
ISDA Margin Survey 2006

ISDA[®]

INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION, INC.

INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION

The International Swaps and Derivatives Association, Inc. (ISDA) is the leading global trade association representing professional market participants in privately negotiated derivative transactions. Privately negotiated derivative transactions include interest rate, currency, equity, commodity and credit swaps, options, and forward transactions, as well as related products comprising forward rate agreements, caps, floors, collars, and swaptions.

ISDA, chartered in 1985, numbers over 700 members in 50 countries. Its members include most of the world's major commercial, universal and investment banks as well as other companies and institutions active in swaps and other privately negotiated derivatives transactions.

1. INTRODUCTION

Since the [1999 Collateral Review](#), ISDA has reported on collateral use and management practices in the privately-negotiated—more popularly known as over-the-counter (OTC)—derivatives industry. The 2006 ISDA Margin Survey continues this practice, and shows the growth in the amount of collateral in use and the number of collateral agreements in place.

A record 113 firms responded to the 2006 Survey; [Appendix 1](#) lists the respondents. Of the 113 firms, 87 are primary members (derivatives dealers) and 26 are subscriber members (derivatives users). Further, 82 are banks or securities affiliates of banks and 14 are securities broker-dealers. Other respondents include sovereign entities, pension funds, government sponsored entities, commodity trading firms, asset managers, and an insurance company.

Table 1.1 shows some sample characteristics. The Survey classifies respondents into three size groups based on the number of collateral agreements executed. In this year's Survey, the threshold for classification as a large program increased from 500 to 1,000 agreements; the result is that 18 firms are classified as large compared with 19 last year. Some 59 percent of respondents are based in Europe or South Africa; 20 percent in the United States or Canada; 14 percent in Japan; and 7 percent in Australia or Asia outside Japan.

Table 1.1 Profile of firms responding to 2006 ISDA Margin Survey

Numbers of firms

Size class	Number of agreements	Regional Mix in 2006 Survey									
		2006	2005	2004	2003	2002	2001	Americas	Asia/ Pacific	Europe*	Japan
Large	>1000	18	19	16	14	14	12	9	0	9	0
Medium	51-1000	43	33	33	27	25	16	7	4	24	8
Small	0-50	52	57	48	32	32	15	6	4	34	8
Total		113	109	97	73	71	43	22	8	67	16

*Includes South Africa

In the 2006 Survey, the questions refer to respondents' collateral management functions as of December 30, 2005. All amounts are in U.S. dollars. As with all ISDA surveys, access to firm responses is strictly limited to selected ISDA staff and the data are not shared with the employee of any ISDA member firm or any other outside party. For questions, comments, or suggestions regarding the Survey results, please contact Johanna Schwab (Policy Director, jschwab@isda.org) or David Mengle (Head of Research, dmengle@isda.org).

2. SUMMARY

1. ISDA estimates that about \$1.33 trillion of collateral was in use at the beginning of 2006, a 10 percent increase from the \$1.21 trillion reported in the 2005 Survey.
2. Actual collateral reported by 2006 Survey respondents is \$922 billion, compared with \$854 billion reported in the 2005 Survey. Of the 2006 reported amount, \$534 billion is collateral received and \$387 billion is collateral delivered.
3. Reported collateral grew by 9 percent among firms responding in both 2005 and 2006, compared with 20 percent the previous year. Part of the reason for the decreased growth rate is technical: The dollar appreciated relative to the euro during 2005, which reduced the reported value of euro-denominated collateral; the opposite effect occurred in last year's Survey because of dollar depreciation during 2004.
4. Cash is the most commonly used type of collateral, making up over 75 percent of collateral compared with 73 percent last year. There has been some increase in the use of equities and agency securities as collateral.
5. Evidence of increased collateral use includes the huge increase in the number of collateral agreements in place, to wit, from 70,892 in last year's Survey to 109,733 this year. Adjusting for growth in the number of respondents, the number of collateral agreements at responding firms has grown a record 57 percent since last year's Survey. This year's respondents forecast further growth of 25 percent during 2006.
6. As number of agreements increases, collateral coverage increases as well. Respondents report that approximately 59 percent of their derivative transactions are secured by collateral agreements, and 63 percent of mark-to-market credit exposure is covered by collateral. These results continue trend of increasing coverage during the past several years: The 2003 Survey, for example, reported coverage of 30 percent of trades and 29 percent of exposure. Among individual products, credit derivatives now command the highest coverage.
7. Large firms are the most active users of collateral. These firms hold approximately 81 percent of reported collateral and are involved in about 89 percent of collateral agreements reported by respondents. Large firms also report higher coverage of trade volume than do other firms, but report roughly the same coverage of credit exposure.
8. Collateral re-use is almost routine among large programs and infrequent among small programs.
9. Hedge funds are numerically the largest class of counterparties but are concentrated among large programs. For small programs, banks and brokers remain the most important category of counterparty and hedge funds are virtually absent.

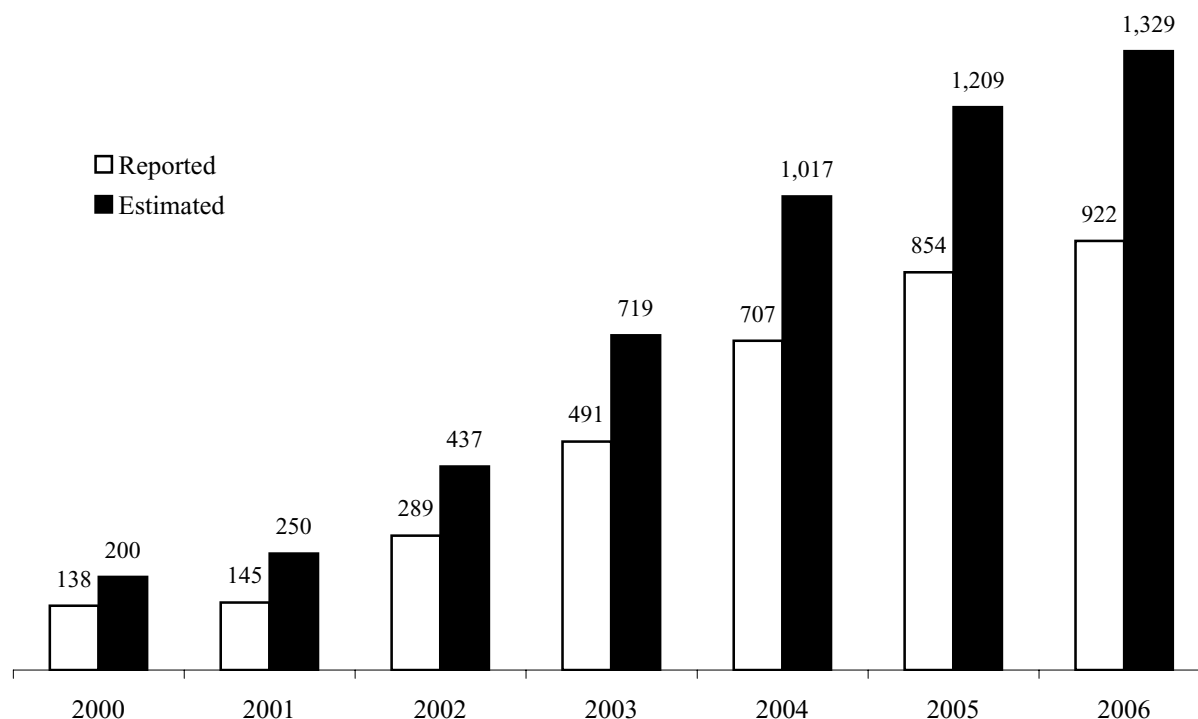
3. COLLATERAL ASSETS

3.1 VOLUME OF COLLATERAL USED IN MARKET

The 2006 ISDA Margin Survey estimates the gross amount of collateral in use to be \$1.329 trillion as of the end of 2005 (all results are in U.S. dollars). This amount represents a growth rate of 10 percent over the previous year, and is lower than the 19 percent reported in last year's Survey. The \$1.329 trillion estimate is based on a total reported collateral amount of \$921.6 billion; [Appendix 2](#) describes the adjustment used to obtain the estimate. Chart 3.1 shows the growth of reported and estimated collateral since the 2000 ISDA Collateral Survey.

Chart 3.1 Growth of value of total reported and estimated collateral, 2000 - 2006

Millions of US dollars



Among the 85 firms that responded in both 2005 and 2006, collateral received grew by 13 percent and collateral delivered by 4 percent, for an overall increase of 9 percent. Table 3.1 shows the breakdown of reported collateral by asset type. In last year's Survey, in contrast, collateral received grew by 22 percent, collateral delivered by 18 percent, and total reported collateral by 20 percent. Approximately 81 percent of total collateral—85 percent of collateral received and 76 percent of collateral delivered—was reported by the 18 programs classified as large, that is, having more than 1,000 agreements in place.

The amount of collateral use measured by the Margin Survey is subject to several influences, namely, changes in market interest rates and exchange rates, increases in the number of collateral programs and agreements, and increases in the use of collateral by market participants. Charts 3.2

Table 3.1 Value of collateral received and delivered by respondents*By type, millions of US dollars*

		Collateral Received	Percent	Collateral Delivered	Percent
Cash	USD	222,213,438,218	41.6	169,215,713,921	43.7
	EUR	147,250,162,235	27.6	120,981,854,259	31.2
	GBP	10,441,583,443	2.0	9,860,439,953	2.5
	JPY	5,278,707,188	1.0	2,901,426,603	0.7
	Other	4,586,738,751	0.9	2,230,860,952	0.6
Subtotal		389,770,629,835	72.9	305,190,295,689	78.8
Government Securities	United States	24,362,840,177	4.6	33,719,606,850	8.7
	European Union	19,812,074,355	3.7	30,057,194,998	7.8
	United Kingdom	1,158,741,533	0.2	2,317,541,336	0.6
	Japan	11,014,496,525	2.1	2,719,212,624	0.7
	Other	6,820,469,743	1.3	2,831,970,624	0.7
Subtotal		63,168,622,334	11.8	71,645,526,432	18.5
Others	Govt. agency securities	22,646,017,489	4.2	7,215,802,145	1.9
	Supranational bonds	2,146,183,423	0.4	6,042,221	0.0
	Covered bonds	113,326,961	0.0	244,531,917	0.1
	Corporate bonds	12,570,655,762	2.4	845,456,545	0.2
	Letters of credit	11,948,379,410	2.2	264,641,261	0.1
	Equities	22,439,968,737	4.2	84,741,754	0.0
	Metals and commodities	806,306,328	0.2	0	0.0
	Other	8,836,813,422	1.7	1,655,499,649	0.4
Subtotal		81,507,651,531	15.3	10,316,715,492	2.7
Total collateral		534,446,903,701		387,152,537,613	
Grand total				921,599,441,313	

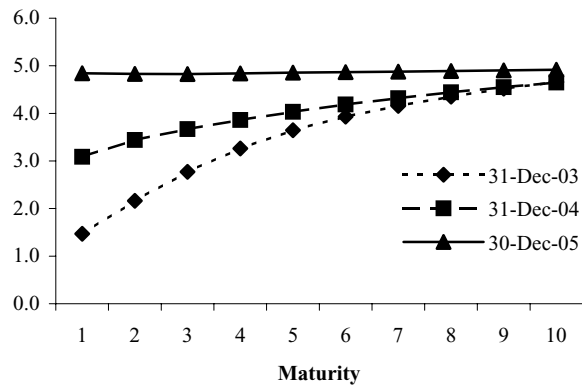
through 3.4 show changes in interest rates and exchange rates during 2004 and 2005; subsequent sections will cover the other influences.

Changes in interest and currency exchange rates affect the amount of collateral by means of changes in the mark to market value of existing transactions, which leads to changes in credit exposure. In addition, market changes lead to additional trading activity—including new trades, unwinds, maturing trades, and amortization events—and thereby alter exposure and collateral levels. Charts 3.2 and 3.3, which show changes in the swap yield curves for the US dollar and euro, show that there were significant market changes during 2004 and 2005 that would lead to increases in use of collateral.

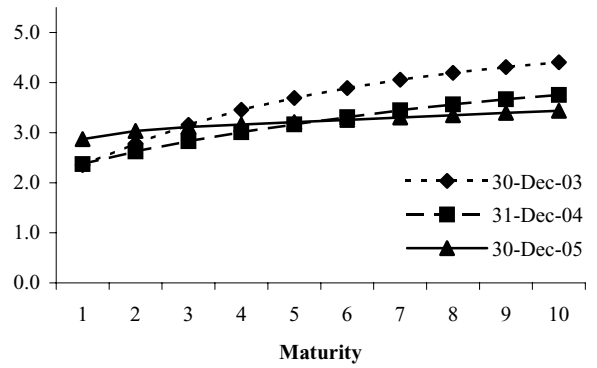
At the same time, changes in the value of the dollar, which is the reporting currency used in the Margin Survey, can lead to purely technical changes in the amount of collateral reported. Of particular significance to the Survey is the large proportion of euro-based respondents. Chart 3.4 shows that the dollar appreciated over 12 percent against the euro during most of 2005; appreciation leads, other things held constant, to a decrease in the dollar value of euro-denominated collateral. It is likely that this translation effect served to diminish the effect of other market changes on measured collateral growth during 2005. During 2004, in contrast, the dollar fell almost 10 percent against the euro, which served to reinforce the effect of market changes on the amount of collateral reported in dollars.

Charts 3.2-3.3 Interest rate swap yield curves, Year-end 2003-2005

USD



EUR



Source: ISDAFIX®

Chart 3.4 USD-EUR exchange rates, 2004-2005



Source: Federal Reserve System, H.10 Statistical Release

Table 3.2 Types of collateral received and delivered, by program size*Percents*

		Collateral Received			Collateral Delivered		
		Large	Medium	Small	Large	Medium	Small
Cash	USD	44.9	21.3	41.4	48.4	30.1	19.9
	EUR	22.8	52.0	41.6	24.4	53.9	38.4
	GBP	2.2	0.3	3.0	2.8	1.2	5.2
	JPY	1.0	1.2	0.2	0.6	0.7	5.5
	Other	0.3	4.0	0.8	0.4	0.8	6.1
	Subtotal	71.2	78.8	87.1	76.6	86.8	75.2
Government Securities	United States	5.0	1.9	5.2	10.5	3.4	0.3
	European Union	3.8	4.0	1.9	8.7	3.7	15.4
	UK	0.2	0.0	1.7	0.7	0.0	3.4
	Japan	1.9	3.6	0.3	0.4	1.5	2.2
	Other	1.2	1.6	2.1	0.1	3.1	0.0
	Subtotal	12.0	11.1	11.1	20.4	11.6	21.3
Other	Agencies	4.9	1.4	0.0	2.2	0.6	2.4
	Supranationals	0.2	1.8	0.0	0.0	0.0	0.0
	Covered Bonds	0.0	0.1	0.0	0.0	0.2	0.3
	Corporate Bonds	2.7	0.9	0.0	0.3	0.1	0.0
	Letters of Credit	2.6	0.8	0.2	0.0	0.1	0.6
	Equities	4.3	4.5	0.7	0.0	0.0	0.0
	Metals and other comm.	0.2	0.0	0.0	0.0	0.0	0.0
	Others	1.9	0.4	1.0	0.4	0.6	0.2
Subtotal	16.8	10.0	1.8	3.0	1.6	3.5	

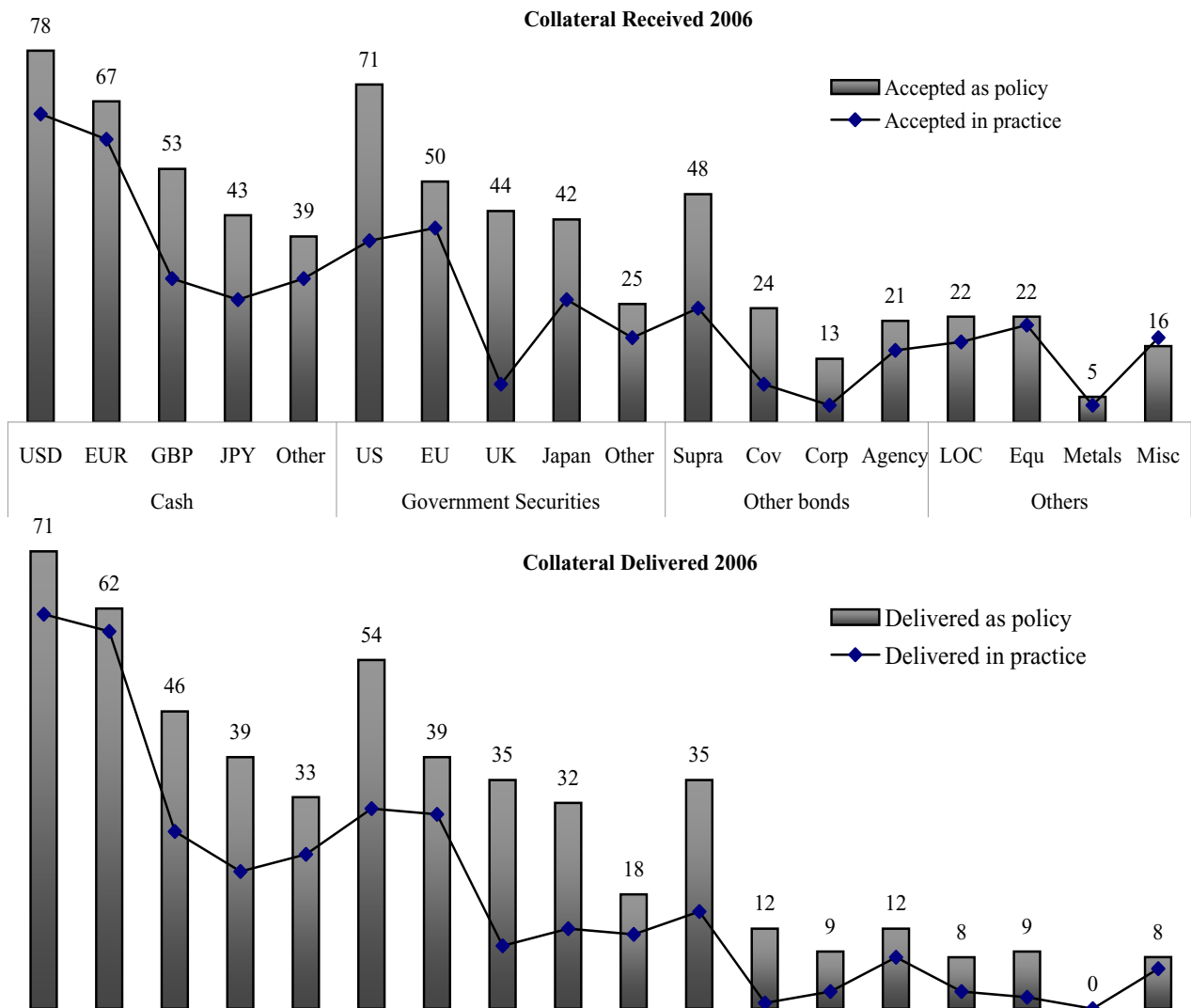
3.2 TYPES OF ASSETS USED AS COLLATERAL

Table 3.1 shows the amounts and proportions of assets used as collateral. As in past years, USD and EUR cash remains by far the most commonly used collateral asset at about 75 percent, despite the expansion of types of assets accepted as collateral (see Section 3.3). But despite the preeminence of cash, there has been a noticeable shift to the “Others” category from cash and government securities. Most notably, government agency securities and equities each are now 4.2 percent of collateral received; last year, in comparison, agencies were 1.8 percent and equities were a negligible percentage. Table 3.2 shows percentage composition of collateral received and delivered by program size.

3.3 POLICIES REGARDING ASSETS USED AS COLLATERAL

Chart 3.5 compares policies regarding allowable collateral assets with actual use of the assets. A firm might, for example, allow a given asset to be used as collateral but might not in practice use it or might use different assets at different times. The chart suggests that policies regarding allowable collateral are not a binding constraint for most firms.

Chart 3.5 Collateral policy versus collateral practice, 2006 Survey
Percent of respondents



3.4 COLLATERAL RE-USE

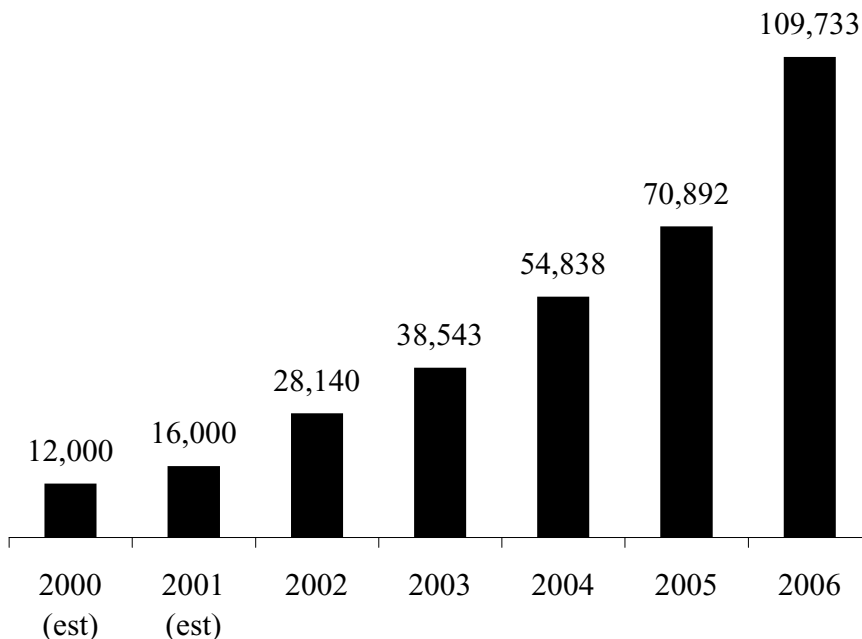
Collateral re-use is a decreasing function of program size. Only one of the 18 large programs reports that it does not re-hypothecate collateral. Moving down the size scale, 25 of 43 medium programs (58 percent) report that they re-use collateral while only 5 of 52 small programs (10 percent) report that they do so.

4. EXTENT OF COLLATERAL USE

4.1 NUMBER AND TYPES OF COLLATERAL AGREEMENTS

There is substantial evidence of increased collateral use in the 2006 ISDA Margin Survey: Respondents report 109,733 collateral agreements in place (Table 4.1), compared with 70,892 in the 2005 Survey. Adjusting for sample growth by restricting the sample to those firms that responded in both years, agreements in place grew 57 percent, which is significantly higher than the 33 percent predicted by respondents to the 2005 Survey. This result follows the pattern of previous Surveys, in which actual growth has exceeded predicted growth. Respondents that provided a forecast expect a growth rate in new agreements of 25 percent in 2006.

Chart 4.1 Growth of collateral agreements reported by respondents, 2000-2006 Surveys



Among large programs, which are those firms with more than 1,000 collateral agreements in place, collateral agreements grew by 53 percent. Approximately 89 percent of collateral agreements reported in the Survey involve the 18 largest firms as one or both counterparties.

The Survey also collects data on types of agreements used. Table 4.1 shows the relative use of the various agreements, among which ISDA credit support documentation is the most frequent choice among practitioners at 76 percent. Respondents report that approximately 74 percent of their ISDA credit support agreements are bilateral, reflecting the industry trend toward bilateral agreements since 1998.

Table 4.1 Numbers and types of collateral agreement used by respondents, 2006 Survey
Columns do not necessarily sum to totals

	Unilateral in your favor	Unilateral against you	Bilateral	Total	Percent
1994 ISDA Credit Support Annex New York Law (pledge)	12,013	1,597	44,276	57,886	52.8
1995 ISDA Credit Support Annex English Law (title transfer)	6,143	1,152	17,187	24,482	22.3
1995 ISDA Credit Support Deed English Law (charge)	69	28	129	226	0.2
1995 ISDA Credit Support Annex Japanese Law	263	15	565	843	0.8
2001 ISDA Margin Provisions German Rahmenvertrag (Besicherungsanhang)	99	1	48	145	0.1
French AFB (Remise en Guarantie)	55	66	838	959	0.9
Other	107	478	495	1,043	1.0
Total number for 2005	33,759	4,054	71,880	109,733	

“Other” documents, which are noticeably more significant this year than in previous Surveys, include bespoke margin agreements, long-form confirmations with collateral terms, master margining agreements, commodity specific margining agreements, and jurisdiction specific agreements such as French AFB and German Rahmenvertrag. The shift to bilateral agreements is less noticeable among non-ISDA documents: only 37 percent of non-ISDA agreements reported by respondents are bilateral. Taking all types of credit support documentation into consideration, about 66 percent of credit support agreements are bilateral.

4.2 PERCENT OF DERIVATIVES COLLATERALIZED

Along with number of collateral agreements, percent of derivatives covered by collateral provides evidence of the extent of collateral use. In order to measure percent collateralized, the Survey requests data about percentage of trade volume and of credit exposure covered by collateral for all OTC derivatives and for OTC derivatives on each underlying risk. Percentage of trade volume is the number of derivative trades subject to any collateral agreement, divided by the total number of derivative trades, collateralized and uncollateralized. Percentage of exposure is the sum of credit exposure for all counterparties that are collateralized, divided by the sum of the metric for all counterparties, collateralized and uncollateralized.

Table 4.2 compares the results for the full sample since 2003, and Table 4.3 shows the results for large programs for 2006 only. This year's results show further evidence of increases in collateral use: OTC derivative coverage has increased to 59 percent of trades in 2005 from 30 percent in 2003; and to 63 percent of credit exposure in 2006 from 29 percent in 2003. Among large firms, coverage of trade volume is generally higher than among the full sample but coverage of exposure is roughly the same as in the full sample.

Among underlying risks, credit derivatives for the first time command the highest coverage in terms both of trades and of exposure. Energy coverage continues to increase, while fixed income retains its high coverage levels. Equity derivative coverage dropped somewhat from last year, but appears to be following the same upward trend as other products. Coverage has again increased for foreign exchange trades and exposures, even though it remains low relative to the others because currency exposures tend to be shorter in duration than other underlyings. Finally, coverage of metals exposure has decreased, most likely due to sample variation coupled with a low response rate compared with the other risks. Note that overall coverage is greater than individual product coverage, which is possible because some respondents report overall coverage only and not individual product coverage.

Table 4.2 Trade volume and exposure collateralized, 2003-06 Surveys

Percents, full sample

	Percent of Trade Volume				Percent of Exposure			
	2006	2005	2004	2003	2006	2005	2004	2003
OTC Derivatives	59	56	51	30	63	55	52	29
Fixed Income	57	58	58	53	57	58	55	48
FX	37	32	24	21	44	43	37	28
Equity	46	51	45	27	56	61	52	24
Metals	37	31	24	18	34	44	40	18
Energy	48	36	26	16	44	37	30	15
Credit	70	59	45	30	62	58	39	25

Table 4.3 Trade volume and exposure collateralized, 2006 Survey

Percents, large programs

	Percent of volume	Percent of exposure
OTC Derivatives	64	62
Fixed Income	69	61
FX	33	43
Equity	54	58
Metals	42	35
Energy	51	45
Credit	83	63

4.3 RANGE OF COLLATERALIZED PRODUCTS

Chart 4.2 shows the range of OTC derivative products supported by collateral management groups, while Chart 4.3 shows the extent to which collateralization of traditionally margined products are being managed along with OTC derivatives. Proportions in the 2006 Survey are roughly similar to those reported in previous Surveys.

Chart 4.2 Percent of OTC derivative products supported by collateral groups , 2006 Survey

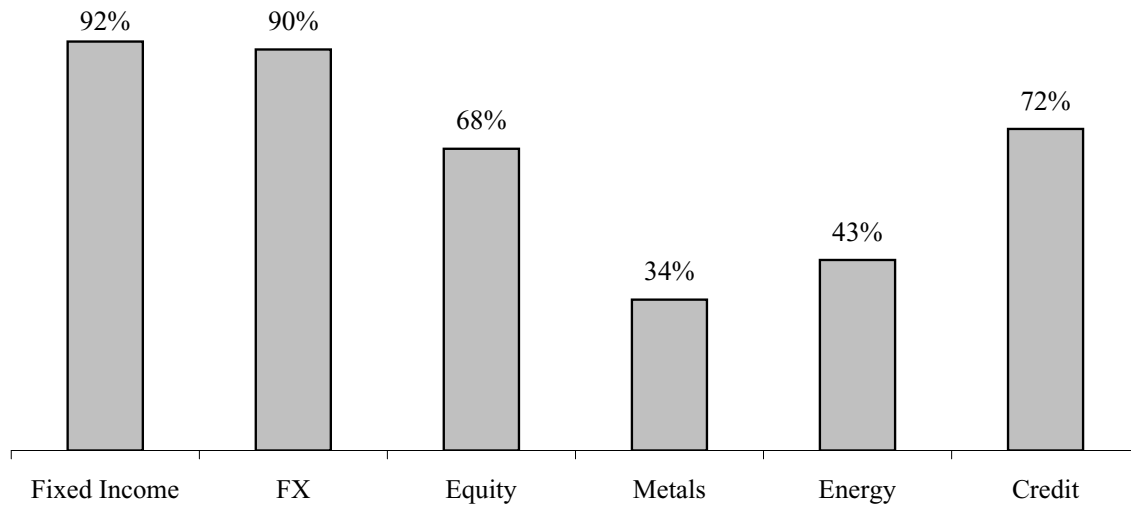


Chart 4.3 Percent of non-OTC derivative products supported by collateral groups, 2006 Survey

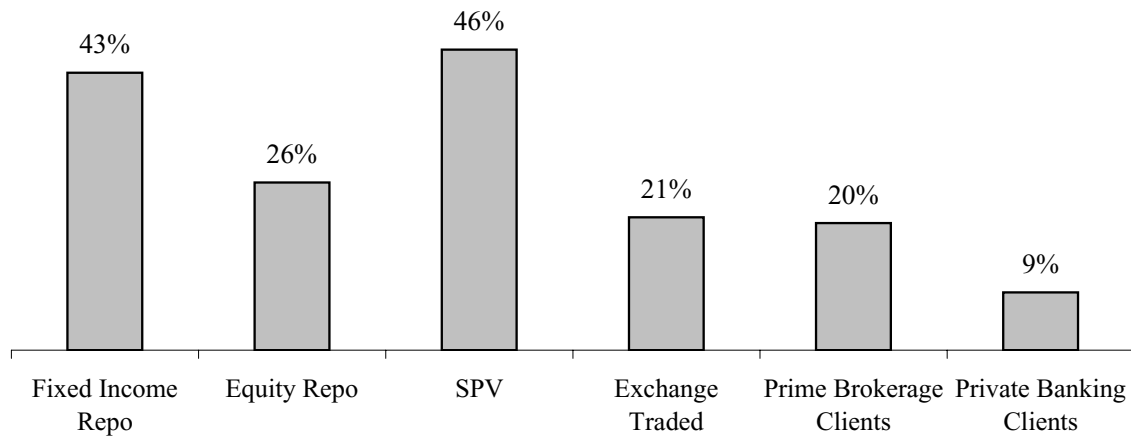
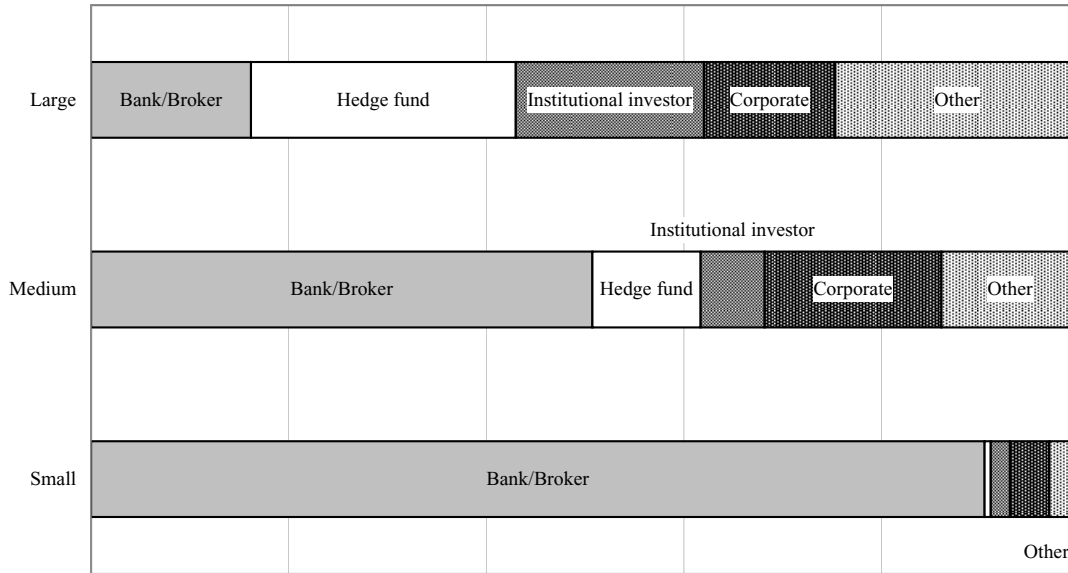


Chart 4.4 Distribution of counterparties by type

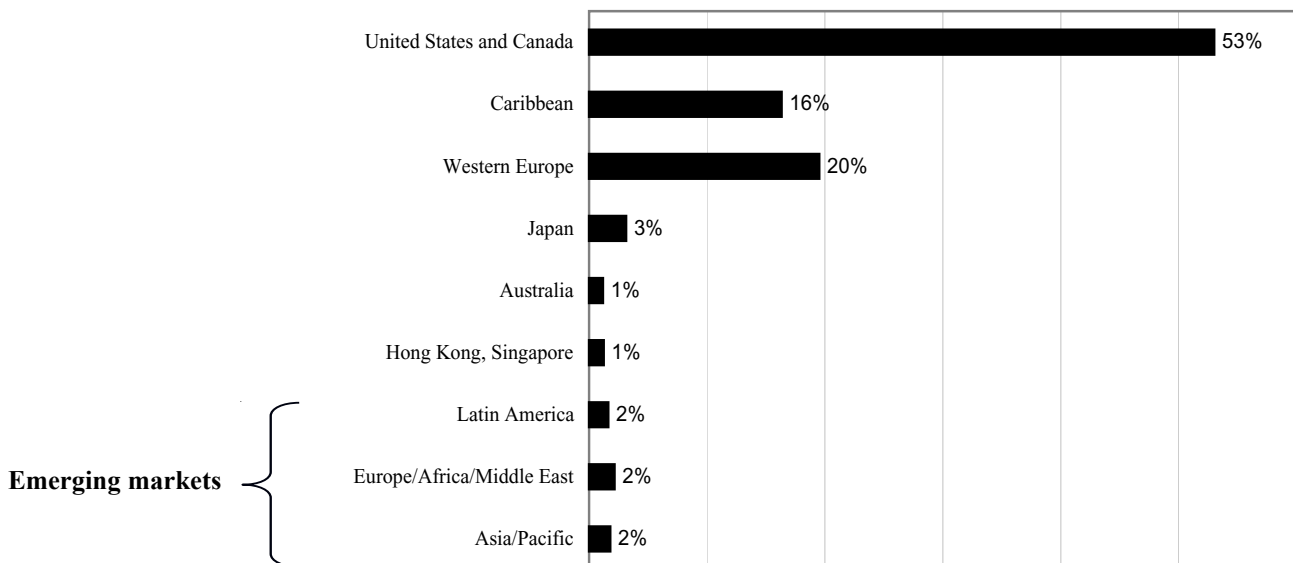


4.4 COUNTERPARTIES OF COLLATERALIZED TRANSACTIONS

Chart 4.4 shows significant variation in counterparty mix across size categories. For small collateral programs, banks are by far the most important category at 90 percent and hedge funds the least important at less than one percent. The reverse is true for large programs, with banks at 16 percent and hedge funds at 27 percent. Medium programs, as one would expect, fall in the middle, with banks the largest category at just over 50 percent followed by corporate counterparties at 18 percent. “Other” counterparties, which includes commodity trading firms, special purpose vehicles, sovereigns, supranationals, private banking clients, and municipalities, are 25 percent of counterparties at large firms, 14 percent at medium firms, and 3 percent at small firms.

The distribution of collateralized counterparties by country of incorporation is virtually identical to that in previous years. Chart 4.5 shows that over half of respondent counterparties are located in the United States and Canada, followed by Western Europe (20 percent) and the Caribbean (16 percent).

Chart 4.5 Geographical distribution of counterparties



APPENDIX 1: 2006 ISDA MARGIN SURVEY PARTICIPANTS

AB Spintab (publ)	Export Development Canada
Abbey National Treasury Services	F&C Asset Management
Abn Amro Bank	Federal Home Loan Bank of Seattle
Agricultural Bank of China	Freddie Mac
Alliance Capital Management	Gaselys
Aozora Bank	Goldman Sachs
Australia and New Zealand Banking Group	Government Debt Management Agency, Hungary
Banca Monte dei Paschi di Siena	HBOS Treasury Services
Banca Nazionale del Lavoro	HSBC
Banco Bilbao Vizcaya Argentaria	HSH Nordbank
Banco BPI	ING Belgium
Banco Português de Investimentos	Joyo Bank, Ltd.
Bank Austria Creditanstalt	JP Morgan Chase
Bank BPH	KBC Bank
Bank of America	Kingdom of Denmark
Bank of New York	Kommuninvest i Sverige
Bank of Tokyo-Mitsubishi UFJ	Landesbank Baden-Württemberg
Bankgesellschaft Berlin	Landesbank Hessen Thuringen -Girozentrale
Barclays Capital	Lehman Brothers
Bayerische Hypo- und Vereinsbank	Louis Dreyfus Energy Services
BayernLB	Macquarie Bank
Bear Stearns	Maple Bank GmbH
BMO Financial Group	Merrill Lynch
BNP Paribas	Mitsubishi UFJ Securities
Caja de Ahorros y Monte de Piedad de Madrid	Mitsubishi UFJ Trust and Banking Corporation
Calyon	Mizuho Corporate Bank
Canada Mortgage and Housing Corporation	Mizuho Securities
Capitalia SPA	Morgan Stanley
CIBC World Markets	National Australia Bank
Citigroup	National Bank of Greece
Commerzbank	Nationwide Building Society
Confederacion Espanola de Cajas de Ahorros	Nedbank
Credit Suisse	Nikko Citigroup
Daiwa Securities SMBC	Nikko Cordial Securities
Danske Bank	Nomura Global Financial Products
Deutsche Asset Management	Nomura International
Deutsche Bank	Nordea Bank
Deutsche Postbank	Nordic Investment Bank
Dexia Bank Belgium	Norges Bank
DnB NOR Bank	Oversea-Chinese Banking Corporation
Dresdner Bank	Pacific Life Insurance Company
DZ Bank	Queensland Investment Corporation
EFG Eurobank Ergasias	Queensland Treasury Corporation
Emporiki Bank - Athens	Raiffeisen Zentralbank Österreich
Erste Bank der Oesterreichischen Sparkassen	Rand Merchant Bank

RBC Capital Markets
Royal Bank of Scotland
RWE Trading GmbH
Sachsen LB - Landesbank Sachsen Girozentrale
Sanlam Capital Markets
Santander Central Hispano
Scottish Power Energy Management
Shinkin Central Bank
Shinko Securities Co.
Skaninaviska Enskilda Banken
Societe Generale
St.George Bank

Standard Chartered Bank
Stichting Pensioenfonds ABP
Sumitomo Trust & Banking Co.
Svenska Handelsbanken
Taishin International Bank
Toronto Dominion Bank
UBS
Wachovia Bank
WestLB
Westpac
Zürcher Kantonalbank
Standard Chartered Bank

APPENDIX 2: ADJUSTMENT OF REPORTED COLLATERAL AMOUNTS

Double counting of collateral. The objective of the ISDA Margin Survey is to estimate the importance of collateralization in the market and not simply to estimate the value of assets used as collateral. The Survey therefore tracks the gross amount of collateral—defined as the sum of all collateral delivered out and all collateral received in by Survey respondents—and does not adjust for double counting of collateral assets. Double counting takes at least two forms. The first occurs when one Survey respondent delivers collateral to or receives collateral from another respondent. The collateral assets in this case are counted twice, once as received and once as delivered. The second source of double-counting is collateral re-use—sometimes called *rehypothecation*—in which collateral is delivered from one party to another, then delivered to a third party, and so on. A single unit of re-used collateral may consequently be counted several times by the Survey as the collateral progresses down the chain of parties re-using it. But because each re-use represents the securing of a separate and distinct credit exposure between two parties, we believe it is valid to count the collateral as many times as it is used. If in contrast the objective were simply to measure the value of assets currently in use as collateral, it would then be necessary to adjust for double counting.

Adjusting for non-responding firms. In order to arrive at an industry gross amount, we adjust the reported sample results for nonparticipation in the Survey. The nonparticipation problem arises because the Margin Survey is compiled from the responses of ISDA member firms, among which large end-users of derivatives such as hedge funds are not as comprehensively represented as the dealers, investment and commercial banks. There are two possible distortions resulting from non-response to the Survey. The first occurs when two firms, neither of which has responded to the Survey, engage in an exchange of collateral with each other. The second occurs when a non-responding firm and a responding firm engage in an exchange of collateral, so the collateral posting is counted only once. We only adjust for the second; we believe the amount of collateralization that does not involve a responding firm in the ISDA sample is of minor significance.

The adjustment is based on the following calculation. First, we poll several major dealer respondents for the percentage of collateral received from and delivered to entities that responded to the Survey. We use the results to calculate an average percentage of collateral received from non-respondents and an average percentage delivered to non-respondents. We then adjust the total amount of collateral held by major dealers with non-respondents by adding in the collateral with non-respondents. The resulting number is significantly larger than that based only on reported amounts. The adjustment is conservative, however, in that it only adjusts the collateral held by the largest dealers. We therefore believe that, although the final number of \$1.329 trillion is a more accurate reflection of the amount of collateral use than the estimate based solely on the Survey responses, it still understates the actual amount of collateral in circulation.

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