ISDA Margin Survey 2008

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 800 members in 55 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

ISDA conducted its first survey of collateral use in the over-the-counter derivatives industry in 2000. Since that time, the reported number of collateral agreements in place has grown from about 12,000 to almost 150,000, while the estimated amount of collateral in circulation has grown from about $200 billion to over $2 trillion. In addition, there has been a continuing trend toward increased collateral coverage, in terms of both number of trades and amount of credit exposure.

Table 1.1 Profile of firms responding to 2008 ISDA Margin Survey
Numbers of firms

Size class	Number of agreements	2008	2007	2006	2005	2004	2003	2002	2001
Large	>1000	20	18	18	19	16	14	14	12
Medium	51-1000	36	40	43	33	33	27	25	16
Small	0-50	51	39	52	57	48	32	32	15
Total		107	97	113	109	97	73	71	43

A total of 107 ISDA member firms responded to the 2008 Margin Survey compared with 97 last year; Appendix 1 lists the respondents. Table 1.1 shows some sample characteristics. The Survey classifies respondents into three size groups based on the number of collateral agreements executed. The threshold for classification as a large program continues to be 1,000 agreements; under this criterion, 20 firms are classified as large. Some 51 percent of respondents are based in Europe or South Africa; 26 percent in the United States or Canada; 14 percent in Japan; and 9 percent in Australia or Asia outside Japan. Table 1.2 classifies respondents according to firm or entity type.

Table 1.2 Type of entity responding to 2008 ISDA Margin Survey

Type	Number
Bank/Broker-dealer	85
Insurer	4
Corporate	1
Mutual fund	0
Hedge fund	0
Pension fund	1
Multinational institution	0
Government agency	4
Government-sponsored entity	1
Energy/Commodity firm	2
Other	9
Total	**107**

The 2008 Survey refers to respondents' collateral management functions as of December 31, 2007. 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.

2. Summary

1. ISDA estimates that the amount collateral used in connection with over-the-counter derivatives transactions grew from $1.3 to $2.1 trillion during 2007, a growth rate of about 60 percent. In contrast, collateral in use during the previous year remained essentially flat.

2. The number of reported collateral agreements in place grew to over 149,000, of which about 85 percent are ISDA agreements. Among firms that responded last year as well as this year, collateral agreements grew by 18 percent. Respondents forecast further growth of 20 percent during 2008.

3. Collateral coverage continues to grow, both in terms of trade volume subject to collateral agreements and of credit exposure covered by collateral. This reflects a long-term trend toward increased collateral coverage. For all OTC derivatives, 63 percent of trades are subject to collateral agreements, compared with 59 percent last year and 30 percent in 2003. Further, 65 percent of OTC derivative credit exposure is now covered by collateral compared with 59 percent last year and 29 percent in 2003.

4. Cash continues to grow in importance among most firms, and now stands at over 78 percent of collateral received and 83 percent of collateral delivered. The increase in cash was balanced by decreases in the use of government securities.

5. Approximately 85 percent of collateral received is held by the 20 firms that make up the large sample. And about 83 percent of collateral delivered comes from the large sample.

6. Collateralized counterparties of large firms are about evenly divided between hedge funds and institutional investors, together totaling about 58 percent. Among small firms, banks and securities firms make up over 75 percent of counterparties subject to collateral agreements.

7. Portfolio reconciliation, which is the verification of the existence of all outstanding trades and comparison of their principal economic terms, is considered good market practice. Approximately 78 percent of respondents state that they engage in some form of systematic portfolio reconciliation. Approximately 22 percent reconcile on a daily basis, while about 13 percent reconcile weekly and 21 percent monthly. Another 34 percent reconcile in response to disputes that arise in such matters as valuation.

3. Collateral assets

3.1 Volume of collateral used in market

The estimated amount of collateral in use grew substantially during 2007, from $1.3 trillion to over $2.1 trillion (Chart 3.1). This growth of nearly 60 percent is in marked contrast to that of last year, during which estimated collateral remained essentially flat. The $2.1 trillion estimate is based on a total reported collateral amount of about $1.5 trillion (Table 3.1); the estimation procedure is described in Appendix 2. The increase in collateral, both received and delivered, was general across the sample and not concentrated in a few responding firms.

The average 60 percent growth was not evenly balance between collateral received and collateral delivered: While collateral received grew by 51 percent, collateral delivered grew by 71 percent. Approximately 84 percent of total collateral—85 percent of collateral received and 83 percent of collateral delivered—was reported by the 20 large firms, a result consistent with past surveys. Growth in collateral received and delivered among large firms reflected the same proportions as for the full sample.

Chart 3.1 Growth of value of total reported and estimated collateral, 2000 - 2008
Billions of US dollars

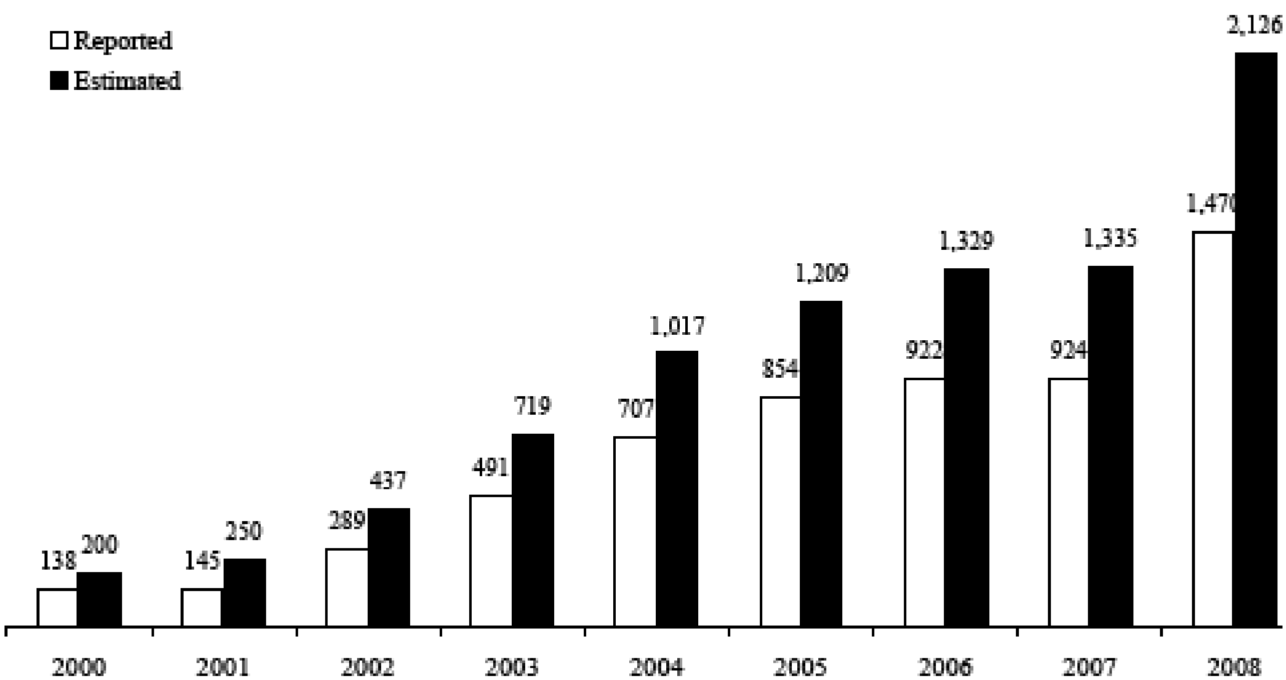


Table 3.1 Value of collateral received and delivered by respondents
By type, millions of US dollars

		Collateral Received	Percent	Collateral Delivered	Percent
Cash	USD	407,092	49.0	336,434	52.7
	EUR	215,711	25.9	166,554	26.1
	GBP	12,099	1.5	15,582	2.4
	JPY	9,840	1.2	9,835	1.5
	Other	7,355	0.9	3,002	0.5
Subtotal		**652,097**	**78.4**	**531,407**	**83.3**
Government Securities	United States	27,482	3.3	43,250	6.8
	European Union	17,693	2.1	34,164	5.4
	United Kingdom	2,294	0.3	5,505	0.9
	Japan	11,058	1.3	4,155	0.7
	Other	6,337	0.8	2,575	0.4
Subtotal		**64,864**	**7.8**	**89,649**	**14.0**
Others	Govt. agency securities	20,372	2.4	10,141	1.6
	Supranational bonds	3,669	0.4	39	0.0
	Covered bonds	1,026	0.1	599	0.1
	Corporate bonds	25,311	3.0	3,024	0.5
	Letters of credit	11,131	1.3	1,278	0.2
	Equities	41,065	4.9	1,184	0.2
	Metals and commodities	992	0.1	0	0.0
	Other	10,986	1.3	829	0.1
Subtotal		**114,553**	**13.8**	**17,094**	**2.7**
Total collateral		**831,514**		**638,150**	
Grand total				**1,469,664**	

3.2 Types of assets used as collateral

Table 3.1 shows the breakdown of reported collateral by asset category. While the amount of collateral in use increased markedly from last year, there were no notable changes in the relative significance of types of collateral other than a continuation of the gradual trend toward increased use of cash collateral instead of government securities or other assets.

Table 3.2 shows percentage composition of collateral received and delivered by program size. Proportions are generally similar to last year. The one exception is the small firm category, among which the composition of collateral received has shifted somewhat from cash to other securities such as supranational bonds. The most plausible explanation is changes in the sample composition, which tends to vary more from year to year than do that of the large and medium groups.

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	51.7	29.5	44.7	57.3	32.5	21.6
	EUR	23.3	47.7	18.6	21.1	52.0	37.5
	GBP	1.4	1.2	3.5	2.6	0.7	6.7
	JPY	0.8	3.1	5.1	0.9	4.4	6.3
	Other	0.6	3.2	0.8	0.4	0.8	1.4
	Subtotal	**77.8**	**84.7**	**72.7**	**82.3**	**90.3**	**73.4**
Government Securities	United States	3.3	3.1	4.8	7.4	4.0	3.0
	European Union	2.2	1.7	2.4	5.9	0.7	15.6
	UK	0.3	0.0	1.2	0.9	0.0	3.0
	Japan	1.1	2.7	2.6	0.6	0.9	2.3
	Other	0.6	2.2	0.1	0.1	2.0	0.2
	Subtotal	**7.4**	**9.7**	**11.0**	**14.9**	**7.6**	**24.2**
Other	Agencies	2.6	1.0	2.5	1.9	0.0	1.6
	Supranationals	0.2	0.2	6.5	0.0	0.0	0.0
	Covered Bonds	0.1	0.6	0.0	0.0	0.6	0.0
	Corporate Bonds	3.3	0.8	4.0	0.4	0.7	0.2
	Letters of Credit	1.5	0.6	0.5	0.2	0.1	0.0
	Equities	5.4	2.2	2.3	0.2	0.0	0.0
	Metals and other comm.	0.1	0.0	0.0	0.0	0.0	0.0
	Others	1.5	0.1	0.6	0.0	0.7	0.6
	Subtotal	**14.8**	**5.6**	**16.3**	**2.8**	**2.1**	**2.4**

4. Extent of collateral use

4.1 Number and types of collateral agreements

Respondents to the 2008 Margin Survey report report 149,322 collateral agreements in place, compared with 132,732 in the 2007 Survey (Chart 4.1). Adjusting for sample growth by restricting the sample to those firms that responded in both years, agreements grew 18 percent, which is higher than the 15 percent growth predicted by respondents to last year's Survey. Respondents that provided a forecast this year expect a new agreements to grow by 20 percent in 2008. Among large programs, which are those firms with more than 1,000 collateral agreements in place, collateral agreements grew by 26 percent.

Chart 4.1 Growth of collateral agreements reported by respondents, 2000-2008 Surveys

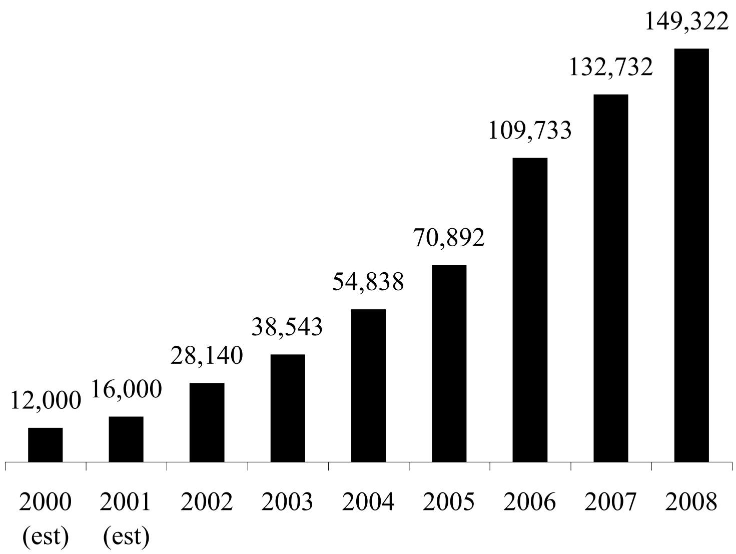


Table 4.1 Numbers and types of collateral agreement used by respondents, 2008 Survey
Columns do not necessarily sum to totals

	Unilateral in your favor	Bilateral	Total	Percent
1994 ISDA Credit Support Annex New York Law (pledge)	13,845	67,469	81,314	**60.0**
1995 ISDA Credit Support Annex English Law (title transfer)	8,264	25,249	33,513	**24.7**
1995 ISDA Credit Support Deed English Law (charge)	321	769	1,090	**0.8**
1995 ISDA Credit Support Annex Japanese Law	341	705	1,046	**0.8**
2001 ISDA Margin Provisions	144	120	264	**0.2**
Other	10,002	8,375	18,377	**13.6**
Total number	32,917	102,687	149,322	

The Survey also collects data on types of agreements used. Table 4.1 shows the relative use of the various agreements. Note that the total number of agreements is greater than the sum of the individual rows; this is because some firms reported only total number of agreements without further detail. As in previous years, ISDA credit support documentation is the most frequent choice among practitioners at about 85 percent. Non-ISDA documents 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. Respondents report that approximately 80 percent of their ISDA credit support agreements, and 74 percent of all agreements, are bilateral. This reflects the continuing trend toward bilateral agreements since 1998.

4.2 Percent of derivatives collateralized

Percent of derivatives collateralized provides evidence of the extent to which market participants use collateral to manage their counterparty exposures. In order to measure collateral coverage, the Survey requests data about (1) percent of trade volume that is subject to a credit support agreements (CSA), and (2) OTC derivative credit exposure covered by collateral. Percent 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. Percent of exposure collateralized 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. This year's results show further evidence of increases in collateral use for most risks: OTC derivative coverage has increased to 63 percent of trades in 2008 from 30 percent in 2003; and to 65 percent of credit exposure in 2008 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.

Table 4.2 Trade volume and exposure collateralized, 2003-08 Surveys
Percents, full sample

	Percent of Trade Volume						**Percent of Exposure**					
	2008	**2007**	**2006**	**2005**	**2004**	**2003**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
OTC Derivatives	**63**	**59**	**59**	**56**	**51**	**30**	**65**	**59**	**63**	**55**	**52**	**29**
Fixed Income	68	62	57	58	58	53	66	65	57	58	55	48
FX	44	36	37	32	24	21	55	44	44	43	37	28
Equity	52	51	46	51	45	27	56	56	56	61	52	24
Metals	38	37	37	31	24	18	41	34	34	44	40	18
Energy	40	42	48	36	26	16	39	41	44	37	30	15
Credit	74	66	70	59	45	30	66	66	62	58	39	25

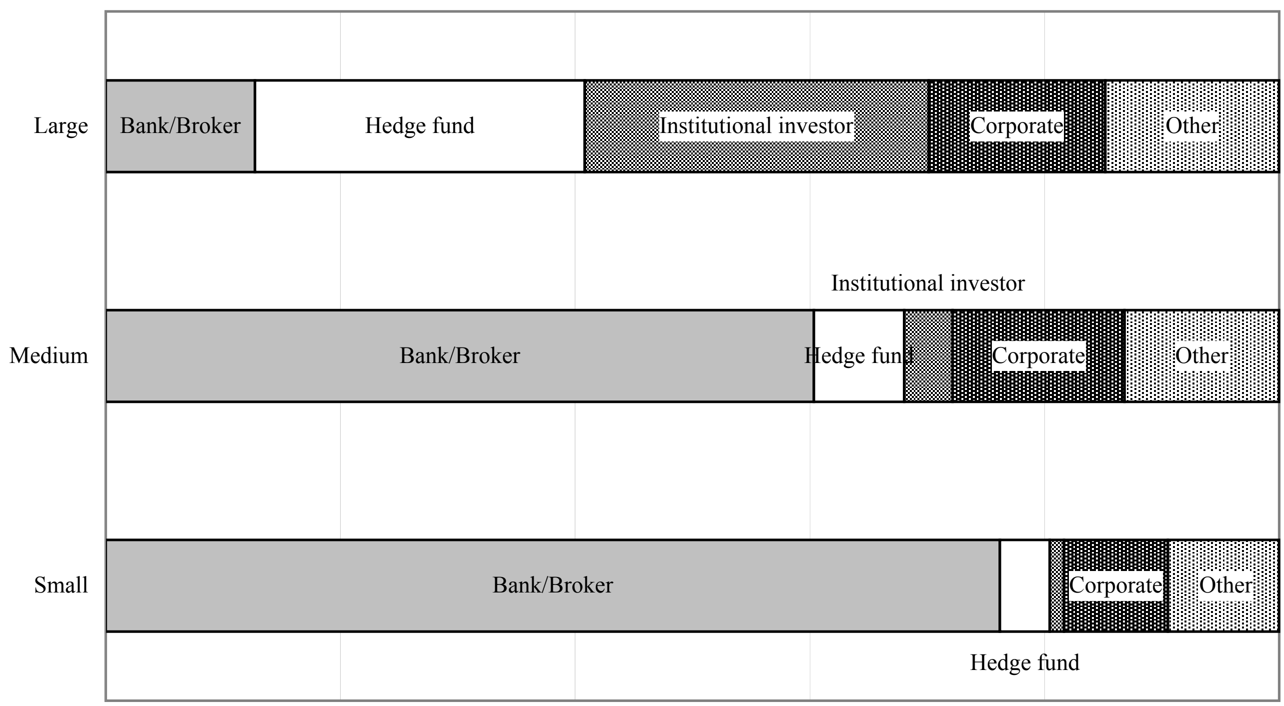
Among underlying risks, credit derivatives now have the highest collateral coverage. Following closely is fixed income, in large part because it represents the largest share of financial institutions' credit exposures and attracts correspondingly high coverage. One striking change has been the significant increase in coverage of foreign exchange derivative transactions. Coverage has customarily been low for such transactions because the majority of FX derivatives are low in duration relative to other derivatives. It is likely that the increased coverage for foreign exchange trades and exposures rose due to continuing depreciation of the dollar against other currencies.

4.3 COUNTERPARTIES OF COLLATERALIZED TRANSACTIONS

Chart 4.2 shows significant variation in counterparty mix across size categories. For small collateral programs, banks are by far the most important category at 75 percent and hedge funds the least important at less than 4 percent. The reverse is true for large programs, with banks at 13 percent and hedge funds at 28 percent. Medium programs, as one would expect, fall in the middle, with banks the largest category at 60 percent followed by corporate counterparties at 15 percent. "Other" counterparties, which includes commodity trading firms, special purpose vehicles, sovereigns, supranationals, private banking clients, and municipalities, are 15 percent of counterparties at large firms, 13 percent at medium firms, and 9 percent at small firms.

The distribution of collateralized counterparties by country of incorporation is virtually identical to that in previous years. About half of respondent counterparties are located in the United States and Canada, followed by Western Europe (21 percent) and the Caribbean (19 percent).

Chart 4.2
Counterparties of collateralized transactions



4.4 Use of Portfolio Reconciliation by ISDA Member Firms

A key component of the post-trade execution process for OTC derivative transactions is the efficient and timely reconciliation of portfolios in order to ensure accurate and common reflection of trade population and trade economics between counterparties. Portfolio reconciliation, or the verification of the existence of outstanding trades and the comparison of their economic terms, is considered good market practice and has been identified by market participants as a trend in collateral management. Indeed, bilateral reconciliation at regular intervals has for some time been an area of focus for the ISDA Operations Committee (Recommended Practices for Portfolio Reconciliation, February 2006), the Collateral Committee (Collateral Data Standards, April 2003), and FpML and other industry working groups. The operational advantages of being able to verify portfolios of trades between counterparties on a group-to-group, multi-product basis are widely recognized, not least in the collateral management area.

The 2008 Survey asked firms to provide information on the portfolio reconciliation process. First, the Survey asked firms if they perform portfolio reconciliations; 78 percent of the 107 firm sample answered that they do. Second, the Survey asked firms how often they reconcile. Of the firms that perform reconciliations, 22 percent reconcile daily (including following disputes); 13 reconcile weekly (1 percent of these firms also reconcile following a dispute); 21 percent reconcile on a monthly basis (2 percent of these firms also reconcile following a dispute); and 34 percent perform portfolio reconciliation only as needed, generally following a dispute. Of the remaining 10 percent, frequency of portfolio reconciliation varies from every two months to quarterly, semi-annually, and even yearly, with a number of firms performing ad-hoc reconciliations as needed.

Finally, the Survey asked firms to identify the department responsible for carrying out the portfolio reconciliation process. Firms responded as follows: the collateral function is responsible for portfolio reconciliations in 55 percent of firms, the operations function in 11 percent, and a dedicated portfolio reconciliation group in 19 percent; the dedicated group often sits with the collateral function. Finally, 16 percent of reconciliations are handled by a variety of functions including treasury, credit risk management, middle office, and confirmations, as well as externally by third party vendors.

Appendix 1: Firms responding to the 2008 ISDA Margin Survey

Abbey National Treasury Services
ABN Amro
ABSA Bank
AEGON USA
Alberta Treasury Branches
Australia and New Zealand Banking Group
Aozora Bank
AXA Bank Belgium
Banca Monte dei Paschi di Siena SpA
Banco BPI
Bank of America
Bank of New York Mellon
Bank of Scotland Treasury
Bank of Tokyo-Mitsubishi UFJ
Barclays Capital
BayernLB
Banco Bilbao Vizcaya Argentaria (BBVA)
Bear Stearns
Bank of Montreal Capital Markets
BNP Paribas
Caixa Estalvis de Catalunya
Caja de Ahorros y Monte de Piedad de Madrid
Calyon
Canada Mortgage and Housing Corporation
Chuo Mitsui Trust and Banking
CIBC World Markets
Citigroup
Commerzbank
Confederacion Espanola de Casas de Ahorros
Credit Suisse
Daiwa Securities SMBC
DEPFA ACS Bank
DEPFA Bank
DEPFA Pfandbrief Bank
Deutsche Asset Management - Americas
Deutsche Bank
DnB NOR Bank ASA
Dresdner Bank
DZ Bank
Eksportfinans ASA
Emporiki Bank
European Bank for Reconstruction and Development
Freddie Mac
Goldman Sachs
Government Debt Management Agency, Hungary
HSBC
HSH Nordbank AG
HVB
Investec Bank
Halyk Savings Bank of Kazakhstan
Joyo Bank
JP Morgan Chase
KBC Bank
Kommuninvest Sverige
Kookmin Bank
Landesbank Baden-Württemberg
Landesbank Berlin AG
Lehman Brothers
Lloyds TSB
Macquarie Bank
Mellon Bank
Merrill Lynch
MetLife
Mitsubishi UFJ Securities
Mitsubishi UFJ Trust
Mizuho Capital Markets
Mizuho Corporate Bank
Mizuho Securities
Morgan Stanley
National Australia Bank
National City Bank
Nikko Cordial Securities
Nomura Securities
Norddeutsche Landesbank Girozentrale
Nordea Bank
Norinchukin Bank
Nuon Energy Trade & Wholesale
Pacific Life Insurance Company
Prudential Global Funding
Raiffeisen Zentralbank Österreich AG
Reserve Bank of New Zealand
Royal Bank of Canada
Royal Bank of Scotland
Sanlam Capital Markets
Shinkin Central Bank
Shinko Securities
SNS Bank
Société Générale
Southwest Gas Corporation
St. George Bank
Standard Chartered Bank
State Board of Administration of Florida
Stichting Pensioenfonds ABP
Sumitomo Trust and Banking Company
Svenska Handelsbanken
Swedbank
Taishin International Bank
Toronto Dominion Bank
Turkiye Garanti Bankasi
UBS
Union Bank of California
United Overseas Bank
Wachovia Bank
Webster Bank
Westdeutsche Genossenschafts-Zentralbank (WGZ)
Westpac Banking Corporation
Zürcher Kantonalbank

Appendix 2: Adjusting reported collateral to obtain estimated collateral

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 $2.126 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.