purpose entities (SPEs)*;
- *leveraged finance (LBOs)*.

# Scope

Mazars analysed the annual reports of fourteen banks for the year ending 31 December 2008. Two of them were American and twelve were European.

COUNTRY	BANK
France	BNP Paribas Crédit Agricole Groupe Caisse d'Epargne Société Générale
Germany	Commerzbank
UK	Barclays HSBC
Benelux	Dexia ING
Spain	Santander
Italy	Unicredit
Switzerland	UBS
USA	Bank of America Goldman Sachs

## Our research addressed the following topics:

- disclosures relating specifically to the financial crisis;
- information on reclassification of securities;
- disclosures on financial risks;
- information on fair value.

The conclusions which follow are based solely on our analysis of the annual reports and do not take into account other financial communication, such as press releases or presentations to analysts made at the time the accounts were published.

# 1 More detailed disclosures on the impact of the financial crisis

At 31 December 2007, when IFRS 7 was first applied in Europe, financial institutions had already taken significant steps in disclosing information on the impact of the financial crisis.

The level of disclosures varied between banks. However, as the financial situation deteriorated further in the second half of 2008, with the collapse of Lehman Brothers, the announcement of rescue plans for several banks and the Madoff fraud case, most of the establishments in our sample responded by publishing full information on the financial crisis at December 31 2008. Some presented a summary of the impact of the crisis on income statement balances, while others provided more detailed analyses.

## Summary presentation of impact on net banking income or cost of risk

Five banks in our sample decided to present the impact of the crisis in summary form. This information was published in the management commentary, allowing them to present recurrent and non-recurrent information relating to their 2008 activity. Those financial institutions which had previously provided this kind of information in 2007, like BNP Paribas, presented both the data for 2008 and the data for 2007, while others, such as ING, only presented the impact on 2008.

**EXAMPLE**

Direct effect of the crisis on profit for the year

In millions of euros	Year to 31 Dec. 2008	Year to 31 Dec. 2007
<b>EFFECT ON REVENUES</b>		
Fair value adjustments		
Loan syndications in progress	(102)	(238)
Securitisations and other investments	(354)	(88)
Impairment on equity portfolio	(851)	-
Credit adjustments to reflect counterparty risk on over-the-counter derivatives		
Monoline insurers	(914)	(468)
Other counterparties	(721)	(57)
<b>TOTAL EFFECT ON REVENUES</b>	<b>(2,942)</b>	<b>(851)</b>
<b>EFFECT ON COST OF RISK</b>		
Loans to customers	(57)	(231)
Investment portfolio	(181)	(131)
Market counterparties	(2,060)	(62)
of which monolines classified as doubtful	(974)	(44)
of which Lehman Brothers	(540)	-
of which Icelandic banks	(150)	-
Madoff risk	(345)	-
<b>TOTAL EFFECT ON COST OF RISK</b>	<b>(2,643)</b>	<b>(424)</b>

BNP Paribas, Annual report 2008, p.166.

**ING results 2008\***

in EUR million	Year-end 2008		
	Bank	Insurance	Group
<b>Underlying result, excluding market volatility and risk costs</b>	<b>5,263</b>	<b>2,057</b>	<b>7,319</b>
Impairments and FV changes on pressurised assets	-2,039	-560	-2,599
Impairments on equity securities	-331	-1,376	-1,707
Impairments on other debt securities	-255	-520	-775
<b>Impairments and losses</b>	<b>-2,625</b>	<b>-2,455</b>	<b>-5,081</b>
Revaluations on real estate/impairments on development projects	-732	-452	-1,184
Revaluations on private equity		-399	-399
<b>Revaluations</b>	<b>-732</b>	<b>-851</b>	<b>-1,583</b>
Equity capital gains/equity hedge	30	1,181	1,211
Equity related DAC unlocking		-567	-567
FX hedge/Other	-206	-600	-806
<b>Other market impacts</b>	<b>-176</b>	<b>14</b>	<b>-162</b>
<b>Risk costs Bank</b>	<b>-1,280</b>		<b>-1,280</b>
<b>Underlying result before tax</b>	<b>449</b>	<b>-1,235</b>	<b>-786</b>
Tax and third-party interests	273	343	615
<b>Underlying net result</b>	<b>722</b>	<b>-893</b>	<b>-171</b>
Divestments and special items	-267	-291	-558
<b>Total net result</b>	<b>454</b>	<b>-1,183</b>	<b>-729</b>

ING, Annual report 2008, p.13.

## More detailed presentation of exposure

Within our sample, nine banks presented detailed analysis of their exposure:

- either by counterparty - monolines, Lehman Brothers, Madoff, Icelandic banks – like HSBC;

**HSBC's exposure to derivative transactions entered into directly with monoline insurers**

	Notional amount US\$m	Net exposure before credit risk adjustment <sup>12</sup> US\$m	Credit risk adjustment <sup>13</sup> US\$m	Net exposure after credit risk adjustment US\$m
At 31 December 2008				
Derivative transactions with monoline counterparties				
Monoline – BBB or above	9,627	2,829	(740)	2,089
Monoline – below BBB	2,731	1,104	(752)	352
	<u>12,358</u>	<u>3,933</u>	<u>(1,492)</u>	<u>2,441</u>
At 31 December 2007				
Derivative transactions with monoline counterparties				
Monoline – BBB or above	14,314	1,342	(133)	1,209
Monoline – below BBB	1,120	214	(214)	–
	<u>15,434</u>	<u>1,556</u>	<u>(347)</u>	<u>1,209</u>

For footnotes, see page 162.

The above table can be analysed as follows. HSBC has derivative transactions referenced to underlying securities with a nominal value of US\$12.4 billion, whose value at 31 December 2008 indicated a potential claim against the protection purchased from the monolines of some US\$3.9 billion. On the basis of a credit assessment of the standing of the monolines, a provision of US\$1.5 billion has been taken, leaving US\$2.4 billion exposed, of which US\$2.1 billion is recoverable from monolines rated investment grade at 31 December 2008. The provisions taken imply in aggregate that 74 cents in the dollar will be recoverable from investment grade monolines and 32 cents in the dollar from non-investment grade monolines.

HSBC's exposure to direct lending and irrevocable commitments to lend to monoline insurers

HSBC has outstanding liquidity facilities totalling US\$47 million to monoline insurers, of which US\$2 million was drawn at 31 December 2008 (2007: US\$158 million, none drawn).

HSBC's exposure to debt securities which benefit from guarantees provided by monoline insurers

Within both the trading and available-for-sale portfolios, HSBC holds bonds that are 'wrapped' with a credit enhancement from a monoline insurer. As the bonds are traded explicitly with the benefit of this enhancement, any deterioration in the credit profile of the monoline insurer is reflected in market prices and, therefore, in the carrying amount of these securities on HSBC's balance sheet at 31 December 2008. For wrapped bonds held in the trading portfolio, the mark-to-market movement has been reflected through the income statement. For wrapped bonds held in the available-for-sale portfolio, the mark-to-market movement is reflected in equity unless there is objective evidence of impairment, in which case the impairment loss is reflected in the income statement. No wrapped bonds were included in the reclassification of financial assets described on page 145.

HSBC, Annual report 2008, p.159.

- or by category of financial instruments / assets: securitisation, loans, valuation haircuts on CDOs, RMBSs, ABSs, etc. Some establishments, such as Crédit Agricole, referred explicitly to the recommendations of the Financial Stability Forum;

EXAMPLE

### » PARTICULAR RISKS ATTRIBUTABLE TO THE FINANCIAL CRISIS

Following recommendations of the Financial Stability Forum, particular risks attributable to the financial crisis are presented below. These risks arise mainly on corporate and investment banking business.

The following exposures are listed by accounting classification. The amendment to IAS 39 adopted by the European Union on 15 October 2008 led to accounting reclassifications as of 1 October 2008 for exposures where the management intention had changed.

#### 3 I. Real estate ABS

(in millions of euros)	USA		United Kingdom		Spain	
	31.12.2008	31.12.2007	31.12.2008	31.12.2007	31.12.2008	31.12.2007
<b>RMBS</b>						
Recognised in Loans and receivables <sup>(1)</sup>	278		348		199	
Recognised in Assets at fair value <sup>(2)</sup>						
Gross exposure	1,140	1,309	41	941		434
Discount	(925)	(340)	(31)	(22)		(9)
<b>Net exposure in millions of euros</b>	<b>215</b>	<b>969</b>	<b>10</b>	<b>919</b>		<b>425</b>
% subprime underlyings <sup>(3)</sup>	54%	50%				
<b>Breakdown of gross exposure at fair value, by rating</b>						
AAA	5%	45%		89%		98%
AA	6%	50%	12%	4%		1%
A	4%	3%	43%	3%		1%
BBB	8%	2%	12%	4%		
BB	10%		33%			
B	14%					
CCC	16%					
CC	6%					
C	31%					

(in millions of euros)	USA		Spain and United Kingdom		Other	
	31.12.2008	31.12.2007	31.12.2008	31.12.2007	31.12.2008	31.12.2007
<b>CMBS</b>						
Recognised under loans and receivables <sup>(1)</sup>	19		150		145	
Recognised under assets measured at fair value <sup>(2)</sup>						
<b>NET EXPOSURE</b>	<b>7</b>	<b>81</b>	<b>7</b>	<b>314</b>	<b>9</b>	<b>296</b>

(1) Exposures to which the amendment to IAS 39 adopted by the European Union on 15 October 2008 was applied from 1 October 2008

(2) 2008 loss on US asset-backed securities (ABSs): -€ 118 million net of hedges.

2008 loss on European ABSs: -€ 282 million net of hedges.

Measured value of the hedges: €557 million at 31 December 2008.

(3) Midprime is included in subprime.

Real estate ABS at fair value are measured based on information provided by outside sources.

Calyon does not have any business in residential loan origination in the United States, Spain and the United Kingdom.

*Crédit Agricole, annual report 2008, p.142.*

- or by business line - corporate and investment banking, asset management, national and international networks, own funds under management - like Caisses d'Épargne.

EXAMPLE

#### 5.7.1 Groupe Caisse d'Épargne results: breakdown of the impacts of the financial crisis

In millions of euros	2008	2007
W Wholesale Banking & Financial Services	(1,278)	(570)
Commercial Banking	(23)	
Other Activities <sup>(1)</sup>	(1,160)	(1,141)
<b>Impact from the financial crisis on net banking income</b>	<b>(2,461)</b>	<b>(1,711)</b>
W Wholesale Banking & Financial Services	(550)	(61)
Commercial Banking	(10)	
Other Activities	(298)	(31)
<b>Impact on the cost of risk</b>	<b>(858)</b>	<b>(92)</b>
<b>Impact on income before tax</b>	<b>(3,319)</b>	<b>(1,803)</b>

(1) Including the financial activities of the Caisses d'Épargne and the CNCE, and -€700 million relating to CFG in 2007.

*Caisse d'Épargne, annual report 2008, p.223.*



In most cases, the detailed disclosures were provided in addition to a summary presentation of the impact. All the banks provided information on the crisis but the data were not always brought together in one place, so it is sometimes necessary to look for the information in different sections of the annual report.

## Lack of comparability between banks

The data is lacking in comparability, as all banks did not use the same presentation method. The Financial Stability Forum disclosures were not always integrated into the annual reports, but specific communications were always made on the subject.

Comparative information for 2007 was only provided in three cases.

The European banks favoured quantitative data whereas the American banks were much more descriptive and provided less quantitative information.

In general, more details were provided in the annual reports of French banks, which provided background information, detailed disclosures about the impact on the accounts, the procedures used to mitigate risk, and so on.

Finally, the information was presented in different places, with no consistency between financial institutions. Thus, the management commentary was the preferred place for presenting information on the crisis, but in most cases it is necessary to look in other sections of the annual report for additional information.



## 2 Widespread use of the amendment to IAS 39

The European Union adopted the amendment to IAS 39 on 15 October 2008. It allows the following reclassifications, under certain conditions:

- from the “fair value through profit or loss” category to the “loans and receivables” category, except for instruments initially recognised under the fair value option;
- from the “financial assets available for sale” category to the “loans and receivables” category.

The publication of this amendment was accompanied by an amendment to IFRS 7 relating to the disclosure requirements for reclassified financial assets:

- the amount reclassified, for either old or new categories;
- the carrying amounts and fair values of all assets reclassified over the period or during previous reporting periods;
- the facts and circumstances pertaining to the “rare circumstances” exception, for the former type of reclassifications;
- in the reclassification period, the fair value gain or loss recognised in profit or loss or OCI for the current period and the previous period;
- in periods following the reclassification, the change in fair value that would have been recognised if the financial asset had not been reclassified;
- the effective interest rate and estimated future cash flows as at the date of reclassification.

### Widespread use of the amendment to IAS 39 on reclassification of financial assets

Eleven of the twelve European banks in our sample made use of the possibility offered by IAS 39 to reclassify financial assets to the banking book. Eight of them made the reclassifications during the fourth quarter.

Almost €110 billion were reclassified from the “held for trading” category and €190 billion from the AFS category, as illustrated in the following table:

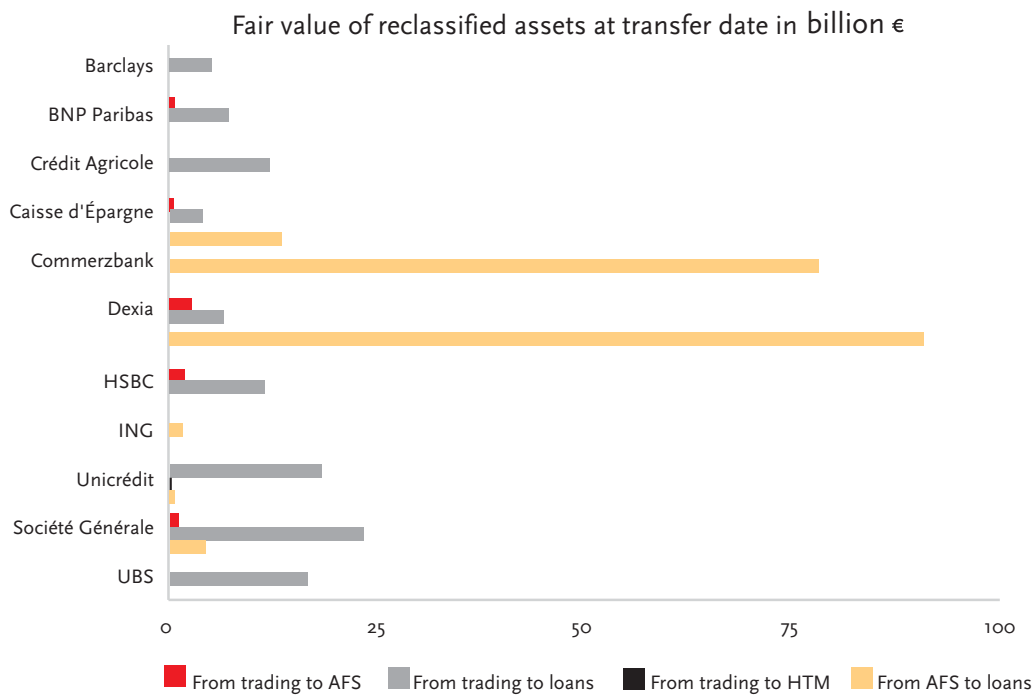
Fair value of assets at transfer date

	From Trading to AFS	From Trading to loans	From Trading to HTM	From AFS to loans	Impact on profit or loss	Impact on OCI
Number of banks	9	5	1	6		
Amount in Bn €	6,8	104,4	0,1	188,8	10,5	3,5

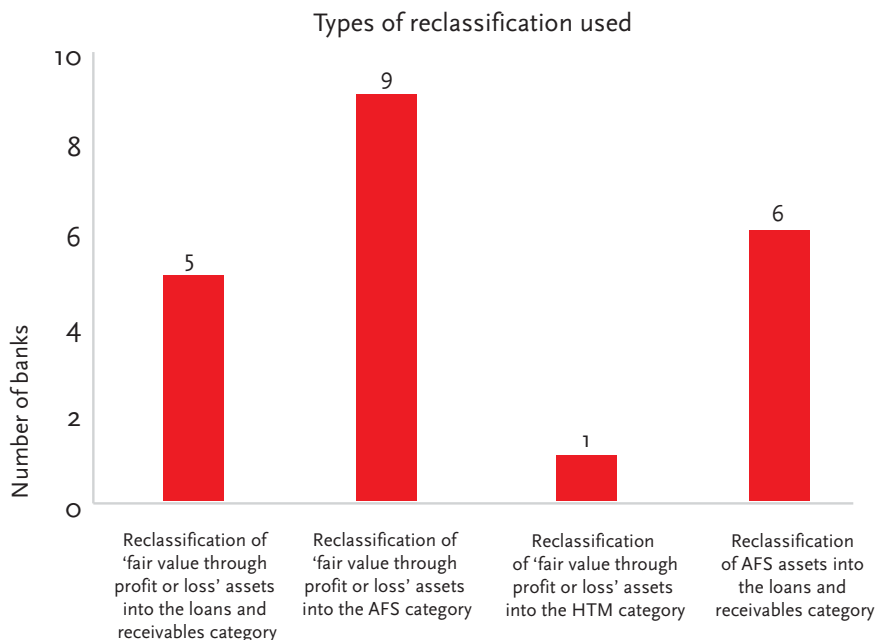
during the financial crisis

If these reclassifications had not taken place, the fair value change on assets classified as “held for trading” by the banks in our sample would have been negative for more than €10 billion, and for the assets classified as AFS, the negative variation would have been €3.5 billion. However, despite these reclassifications, the total AFS reserves of the banks in our sample fell by more than €65 billion in 2008.

Among the banks in our sample, two of them account for the lion’s share of the €190 billion of reclassifications from AFS to loans, while the reclassifications from trading are spread across all the banks as illustrated in the following table:



The banks which made use of the amendment to IAS 39 did not merely transfer assets from one category to another; in most cases they exploited various possibilities:



## Disclosures in line with the amendment to IFRS 7

The banks in our sample met the requirements of IFRS 7 by disclosing in the notes the amounts transferred (at the transfer date and at the closing date), the impact on the accounts if the transfer had not been made, and the interest rate and future cash flows for the transferred assets. Some banks provided additional information:

- two banks stipulated the provisions made in the fourth quarter for the reclassified portfolio;
- one bank gave details of the impact of the reclassifications in the comparative analysis of its portfolio quality;
- one bank provided an analysis of VaR, indicating the impact of the reclassifications.

EXAMPLE

### 7.7. RECLASSIFICATION OF FINANCIAL ASSETS (IAS 39 AMENDED)

DATE OF RECLASSIFICATION OCTOBER 1, 2008	From Trading to Loans and Receivables (1)	From Trading to Available for Sale Portfolio (2)	From Available for Sale Portfolio to Loans and Receivables (3)
Carrying amount of assets reclassified at Oct.1, 2008	6,591	2,704	90,784
Carrying amount of reclassified assets at Dec. 31, 2008	6,342	2,655	95,522
Fair value of reclassified assets at Dec. 31, 2008	6,298	2,651	93,399
Fair value adjustment that would have been recognized if the asset had not been reclassified (A)	(16)	7	(2,123)
Amortization of premium/discount in P&L during the year (B)	28	12	n.a.
<b>A MOUNT NOT TAKEN IN INCOME (1)&amp;(2) DUE TO RECLASSIFICATION (A) –(B)</b>	<b>(44)</b>	<b>(4)</b>	<b>n.a.</b>
Amount not taken in AFS Reserve (3) due to reclassification	n.a.	n.a.	(2,123)
Tax impact	14	1	779
<b>NET AMOUNT</b>	<b>(30)</b>	<b>(3)</b>	<b>(1,344)</b>
P/D amortization in AFS Reserve during the year	n.a.	n.a.	293
			Dec. 31, 2008
Collective impairment set up during the quarter through profit and loss due to reclassification towards Loans and Receivables.			(42)
Tax impact on collective impairment set up during the quarter via profit and loss due to reclassification towards Loans and Receivables.			9

Dexia decided to apply the amendment of IAS 39 & IFRS 7 – Reclassification of Financial Assets – for some assets. In particular, Dexia considered that after the bankruptcy of Lehman Brothers and the subsequent financial crisis, observable prices for some financial assets did no longer represent “fair value”, but distressed prices or indicative broker’s prices. Given that rare circumstance, Dexia opted to reclassify certain assets from “Held for Trading” to “Available for Sale – AFS” or “Loans and Receivables – L&R” (provided the definition is met) because they are no longer held for sale in the near term. Moreover, following its change in intent, Dexia reclassified also certain assets from AFS to L&R (provided the definition is met). The reclassification to L&R reflects Dexia’s intention and ability to hold these financial assets for the foreseeable future. Reclassifications have been made on October 1, 2008.

#### Transfer from Held for Trading to Loans and Receivables and Available for Sale

These financial assets were initially recognized as “Held for Trading” as Dexia intended to trade them within a short term. Due to rare circumstances described above, illiquidity in the market, lack of availability of “representative market prices” and inactive markets, Dexia reclassified high credit quality bonds that it no longer holds for selling in the near term and that it has the intention and ability to hold for the foreseeable future. Impacts are mentioned in the table above.

#### Transfer from Available for Sale (AFS) to Loans and Receivables (L&R)

Dexia has a particular Available for Sale portfolio with a very long maturity, resulting in significant change in value following small shifts in spreads.

Only not impaired financial assets for which no quoted prices on active market were available and for which Dexia has the intention and ability to hold for the foreseeable future were transferred to Loans and Receivables. Collective impairments were recorded on L&R, including reclassified bonds, during 4Q 2008. No specific impairment losses were recognized in 4Q 2008 on these transferred assets.

The only exception is FSA Asset Management (Financial Products activity kept by Dexia) where impaired bonds were reclassified from AFS to L&R. If the reclassification had not taken place, the specific impairment would have been USD 588 million, instead of USD 57 million recorded in 4Q 2008. However, a collective impairment on US RMBS was recorded by Dexia in 4Q 2008 for which the FSA Asset Management part amounts to USD 441 million on reclassified amounts. Therefore, the total impact on results would have been USD -90 million, or USD -59 million net of tax (EUR -40 million).

The change of AFS reserve that would have been recorded if the reclassification had not taken place is calculated based on valuation models taking into account the evolution of liquidity on the different markets as no more representative market prices were available.

Reclassified bonds include fixed-rate bonds (from zero coupon bonds to bonds paying 12.5% nominal coupon and with an effective interest rate varying from 0.48% to 47.7%), however as the interest rate risk of reclassified AFS bonds was hedged and the interest rate risk of reclassified trading portfolios was also hedged, the interest rate risk is mainly a floating rate risk which is part of the ALM sensitivity. Expected cash-flows will therefore depend from the evolution of short term interest rate.

The carrying amount of reclassified AFS assets as of December 31, 2008 (95.5 billion) is higher than carrying amount at reclassification date (90.8 billion) as the L&R are hedged against interest rate risk via fair value hedges.

Therefore, their value increase due to the large decrease of interest rate end of 2008.

#### Impact on future interest margin

For assets transferred from AFS to L&R, the amortization of the discount on the bond is compensated by the amortization of the frozen AFS reserve, so that the net impact on result is zero.

For assets transferred from trading to AFS and L&R, the expected positive impact on the interest margin for future years coming from amortization of the negative mark-to-market of previous periods can be estimated to EUR 547 million.

This amount will be amortized on the remaining life of the bonds transferred. Expected interest margins are EUR 140 million in 2009 and EUR 107 million in 2010.

Dexia, Annual report 2008, p.143-144.

## 3 Improved risk management disclosures

When IFRS 7 was first applied on 31 December 2007, we noted an improvement in the level of disclosure on risk management, although there was room for further pedagogical effort to help users of the financial statements gain a better understanding of the methods and assumptions used. In 2008, as the financial crisis continued, we investigated whether any modifications had been made to the reporting.

### More detailed financial disclosures on liquidity management

IFRS 7 only requires establishments to provide an analysis of the contractual maturities of their liabilities and stipulate how liquidity is managed. In 2007, most of the banks also stated their liquidity gap; this information must also be disclosed in FINREP prudential reporting.

During the last quarter of 2008, following the collapse of Lehman Brothers, the banks faced severe liquidity difficulties. This led governments and shareholders to intervene in order to avoid any further bankruptcies among financial institutions. The measures taken included:

- creation of the “Société de Financement de l’Économie Française” in France;
- interventions by the European Central Bank, the US Federal Reserve and the Treasury;
- capital increases;
- state guarantees.

#### EXAMPLE

In the latter half of 2008, we were unable to raise significant amounts of long-term unsecured debt in the public markets, other than as a result of the issuance of securities guaranteed by the FDIC under the TLGP. It is unclear when we will regain access to the public long-term unsecured debt markets on customary terms or whether any similar program will be available after the TLGP's scheduled June 2009 expiration. However, we continue to have access to short-term funding and to a number of sources of secured funding, both in the private markets and through various government and central bank sponsored initiatives.

Over the past year, a number of U.S. regulatory agencies have taken steps to enhance the liquidity support available to financial services companies such as Group Inc., GS&Co., GSI and GS Bank USA. Some of these steps include:

- The Federal Reserve Bank of New York established the Primary Dealer Credit Facility in March 2008 to provide overnight funding to primary dealers in exchange for a specified range of collateral. In September 2008, the eligible collateral was expanded to include all collateral eligible in tri-party repurchase arrangements with the major clearing banks, and the facility was made available to GSI. This facility is scheduled to expire on April 30, 2009.
- The Federal Reserve Board introduced a new Term Securities Lending Facility (TSLF) in March 2008, which extended the term for which the Federal Reserve Board will lend Treasury securities to primary dealers from overnight to 28 days and, in September 2008, expanded the types of assets that can be

used as collateral under the TSLF to include all investment-grade debt securities (rather than just Treasury, agency and certain AAA-rated asset-backed securities). This facility is scheduled to expire on April 30, 2009.

- In October 2008, the Federal Reserve Board established the Commercial Paper Funding Facility (CPFF) to serve as a funding backstop to facilitate the issuance of term commercial paper by eligible issuers. Through the CPFF, the Federal Reserve Bank of New York will finance the purchase of unsecured and asset-backed highly rated, US dollar-denominated, three-month commercial paper from eligible issuers through its primary dealers. The facility is scheduled to expire on April 30, 2009. Our available funding under the CPFF is approximately \$11 billion, of which a de minimis amount was utilized as of January 22, 2009.
- The FDIC's TLGP, which was established in October 2008, provides a guarantee of certain newly issued senior unsecured debt issued by eligible entities, including Group Inc. and GS Bank USA, as well as funds over \$250,000 in non-interest-bearing transaction deposit accounts held by FDIC-insured banks (such as GS Bank USA). The debt guarantee is available, subject to limitations, for debt issued through June 30, 2009 and the deposit coverage lasts through December 31, 2009. We are able to have outstanding approximately \$35 billion of debt under the TLGP that is issued prior to June 30, 2009. As of November 2008 and January 22, 2009, we had outstanding \$4.18 billion of senior unsecured short-term borrowings and \$25.54 billion of senior unsecured debt (comprised of \$11.57 billion of short-term and \$13.97 billion of long-term), respectively, under the TLGP.

The severity of this liquidity crisis led banks to provide more detailed disclosures on their liquidity situation and liquidity management. All but two of the banks in our sample state the indicators used to monitor their liquidity during the financial crisis in the risk management section of their annual reports. These indicators are as follows:

- improved oversight of short-term and long-term liquidity, taking account of more adverse stress scenarios;
- identifying sources of refinancing (nine banks) and optimising the management of eligible assets (assets which could be used as a guarantee);
- indicator for monitoring diversification of financing sources with maturities of less than one year, to ensure the bank is not dependent on too limited a range of sources;
- monthly monitoring and analysis of liquidity ratios, which must systematically remain above the regulatory minimum;
- monitoring of the ratio of sources to uses of funds.

However, it is not easy to draw comparisons between the different banks, particularly since the calculation of the liquidity ratio varies from one country to another and the banks do not give details of how it is calculated.

#### Liquidity risk management and supervision

EXAMPLE

Day-to-day liquidity management is based on a full range of internal standards and warning flags at various maturities.

An overnight target is set for each Treasury unit, limiting the amount raised on interbank overnight markets. This applies to the major currencies in which the Group does business.

The refinancing capacity needed to cope with an unexpected surge in liquidity needs is regularly measured at Group level. It mainly comprises available securities and loans eligible for central bank refinancing, available ineligible securities that can be sold under repurchase agreements or immediately on the market, and overnight loans not liable to be renewed.

BNP Paribas uses indicators to monitor the diversification of its sources of short-term funds on a worldwide basis to ensure that it is not over-dependent on a limited number of providers of capital.

Medium- and long-term liquidity management is based mainly on an analysis of the medium- and long-term sources of funds available to finance assets with the same maturity.

Over a one-year maturity, the ratio of sources to uses of funds must be more than 80%. The ratio is also monitored over two to five-year maturities. These ratios are based on maturity schedules of balance sheet and off-balance sheet items for all Group entities, whether contractual or theoretical, i.e. based on customer behaviour (prepayment in the case of loans, modelling customer behaviour in the case of regulated savings accounts, etc.).

The Group's consolidated liquidity position by maturity (1 month, 3 months, 6 months, then annually to 15 years) is measured regularly by business line and currency.

#### Risk exposure in 2008

##### Movements in the consolidated balance sheet

The Group had total assets of EUR 2,075.6 billion at 31 December 2008. A total of EUR 895 billion in assets, excluding credit institutions, were refinanced in cash, an increase of EUR 77 billion on 2007, including EUR 49 billion relating to loans to customers.

This increase was refinanced primarily by customer deposits for EUR 67 billion.

##### Regulatory liquidity ratios

The average one-month regulatory liquidity ratio for BNP Paribas SA (French operations and branches) was 114% in 2008 compared with a minimum requirement of 100%.

##### Internal medium and long-term liquidity ratios

The ratio between sources and uses of funds due in more than one year was 84% at the end of December 2008 for the entire BNP Paribas Group, versus 88% at end-December 2007.

BNP Paribas, Annual report 2008, p.162.

## More in-depth analysis of risk mitigation factors in the context of the financial crisis

The second area in which risk management disclosures have been improved is the banks' analysis of the techniques used to mitigate their various risks over the period. This analysis is broken down by type of risk:

- **as regards market risk, the banks gave details of the measures taken to reduce their exposure:**
  - increased hedging despite the higher cost;
  - a reduction in positions that had become illiquid;
  - a systematic review of the portfolio, retaining only the business lines in which the establishment has critical mass and recognised expertise;
- **as regards credit risk, the focus was on limiting lending activities:**
  - a reduction in the volume of loans granted and a selective credit policy outside the core business lines;
  - implementation of stricter criteria for loans, such as a lower credit ceiling;
- **as regards liquidity risk, the banks focused on the innovations introduced at end-2008:**
  - diversification of financing sources in terms of structures, investors, and whether or not financing was collateralized;
  - sales of selected assets, or consideration of this option at the very least.

Thus, UBS stated that it had sold 38.9bn CHF in illiquid positions to the Swiss National Bank; ING is planning sales of assets that do not fall within the core business lines in 2009; and BNP Paribas stated that if the crisis continues, the bank may gradually reduce its balance sheet by selling assets outright.

ING included a specific paragraph on the measures taken to mitigate risks.

**Risk mitigating actions**  
Although some limits had been set at more stringent levels since early 2007, anticipating a downturn in the market, ING has taken additional actions over time to reduce risk across major asset classes.

**De-leveraging**  
ING is working to reduce the bank balance sheet by 10% by decreasing the non-lending part by 25%. The available for sale portfolio will be reduced over time as proceeds from maturing securities will be used to fund ING-originated loans. Reducing trading activities, deposits at other banks and reverse-repos will make up most of the remaining reduction. At the same time, lending activities will be maintained with focus on the corporate and retail business.

**Credit risk**  
In January 2009, ING entered into an Illiquid Assets Back-up Facility terms sheet with the Dutch State covering ING's Alt-A Residential Mortgage-Backed Securities (RMBS) portfolio. Through this transaction, which is expected to close in the first quarter of 2009, subject to final documentation and regulatory approval, the Dutch State will become the economic owner of 80% of the Alt-A RMBS portfolio. This transaction is expected to be concluded at 90% of the EUR 30 billion par value of the portfolio. Following the deteriorated economic outlook in the third and fourth quarter, market prices for these securities had become depressed as liquidity dried up, which had an impact on ING's results and equity far in excess of estimated credit losses. Under the terms of the facility, ING will transfer 80% of each security in the Alt-A RMBS portfolios to the Dutch State. The Dutch State will absorb 80% of the risks and returns on the Alt-A RMBS portfolios. ING will remain exposed to 20% of the result of the Alt-A RMBS portfolios and will remain the legal owner of 100% of the securities. As such the transaction will significantly reduce the uncertainty regarding the impact on ING of any future losses in the portfolio. In addition, as a result of the facility, 80% of the Alt-A RMBS portfolios will be derecognised from ING's balance sheet under IFRS. Therefore, 80% of the negative revaluation reserve on the securities will be reversed, resulting in an increase of EUR 4.6 billion in Shareholders' equity. Another benefit of the facility is that it will reduce the amount of ING's risk weighted assets approximately EUR 13 billion, subject to discussions with the regulators.

As condition to the Facility ING committed to support the growth of the Dutch lending business for an amount of EUR 25 billion at market-conform conditions.

ING is careful in mortgage underwriting and does not originate subprime mortgages. Moreover, ING has generally not been in the business of manufacturing subprime RMBS or Collateralised Debt Obligations (CDOs) nor has it purchased a material amount of CDOs backed by US subprime mortgages.

**Reduction of equity exposure (available-for-sale)**  
Direct public equity exposure was reduced from EUR 15.8 billion at the end of 2007 to EUR 5.8 billion at year-end 2008. The portfolio contains EUR 1.9 billion strategic banking stakes, mainly in Bank of Beijing and Kookmin Bank. ING Insurance has the remaining EUR 3.9 billion balance sheet exposure which was partially hedged against further market losses. In addition, a temporary hedging programme was put in place to reduce earnings volatility as a result of deferred acquisition cost (DAC) unlocking.

**Reduction of interest rate risk**  
ING sold ING Life Taiwan which resulted in a reduction of its interest rate risk exposure. This divestment was in line with the strategy to allocate capital to those businesses that generate the highest return. In addition, ING lengthened its asset duration in order to hedge the impact of declining interest rates, herewith further reducing its interest rate risk exposure.

ING, Annual report 2008, p.20-21.

## Risk models changed and stress scenarios modified to suit the financial environment

The third major change in financial reporting in 2008 among the banks in our sample relates to changes to risk models and the modification of stress scenarios to suit the new financial environment.

The changes to risk management models primarily took the form of modifications to VaR, as explained by UBS.

EXAMPLE

Audited

### VaR developments in 2008

UBS made a number of changes to its VaR model in 2008, while also changing the scope of the regulatory and internal management VaR to better reflect the underlying risks. These changes significantly impacted the levels of VaR in 2008 compared with 2007, and are summarized below.

- From 1 January 2008, UBS changed its approach to internal risk control for illiquid US residential mortgage-related exposures: US sub-prime and Alt-A residential mortgage-backed securities (RMBS); super senior RMBS collateralized debt obligations (CDOs); the US reference-linked note program; and related hedges. These positions were excluded from internal management VaR and related limits with new controls were instituted directly over the volume of remaining positions in these categories. As the regulatory capital treatment changed from trading book to banking book, these positions were also excluded from regulatory capital VaR.
- In second quarter 2008, positions in student loan auction rate securities (ARS) were reclassified from trading book to banking book for regulatory capital purposes and excluded from regulatory capital VaR and backtesting due to the illiquidity of the positions.
- Enhancements to the VaR model were introduced at the end of June 2008 to increase the granularity of credit spread risk representation between single name CDS, several CDS indices and cash positions.

Audited

UBS increased the scope of its internal management VaR in third quarter 2008 to more accurately represent risk exposures and related hedges. Before these changes, certain credit hedges were included in VaR but the underlying credit exposures were not, resulting in an inconsistent treatment for risk monitoring and control. UBS therefore incorporated into its internal management VaR the impact of changes in credit spread sensitivities relating to counterparty exposures in its OTC derivatives portfolio. However, when computing regulatory capital these credit spread sensitivities are currently excluded. Refer to the "Value at Risk developments – treatment of CVA" sidebar in UBS's third quarter 2008 financial report for more information.

In fourth quarter 2008, UBS introduced additional granularity between certain cost of funding measures – Libor and the overnight index swap (OIS) rate. In addition, UBS excluded positions related to the asset and liability management (ALM) portfolio from its regulatory VaR. The ALM desk is a treasury function within the Investment Bank which manages the funding and liquidity exposures of the Investment Bank and is not managed with trading intent. The positions related to ALM this portfolio remain in internal management VaR.

UBS continues to review the performance of its VaR implementation and will continue to enhance its VaR model to more accurately capture the relationships between market risks associated with certain risk positions, as well as the revenue of large market movements for some trading positions.

UBS, Annual report 2008, p.129-130.

Most banks set their confidence levels at 99%. Two banks set them at 95% in view of the financial crisis. For example, Barclays stipulated in its annual report that it changed its confidence interval from 98% to 95% in 2008.

EXAMPLE

### Risk measurement and control

The measurement techniques used to measure and control traded market risk include Daily Value at Risk (DVaR), Expected Shortfall I (ES), stress testing and scenario testing.

DVaR is an estimate of the potential loss arising from unfavourable market movements, if the current positions were to be held unchanged for one business day. Barclays Capital uses the historical simulation method with a two year unweighted historical period.

In 2008, the confidence level was changed to 95% from 98% as an increasing incidence of significant market movements made the existing measure more volatile and less effective for risk management purposes. Switching to 95% made DVaR more stable and consequently improved management, transparency and control of the market risk profile.

The historical simulation calculation can be split into three parts:

- Calculate hypothetical daily profit or loss for each position over the most recent two years, using observed daily market movements.
- Sum hypothetical profit or losses, for day 1 giving one total profit or loss. This is repeated for all other days in the two year history.
- DVaR is the 95th percentile selected from the two years of daily hypothetical total profit or loss.

The DVaR model has been approved by the FSA to calculate regulatory capital for the trading book. The approval covers general market risk in interest rate, foreign exchange, commodities and equity products, and issuer specific risk for the majority of single name and portfolio traded credit products.

DVaR is an important market risk measurement and control tool, and consequently the model is regularly assessed. The main approach employed is the technique known as back-testing which counts the number of days when a loss, (as defined by the FSA in BIPRU 7.10), exceeds the corresponding DVaR estimate, measured at the 99% confidence level.

The FSA categorises a DVaR model as green (being best), amber or red. A green model is consistent with a good working DVaR model and is achieved for models that have four or less back testing exceptions in a 12-month period. For Barclays Capital's trading book, green model status was maintained for 2008 and 2007.



## during the financial crisis

To further improve the control framework, formal daily monitoring of ES was started. This metric is the average of all the hypothetical losses beyond DVaR. Other controls include stress testing and scenario testing.

Stress testing provides an indication of the potential size of losses that could arise in extreme conditions. It helps to identify risk concentrations across business lines and assist senior management in capital planning decisions. A variety of different types of stress tests are performed in order to fulfil the objectives of stress testing. The global asset class stress tests have been designed to cover major asset classes including interest rate, credit spread, commodity, equity, foreign exchange rates and emerging markets.

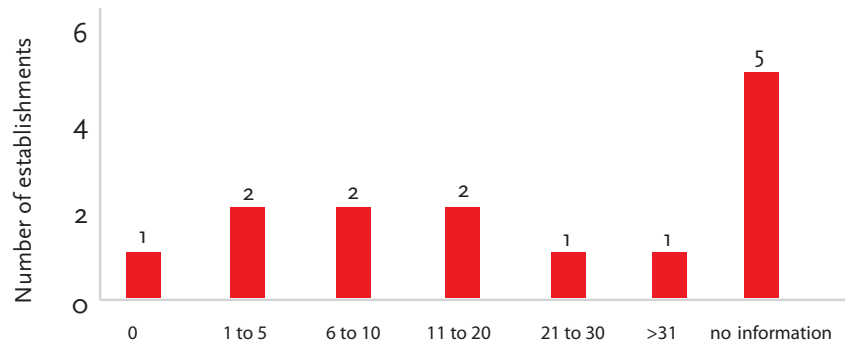
Stress results are produced at least fortnightly. If a potential stress loss exceeds the corresponding trigger limit, the positions captured by the stress test are reviewed and discussed by Barclays Capital market risk management and the respective Barclays Capital business heads. The minutes of the discussion, including the merits of the position and the appropriate course of action, are then sent to the Market Risk Director for review.

Scenario tests are hypothetical events which could lead to extreme yet plausible stress type moves under which profitability is seriously challenged. The scenarios are devised by senior risk managers and economists and are reviewed quarterly. Examples include 'Global Pandemic', 'Problems with GBP sovereign issuances' and 'Liquidity crisis'. The scenarios are calculated at least fortnightly and the results are included in the Traded Positions Risk Review meeting information pack.

Barclays, Annual report 2008, p.104.

Nine out of fourteen banks gave figures for the number of times the VaR limits had been exceeded over the 2008 reporting period, as shown in the graph below:

Disclosures on VaR violations



Some banks, such as Caisses d'Épargne, implemented a more conservative VaR methodology at the end of the year, which was better suited to the ongoing high level of market volatility. The result of this was a significant increase in VaR for equivalent positions (between 1.5 and 2 times the previous level, depending on the scope).

EXAMPLE

### Structure of the limits system

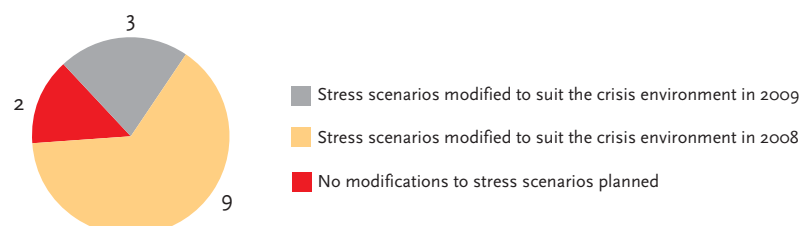
There are separate limits for both the Natixis group and the Commercial Banking division (CNCE, Caisses d'Épargne and subsidiaries).

Natixis' daily market risk exposure limit is €35 million based on 1-day 99% VaR, which is monitored closely. A new VaR methodology, validated by the Natixis market

risk committee, was implemented on December 15, 2008. It is more conservative and better suited to the extreme long-term volatility prevailing on markets. As such, this methodology significantly increases VaR (between 1.5 and 2 times depending on the scope) in comparison with other methodologies. Under this method, an overall limit was set at €70 million as of this date. This management limit and its use are also monitored on a daily basis.

Caisse d'Épargne, Annual report 2008, p.178.

All but two of the banks in our sample said they had revised their stress scenarios in 2008, or were planning to do so in 2009.



Those banks which said they had revised their stress scenarios, had added more adverse stress scenarios to take account of the impact of the financial crisis. One example is Unicredit, which developed specific scenarios in 2008.

EXAMPLE

#### Stress tests

Stress tests complement the sensitivity analysis and VaR results in order to assess the potential risks in a different way. Stress test performs the evaluation of a portfolio under both simple scenarios (assuming change to single risk factors) and complex scenarios (assuming simultaneous changes in a number of risk factors).

Results for simple scenarios are reported to top management on a weekly basis, together with the most relevant sensitivities. They include shocks on:

- Interest rates: Parallel shifts and Steepening/Flattening of IR curves; Increase/Decrease in IR volatilities
- Credit Markets: Parallel shifts of Credit Spreads curves (both absolute changes and relative changes); sensitivity to Base Correlation, Issuer Correlation and Recovery Rates
- Fx Rates: Appreciation/Depreciation of each currency; Increase/Decrease in FX volatilities
- Equities: Increase/Decrease in Spot Prices; Increase/Decrease in Equity volatilities; sensitivity to Implied Correlation
- Commodities: Increase/Decrease in Spot Prices

As far as complex scenarios are concerned, so far, two different scenarios (Full US Recession and Financial Crisis) are applied to the whole MIB portfolio on a monthly basis and reported to top management.

#### "Full US Recession" Scenario

This scenario assumes a severe US recession affecting also the rest of the world by a "contagion effect". In terms of macro-economic variables this scenario assumes:

- A dramatic decrease in equity stocks prices and indices either on the US and non-US markets associated to an equity volatility increase;
- A dramatic US (different stress factors depending on the maturity) and non-US (different stress factors depending on the maturity and geographic area) interest rate decrease each also associated to an increase in interest rate volatility;
- A dramatic and comprehensive widening in credit spreads depending on rating and industry class.

#### "Financial Crisis" Scenario

The Financial Crisis scenario was introduced in the last quarter of 2008 and reflects the trend of Financial Markets in the third quarter 2008. To account for the low liquidity in the market, the time horizon for this scenario was extended to cover a period of one quarter instead of 2 to 6 weeks applied so far.

In terms of macro-economic variables, this scenario assumes:

- Stock markets plunging (fall) related to an increase in equity volatilities;
- A comprehensive decrease in interest rates (different stress factors depending on the maturity and on the geographical area) together with a distinct steepening of interest rates curves. In this scenario also an increase in interest rate volatility is assumed;
- A more dramatic and comprehensive widening of *credit spreads* with different stress factors depending on rating and industry class.

Scenery	Total
US Recession	-274.55
Financial Crisis	-1,188.22

(€ million)

Unicredit, Annual report 2008, p.496-497.

Commerzbank also emphasised the importance of using stress scenarios, and gave details of their scope.

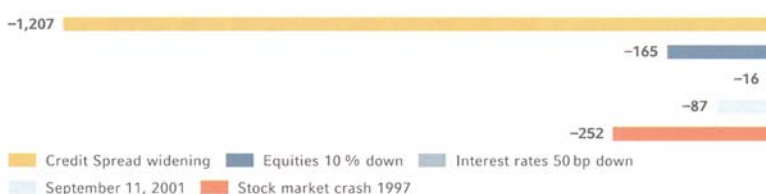
EXAMPLE

#### Stress and scenario analyses

The financial crisis itself has highlighted the importance of adequate stress tests and scenario analyses for effective risk management. The Bank carries out comprehensive group-wide stress tests and scenario analyses as part of risk monitoring. The goal is to simulate the impact of crises, extreme market conditions and major changes in correlations and volatilities on Commerzbank's overall market risk position. The effects on the various components of comprehensive income – income statement, revaluation reserve and hidden reserves or liabilities – are also quantified. The bank-wide stress test calculation is based on a combination of historical and anticipatory (synthetic) scenarios for individual asset classes, i.e. equities, interest rates, credit spreads and currencies.

During the financial crisis, anticipatory scenarios in particular were regularly enhanced and adjusted for current market developments and expectations, including those of the Bank's economists, business areas and market risk function.

Stress and scenario analyses  
in € m



Commerzbank, Annual report 2008, p.158.

## 4 Reasonably consistent quantitative data on fair value

In response to the financial market turmoil in autumn 2008, the regulators suggested that greater use of valuation models should be permitted for measuring the fair value of financial instruments. The IASB's Expert Advisory Panel was formed in spring 2008 to make recommendations for improving financial disclosures on complex financial instruments and their valuation in markets that are no longer active, and published its final conclusions in November 2008. The panel's conclusions should not be taken as equivalent to a standard; rather, the goal was to produce a practical guide to implementation. The document echoes publications on valuation techniques from the FASB and the SEC, dated end-September 2008, and the joint recommendation from the AMF, CNC, ACAM and Commission Bancaire in October 2008. It recommended greater use of valuation techniques and the banker's own judgement, with the following clarifications:

- **when measuring fair value in markets that are no longer active:**
  - transaction prices should not be the only information taken into account;
  - transaction prices may require significant adjustments;
  - transaction prices should not be used when the transaction was forced;
- **an inactive market is characterised by a significant decline in the volume of trading activity, and significant variation in prices;**
- **when measuring fair value, management judgement should be exercised:**
  - on the use of observable inputs;
  - on the use of models;
  - on the definition of an inactive market.

The document provides the option of greater use of model-based valuations, coupled with a request from the regulators for enhanced disclosures on the management judgements made and the assumptions used.

### Fair value of financial assets and liabilities generally presented at three levels of valuation

Ten of the fourteen banks in our sample presented the fair value of financial instruments in a three-level hierarchy:

- **level 1:** fair value based on quoted prices in active markets;
- **level 2:** fair value based on valuation models and observable market data;
- **level 3:** fair value based on valuation models and unobservable inputs.

This type of presentation was not obligatory under IFRS in 2007 and will only become so from 2008 with the application of a new amendment to IFRS 7. However, it was obligatory for US banks.

EXAMPLE

- Level 1 Quoted prices in active markets for identical assets or liabilities. Level 1 assets and liabilities include debt and equity securities and derivative contracts that are traded in an active exchange market, as well as certain U.S. Treasury securities that are highly liquid and are actively traded in over-the-counter markets.
- Level 2 Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes U.S. government and

agency mortgage-backed debt securities, corporate debt securities, derivative contracts, residential mortgage and certain LHFS.

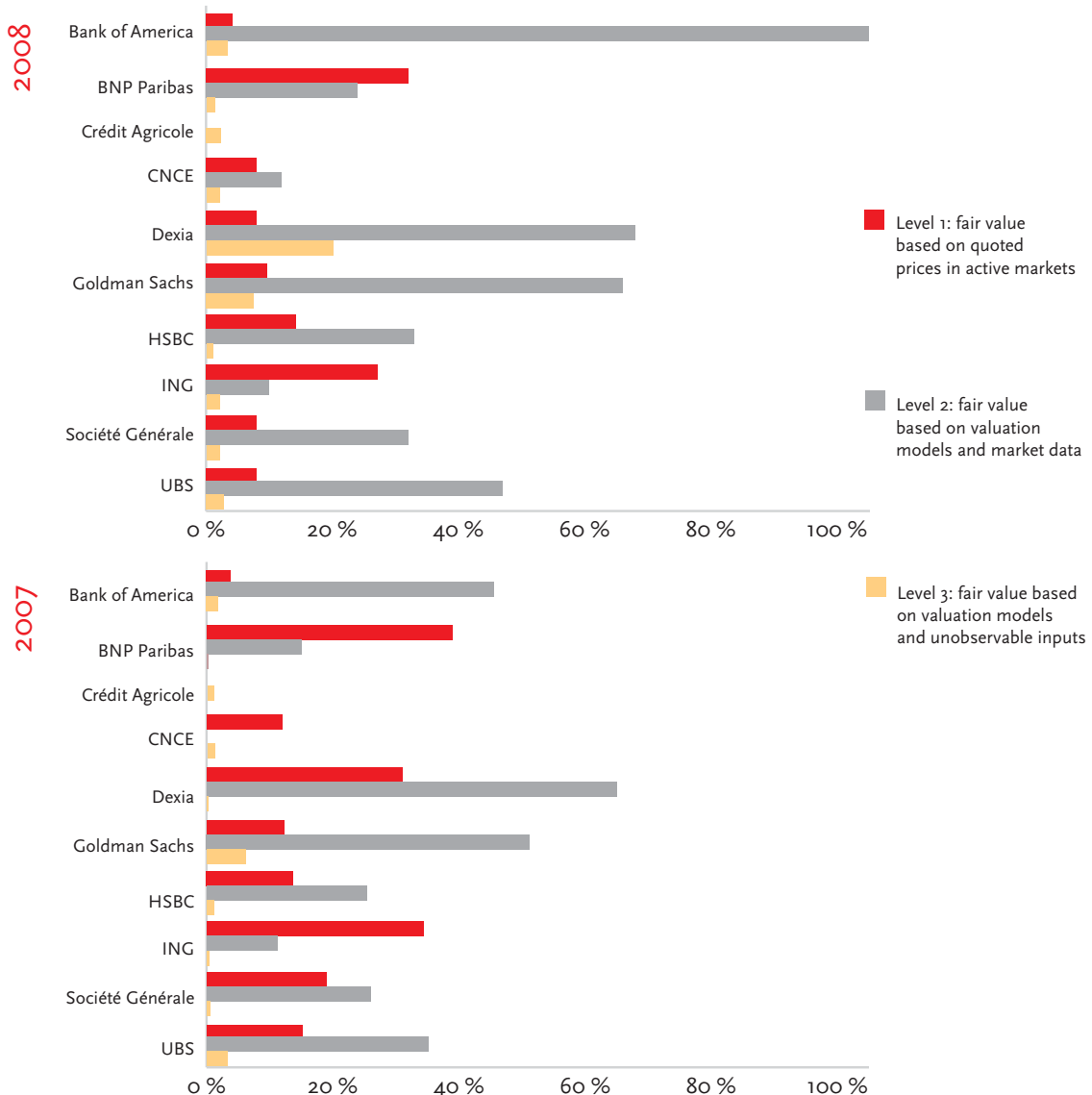
- Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation. This category generally includes certain private equity investments, retained residual interests in securitizations, residential MSRs, asset-backed securities (ABS), highly structured, complex or long-dated derivative contracts, certain LHFS, IRLCs and certain collateralized debt obligations (CDOs) where independent pricing information was not able to be obtained for a significant portion of the underlying assets.

Bank of America, Annual report 2008, p.127.

The banks sometimes indicated what type of instruments were classified at each level, like Bank of America, which referred to the definitions of the three levels under US accounting standards and indicated the type of instruments in each category.

The graph below shows the fair value of financial assets at each level of valuation as a percentage of the total balance sheet.

Breakdown of the fair value of assets across the three levels in 2008 and 2007



## Greater use of level 3

Despite having significantly reduced their trading positions, the banks were hit hard by the inactive markets, leading to greater use of level 3 (valuation models and unobservable inputs).

	2008	2007	CHANGE
<b>ASSETS</b>			
Bank ok America	3,3 %	1,8 %	180 %
BNP Paribas	1,3 %	0,2 %	x 6
Crédit Agricole	2,3 %	1,0 %	x 2,3
Caisse d'Epargne	2,1 %	1,2 %	80 %
Dexia	20%	0,2 %	x 100
Goldman Sachs	7,5 %	6,2 %	17 %
HSBC	1,1 %	1,1 %	0 %
ING	2,1 %	0,3 %	x 7
Société Générale	2 %	0,6 %	x 3
UBS	2,8 %	3,3 %	-18 %
<b>LIABILITIES</b>			
Bank ok America	0,5 %	2,1 %	-311 %
BNP Paribas	1,3 %	0,5 %	x 2,5
Crédit Agricole	0,2 %	0,2 %	0 %
Caisse d'Epargne	0,2 %	0,2 %	0 %
Dexia	7,5 %	1,3 %	x 5,7
Goldman Sachs	2,5 %	1,7 %	31 %
HSBC	0,4 %	0,4 %	0 %
ING	NS	NS	
Société Générale	3 %	3 %	0 %
UBS	2,3 %	2,6 %	-13 %

Goldman Sachs presented a fairly detailed breakdown of its level 3 portfolio, indicating both the nature of the portfolio and the weighting of level 3 as a proportion of profit and loss:

EXAMPLE

### Fair Value Hierarchy

The firm's financial assets at fair value classified within level 3 of the fair value hierarchy are summarized below:

(\$ in millions)	As of November	
	2008	2007
Total level 3 assets	\$ 66,190	\$ 69,151
Level 3 assets for which the firm bears economic exposure <sup>(1)</sup>	59,574	54,714
Total assets	884,547	1,119,796
Total financial assets at fair value	595,234	717,557
Total level 3 assets as a percentage of Total assets	7.5%	6.2%
Level 3 assets for which the firm bears economic exposure as a percentage of Total assets	6.7	4.9
Total level 3 assets as a percentage of Total financial assets at fair value	11.1	9.6
Level 3 assets for which the firm bears economic exposure as a percentage of Total financial assets at fair value	10.0	7.6

<sup>(1)</sup> Excludes assets which are financed by nonrecourse debt, attributable to minority investors or attributable to employee interests in certain consolidated funds.

EXAMPLE

The following tables set forth by level within the fair value hierarchy "Trading assets, at fair value," "Trading liabilities, at fair value" and other financial assets and financial liabilities accounted for at fair value under SFAS No. 155 and SFAS No. 159 as of November 2008 and November 2007. See Note 2 for further information on the fair value hierarchy. As required by SFAS No. 157, assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

(in millions)	Financial Assets at Fair Value as of November 2008				Total
	Level 1	Level 2	Level 3	Netting and Collateral	
Commercial paper, certificates of deposit, time deposits and other money market instruments	\$ 5,205	\$ 3,457	\$ —	\$ —	\$ 8,662
U.S. government, federal agency and sovereign obligations	35,069	34,584	—	—	69,653
Mortgage and other asset-backed loans and securities	—	6,886	15,507	—	22,393
Bank loans and bridge loans	—	9,882	11,957	—	21,839
Corporate debt securities and other debt obligations	14	20,269	7,596	—	27,879
Equities and convertible debentures	25,068	15,975	16,006 <sup>(6)</sup>	—	57,049
Physical commodities	—	513	—	—	513
Cash instruments	65,356	91,566	51,066	—	207,988
Derivative contracts	24	256,412	15,124	(141,223) <sup>(7)</sup>	130,337
Trading assets, at fair value	65,380	347,978	66,190	(141,223)	338,325
Securities segregated for regulatory and other purposes	20,030 <sup>(4)</sup>	58,800 <sup>(5)</sup>	—	—	78,830
Receivables from customers and counterparties <sup>(1)</sup>	—	1,598	—	—	1,598
Securities borrowed <sup>(2)</sup>	—	59,810	—	—	59,810
Securities purchased under agreements to resell, at fair value	—	116,671	—	—	116,671
<b>Total financial assets at fair value</b>	<b>\$85,410</b>	<b>\$584,857</b>	<b>\$66,190</b>	<b>\$(141,223)</b>	<b>\$595,234</b>
Level 3 assets for which the firm does not bear economic exposure <sup>(3)</sup>			(6,616)		
Level 3 assets for which the firm bears economic exposure			\$59,574		

<sup>(1)</sup> Principally consists of transfers accounted for as secured loans rather than purchases under SFAS No.140 and prepaid variable share forwards.

<sup>(2)</sup> Consists of securities borrowed within Trading and Principal Investments. Excludes securities borrowed within Securities Services, which are accounted for based on the amount of cash collateral advanced plus accrued interest.

<sup>(3)</sup> Consists of level 3 assets which are financed by nonrecourse debt, attributable to minority investors or attributable to employee interests in certain consolidated funds.

<sup>(4)</sup> Consists of U.S. Treasury securities and money market instruments as well as insurance separate account assets measured at fair value under AICPA SOP 03-1, "Accounting and Reporting by Insurance Enterprises for Certain Nontraditional Long-Duration Contracts and for Separate Accounts."

<sup>(5)</sup> Principally consists of securities borrowed and resale agreements. The underlying securities have been segregated to satisfy certain regulatory requirements.

<sup>(6)</sup> Consists of private equity and real estate fund investments.

<sup>(7)</sup> Represents cash collateral and the impact of netting across the levels of the fair value hierarchy. Netting among positions classified within the same level is included in that level.

Goldman Sachs, Annual report 2008, p.91-92.

The definitions of an inactive / active market provided by the establishments generally drew on the guidance given by the regulators:

- an inactive market is characterised by a significant decline in the volume of trading activity;
- and by significant variation in prices

EXAMPLE

The judgement as to whether a market is active may include, but is not restricted to, the consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. In inactive markets, obtaining assurance that the transaction price provides evidence of fair value or determining the adjustments to transaction prices that are necessary to measure the fair value of the instrument requires additional work during the valuation process.

HSBC, Annual report 2008, p.163.

The banks generally did not indicate which instruments had been transferred from one valuation category to another, nor the amounts involved.

It is difficult to make comparisons between establishments, as very few details were given on the assumptions used by the management when opting for model-based valuation, or on how inputs are estimated. UBS is one of the few exceptions.

EXAMPLE

Where no active market exists, or where quoted prices are not otherwise available, UBS determines fair value using valuation techniques. In these cases, fair values are estimated from observable data in respect of similar financial instruments, using models to estimate the present value of expected future cash flows or other valuation techniques, using inputs existing at the balance sheet dates. If available, market observable inputs are applied to valuation models (level 2). In cases where market observable inputs are not available for all significant valuation parameters, they are estimated based on appropriate assumptions (level 3). At 31 December 2008, financial assets categorized as level 2 amounted to CHF 965 billion (31 December 2007: CHF 799 billion) and those categories as level 3 amounted to CHF 57 billion (31 December 2007: CHF 76 billion). At 31 December 2008, financial liabilities categorized as level 2 amounted to CHF 931 billion (31 December 2007: CHF 615 billion) and level 3 to CHF 46 billion (31 December 2007: CHF 59 billion).

Valuation models are used primarily to value derivatives transacted in the over-the-counter market, including credit derivatives, unlisted equity and debt securities (including those with embedded derivatives), and other debt instruments for which markets were or have become illiquid in 2008. All valuation models are validated before they are used as a basis for financial reporting, and periodically reviewed thereafter, by qualified personnel independent of the area that created the model. Wherever possible, UBS compares valuations derived from models with prices of similar financial instruments, and with actual values when realized, in order to further validate and calibrate UBS's models.

A variety of factors are incorporated in UBS's models, including actual or estimated market prices and rates, such as time value and volatility, and market depth and liquidity. Where available, UBS uses market observable prices and rates derived from market verifiable data. Where such factors are not market observable, changes in assumptions could affect the reported fair value of financial instruments. UBS generally applies its models consistently from one period to the next, ensuring comparability and continuity of valuations over time. However, models are changed or adapted to market developments in situations where previously used models have limitations and are assessed to be inadequate.

Estimating fair value inherently involves a significant degree of judgment. Management therefore establishes valuation adjustments to cover the risks associated with the estimation of unobservable input parameters and the assumptions within the models themselves. Valuation adjustments are also made to reflect such elements as deteriorating creditworthiness (in-

cluding country-specific risks), concentrations in specific types of instruments and market risk factors (interest rates, currencies, etc.), and market depth and liquidity. Although a significant degree of judgment is, in some cases, required in establishing fair values, management believes that the fair values recorded in the balance sheet and the changes in fair values recorded in the income statement are reflective of the underlying economics, based on UBS's established fair value and model governance policies and the related controls and procedural safeguards UBS employs. For a description of the valuations of UBS's positions related to the US student loan auction rate securities, monolines, leveraged finance transactions, US and non-US reference linked notes, US commercial mortgage backed securities and other instruments which were determined relevant for specific disclosure refer to Note 27.

Uncertainties associated with the use of model-based valuations (both level 2 and level 3) are predominantly addressed through the use of model reserves. These reserves reflect the amounts that UBS estimates are appropriate to deduct from the valuations produced directly by the models to reflect uncertainties in the relevant modeling assumptions and inputs used. In arriving at these estimates, UBS considers the range of market practice and how it believes other market participants would assess these uncertainties. Model reserves are periodically reassessed in light of information from market transactions, pricing utilities, and other relevant sources. The level of these model reserves is, nevertheless, to a large extent a matter of judgment.

To estimate the potential effect on the Financial Statements from the use of alternative valuation techniques or assumptions, UBS makes use of the model reserve amounts described above, by scaling the level of the model reserves higher and lower, to assess the impact on valuation of increasing or decreasing the amount of model-related uncertainty considered.

The potential effect of using reasonably possible alternative valuation assumptions has been quantified as follows:

- Scaling the model reserve amounts upward in line with less favorable assumptions would reduce fair value by approximately CHF 2.5 billion at 31 December 2008, by approximately CHF 2.7 billion at 31 December 2007 and approximately CHF 1.0 billion at 31 December 2006.
- Scaling the model reserve amounts downward in line with more favorable assumptions would increase fair value by approximately CHF 1.4 billion at 31 December 2008, approximately CHF 2.2 billion at 31 December 2007, and approximately CHF 1.0 billion at 31 December 2006.

Refer to Note 27 for additional sensitivity information for several relevant products.

UBS, Annual report 2008, p.246-247.

## Analysis of sensitivity to market inputs

The regulators also asked banks to disclose the sensitivity of valuations to inputs used in measurement, particularly where such inputs have played a significant role in measurement.

They therefore provided enhanced disclosures on sensitivity to observable inputs, including the following elements:

- tolerance ranges for maturities and option strike prices;
- comparison with set limits;
- details of the impact on the value of instruments containing subprime assets, in the case of a 10% increase in the likelihood of default.

Here, Caisse d'Épargne presents a loss sensitivity analysis for its CDO exposure.

**EXAMPLE**

**Sensitivity analysis**

The total loss rates used to determine the fair value of CDOs rose by 10%, which had the following impacts:

- unhedged ABS CDOs: €13 million increase in unrealized losses;
- ABS CDOs hedged by CDSs under the commutation agreement with CIFG: €17 million increase in unrealized losses.

A 10% drop in the sensitivity of the excess spread assumption would have the following impact:

- €7 million increase in unrealized losses on unhedged ABS CDOs;
- €6 million increase in unrealized losses on ABS CDOs hedged by CDSs under the commutation agreement with CIFG.

*Caisse d'Épargne, Annual report, p.168.*

Five banks in our sample gave the deferred margin and the sensitivity of model values to 'reasonably likely' changes in assumptions:

- the deferred margin at the beginning of the reporting period;
- the deferred margin at the end of the reporting period;
- an estimate of changes in model values (estimate at 31/12/08 vs. 31/12/07).

Some banks gave details of the assumptions used in measuring sensitivity, but many of them only provided the results of their calculations.

**EXAMPLE**

**Sensitivities of fair values**

Reasonably likely changes in the assumptions used in the valuation techniques not supported by recent market transactions would not have a significant impact on equity and net result, other than explained below for investments in asset backed securities in the United States.

Assets classified in Valuation technique not supported by market inputs consist mainly (approximately 87%) of investments in asset backed securities in the United States. These assets are valued using external price sources that are obtained from third party pricing services and brokers. As at 31 December 2007, these assets were classified in Reference to published price quotations in active markets as valuation was based on independent quotes and trading in the relevant markets was active at that time. During 2008, the trading volumes in the relevant markets reduced significantly and these have now become inactive. The dispersion between prices for the same security from different price sources increased significantly. As a result, an amount of EUR 25 billion of asset backed securities in the United States was reclassified from Reference to published price quotations in active markets to Valuation technique not supported by market inputs in the third quarter of 2008. In order to ensure that the most accurate and relevant sources available are used in determining the fair value of these securities, the valuation process was further enhanced during 2008 by using information from more pricing sources and enhancing the process of selecting the most appropriate price.

Generally up to four different pricing services are utilised. Management carefully reviews the prices obtained in conjunction with other information available, including, where relevant, trades in the market, quotes from brokers and internal evaluations. If the dispersion between different prices for the same securities is limited, a hierarchy exists that ensures consistent selection of the most appropriate price. If the dispersion between different prices for the same security is significant, additional processes are applied to select the most appropriate price, including an internally developed price validation matrix and a process to challenge the price source.

As a result of the low trading volumes in the market and the widened disparity between prices for the same security from different price sources, valuation for these securities is inherently complex and subjective. Although each security in the portfolio is priced based on an external price, without modification by the ING Group, and management is confident that it has selected the most appropriate price in the current market circumstances, the valuation of these portfolios would have been significantly different had different prices been selected. The sensitivity of the valuation in this respect is illustrated as follows:

- had the valuation been based on the highest available market price for each and every security in these portfolios, the overall valuation would have been approximately 10% higher than the valuation applied by the ING Group;
- had the valuation been based on the lowest available market price for each and every security in these portfolios, the overall valuation would have been approximately 15% lower than the valuation applied by the ING Group;
- had the valuation been based on the weighted average available market price for these portfolios, the overall valuation would have been approximately 5% lower than the valuation applied by the ING Group.

These are indicators of sensitivity and not alternatives for fair value under IFRS-EU.

*ING, Annual report 2008, p.161.*



# Conclusion

Banks improved their financial disclosures as of 31 December 2008 in the context of the financial crisis. In particular, they:

- focused on sensitive exposures, often in line with the recommendations from the Financial Stability Forum;
- emphasised the risk management measures taken in 2008.

However, there was still a lack of detailed qualitative information on measurement of fair value and the management judgements made.

The annual reports generally provided all the information required under financial reporting standards, but in Europe such reports are extremely comprehensive and it is sometimes difficult to find the information. In addition, there is sometimes a lack of comparability between the different banks. While some effort has been made to summarise the information and help the users of the financial statements gain a better understanding, further improvements are required in most cases.

It should however be noted that annual reports are only one method of financial communication. In Europe, the required disclosures have significantly increased as of 31 December 2008 under Pillar 3 of Basel 2; only three banks in our sample addressed these new requirements in their annual reports.

Changes are expected in the near future when the G20's decisions are put into practice, coupled with the replacement of IAS 39 on the recognition and measurement of financial instruments. This will probably result in enhanced disclosure requirements.

Julien Campionnet, Lionel Castelin, Virginie Chauvin and Anne Veaute have contributed to the writing of this research.

## Your main contacts for Banking and Finance in Mazars

### Bank Group contacts

**Hervé Helias, Partner in charge**  
of international banking activities  
Tel: +33 (0)1 49 97 60 00

**Virginie Chauvin, Partner**  
Tel: +33 (0)1 49 97 63 79  
virginie.chauvin@mazars.fr

#### AUSTRIA

Peter Ernst  
peter.ernst@mazars.at

#### BELGIUM

Xavier Doyen  
xavier.doyen@mazars.be

#### CZECH REPUBLIC

Milan Prokopius  
milan.prokopius@mazars.cz

#### EGYPT

Mohamed El Moetaz Omar  
elmoetaz@mshawki.com

#### FRANCE

Guillaume Potel  
guillaume.potel@mazars.fr

Charles de Boisriou  
charles.de-boisriou@mazars.fr

#### GERMANY

Stefan Lutz  
stefan.lutz@mazars.de

#### HUNGARY

Philippe Michalak  
philippe.michalak@mazars.hu

#### IRELAND

Mark Kennedy  
mkennedy@mazars.ie

#### ITALY

Olivier Rombaut  
olivier.rombaut@mazars.it

Rosanna Vicari  
rosanna.vicari@mazars.it

#### JERSEY

Jason Lees-Baker  
jason.lees-baker@mazars.je

#### LEBANON

Jacques Saadé  
jacques.saade@mazars.com.lb

#### LUXEMBOURG

Laurent Decaen  
laurent.decaen@mazars.lu

#### MOROCCO

Kamal Mokdad  
kamal.mokdad@mazars.ma

#### THE NETHERLANDS

Kees Hartevelde  
kees.hartevelde@mazars.nl

#### POLAND

Michel Kiviatkowski  
m.kiviatkowski@mazars.pl

#### PORTUGAL

Leonel Vicente  
lvicente@mazars.pt

#### ROUMANIA

Jean-Pierre Vigroux  
jean-pierre.vigroux@mazars.ro

#### RUSSIA

Anne Belveze  
anne.belveze@mazars.ru

#### SLOVAKIA

Mickaël Compagnon  
mickael.compagnon@mazars.sk

#### SPAIN

Carlos Marcos  
cmarcos@mazars.es

#### SWITZERLAND

Jacques Fournier  
jacques.fournier@mazars.ch

#### TUNISIA

Mohammed-ali Elaouani  
ali.cherif@mazars.com.tn

#### TURKEY

Belma Öztürk Gürsoy  
bozturk@mazarsdenge.com.tr

#### UNITED KINGDOM

Rudi Lang  
rudi.lang@mazars.co.uk

#### UNITED STATES OF AMERICA

Jérôme Devilliers  
jerome.devilliers@mazars.us

Wilson Mitchell  
wmitchell@weiserllp.com



