Senior Supervisors Group

Leading-Practice Disclosures for Selected Exposures

April 11, 2008



FRANCE
Banking Commission

GERMANY
Federal Financial Supervisory Authority

SWITZERLAND
Federal Banking Commission

UNITED KINGDOM
Financial Services Authority

UNITED STATES
Board of Governors of the Federal Reserve System

Federal Reserve Bank of New York

Office of the Comptroller of the Currency

Securities and Exchange Commission

SENIOR SUPERVISORS GROUP

April 11, 2008

Mr. Mario Draghi, Chairman
Financial Stability Forum
Bank for International Settlements
Centralbahnplatz 2
CH-4002 Basel
Switzerland

Dear Mr. Draghi:

I am pleased to send you the report of the Senior Supervisors Group, *Leading-Practice Disclosures for Selected Exposures*. This report responds to the Financial Stability Forum's request that the Senior Supervisors Group undertake a review of disclosure practices regarding exposures to certain instruments that the marketplace now considers to be high-risk or to involve more risk than previously thought, including collateralized debt obligations, residential mortgage-backed securities, commercial mortgage-backed securities, other special purpose entities, and leveraged finance. Notwithstanding our focus on these particular exposures, we expect specific areas of interest to evolve with market developments.

The report highlights examples of leading-practice disclosures taken from a nonscientific sample of documents posted to the public websites of twenty large, internationally oriented financial firms as of March 7, 2008. As such, the report does not address enhanced disclosures that the firms may have made through other means or after the review date. We also recognize that because firms have adopted different business strategies, not all of the examples will be relevant to every firm. Nonetheless, we expect that financial firms will find this review useful in assessing and enhancing their own disclosures.

Sincerely,



William L. Rutledge
Chairman

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Introduction

The recent market turmoil has heightened the desirability for financial firms to publicly disclose their exposures to certain instruments that the marketplace now considers to be high-risk or to involve more risk than previously thought, including collateralized debt obligations (CDOs), residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), other special purpose entities (SPEs), and leveraged finance.[1] In response, many financial firms have recently enhanced their disclosures of these exposures.[2]

In this context, this paper highlights some leading[3] disclosure practices among twenty large, internationally oriented financial firms – fifteen banks and five securities firms – whose disclosure data we recently surveyed.[4] Also discussed briefly are the disclosure requirements for SPEs imposed by accounting standards.

The results of the survey indicate that disclosure *practices* can be enhanced without necessarily amending existing disclosure *requirements*, as disclosure requirements allow firms considerable discretion in how they convey information. Moreover, we viewed disclosure broadly to include not only information presented in public securities filings but also information contained in earnings press releases and accompanying presentation slides posted on the firms' public websites. Indeed, some of the leading disclosure practices referenced in this paper were contained in advance or supplementary material, which provides market participants with more timely information on exposures of current concern.

[1] Effective public disclosures are central to market discipline. See, for example, Basel Committee on Banking Supervision, *Enhancing Bank Transparency* (September 1998), and Group of Thirty, *Enhancing Public Confidence in Financial Reporting* (2003).

[2] In December 2007, the U.S. Securities and Exchange Commission sought to promote more effective disclosure of some of the exposures behind the recent market turmoil through a letter to selected financial firms asking them to consider disclosing a list of items associated with off-balance-sheet entities.

[3] We use the term "leading" to mean most informative, with regard to both quantity and quality of information (for example, the data should be particularly useful to market participants in assessing the risks and returns associated with investments in or exposures to the firm). See the papers by the Basel Committee and the Group of Thirty, cited in footnote 1, for discussions of the characteristics of effective disclosures.

[4] See Appendix A for a list of the twenty firms. Data reviewed include annual reports, quarterly reports, press releases, and slides that were publicly available as of March 7, 2008.

Summary of Leading-Practice Disclosures

The leading practices discussed here were observed in our survey of the latest disclosures of twenty financial firms. Each disclosure is presently made by at least one firm, although few firms come close to making all of the disclosures. As such, the disclosures represent leading practices across a variety of risks and exposures, and some disclosures may not be relevant for firms that do not have significant exposure to the activity. Appendix B provides a general sense of the frequency of such disclosures in our sample.

The disclosures are presented in the box on page 2 and are described more fully in this section. In addition, for each category of exposure, many of the surveyed firms provide the following details:

- total exposure, including on- and off-balance-sheet analysis, as well as funded and committed lines, if applicable,
- exposure before and after hedging, and
- exposure before and after write-downs.

Special Purpose Entities (SPEs)—General

- Size of SPE versus firm's total exposure
- Activities of SPE
- Reason for consolidation (if applicable)
- Nature of exposure (sponsor, liquidity and/or credit enhancement provider)
- Collateral type
- Geographic distribution of collateral
- Average maturity of collateral
- Credit ratings of underlying collateral

Collateralized Debt Obligations

- Size of CDOs versus firm's total exposure
- Breakdown of CDOs—type, tranche, rating, etc.
- Breakdown of collateral by type
- Breakdown of subprime mortgage exposure by vintage
- Hedges, including exposures to monolines, other counterparties
- Creditworthiness of hedge counterparties
- Credit valuation adjustments for specific counterparties
- Sensitivity of valuation to changes in key assumptions and inputs

Other Subprime and Alt-A Exposures

- Whole loans, RMBS, derivatives, other
- Detail on credit quality (such as credit rating, loan-to-value ratios, performance measures)
- Breakdown of subprime mortgage exposure by vintage
- Sensitivity of valuation to changes in key assumptions and inputs

Commercial Mortgage-Backed Securities

- Breakdown of collateral by industry
- Breakdown of collateral by geography
- Change in exposure from the prior period, including sales and write-downs

Leveraged Finance

- Funded exposure and unfunded commitments
- Change in exposure from prior period(s), including sales and write-downs
- Distribution of exposure by industry
- Distribution of exposure by geography

Special Purpose Entities—General

- A summary of exposures to the SPEs with which the firm is involved, distinguishing between those that are and are not consolidated.[5] These exposures generally include CDOs, asset-backed commercial paper (ABCP), structured investment vehicles (SIVs), and a variety of other SPEs. Circumstances that require a particular SPE to move from off-balance-sheet to on-balance-sheet status are noted.
- The size and activities of the SPEs.
- The nature of the firm's involvement with particular categories of SPEs and its maximum exposure to losses as a result of its involvement with each category.
- Breakdowns of assets underlying SIVs and ABCP conduits by collateral type, credit rating, and location of the ultimate borrowers and the average maturity of the borrowers' obligations.

Collateralized Debt Obligations[6]

- The firm's total exposure to CDOs and a breakdown of this exposure according to the firm's internal methodology, for example, a breakdown of super-senior exposures to high-grade, mezzanine, and CDO-squared[7] underlying.
- Separate data for CDOs whose ultimate underlying collateral is of particular concern to the markets (such as subprime residential mortgages) and other CDOs. More generally, discussion that informs market participants of how the firm determines a CDO to be a "subprime mortgage CDO" (for example, the percentage of ultimate collateral that consists of subprime mortgages).

[5] Whether an SPE is consolidated depends on the applicable accounting standard; thus, a particular SPE may be consolidated in one jurisdiction and not in another.

[6] This paper focuses on CDOs whose ultimate underlying collateral includes subprime residential mortgages. While most of the disclosures among the surveyed firms specifically reflect that type of CDO, some are broader and include CDOs that do not necessarily involve those mortgages.

[7] "CDO-squared" means that the assets underlying the CDO are themselves CDOs.

- CDO exposure before and after hedging, including exposure to financial guarantors, showing the notional amount of protection bought from individual guarantors and the fair value of such exposure both before and after credit valuation adjustments, if any.[8]
- Data pertaining to the creditworthiness of the CDOs, such as mark-to-market or other write-downs from face value, broken down according to the firm's methodology, and the vintage of the underlying subprime mortgages.
- The methodology for the valuation of the instruments and the primary drivers of the valuation.

Other Subprime and Alt-A Exposures

- Exposure to subprime mortgages not in CDOs, whether whole loans, RMBS, via derivatives or commitments, both before and after hedging, together with data indicating their creditworthiness, such as data on write-downs or credit ratings.
- Similar data for Alt-A mortgages.[9]
- The sensitivity of the valuation of RMBS to changes in assumptions, such as prepayment rates, credit losses, and the discount rate, broken down by the credit quality of the mortgages.

Commercial Mortgage-Backed Securities

- Exposure to CMBS, both before and after the effect of hedging and including breakdowns by industry of the underlying collateral and geographic area.

Leveraged Finance[10]

- On- and off-balance-sheet exposure to leveraged finance, together with elaboration, such as write-downs and distributions over industries and geographic areas.

[8] Exposure to financial guarantors may result from subprime RMBS carried directly on the firm's balance sheet as well as from CDO transactions.

[9] Alt-A mortgages are mortgages provided on the basis of credit scores, the borrower's stated income, and the coverage ratio; the borrowers provide limited, or no, documentation of their income and assets.

[10] The meaning of "leveraged financing" varies somewhat from firm to firm. It generally includes loans and loan commitments to highly leveraged borrowers. Some firms may include high-yield bonds, mezzanine debt, and other instruments in leveraged financing.

DISCLOSURE REQUIREMENTS FOR SPEs

Many of the instruments discussed in this paper involve securities issued by SPEs. Exposure of financial firms to SPEs can arise because the firm retains a portion of the securities the SPE issues, provides credit and/or liquidity enhancements to it, or has some other relationship with it (such as being its sponsor). The firm may or may not have to consolidate the SPE.[11]

U.S. Generally Accepted Accounting Principles (GAAP) requires certain minimal disclosures of exposures to the type of SPEs discussed here, which the accounting standard refers to as "variable interest entities" (VIEs). Briefly, these requirements include:[12]

- For both consolidated and unconsolidated VIEs, the nature, purpose, size, and activities of the VIE.
- For consolidated VIEs, the carrying amount and balance-sheet classification of consolidated assets that are collateral for the VIE's obligations.
- For unconsolidated VIEs, the nature of the firm's involvement with the VIE and its maximum exposure as a result of that involvement.

IFRS does not recognize VIEs separately from other SPEs, and it has no specific disclosure requirements beyond those established for consolidated entities and off-balance-sheet arrangements.

[11] If the firm is the primary beneficiary of an SPE, that is, if it bears the majority of the risks or receives the majority of the rewards (or both) of the SPE, the SPE is consolidated; the SPE is also consolidated if it constitutes a subsidiary that is consolidated. Upon consolidation, all the underlying assets in the SPE are reflected in the firm's balance sheet, regardless of the firm's retained interests in the securities issued by the SPE.

The requirements for consolidation of an SPE differ slightly between U.S. GAAP and International Financial Reporting Standards (IFRS). Under both accounting standards, an SPE must be consolidated if the firm is the primary beneficiary of the SPE or if the firm holds a majority of the voting interests in it. U.S. GAAP poses no other criteria. Under IFRS, however, other conditions can also result in consolidation, such as the firm's controlling the operations of the SPE without having a voting majority.

[12] Financial Accounting Standards Board, *FASB Interpretation No. 46 (Revised)*. If a primary beneficiary holds a majority voting interest in the VIE, it is not required to make any disclosures.

DISCUSSION OF LEADING-PRACTICE DISCLOSURES

Special Purpose Entities—General

A leading practice is for firms to summarize their involvement with various types of SPEs, including CDOs, ABCP, and SIVs, taking care to distinguish between assets that are consolidated and those that are not consolidated, as in Exhibit 1.[13]

Exhibit 1

				December 31, 2007
In millions of dollars of SPE assets	Total involvement with SPEs	QSPEs	Consolidated VIEs	Significant unconsolidated VIEs[1]
Global Consumer				
Credit card securitizations	**$125,351**	**$125,109**	**$242**	**$—**
Mortgage loan securitizations	**516,865**	**516,802**	**63**	**—**
Investment funds	**886**	**—**	**276**	**610**
Leasing	**35**	**—**	**35**	**—**
Other	**16,267**	**14,882**	**1,385**	**—**
Total	**$659,404**	**$656,793**	**$2,001**	**$610**
Markets & Banking				
Citi-administered asset-backed commercial paper conduits (ABCP)	**$72,558**	$—	$—	**$72,558**
Third-party commercial paper conduits	**27,021**	**—**	**—**	**27,021**
Collateralized debt obligations (CDOs)	**74,106**	**—**	**22,312**	**51,794**
Collateralized loan obligations (CLOs)	**23,227**	**—**	**1,353**	**21,874**
Mortgage loan securitizations	**84,093**	**84,093**	**—**	**—**
Asset-based financing	**96,072**	**—**	**4,468**	**91,604**
Municipal securities tender option bond trusts (TOBs)	**50,129**	**10,556**	**17,003**	**22,570**
Municipal investments	**13,715**	**—**	**53**	**13,662**
Client intermediation	**12,383**	**—**	**2,790**	**9,593**
Other	**37,466**	**14,526**	**12,642**	**10,298**
Total	**$490,770**	**$109,175**	**$60,621**	**$320,974**
Global Wealth Management				
Investment funds	**$642**	**$—**	**$590**	**$52**
Alternative Investments				
Structured investment vehicles	**$58,543**	**$—**	**$58,543**	**$—**
Investment funds	**10,979**	**—**	**45**	**10,934**
Total	**$69,522**	**$—**	**$58,588**	**$10,934**
Corporate/Other				
Trust preferred securities	**$23,756**	$—	$—	**$23,756**
Citigroup Total	**$1,244,094**	**$765,968**	**$121,800**	**$356,326**

(1) A significant unconsolidated VIE is an entity where the Company has any variable interest, considered to be significant as discussed above, regardless of the likelihood of loss, or the notional amount of exposure.

The firm complements the information in Exhibit 1 by listing items that are not included in the table, such as certain investment funds that the firm manages, SPEs structured by third parties and held in the firm's trading inventory, and SPEs to which the company's transfer of assets is accounted for as secured borrowings.

Collateralized Debt Obligations

All firms in our sample disclose exposure to CDOs.[14] However, the amount of aggregate exposure tells market

[13] Citigroup, *2007 Annual Report on Form 10-K*, p. 86. "QSPE" means "qualifying SPE," a class of passive SPEs recognized under U.S. GAAP that are used for securitizations and are not consolidated.

[14] CDOs may or may not include other asset-backed securities (ABS) as collateral. The ABS here may or may not involve subprime RMBS. Given the current subprime crisis, some firms use the term "ABS CDOs" to refer to those CDOs backed by subprime RMBS. Some disclosures pertain to ABS CDOs as thus narrowly defined, while others pertain to all CDOs; the firms are often clear as to which they mean. Given this inconsistency in definition, our use of the term "CDOs" refers to whatever metric the individual firms disclose.

Exhibit 2

In billions of dollars	September 30, 2007 exposures	Fourth quarter 2007 write-downs	Fourth quarter 2007 sales/transfers	December 31, 2007 exposures
Direct ABS CDO Super Senior Exposures:				
Gross ABS CDO Super Senior Exposures (A)	**$53.4**			**$39.8**
Hedged Exposures (B)	**10.5**			**10.5**
Net ABS CDO Super Senior Exposures:				
ABCP/CDO[1]	**$24.9**	**$(4.3)**	**$0.0**	**$20.6**
High grade	**9.5**	**(4.9)[2]**	**0.3**	**4.9**
Mezzanine	**8.3**	**(5.2)[2]**	**0.5**	**3.6**
ABS CDO-squared	**0.2**	**0.1**	**0.0**	**0.2**
Total Net ABS CDO Super Senior Exposures (A-B=C)	**$42.9**	**$(14.3)**	**$0.8**	**$29.3**
Lending & Structuring Exposures:				
CDO warehousing/unsold tranches of ABS CDOs	**$2.7**	**$(2.6)**	**$0.0**	**$0.2**
Subprime loans purchased for sale or securitization	**4.2**	**(0.2)**	**0.0**	**4.0**
Financing transactions secured by subprime	**4.8**	**(0.1)[2]**	**(0.9)**	**3.8**
Total Lending and Structuring Exposures (D)	**$11.7**	**$(2.9)**	**$(0.9)**	**$8.0**
Total Net Exposures	**$54.6**	**$(17.2)**	**$(0.1)**	**$37.3**
Credit Adjustment on Hedged Counterparty Exposures (E)		**$(0.9)**		
Total Net Write-Downs (C+D+E)		**$(18.1)**		

(1) Primarily backed by high-grade ABS CDOs. During the fourth quarter of 2007, the CDOs which collateralized the ABCP were consolidated on Citigroup's balance sheet.

(2) Fair value adjustment related to counterparty credit risk. Includes an aggregate $704 million recorded in credit costs.

participants little about the amount of risk that the firm has assumed. To give market participants more information on their risk and potential for loss, some firms have disclosed: (a) the source of their exposure, for instance, whether through retained interests, derivatives (such as total return swaps), commitments to provide liquidity and/or credit support, or warehoused loans and mortgage-backed securities; (b) the type of CDOs to which they are exposed (such as high-grade, mezzanine, CDO-squared); (c) other information with a bearing on the creditworthiness of the exposures and the extent of write-downs taken against par value; (d) the amount that is hedged and how it is hedged, including information about exposures mitigated via financial guarantors; and (e) how the exposures are valued and the main drivers of value.

Exposure Amounts

Some firms combine much of the aforementioned information in an easy-to-read format (see Exhibit 2).[15] The table distinguishes between CDO super-senior exposures and warehousing exposures, indicates the gross amount of CDO super-senior exposures and the amount hedged, breaks down the super-senior exposures after hedging by CDO type, and discloses the write-offs of each CDO type.

Some of the disclosures are not specific to CDOs with subprime mortgage collateral, but appear to involve all types of mortgage-backed securities. While the latter disclosures may appear to be less of a concern today than those targeting subprime mortgages, they would give a more complete picture should prime mortgages lose credit value when interest rates rise or a recession unfolds. A leading-practice disclosure that distinguishes between super-senior CDOs with more than a stated percentage of subprime loans and those with less than this percentage is shown in Exhibit 3 on page 6, with the gross amount, insured amount, write-down amount, and resulting net amount in a number of categories presented for each of the subprime and non-subprime exposures.[16]

Most surveyed firms indicate that the CDOs (for which they provide data) are collateralized by subprime mortgages. The leading practice discloses the percentage of underlying assets that are subprime mortgages for each of several portfolios.[17]

Other Data Bearing on Creditworthiness

While most firms report on their losses, the leading practice is to disclose the exposure both before and after write-downs. Many firms provide these data, broken down by type of CDO exposure—see Exhibit 3 for an example. Such data help market participants assess the risk of the remaining exposure.

[15] Citigroup, *op. cit.*, p. 48.

[16] Bank of America Corporation, *Annual Report on Form 10-K for the fiscal year ended December 31, 2007*, p. 29.

[17] Société Générale, *Full-Year and Fourth Quarter 2007 Results* (presentation, February 21, 2008, slide 65).

Exhibit 3

Super Senior Collateralized Debt Obligation Exposure

	December 31, 2007														
	Subprime Exposure[1]					Non-Subprime Exposure[2]					Total CDO Exposure				
(Dollars in millions)	Gross	Insured	Net of Insured Amount	Net Write-downs[3]	Net Exposure[3]	Gross	Insured	Net of Insured Amount	Net Write-downs[3]	Net Exposure[3]	Gross	Insured	Net of Insured Amount	Net Write-downs[3]	Net Exposure[3]
Super senior liquidity commitments															
High grade	$4,610	$(1,800)	$2,810	$(640)	$2,170	$3,053	$ —	$3,053	$(57)	$2,996	$7,663	$(1,800)	$5,863	$(697)	$5,166
Mezzanine	363	—	363	(5)	358	—	—	—	—	—	363	—	363	(5)	358
CDOs-squared	4,240	—	4,240	(2,013)	2,227	—	—	—	—	—	4,240	—	4,240	(2,013)	2,227
Total super senior liquidity commitments	**9,213**	**(1,800)**	**7,413**	**(2,658)**	**4,755**	**3,053**	**—**	**3,053**	**(57)**	**2,996**	**12,266**	**(1,800)**	**10,466**	**(2,715)**	**7,751**
Other super senior exposure															
High grade	4,010	(2,110)	1,900	(233)	1,667	1,192	(734)	458	—	458	5,202	(2,844)	2,358	(233)	2,125
Mezzanine	1,547	—	1,547	(752)	795	—	—	—	—	—	1,547	—	1,547	(752)	795
CDOs-squared	1,685	(410)	1,275	(316)	959	—	—	—	—	—	1,685	(410)	1,275	(316)	959
Total super senior senior exposure	**7,242**	**(2,520)**	**4,722**	**(1,301)**	**3,421**	**1,192**	**(734)**	**458**	**—**	**458**	**8,434**	**(3,254)**	**5,180**	**(1,301)**	**3,879**
Total super senior CDO exposure	**$16,455**	**$(4,320)**	**$12,135**	**$(3,959)**	**$8,176**	**$4,245**	**$(734)**	**$3,511**	**$(57)**	**$3,454**	**$20,700**	**$(5,054)**	**$15,646**	**$(4,016)**	**$11,630**

(1) Classified as subprime when subprime consumer real estate loans make up at least 35 percent of the ultimate underlying collateral.

(2) Includes highly-rated CLO and CMBS super senior exposure.

(3) Net of insurance.

Exhibit 4

Exposures to monoline insurers, by rating from US RMBS CDOs[1]

		31.12.07			
Credit protection bought from monoline insurers rated[2]	Notional amount[3]	Fair value of underlying CDO	Fair value of CDS prior to credit valuation adjustment	Credit valuation adjustment in fourth quarter 2007	Fair value of CDS after credit valuation adjustment
USD million	Column 1	Column 2	Column 3 (=1-2)	Column 4	Column 5 (=3-4)
A or higher					
On US sub-prime RMBS CDO high grade	7,128	4,752	2,376	235	2,141
On US sub-prime RMBS CDO mezzanine	1,113	560	553	28	525
On other US RMBS CDO	1,000	774	226	20	206
Total	**9,241**	**6,086**	**3,155**	**283**	**2,872**
Non-investment grade or unrated					
On US sub-prime RMBS CDO high grade	0	0	0	0	0
On US sub-prime RMBS CDO mezzanine	1,647	1,181[4]	466	420	46
On other US RMBS CDO	766	578[4]	188	168	20
Total	**2,413**	**1,759[4]**	**654**	**588**	**66**
Credit protection on US RMBS CDO					
Of which sub-prime high grade	7,128	4,752	2,376	235[5]	2,141
Of which sub-prime mezzanine	2,760	1,741[4]	1,019	448[5]	571
Of which other	1,766	1,352[4]	414	188	226
Total	**11,654**	**7,845**	**3,809**	**871**	**2,938**

[1]Excludes the benefit of credit protection purchased from unrelated third parties.

[2]Categorization based on the lowest insurance financial strength rating assigned by external rating agencies.

[3]Represents gross notional amount of credit default swaps purchased as credit protection for RMBS CDOs.

[4]Remaining credit protection from non-investment grade monoline of USD 1,181 million on sub-prime RMBS CDOs and USD 578 million on other RMBS CDOs is considered ineffective.

[5]Total credit valuation adjustments on CDSs on sub-prime RMBS CDOs in fourth quarter 2007 were USD 683 million.

Several firms reveal the vintage of the subprime mortgages that underlie their CDO exposures. This information is useful because mortgages originated in 2005-07 are considered to have greater credit risk than those of earlier vintages.

Hedging

Several firms report on their on-balance-sheet CDO exposures in a number of categories both before and after hedging. See Exhibit 3 for an example.

A leading practice is to show the notional amount of protection purchased from financial guarantors and the resulting fair value of such exposures, broken down by the credit rating of the guarantor and the type of CDO being guaranteed, with the amount of counterparty credit valuation adjustments shown explicitly, as in Exhibit 4.[18]

Similarly as in Exhibit 4, another firm breaks down these metrics (notional amount, fair value of the CDO, credit valuation adjustment, and the resulting fair value of the exposure to the guarantors) into finer creditworthiness categories (specifically, AAA, AA, A, BBB, and non-investment grade or unrated), although it does not simultaneously break them down into tranches.[19]

Yet another leading practice is to name the guarantors, indicate for each guarantor both the notional amount and the market value of the exposure, and disclose the credit valuation adjustment applied, as in Exhibit 5 on page 8.[20]

[18] UBS, *Financial Reporting, Fourth Quarter 2007*, p. 20. Elsewhere, UBS provides similar data for monoline exposures resulting from protection bought on other than U.S. RMBS CDOs.

[19] Merrill Lynch, *2007 Annual Report*, p. 37.

[20] Citigroup, *op. cit.*, p 55.

Exhibit 5

in millions of dollars at December 31, 2007	**Net Market Value Exposure**	Notional Amount of Transactions
Direct Subprime ABS CDO Super Senior:		
AMBAC	$1,815	$5,485
FGIC	909	1,460
ACA	438	600
Radian	100	100
Subtotal Direct Subprime ABS CDO Super Senior	**$3,262**	**$7,645**
Trading Assets—Subprime:		
AMBAC	$1,150	$1,400
Trading Assets—Subprime	**$1,150**	**$1,400**
Trading Assets—Non Subprime:		
MBIA	$395	$5,620
FSA	121	1,126
ACA	50	1,925
Assured	7	340
Radian	5	350
AMBAC	—	1,971
Trading Assets—Non Subprime	**$578**	**$11,332**
Subtotal Trading Assets	**$1,728**	**$12,732**
Credit Market Value Adjustment	**$(967)**	
Total Net Market Value Direct Exposure	**$4,023**	

Valuation

The sampled firms discuss their valuation methodologies to varying extents, and many indicate which inputs are the primary drivers of the valuation. One of the more expansive qualitative descriptions is:

> Citigroup's CDO super senior subprime direct exposures are Level 3 assets and are subject to valuation based on significant unobservable inputs. Accordingly, fair value of these exposures is based on estimates. The Company's estimation process involves use of an intrinsic cash flow methodology. During the course of the fourth quarter the methodology has been refined, and inputs used for the purposes of estimation have been modified in part to reflect ongoing unfavorable market developments. The methodology takes into account estimated housing price changes, unemployment rates, interest rates and borrower attributes such as age, credit scores, documentation status, loan-to-value (LTV) ratios, and debt-to-income (DTI) ratios in order to model future collateral cash flows. In addition, the methodology takes into account estimates of the impact of geographic concentration of mortgages, estimated impact of reported fraud in the origination of subprime mortgages and the application of discount rates for each level of exposure, the fair value of which is being estimated. The primary drivers that will impact the super senior valuations are housing prices, interest and unemployment rates as well as the discount rates used to present value projected cash flows.[21]

A leading practice is to make a quantitative disclosure of the sensitivity of the CDO valuation to key assumptions (see Exhibit 6).[22]

[21] Citigroup, *op. cit.*, p. 48.

[22] Société Générale, *2008 Registration document*, p. 146.

Exhibit 6

Cumulative Losses on CDO Subprime Assets and Sensitivity Analysis

	2005	2006	2007		Impact on NBI
Assumptions on cumulative losses for Q3 07	9.1%	14.6%	14.5%	→	EUR -167m for 9M 2007
Assumptions on cumulative losses for Q4 07	9.0%	23.0%	25.0%	→	EUR -1,250m for FY 2007

Sensitivity		Impact on NBI
+10% cumulative losses for each year of production	→	EUR -431m (1)

(1) Impact at average Q4 07 exchange rate.

Exhibit 7

	As of November 2007			As of November 2006		
	Type of Retained Interests			Type of Retained Interests		
	Mortgage-Backed	CDOs and CLOs[3]	Corporate Debt	Mortgage-Backed	CDOs and CLOs[3]	Corporate Debt[4]
	($ in millions)					
Fair value of retained interests	$3,378	$1,188	$ —	$4,013	$1,973	$1,097
Weighted average life (years)	6.6	2.7	—	6.0	7.0	2.2
Constant prepayment rate	15.1%	11.9%	N/A	21.2%	24.5%	N/A
Impact of 10% adverse change	$(50)	$(43)	$ —	$(121)	$(2)	$ —
Impact of 20% adverse change	(91)	(98)	—	(221)	(6)	—
Anticipated credit losses[1]	4.3%	N/A	N/A	2.0%	N/A	N/A
Impact of 10% adverse change[2]	$(45)	$ —	$ —	$(81)	$ —	$ —
Impact of 20% adverse change[2]	(72)	—	—	(155)	—	—
Discount rate	8.4%	23.1%	N/A	9.4%	6.9%	3.9%
Impact of 10% adverse change	$(89)	$(46)	$ —	$(136)	$(38)	$(9)
Impact of 20% adverse change	(170)	(92)	—	(266)	(74)	(17)

(1) Anticipated credit losses are computed only on positions for which expected credit loss is a key assumption in the determination of fair value or positions for which expected credit loss is not reflected within the discount rate.

(2) The impacts of adverse change take into account credit mitigants incorporated in the retained interests, including over-collateralization and subordination provisions.

(3) Includes $905 million and $1.26 billion as of November 2007 and November 2006, respectively, of retained interests related to transfers of securitized assets that were accounted for as secured financings rather than sales under SFAS No. 140.

(4) Includes retained interests in bonds and other types of financial assets that are not subject to prepayment risk.

Another example involves disclosing the sensitivity of retained interests in CDOs to changes in assumed prepayment rates, credit losses, and the discount rate, as shown in Exhibit 7.[23]

Being limited to retained interests, CDO exposures in the table above may not necessarily represent the full extent of the firm's exposure.

Other Special Purpose Entities

Financial firms generally present information for SIVs and ABCP conduits separately from that for other SPEs. These particular SPEs can be either on or off the balance sheet, depending on the accounting standard applied and the circumstances. Leading practices involve presentation of the same information regardless of the accounting treatment. Furthermore, disclosures for SIVs and ABCP conduits would be similar because the assets financed by the two types of vehicles can be similar.[24]

Firms subject to U.S. GAAP make the required disclosures earlier, including their maximum exposure to certain unconsolidated SPEs. A leading practice is to delineate the extent and nature of the firm's exposure to conduits, as shown in Exhibit 8 on page 10.[25]

Even firms that do not observe U.S. GAAP make similar disclosures. For example, one European firm discloses its maximum exposure to specific SIVs under committed liquidity facilities.[26] Later in its annual report, the firm summarizes its exposures, as shown in Exhibit 9.[27]

[23] The Goldman Sachs Group, *Annual Report on Form 10-K for the fiscal year ended November 30, 2007,* p. 135.

[24] SIVs differ from ABCP conduits mainly in that the securities issued by SIVs are structured and include junior notes, commercial paper, and other senior debt, while the securities issued by ABCP conduits are of one type.

[25] JPMorgan Chase, *Annual Report 2007,* p. 147.

[26] HSBC Holdings, plc., *2007 Annual Report and Accounts,* p. 184.

[27] *Ibid.,* p. 191.

Exhibit 8

December 31 (in billions)	Consolidated 2007	Consolidated 2006	Nonconsolidated 2007	Nonconsolidated 2006	Total 2007	Total 2006
Total assets held by conduits	**$ —**	$3.4	**$61.2**	$43.6	**$61.2**	$47.0
Total commercial paper issued by conduits	**—**	3.4	**62.6**	44.1	**62.6**	47.5
Liquidity and credit enhancements						
Deal-specific liquidity facilities (Asset purchase agreements)	**—**	0.5	**87.3**	66.0	**87.3**	66.5
Program-wide liquidity facilities	**—**	1.0	**13.2**	4.0	**13.2**	5.0
Program-wide limited credit enhancements	**—**	—	**2.5**	1.6	**2.5**	1.6
Maximum exposure to loss[a]	**—**	1.0	**88.9**	67.0	**88.9**	68.0

(a) The Firm's maximum exposure to loss is limited to the amount of drawn commitments (i.e. sellers' assets held by the multi-seller conduits for which the Firm provides liquidity support) of $61.2 billion and $43.9 billion at December 31, 2007 and 2006, respectively, plus contractual but undrawn commitments of $27.7 billion and $24.1 billion at December 31, 2007 and 2006, respectively. Since the Firm provides credit enhancement and liquidity to Firm-administered, multi-seller conduits, the maximum exposure is not adjusted to exclude exposure that would be absorbed by third-party liquidity providers.

Exhibit 9

	Commitments US$bn	**Drawn US$bn**
2007		
Third party SIVs	**0.3**	**—**
Third party conduits	**5.3**	**0.4**
Third party securitisations	**0.5**	**—**
	6.1	**0.4**
2006		
Third party SIVs	**0.2**	**—**
Third party conduits	**5.4**	**—**
Third party securitisations	**0.5**	**—**
	6.1	**—**

Several firms disclose the composition of assets in the SPEs that they sponsor. A leading practice is to cross-tabulate the underlying assets by type and creditworthiness, as illustrated in an example for SIVs, shown in Exhibit 10.[28]

A similar, but more informative, disclosure also includes the average maturity for each asset type in an ABCP conduit (Exhibit 11 on page 11).[29]

[28] Citigroup, *op. cit.*, p. 95.

[29] JPMorgan Chase, *op. cit.*, p. 148.

Exhibit 10

	December 31, 2007				**September 30, 2007**			
		Average Credit Quality [1],[2]				**Average Credit Quality [1],[2]**		
	Average Asset Mix	**Aaa**	**Aa**	**A**	**Average Asset Mix**	**Aaa**	**Aa**	**A**
Financial Institutions Debt	59%	12%	43%	4%	58%	12%	44%	2%
Sovereign Debt	1%	1%	—	—	—	—	—	—
Structured Finance								
MBS—Non-U.S. residential	12%	12%	—	—	11%	11%	—	—
CBOs, CLOs, CDOs	6%	6%	—	—	8%	8%	—	—
MBS —U.S. residential	7%	7%	—	—	7%	7%	—	—
CMBS	4%	4%	—	—	6%	6%	—	—
Student loans	6%	6%	—	—	5%	5%	—	—
Credit cards	5%	5%	—	—	4%	4%	—	—
Other	—	—	—	—	1%	1%	—	—
Total Structured Finance	40%	40%	—	—	42%	42%	—	—
Total	100%	53%	43%	4%	100%	54%	44%	2%

(1) Credit ratings based on Moody's ratings as of December 31, 2007 and September 30, 2007.

(2) The SIVs have no direct exposure to U.S. subprime assets and have approximately $50 million and $70 million of indirect exposure to subprime assets through CDOs, which are AAA rated and carry credit enhancements as of December 31, 2007 and September 30, 2007.

Exhibit 11

	Ratings profile of VIE assets[b]						
	Investment-grade				Noninvestment-grade		
December 31, 2007 (in billions)	AAA to AAA-	AA+ to AA-	A+ to A-	BBB to BBB-	BB+ and below	Funded assets	Wt. avg. expected life (years)[c]
Asset types:							
Credit card	$ 4.2	$ 9.4	$ 0.6	$ —	$ —	$ 14.2	1.5
Automobile	1.8	6.9	1.4	—	0.1	10.2	2.3
Trade receivables	—	4.7	1.7	0.2	—	6.6	1.3
Education loans	1.0	8.1	0.1	—	—	9.2	0.5
Commercial	0.5	4.2	0.7	0.1	—	5.5	2.6
Residential mortgage	1.5	0.8	0.8	—	—	3.1	1.5
Capital commitments	—	5.1	—	—	—	5.1	3.4
Other	2.0	4.6	0.4	0.2	0.1	7.3	2.0
Total	$ 11.0	$ 43.8	$ 5.7	$ 0.5	$ 0.2	$ 61.2	1.8

Going further, a leading-practice disclosure for ABCP gives a breakdown of underlying assets by geographic origin as well as by asset type and credit rating.[30]

Another leading-practice firm discloses, for each SIV that it sponsors: (a) the credit ratings of the underlying assets; (b) the composition of the assets; (c) how the assets are distributed over its balance-sheet categories; (d) maturity data; and (e) the funding structure. The first two items are shown in Exhibits 12A and 12B.[31]

Exhibit 12A

Cullinan—Ratings analysis of assets

	2007 US$bn	2006 US$bn
S&P ratings		
AAA	**22.2**	23.1
AA	**2.9**	2.3
A	**3.1**	3.5
BBB	**0.1**	0.1
Total investments	**28.3**	29.0
Cash and other assets	**5.0**	1.5
Total assets	**33.3**	30.5

Exhibit 12B

Cullinan—Composition of asset portfolio

	2007 US$bn	2006 US$bn
Asset class		
Structured finance		
Residential mortgage-backed securities	**9.9**	11.9
Commercial mortgage-backed securities	**3.7**	3.9
Collateralised debt obligations	**3.8**	3.0
Student loan securities	**2.2**	2.3
Home equity lines of credit securities	**1.3**	2.0
Vehicle finance loans securities	**0.3**	0.4
Credit loan securities	**0.1**	0.2
Other asset-backed securities	**4.5**	0.8
Total structured finance assets	**25.8**	24.5
Finance		
Commercial bank debt securities and deposits	**6.3**	5.1
Investment bank debt securities	**0.7**	0.6
Finance company debt securities	**0.5**	0.3
Total bank and finance company assets	**7.5**	6.0
Total assets	**33.3**	30.5

[30] State Street Corporation, *Annual Report on Form 10-K for the fiscal year ended December 31, 2007,* pp. 71-2. Here, the breakdowns by asset type and credit rating are not cross-tabulated.

[31] HSBC Holdings, plc, *op. cit.,* p. 185.

Residential Mortgage-Backed Securities

A majority of the surveyed firms make various disclosures regarding their exposure to subprime residential mortgages and RMBS that are not in CDOs. Sometimes the information pertains specifically to subprime RMBS, sometimes to all RMBS, and sometimes to subprime mortgages that have not necessarily been securitized.

A few of these disclosures include a breakdown by creditworthiness rating, and some show write-offs. Perhaps the leading instance of the former is Exhibit 13.[32]

Exhibit 13

Ratings at Dec. 31, 2007		
	Mortgage-backed securities[(a)]	Asset-backed collateralized debt obligations
AAA	**18%**	**44%**
AA	**65**	**38**
A	**16**	**18**
BBB	**1**	**—**
Total	**100%**	**100%**

(a) With subprime exposure, excluding TRFC.

It is somewhat common for firms to disclose their exposure to Alt-A mortgages, which are viewed as being of somewhat better quality than subprime loans. A leading practice is to break down these exposures by credit rating.[33]

Another leading practice is to disclose the sensitivity of RMBS to hypothetical changes in prepayment rates, credit loss assumptions, and the discount rate, as shown in Exhibit 14.[34]

Exhibit 14

	November 30, 2007			**November 30, 2006**		
	Residential Mortgages			**Residential Mortgages**		
Dollars in millions	**Investment Grade[(1)]**	**Non-Investment Grade**	**Other[(2)]**	**Investment Grade[(1)]**	**Non-Investment Grade**	**Other[(2)]**
Interests in securitizations (in billions)	$7.1	$1.6	$2.6	$5.3	$2.0	$0.6
Weighted-average life (years)	9	4	6	5	6	5
Average constant prepayment rate	12.4%	17.0%	—	27.2%	29.1%	—
Effect of 10% adverse change	$55	$8	$—	$21	$61	$—
Effect of 20% adverse change	$111	$10	$—	$35	$110	$—
Weighted-average credit loss assumption	0.5%	2.4%	0.7%	0.6%	1.3%	—
Effect of 10% adverse change	$107	$104	$6	$70	$109	$—
Effect of 20% adverse change	$197	$201	$12	$131	$196	$—
Weighted-average discount rate	7.7%	19.4%	7.3%	7.2%	18.4%	5.8%
Effect of 10% adverse change	$245	$53	$84	$124	$76	$13
Effect of 20% adverse change	$489	$102	$166	$232	$147	$22

(1) The amount of investment-grade interests in securitizations related to agency collateralized mortgage obligations was approximately $2.5 billion and $1.9 billion at November 30, 2007 and 2006, respectively.

(2) At November 30, 2007, other interests in securitizations included approximately $2.4 billion of investment grade commercial mortgages, approximately $26 million of non-investment grade commercial mortgages and the remainder relates to municipal products. At November 30, 2006, other interests in securitizations included approximately $0.6 billion of investment grade commercial mortgages.

[32] The Bank of New York Mellon Corporation, *2007 Annual Report – Financial Section,* p. 37.

[33] Examples are Barclays and UBS.

[34] Lehman Brothers, *Annual Report on Form 10-K for the fiscal year ended November 30, 2007,* p. 112.

Commercial Mortgage-Backed Securities

Several surveyed firms indicate that they are involved with CMBS and provide the amount of their exposure. A leading disclosure is to show the exposure both gross and net of hedging.[35]

Another leading practice is to present the distribution of CMBS exposures by loan type and geographic area (Exhibits 15A and 15B).[36]

Exhibit 15A

Exposure by loan type

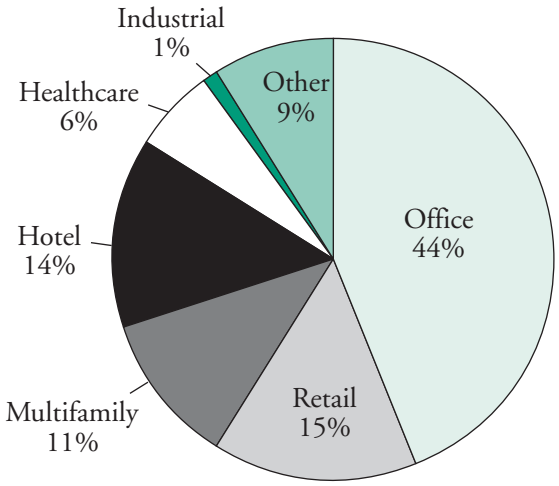
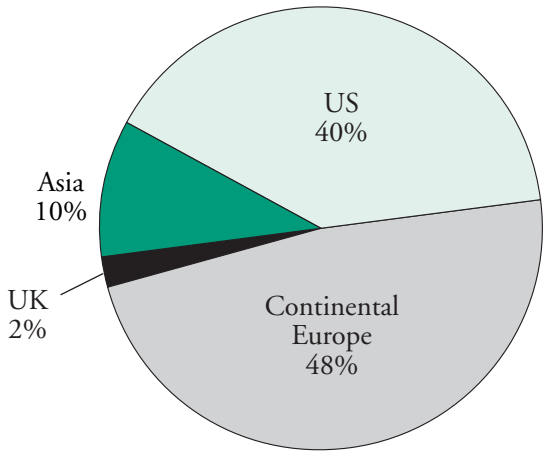


Exhibit 15B

Total exposure by geography



[35] See, for example, Wachovia Corporation, *2007 Annual Report,* p. 15.

[36] Credit Suisse, *Fourth-Quarter and Full-Year 2007 Results* (presentation, February 12, 2008, slide 34).

Leveraged Finance

The majority of surveyed firms disclose at least part of their leveraged finance exposure. It is somewhat common—although far from universal—for firms to distinguish between on-balance-sheet exposure and unfunded commitments and to reveal the write-downs taken in the recent period.

Less common disclosures, which would qualify as leading practices, include an industry breakdown and a geographic breakdown (Exhibits 16A and 16B).[37]

Exhibit 16A

Exposure by industry sector

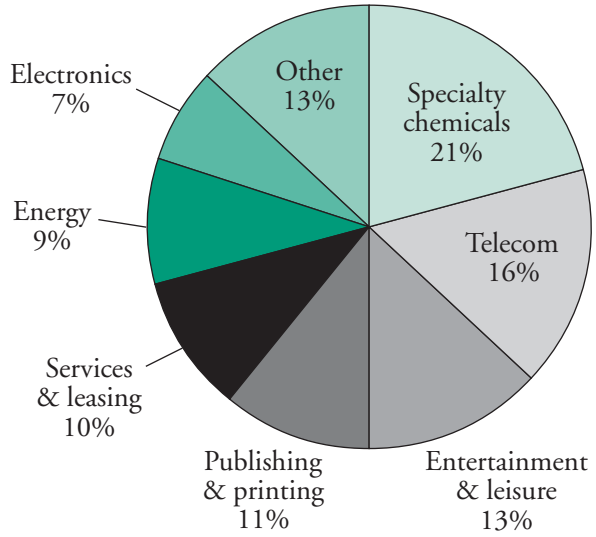
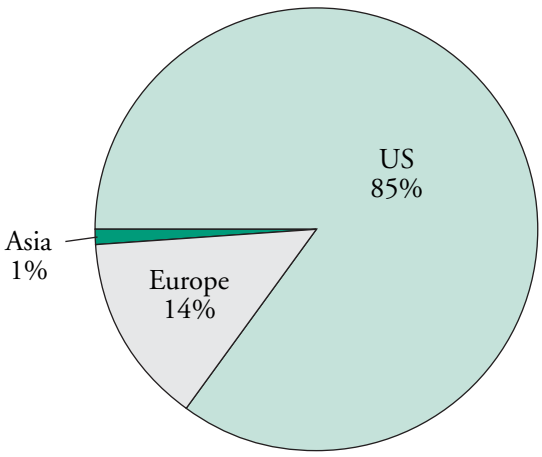


Exhibit 16B

Total exposure by geography



[37] *Ibid.*, slide 32.

As another demonstration of its leading practice, this firm provides a qualitative discussion of its policy regarding leveraged finance, stating that the firm's "portfolio is largely with large-cap companies with stable cash flows, substantial assets and multi-billion dollar enterprise values" and that it has "little exposure to highly cyclical industries and no exposure to home building or auto sector."

[38] *Ibid.*

APPENDIX A: FINANCIAL FIRMS SURVEYED[39]

Bank of America Corporation
The Bank of New York Mellon Corporation
Barclays
Bear Stearns Companies
BNP Paribas Group
Citigroup
Commerzbank
Credit Suisse Group
Deutsche Bank
Goldman Sachs Group
HSBC Holdings
JPMorgan Chase & Co.
Lehman Brothers Holdings
Merrill Lynch & Co.
Morgan Stanley
The Royal Bank of Scotland Group
Société Générale Group
State Street Corporation
UBS
Wachovia Corporation

[39]Data used in this survey include annual reports, quarterly reports, press releases, and presentations, as available. For the banks and Merrill Lynch, data are generally as of December 31, 2007. In a few cases where a firm has not yet released either an annual report or a quarterly report for year-end 2007, the report for the quarter ended September 30, 2007, is used, together with the firm's press release and presentation of year-end results. For the other securities firms, data are as of November 30, 2007.

APPENDIX B: SURVEY OF DISCLOSURE PRACTICES

Here we provide a general sense of the extent to which selected disclosures have been observed in our sample. It is important to reiterate that some disclosures may not be relevant for firms that do not have significant exposure to the activity; as such, the figures below have not been derived from a statistically valid sampling approach. Moreover, the estimates shown here may well turn out to be understated because when a firm had not yet released either an annual or a quarterly report for year-end 2007, we used its report for the third quarter ended September 2007, in addition to press releases and presentations of year-end data. The annual reports, when issued, may contain information not present in earlier releases.

Special Purpose Entities—General

(1) *A summary of exposures to the SPEs with which the firm is involved, distinguishing between those that are and are not consolidated. Circumstances that require a particular SPE to move from off-balance-sheet to on-balance-sheet status are noted.*

Every firm in our sample indicates involvement with CDOs. Eighty percent indicate involvement with SIVs and/or ABCP conduits. Data are often presented in separate locations; some firms present summary data in one table.

(2) *The size and activities of the SPEs.*

All firms involved with SIVs and ABCP conduits (except for two firms that have not yet issued their year-end annual reports) disclose the size of these SPEs. Their activities are usually clear.

(3) *The nature of the firm's involvement with particular categories of SPEs and its maximum exposure to loss as a result of its involvement with each category.*

With respect to CDOs, 90 percent of the firms disclose their exposure to loss. Among firms involved with SIVs and ABCP conduits, 88 percent disclose exposure to loss. (A few firms provide data for all SPEs, without a breakdown for SIVs and ABCP.[40])

(4) *Breakdowns of assets underlying SIVs and ABCP conduits by collateral type, credit rating, and location of the ultimate borrowers and the average maturity of the borrowers' obligations.*

Of the 16 firms that reveal an involvement with ABCP conduits and/or SIVs, 56 percent provide a distribution of the assets in the SPE over asset types. Fifty percent give a breakdown by credit rating. Only a few disclose a geographic distribution.

Collateralized Debt Obligations

(5) *The firm's total exposure to CDOs and a breakdown of this exposure according to the firm's internal methodology.*

Breakdowns of CDO super-senior exposures by high-grade, mezzanine, and CDO-squared underlying are disclosed by 45 percent of the firms.

(6) *Separate data for CDOs whose ultimate underlying collateral is of particular concern to the markets (such as subprime residential mortgages) and other CDOs. More generally, discussion that informs market participants of how the firm determines a CDO to be a "subprime mortgage CDO."*

Only a few firms make these disclosures.

(7) *CDO exposure before and after hedging, including exposure to financial guarantors, showing the notional amount of protection bought from individual guarantors and the fair value of such exposure both before and after credit valuation adjustments, if any.*

Exposure before and after hedging is disclosed by 50 percent of the firms. Eighty percent disclose the notional amount or fair value (or both) of exposure to guarantors. Thirty-five percent give the credit valuation adjustment. Twenty-five percent either break down their exposures to guarantors by the credit rating of the guarantor or name the guarantors.

[40] "Few" could mean only one firm.

APPENDIX B: SURVEY OF DISCLOSURE PRACTICES (*CONTINUED*)

(8) *Data pertaining to the creditworthiness of the CDOs, such as mark-to-market or other write-downs from face value, broken down according to the firm's methodology, and the vintage of the underlying subprime mortgages.*

Write-downs are broken down by 55 percent of the firms. Thirty percent reveal the vintage of underlying subprime mortgages.

(9) *The methodology for the valuation of the instruments and the primary drivers of the valuation.*

Among the surveyed firms, 55 percent indicate the principal drivers. (Some other firms give a more general description.)

Other Subprime and Alt-A Exposures

(10) *Exposure to subprime residential mortgages not in CDOs, whether whole loans, RMBS, via derivatives or commitments, both before and after hedging, together with data indicating their creditworthiness, such as data on write-downs or credit ratings.*

Every firm except one (it has not yet released its year-end report) indicates involvement with subprime mortgages or RMBS that are not in CDOs. Of these firms, 89 percent reveal the amount of the exposure (this includes a few cases where the exposure is combined with CDO exposure). In addition, of the firms that disclose the amount of gross exposure, 59 percent also disclose the hedged amount, and 26 percent give a breakdown by credit rating.

(11) *Similar data for Alt-A mortgages.*

Thirty-five percent of the firms disclose the amount of exposure to Alt-A mortgages. Two firms provide breakdowns by credit rating.

(12) *The sensitivity of the valuation of RMBS to changes in assumptions, such as prepayment rates, credit losses, and the discount rate, broken down by the credit quality of the mortgages.*

Of the firms that indicated involvement with subprime mortgages or RMBS not in CDOs, 37 percent present an analysis of sensitivity (usually, but not always, to changes in prepayment rates, credit losses, and the discount rate).

Commercial Mortgage-Backed Securities

(13) *Exposure to CMBS, both before and after the effect of hedging and including breakdowns by industry of the underlying collateral and geographic area.*

Fifty-five percent of the surveyed firms disclose the amount of their exposure to CMBS. Only a few give breakdowns by industry or geographic area.

Leveraged Finance

(14) *On- and off-balance-sheet exposure to leveraged finance, together with elaboration, such as write-downs and distributions over industries and geographic areas.*

Seventy percent of the firms disclose the amount of exposure to leveraged finance. Fifty percent reveal the write-downs. Only a few disclose the distribution over industry or geographic area.