
ISDA Margin Survey 2002

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INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION, INC.

INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION

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ISDA Margin Survey 2002

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1. INTRODUCTION TO THE ISDA MARGIN SURVEY 2002

This year's Margin Survey represents the fourth year in which ISDA has surveyed the state of collateral use and management in the privately-negotiated — more popularly known as over-the-counter (OTC) — derivatives industry. The goals of the Survey are the following:

1. Describe and communicate the current status of collateral management in an objective, consistent manner.
2. Follow the extent to which firms adopt the practices recommended in the [ISDA Guidelines for Collateral Practitioners](#) (1998) and in the [1999 Collateral Review](#).
3. Provide industry participants with information they can use for benchmarking their collateral management function, for education and awareness, and for seeking internal sponsorship of collateral function development within the firm.
4. Provide new entrants to the market with baseline data to assist them in evaluating the benefits and opportunities resulting from collateral management.
5. Promote greater transparency by increasing understanding of collateral management as well as of counterparty risk management among regulators and other industry groups.

The form of the surveys has changed considerably since the 1999 Collateral Review, but we attempted this year to follow the format of the [2001 ISDA Margin Survey](#) to the extent feasible. Protiviti Consulting served as consultant to this year's Survey, under the supervision of the Margin Survey Advisory Group (Appendix 1).

The Survey consisted of 18 questions, shown in [Appendix 4](#), regarding the respondents' collateral management function as of December 31, 2001. The questions covered three general areas, namely, collateral assets, extent of collateral use, and characteristics of collateral programs. The completed questionnaires were sent directly to the consultant and were not shared with ISDA staff or member firms; ISDA only received the results in aggregated form.

Table 1-1 shows characteristics of this year's Survey sample. It consists of 71 firms compared with 43 in 2001 and 46 in 2000. Appendix 2 lists the respondents: Of the 71 firms responding, 46 are banks, 22 are other financial services firms, and 3 are energy firms.

We have divided the programs into three size groups based on the number of collateral agreements maintained by the respondent. The number of firms in each of the three groups increased from the

Table 1-1
Profile of firms responding to 2002 ISDA Margin Survey
Numbers of firms

Size class	Number of agreements	Regional mix in 2002 Survey					
		2001	2002	Responding in both years	Americas	Asia - Pacific	Europe - Africa
Large	>500	12	14	11	8	1	5
Medium	51-500	16	25	10	8	1	16
Small	0-50	15	32	6	7	9	16
Total		43	71	27	23	11	37

2001 Survey. In addition, there was some movement between groups: one program moved from the small to the medium group, and 3 moved from the medium to the large group. Readers of the Survey might bear in mind that the size categories refer to size of collateral program, not absolute firm size.

Growth in the sample helps make the Margin Survey an increasingly representative sample of collateral practice. But there is a trade-off: Growth in the number of respondents also leads to sample variability in the small and medium size classes. While 11 out of 14 firms in the large group responded in both 2001 and 2002, for example, the same was true for only 5 out of 32 firms in the small group and 10 out of 25 in the medium group. The result is that year-to-year comparisons, to the extent they appear in this Survey, should be interpreted with care for the small and medium subsamples.

ISDA welcomes comments on the Survey and suggestions as to how it could be further improved. Please send comments and suggestions to David Mengle, ISDA Head of Research (dmengle@isda.org). Please send questions regarding the Survey content or any questions relating to the ISDA Collateral Committee to Louise Marshall, ISDA Policy Director (lmarshall@isda.org).

2. EXECUTIVE SUMMARY

COLLATERAL ASSETS

1. Respondents to the 2002 ISDA Margin Survey report holding \$289 billion of collateral, of which \$174 billion is collateral received and \$115 billion is collateral delivered. Adjusting for collateral held by firms that did not respond to the Survey, ISDA estimates the total amount of collateral in circulation to be \$437 billion.
2. U.S. dollar and euro cash remain the most commonly used collateral assets, followed by government securities.
3. At large- and medium-sized collateral programs, the most common use of collateral that is eligible for re-use is to meet collateral calls. At small programs, most eligible collateral remains in custody.

EXTENT OF COLLATERAL USE

4. The vast majority of collateral programs cover fixed income, currency, and equity derivatives. In addition, 60 percent support fixed income repo and 50 percent support structured products and special purpose vehicles.
5. Respondents to the 2002 Survey report over 28,000 collateral agreements in place, compared with 16,000 in the 2001 Survey and 11,000 in the 2000 Survey. This year's respondents forecast further growth of 19 percent during 2002.
6. ISDA documentation, especially the New York Law CSA, remains the dominant form of collateral documentation. Respondents had not yet adopted the 2001 Margin Provisions as of the Survey date.
7. Banks and brokers remain the largest category of counterparty, followed by institutional investors such as insurance companies, pension funds, and money managers.
8. Although banks are the dominant category for all three size categories, institutional investors are next in importance for large and medium respondents as are corporates for small respondents. Hedge funds decrease in importance from large through medium to small responding programs.
9. For fixed income derivatives, respondents report that collateral covers about half of trade volume and 40 percent of exposure. Coverage is lower for other products, both in terms of trade volume and of exposure. The result for small programs suggests that a small number of agreements can have a substantial effect: Specifically, small respondents report that one third of fixed income, equity, and energy derivative exposure is covered by collateral.
10. North America and Western Europe continue to dominate the distribution of collateralized counterparties. The Caribbean is next in importance, due largely to hedge fund activity.
11. Credit risk reduction continues to be the most important reason for respondents to use collateral; next in importance is regulatory capital savings. Other factors include access to more complex trades and the ability to price more competitively.

CHARACTERISTICS OF COLLATERAL PROGRAMS

12. The most common primary reporting line for collateral programs is to operations, while the most common secondary reporting line is to credit. Also significant, however, are treasury and business units, especially as secondary reporting lines. The latter evidence suggests that collateral might be viewed increasingly as part of the business instead of as a strictly operational support or control function.
13. Most collateral management employees are involved in the margining function, followed by middle office, legal, and risk management functions.
14. In choosing technology platforms, large programs tend to prefer in-house developed systems, while medium programs tend toward installed vendor packages and small programs toward spreadsheets.
15. Large respondents spent over \$7 million for collateral management in 2001, but predict somewhat lower expenditure for 2002. Medium respondents, in contrast, spent about \$1 million in 2001 and expect \$1.3 million for 2002, while small respondents spent \$250,000 in 2001 and predict \$350,000 in 2002.
16. Large programs forecast over \$2.0 million on technology in 2002, compared with nearly \$650,000 among medium programs and \$175,000 among small programs.

3. COLLATERAL ASSETS

3.1 VOLUME OF COLLATERAL USED IN MARKET

According to the 2002 Survey results, the gross amount of collateral in circulation in the Survey sample is over \$289 billion; this amount in turns consists of \$173.9 billion in collateral received and \$115.1 in collateral delivered (Table 3.1-1; Appendix 3 shows more detail by size class). The total amount is up 16 percent from the 2001 estimate of \$250 billion and 45 percent from the 2000 Survey estimate of \$200 billion. In addition, this year's Survey attempts for the first time to obtain a more accurate estimate of gross collateral by adjusting for institutions that did not participate in the Survey. After adjusting gross collateral as described below, ISDA estimates the industry gross amount of collateral in circulation to be over \$437 billion.

Table 3.1-1
Value of collateral received and delivered by respondents

By type, millions of US dollars

		Collateral received		Collateral delivered	
		Amount	Percent	Amount	Percent
Cash	USD	\$ 64,946	37.34	\$ 51,199	44.47
	EUR	30,292	17.41	14,548	12.64
	GBP	8,194	4.71	6,413	5.57
	JPY	1,432	0.82	1,525	1.32
	Other	4,163	2.39	848	0.74
	Subtotal	109,027	62.68	74,534	64.74
Government securities	United States	10,511	6.04	14,135	12.28
	European Union	5,798	3.33	9,995	8.68
	Japan	3,079	1.77	2,656	2.31
	Other	2,781	1.60	115	0.10
	Subtotal	22,169	12.74	26,901	23.37
Government Agency securities	6,782	3.90	8,190	7.11	
Supranational bonds	44	0.03	80	0.07	
Covered bonds (e.g., Pfandbriefe)	465	0.27	459	0.40	
Corporate bonds	9,138	5.25	3,977	3.45	
Letters of credit	2,987	1.72	674	0.59	
Equities	19,815	11.39	307	0.27	
Metals and commodities	1,028	0.59	-	-	
Other	2,489	1.43	2	0.00	
	Subtotal	42,749	24.58	13,689	11.89
Total		173,945		115,124	
Grand total				\$ 289,069	

The Margin Survey tracks the gross amount of collateral in circulation as a means of measuring the importance of collateralization. We define gross amount of collateral as the simple summation of all collateral delivered out and all collateral received in by Survey respondents. We do not adjust for double-counting, which takes at least two forms. The first occurs when one Survey respondent delivers collateral to or receives collateral in 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 occurs because of 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 rehypothecated collateral may 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. We therefore believe that the amount of collateral is not in itself the interesting information; what we really want to know is how much exposure is protected by collateral. For this reason, we do not adjust for double-counting. 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.

In order to arrive at an industry gross amount, we adjust the sample results for non-participation 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 nonresponding 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 dealer is of minor significance.

We calculated the adjustment as follows. We first polled a sample of several major dealer respondents and asked for the percentage of collateral received from and delivered to entities that responded to the 2002 Survey. We then used the results to calculate an average percentage of collateral received from nonrespondents and an average percentage delivered to nonrespondents. Finally, we adjusted the total amount of collateral held by major dealers with nonrespondents by adding in the collateral with nonrespondents. 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 our final number of \$437 billion 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.

3.2 TYPES OF ASSETS USED AS COLLATERAL

Chart 3.2-1 shows that U.S. dollar and euro cash, followed closely by government securities, are the collateral assets that firms most commonly accept and deliver under current policies. Indeed, 100 percent of large firms accept U.S. dollar and euro cash and government agency securities. But policies do not necessarily determine the actual percentages of collateral received and delivered: Table 3.1-1 shows, for example, that in practice cash far outpaces government securities, with cash representing about two thirds of collateral. Further, the value of government securities delivered by respondents is twice as much as that received. Finally, the percent of firms that accept equities under current policies is greater than the percent that deliver equities; the differences show up in the relative percentages received and delivered.

The picture becomes more mixed when looking at different size classes as shown in Table 3.2-2. Although U.S. dollar cash is still widely accepted, the proportion of small firms accepting euro cash is only 58 percent and the proportion accepting U.S. government securities only 68 percent. These results point to the more specialized and local nature of the smaller respondents as well as to their lower operational capacity and other costs including the maintenance of custodial accounts. Appendix Table 3.2-3A shows relative amounts of collateral actually received and delivered for the

Chart 3.2-1

Types of collateral accepted and delivered under current policies

Percent of respondents

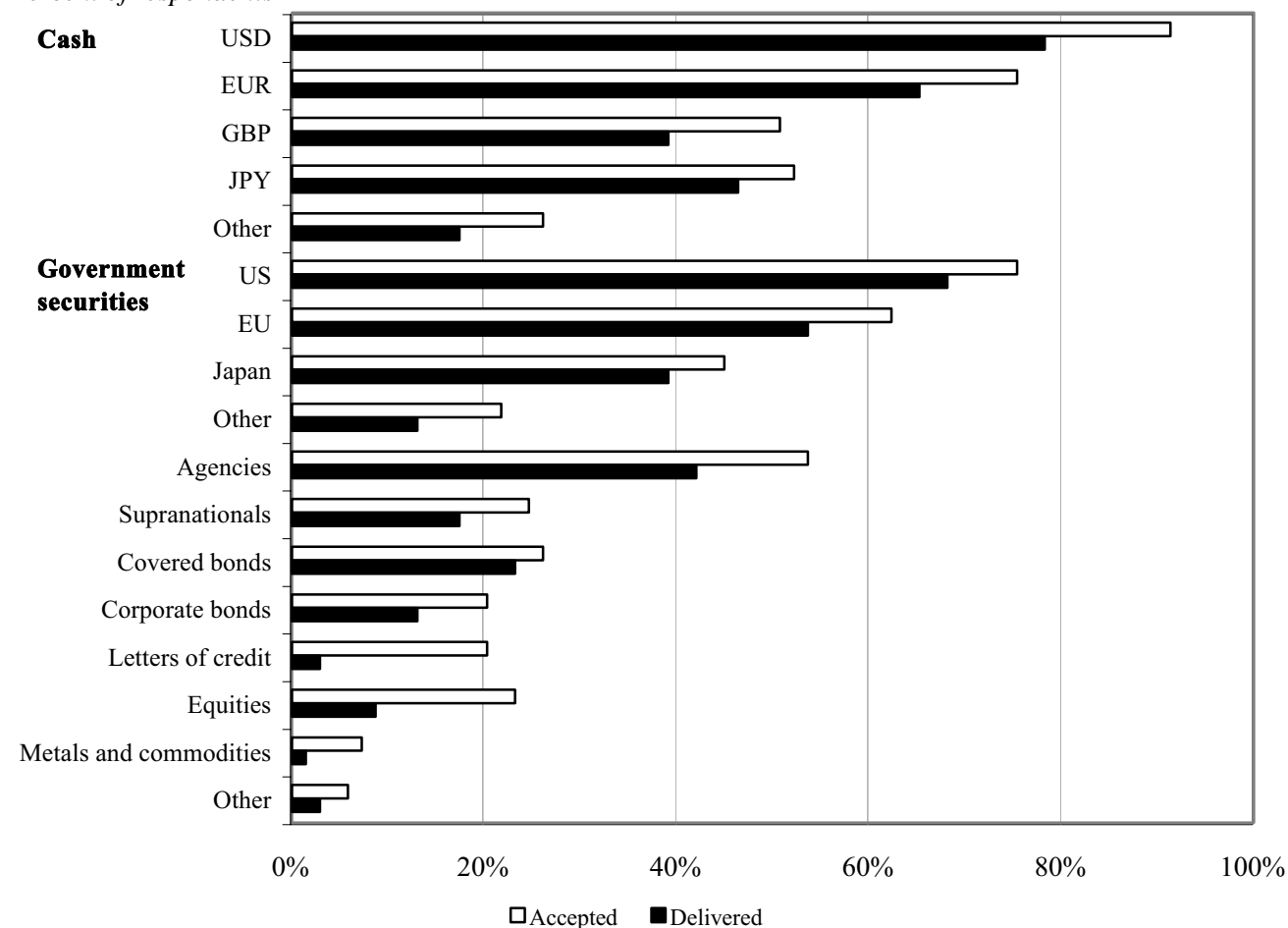


Table 3.2-2

Types of collateral accepted and delivered under current policies

Percents by program size

		Collateral Accepted			Collateral Delivered		
		Small	Medium	Large	Small	Medium	Large
Cash	USD	90	88	100	68	80	100
	EUR	58	84	100	48	76	85
	GBP	32	56	85	23	40	77
	JPY	32	56	92	35	48	69
	Other	13	28	54	10	16	38
Government securities	US	68	76	92	55	72	92
	EU	45	72	85	39	60	77
	Japan	32	48	69	35	40	46
	Other	10	24	46	6	16	23
	Agencies	32	56	100	23	44	85
	Supranational bonds	13	28	46	10	20	31
	Covered bonds	16	28	46	13	24	46
	Corporate bonds	3	20	62	3	8	46
	Letters of credit	6	16	62	3	0	8
	Equities	6	28	54	3	12	15
	Metals and commodities	0	4	31	0	0	8
	Other	0	4	23	3	0	8

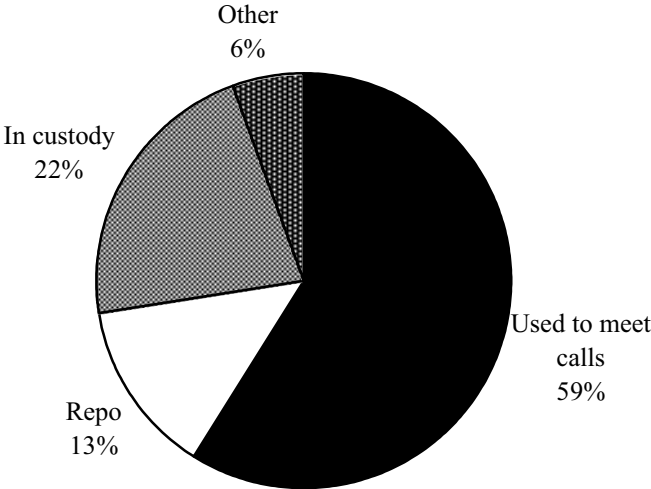
three size classes. Although cash is most important for all groups, it is higher as a proportion of collateral received than of collateral delivered by small firms. Further, government securities appear more significant to small firms than to large firms in terms of collateral actually received and delivered.

Given the changes in the sample, it is only meaningful to look for trends among large respondents (Appendix Table 3.2-2A). But even among large firms, few trends in collateral accepted or delivered are apparent. Two major changes from 2001 in collateral delivered stand above the rest: First, 46 percent of large respondents deliver corporate bonds under current policy compared with 25 percent in the 2001 Survey. And second, 15 percent of large firms deliver equities under current policy, compared with 50 percent in 2001.

3.3 COLLATERAL RE-USE

The Survey included questions about collateral re-use (rehypothecation). Because not all respondents answered these questions, it is not possible to determine the percentage of total collateral that is legally available for re-use. But of the amount reported as available, the main uses are shown in Chart 3-3.1. By far the most common use of collateral allowed to be re-used is to meet collateral calls. The next largest use is to put the collateral into custody, which normally means that an institution is allowed to re-use but lacks the capacity to do so. Looking more closely at size classes, large and medium firms use most (about 80 percent) of the legally available collateral to meet calls, for repo, or for other uses such as securities lending or for firm funding purposes. Small firms, in contrast, tend to put about 67 percent of available collateral into custody.

Chart 3.3-1
Collateral re-use
Percents by use



4. EXTENT OF COLLATERAL USE

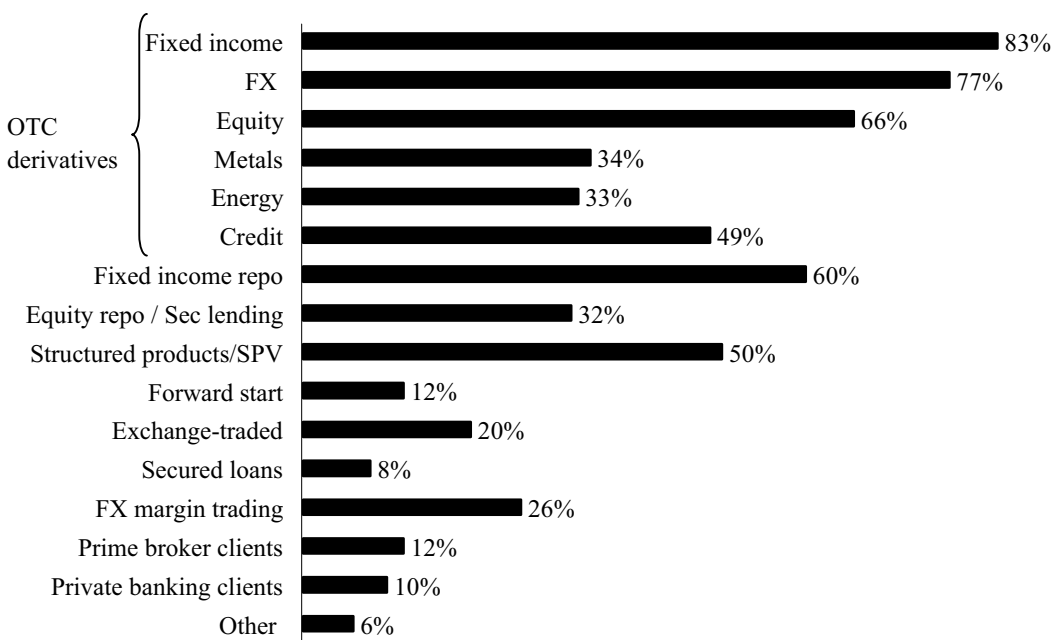
4.1 RANGE OF COLLATERALIZED PRODUCTS

ISDA has promoted cross-product collateral management — in contrast to support of a single function such as OTC derivatives or repo — as a sound practice since its 1998 [Guidelines for Collateral Practitioners](#). The rationale for cross-product management is that when default occurs it is not the exposure from just one product that matters but the total exposure of the counterparty. Separate collateralization of offsetting portions of the portfolio, in contrast, can actually lead to higher losses from a default.

The 2002 Survey asked for more detail on types of OTC derivatives supported by collateral than it asked for in last year’s Survey. It also asked respondents which other product types their margining team supported, for example, repo, securities lending, and prime brokerage. Chart 4.1-1 shows the results in terms of percent of respondents. All respondents support the collateralization of some type of OTC derivatives; the chart shows that fixed income, currency, and equity derivatives are by far the largest category. With regard to products other than OTC derivatives, the percent of respondents supporting collateralization of fixed income repo and even structured products outpaces the percent supporting credit, energy, and metals derivatives. The largest firms are the most likely to support a wide range of products, while collateral functions at smaller firms tend to be more specialized. The variety of products supported suggests that the industry is moving toward cross-product collateral management.

Chart 4.1-1

Percent of products supported by collateral groups responding to 2002 Survey



Looking to the future, the breadth of products supported points toward another step in the evolution of the collateral function from cross-product collateral management into enterprise-wide collateral management. ISDA defines enterprise-wide collateral management as “the optimal management of credit, collateral, capital and all related execution, pricing, operational, documentation and risk management aspects of a portfolio across all products, all business units and all locations.”

Enterprise-wide collateral management should lead to more efficient support of customer needs through, for example, a single margin report across products, minimization of collateral movement, and portfolio-wide margin calculations that reflect risk offsets between products. The responses to the Survey questions for the two types of product — collateralizing OTC derivatives involves margining a traditionally unsecured relationship while margin is intrinsic to the other activities — might suggest the extent to which firms are consolidating the various margin activities and moving toward enterprise wide collateral management.

4.2 NUMBER AND TYPES OF COLLATERAL AGREEMENTS

Respondents to the 2002 Survey reported over 28,000 collateral agreements in place, compared with 16,000 in the 2001 Survey and 11,000 in the 2000 Survey. Direct comparisons are difficult, however, because of growth of the sample and because of differences in the information requested in the various years. There are two channels of growth in the number of collateral agreements, namely, growth of collateral use at responding firms and growth of the sample itself through entry of new respondents to the sample. In the 2002 Survey, 27 small firms and 15 medium firms entered the sample by responding to the Survey for the first time. Further, differences in the questions in 2001 and 2002 make it infeasible to measure the growth in numbers of agreements among firms that responded in both years. Instead, respondents were asked to provide data on both agreements in place as of December 31, 2001, and on their forecasted amounts for 2002. Among respondents that provided a forecast, the cumulative total number of OTC collateral agreements for 2001 is 24,883; the forecast amount for 2002 is 29,514. The difference between the two suggests a growth rate of 19 percent.

The Survey also collected data on types of agreements used; Table 4.2-1 shows the relative use of the various agreements, among which ISDA documentation is the dominant choice among practitioners. Further, respondents had yet to adopt the [2001 ISDA Margin Provisions](#) as of the date of this Survey, which is not surprising because the new provisions are designed to accommodate future evolution of the collateral function toward higher operational standards and greater efficiency. In the future, it is reasonable to expect that (1) bilateral agreements will grow as a proportion of the total, and (2) globalization will cause some shift from New York law towards non-U.S. law. The reason for the latter trend is that choice of law is generally determined by the jurisdiction in which a counterparty is based and also that, as will be mentioned in Section 4.5, we expect the proportion of counterparties located in the U.S. to decrease gradually over time.

4.3 COVERAGE OF COUNTERPARTIES

Chart 4.3-1 shows the proportion of agreements with various types of counterparties reported by respondents. Banks are by far the largest category of counterparty; institutional investors — defined here as insurance companies, pension funds, and money managers — follow as a distant second. But the relative proportions change somewhat according to size categories, as shown in Table 4.3-2: While banks are the largest counterparty class for all three size classes, institutional investors are next in line for large and medium users. Hedge funds drop off sharply in significance as one moves down the size categories; small firms in particular appear not to focus on hedge funds. Instead, banks and corporates — that is, nonfinancial institutions — are the only significant counterparty classes for small firms. Some practitioners also note efforts by large firms to diversify from their traditional focus on banks, brokers, and hedge funds toward other types.

Table 4.2-1
Numbers and types of collateral agreement used by respondents

Type of documentation used:	Unilateral in favor	Unilateral against	Bilateral	Total	Percent
1994 ISDA Credit Support Annex New York Law (pledge)	4,151	452	9,765	16,506	58.7
1995 ISDA Credit Support Annex English Law (title transfer)	936	221	2,669	5,398	19.2
1995 ISDA Credit Support Deed English Law (charge)	22	17	68	178	0.6
1995 ISDA Credit Support Annex Japanese Law	65	0	98	168	0.6
2001 ISDA Margin Provisions	0	0	0	0	0.0
German Rahmenvertrag	11	4	84	135	0.5
French AFB	15	26	240	293	1.0
Other	1,190	59	803	2,729	9.7
Total number for 2001	6,390	779	13,727	28,140	100.0
Total forecast for 2002				29,514	

Chart 4.3-1
Distribution of counterparties by type

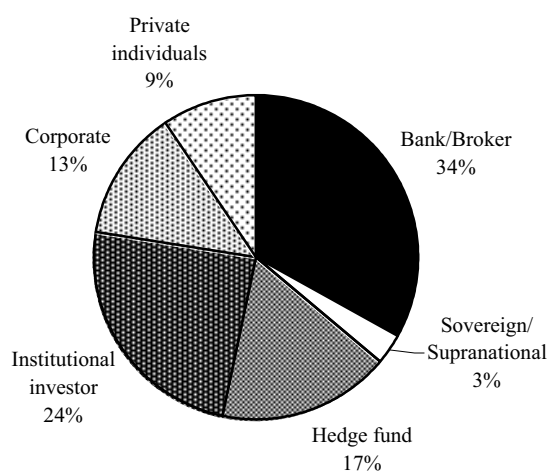


Table 4.3-2
Distribution of counterparties by type
Percents by size class

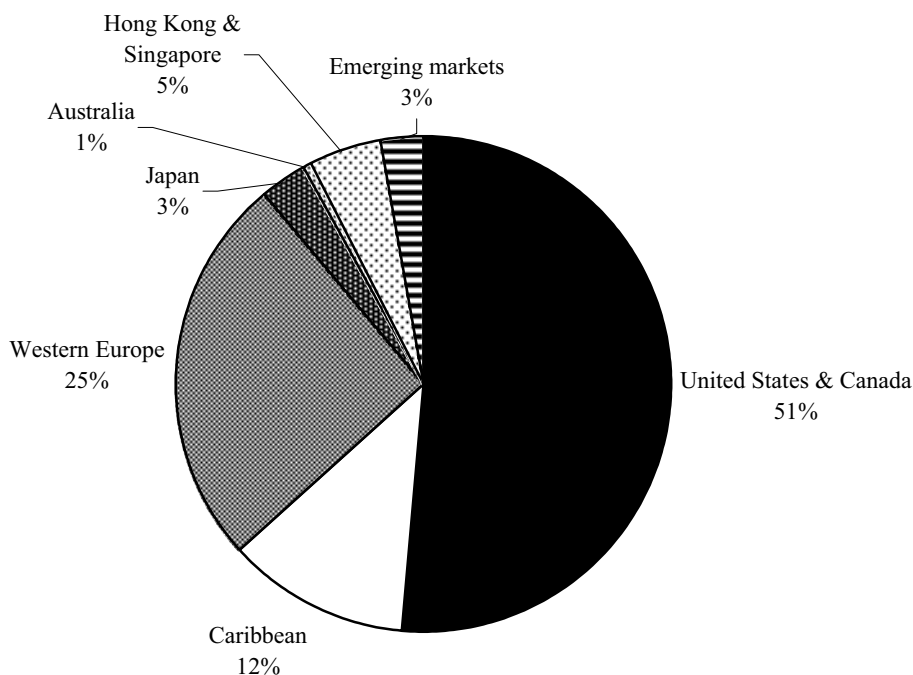
	Small	Medium	Large	Total
Bank/Broker	70.1	54.2	28.3	33.1
Sovereign/Supranational	4.2	4.9	2.7	3.1
Hedge fund	3.4	8.8	19.0	17.1
Institutional investor	3.4	17.6	25.9	24.1
Corporate	18.9	14.1	12.8	13.2
Private individuals	0.0	0.4	11.3	9.4

Finally, coverage of credit, metals, and energy derivative exposure is relatively low for some classes, most likely because at many firms the systems used for these underlying risks might not yet feed into the main collateral system.

4.5 GEOGRAPHY OF COLLATERALIZATION

The Survey asked respondents for numbers of collateralized counterparties by country of incorporation. As shown in Chart 4.5-1, the preponderance of counterparties is located in the United States and Canada, although some practitioners expect North America's proportion to decrease over time relative to other regions. The relatively high percentage of counterparties in the Caribbean is the result of increased use of collateral among hedge funds.

Chart 4.5-1
Geographical distribution of counterparties



4.6 REASONS FOR USING COLLATERAL

Survey respondents were asked to rank their motivations (drivers) for their using collateral. Not surprisingly, credit risk reduction – meaning reducing losses if default were to occur – took first place; 78 percent of respondents so chose. The same result occurred in the 2000 and 2001 Surveys.

There are a number of other reasons, however, why collateralization may be beneficial, even if they must concede first place to credit risk reduction. The most popular choice for second place (27 percent of respondents) was regulatory capital savings. The importance given regulatory capital reduction is the result of (1) the increased willingness of some banking supervisors to recognize the benefit of collateral for regulatory capital purposes under the current Basel Capital Accord; and (2) the increased recognition of collateral benefits in the New Accord that will likely go into effect later in the decade. If the New Accord attains its objective of reducing or even eliminating

inconsistencies between economic and regulatory capital, however, the regulatory motivation might recede in significance.

Beyond the first two motivations, it is difficult to distinguish between the importance assigned to the remaining four choices:

Increased competitiveness refers to the use of collateral by firms in order to reduce the charge for credit that many of them factor into derivative spreads. Reduced credit charges directly affect deal pricing and therefore make firms relatively more competitive than they would have been without using collateral.

Improved market liquidity refers to the willingness of derivatives dealers to trade with each other. If dealers can effectively hedge the risks they take on from end-users, the dealers can reduce their risk levels and conduct more end-user business. Collateralizing inter-bank exposures can promote far greater liquidity by reducing the inter-bank credit risk that might otherwise inhibit hedging between dealers.

Access to more complex or higher risk trades was also a popular choice (24 percent) for second place, although not for first place (3 percent).

Finally, sometimes collateral is *required by the counterparty* in order to allow a transaction to go forward. It is likely that in many cases this is the motivation of the counterparty on the other side of the dealer that decided to collateralize in order to bring about credit risk reduction.

5. CHARACTERISTICS OF COLLATERAL PROGRAMS

5.1 REPORTING LINES AND ORGANIZATION STRUCTURE

The evolving organization structure of the collateral function is of increasing interest to collateral practitioners. As collateral use becomes more widespread and accepted by other parts of a firm, it is reasonable to expect the structure of the collateral function to change. And as organization structure evolves, it is reasonable to expect some changes in reporting lines as well.

One way to view the choice of organization structure is to consider two contrasting organization models and the continuum of types between them. At one end of the continuum is a *pure credit control* organization form, in which collateral management supports the credit approval and monitoring function. The role of collateral management in a pure control form is to set and monitor margin that is posted to mitigate the constraints of credit limits. The primary purpose of collateral management in the control form is not to make money but to avoid losses through providing protection against the consequences of default. It is considered a control function because it is independent of the business units and its actions help counteract the effects of some decisions by the business units.

At the other end of the continuum is a *pure operational* form, in which collateral management performs the functions necessary to carry out margining. Functions served by collateral management in the pure operational form include, for example, administering Credit Support Annexes and taking and paying collateral, but would not include setting collateral. The primary purpose of the collateral function in the pure operational form is not to carry out a control function but to support collateral decisions made elsewhere in the firm, whether by business units or by the credit control and monitoring function. In contrast to the control form, it is not fully independent of the business units because its primary mission is to support business activities.

In practice, few organizations fit neatly into either description; most might occupy places along the continuum between the two types by exhibiting characteristics of both. A collateral department at one firm might be considered an operational support function, for example, but at the same time serve a control function by providing some check on the actions of the business units.

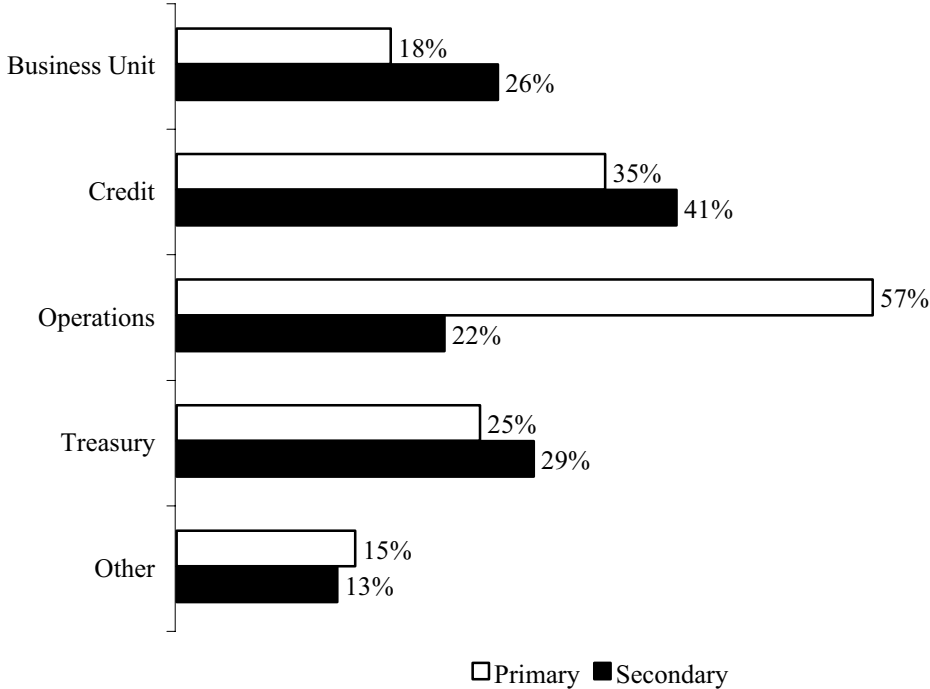
As collateral becomes a more accepted and institutionalized practice, an alternative to the basic organizational forms is evolving. In the new alternative, collateral is being integrated more closely into front office business activities. Collateral management exists not simply as a control or operational function, although it would likely maintain reporting channels to credit or operations or both, but to support the business units directly in improving a deal's risk-return characteristics. The collateral function might work with front office marketers, for example, to reduce the economic capital used in a transaction and thereby improve the return on capital. This model might consequently involve new reporting lines to business units, for example, to the credit portfolio management function.

There is no single "right" answer to the question of organizational form. Individual circumstances — especially managerial and control cultures — are different in each institution; organization structures will therefore be different as well. The fundamental issue is that the collateral function, wherever located organizationally, must be effective in controlling credit risk through making timely collateral calls, efficiently settling them, providing the right credit risk management and capital management inputs, and being a prompt and effective manager of crisis situations involving collateral.

Chart 5.1-1 shows the primary and secondary reporting lines among the respondents to this year’s Survey. A majority of respondents (57 percent) report primarily to operations, while a (somewhat smaller) majority has a secondary reporting line to credit. The results suggest that respondents tend toward the operational form. But 43 percent report to a front office function — 25 percent report to Treasury and 18 percent to a business unit — suggesting that the collateral function is being integrated more closely into business activities..

The Survey also asked about the number of legal entities supported by respondent firms. Virtually all small firms support their own entity and no others, while medium firms tend to support two entities within their firms; the average among large firms is eight. Only seven respondents support an external entity.

Chart 5.1-1
Primary and secondary reporting lines for the margin function



Also varying across firms is the number of functions performed by the collateral management group, as shown in Table 5.1-2. One might expect that, as a general matter, small firms would tend to be involved in most or all aspects of collateral process; large teams, in contract, would be more specialized with more clearly defined roles — documentation, for example — done outside the collateral team. But the Survey results show that the division of functions is broadly similar across size groups, with a few exceptions. Large firm collateral groups, for example, tend not to draft collateral agreements, allowing the function instead to be performed by a separate documentation group. In addition, large firms are less likely to provide valuation statements to counterparties, largely because there are other parts of the firm that can provide the service.

Table 5.1-2
Functions performed by collateral management team
Percent of respondents, by size class

	All firms	Small	Medium	Large
Data management	78	73	80	85
Drafting collateral agreements	56	60	64	31
Setting up new agreements in system	85	83	84	92
Calculating and reviewing collateral calls	96	97	92	100
Making collateral calls	97	93	100	100
Settling collateral calls	72	70	68	85
Managing reconciliations and disputes	100	100	100	100
Management reporting	94	90	96	100
Credit exposure reporting	65	67	60	69
Valuation statements to counterparty	90	90	96	77
Writing collateral policy	51	37	60	69
Other	24	17	28	31

5.2 STAFFING

The Survey asked respondents to indicate the total full-time equivalent (FTE) resources supporting collateral management by function. The results are shown in Chart 5.2-1. The two largest function categories over the entire sample were margining (28 percent of FTE resources) and ‘other’ (27 percent), which includes such functions as front office, internal marketing, middle office, legal, and risk management. Collateral function sizes overall are shown in Table 5.2-2, which shows a wide variation in group sizes, although the closeness of the average and median for each group suggests that the average size for each group is reasonably representative. Chart 5.2-3 provides a more detailed breakdown of the group size distribution for each size class

Chart 5.2-1
Full-time equivalent resources supporting collateral management
Percent of total resources, by function

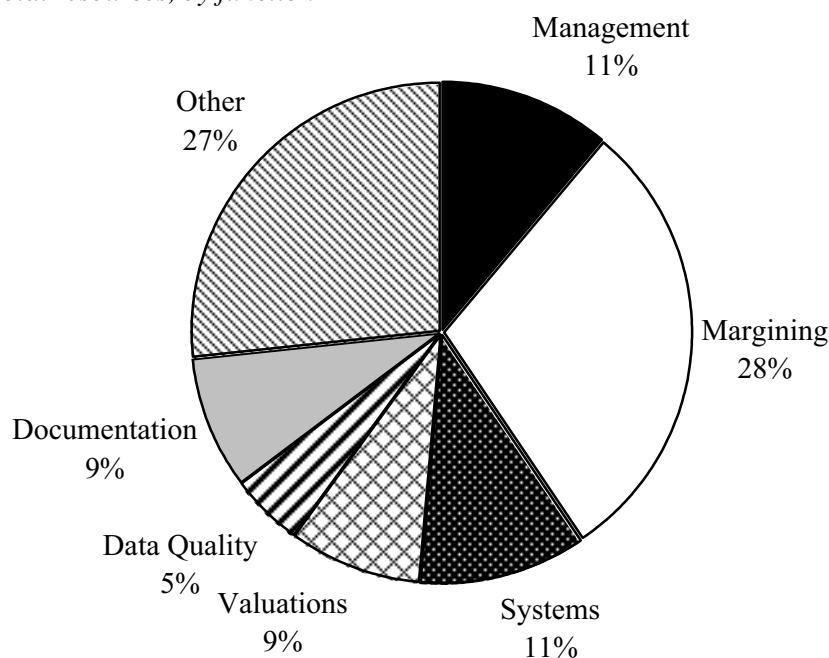
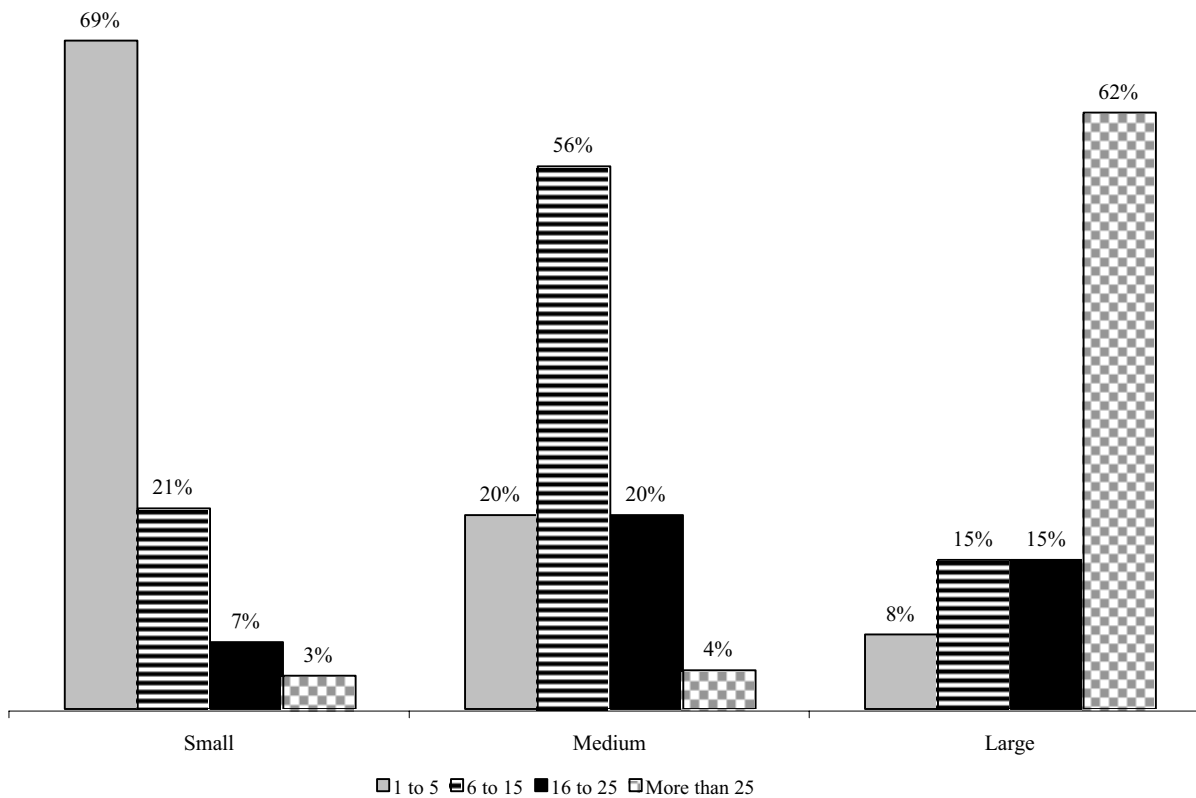


Table 5.2-2
Collateral function size distributions, full-time equivalent units

	Small	Medium	Large
Average	4.2	10.4	36.5
Median	2.7	9.0	33.0
High	17.0	34.0	85.0
Low	1.0	1.0	5.0

Chart 5.2-3
Collateral function size distributions by program size
Percent of respondents



We also asked about the geographical distribution of staff resources. The results suggest that collateral functions follow the ‘hub and spoke’ model of maintaining collateral operations in the main financial centers (New York and London) or in head office locations. For large programs, the largest staff concentrations are in London, followed closely by New York and other North America. For medium programs, Frankfurt and Paris appear to be the main centers. For small programs, staff resources appear to be evenly distributed geographically, with only Tokyo showing more staff resources than the average for the group.

The Survey asked respondents to describe their staffing forecasts for 2002; averaged responses appear in Table 5.2-4 by size.

Table 5.2-4
Staff, technology and expenditure forecasts for 2002
Averages by size class

		Small	Medium	Large
Staff (FTE)	Supporting core collateral activities	2.6	7.1	28.8
	Working on technology projects/electronic investments	0.9	1.9	4.4
	Headcount average cost per person (US\$ equivalent)	88,235	77,200	158,301
Technology	(US\$ equivalent)	175,333	646,337	2,296,643
Expenditures for collateral management (US\$ equivalent)				
	2001 actual	249,357	1,017,858	7,069,000
	2002 forecast	350,800	1,333,570	6,337,612

5.3 TECHNOLOGY

For the purposes of the 2002 Survey, we categorized technology solutions for collateral management into the following categories:

- *Spreadsheets* are designed to produce a collateral call statement with limited computation embedded in the model. They may also include separate models for tracking collateral asset inventory and rehypothecation.
- *Tactical databases* are typically built in MS Access or a tool with a similar level of sophistication. They are normally used to replace or extend spreadsheet type functionality in a slightly more robust technical environment and to permit better cross-counterparty analysis and reporting.
- *In-house systems*, also known as *bespoke* systems, may be constructed in a wide variety of technologies. They are normally large, custom-designed collateral systems with rich functionality and a strong control environment.
- *Vendor systems*. Several vendors offer collateral management systems. The technology set used varies considerably. Functionality is rich, and in some cases has been developed to meet the sophisticated needs of a number of banks over time.

The smallest collateral programs most likely employ spreadsheets, although anecdotal evidence suggests that several new entrants to the market have purchased vendor products, citing the need for stronger controls and backup capabilities than spreadsheets typically provide.

Most medium- and large-sized collateral programs center their technology support on an in-house or vendor solution. Tactical databases such as Microsoft Access tend to be found in firms that are moving from a spreadsheet environment to an in-house system. But it is likely, particularly in the more sophisticated programs, that more than one technology solution will be needed to provide complete functionality.

We asked respondents to indicate which classes of technology platform they use, expecting that many firms employ a mix; the 2002 results are shown in Table 5.3-1. All large firms rely on customized (bespoke) systems, with some additional use of the other alternatives as necessary on an ad hoc basis. In contrast, spreadsheets are the most common alternative for small firms and vendor-installed systems are the most common for medium firms.

Table 5.3-1
Technology platforms by size class
Percent of respondents

	Small	Medium	Large
Spreadsheets	55	28	23
Tactical databases	39	12	8
In-house system	32	48	100
Installed vendor package	29	52	23

5.4 EXPENSES AND INVESTMENTS

The Survey asked respondents about their projected expenses and investments on the collateral function and on technology in particular (see Questions 13 and 15 in Appendix 4); the results are shown in Table 5.2-4 on page 19. Comparisons of expenditure and investment data should be interpreted with care because different firms measure expenses in different ways. One firm might claim to spend \$100 on collateral management technology, for example, but could be referring to the investment in a central collateral system while ignoring technology investments made in various different businesses that need to extract and feed derivative position values to the central system. Other firms, by contrast, might collect the entire cost centrally. Other issues arise in the classification of technology versus non-technology expense. It is not always clear, for example, whether a person working on a technology implementation project should be counted as a technology expense. Differences between how firms address these issues will make interpretation of the data difficult.

APPENDIX 1:

ISDA COLLATERAL ACTIVITIES AND THE MARGIN SURVEY ADVISORY COMMITTEE

ISDA members have been using collateral to reduce credit risk associated with privately negotiated derivative transactions for a number of years, and during that time have worked to increase the legal certainty and efficiency of collateral use. The primary channel through which ISDA members operate is the [ISDA Collateral Committee](#), which works in cooperation with the ISDA Documentation and Risk Management Committees. Collateral Committee activities include the following:

- Drafting and publication of collateral documentation — for example, ISDA Credit Support Protocol, 2001 Margin Provisions, Credit Support Annex, and Credit Support Deed — under English, New York, and Japanese law, together with User’s Guides to these documents.
- Commissioning and distribution to ISDA members of legal opinions from various jurisdictions on the enforceability of collateral documents. ISDA continues to seek opinions from additional jurisdictions.
- Preparation and publication of Guidelines for Collateral Practitioners in November 1998 and an update on issues relating to collateral management in the ISDA 1999 Collateral Review.
- Continuing study of collateral management in order to improve standards and efficiency in the market, including reviews of market standard documentation, with a view to updating, clarifying, and streamlining the documentation to enhance its usability across borders.
- Initiation and support of projects to harmonize legal and regulatory regimes, such as the ISDA European Collateral Law Reform Group and the ISDA Hague Convention Working Group.
- Current activities include a study of enterprise-wide collateral management and the obstacles to its implementation; a set of collateral asset definitions; and a project on electronic data interchange standards for collateral assets.

The ISDA Margin Survey has its origins in the 1998 ISDA Guidelines for Collateral Practitioners and the 1999 Collateral Review. The Survey itself has been conducted since 2000, and is supervised by the Margin Survey Advisory Committee, which for the 2002 Survey included the following members:

Robert McWilliam, ABN Amro
Bobby Maldonado, Bank of America
Marge Szymczak, Bank of America
James Crabb, Barclays Capital

Julie Graham, JP Morgan Chase
Mark Jennis, Morgan Stanley
Michael Clarke, SunGard
David Maloy, UBS Warburg

Protiviti Consulting served as the consultant to this year’s Survey.

APPENDIX 2: 2002 ISDA MARGIN SURVEY RESPONDENT LIST

Abbey National	HBOS Treasury Services plc
ABN Amro	HSBC Holdings plc
AIG Financial Products	Investec Bank Limited
Allegheny Energy Global Markets	JP Morgan Chase
Baden-Württembergische Bank AG	KBC Bank
Banco Bilbao Vizcaya Argentaria, S.A.	Landesbank Baden-Württemberg
Banco Português de Investimento SA	Lehman Brothers
Banco Santander Central Hispano, S.A.	Macquarie Bank Limited
Bank Austria AG	Merrill Lynch
Bank Brussels Lambert SA NV	Mizuho Corporate Bank, Ltd.
Bank of America	Morgan Stanley
Bank of New York	Natexis Banques Populaires
Bank of Nova Scotia	National Bank of Canada
Bank One	Nikko Cordial Securities Inc.
Barclays Capital	Nomura International plc
Bayerische Hypo-und Vereinsbank AG	Nordea
Bayerische Landesbank	OKO Osuuspankkien Keskuspankki Oyj
Bear Stearns	PSEG Energy Resources & Trading
BHF-Bank AG	Rabobank Nederland
BNP Paribas	Royal Bank of Canada
Caboto Intesabci SIM SPA	Royal Bank of Scotland
CDC Ixis Capital Markets	RWE Trading GmbH
Chuo Mitsui Trust and Banking Co., Ltd.	Shinsei Bank
Citigroup	Société Générale
Commerzbank AG	Standard Chartered Bank
Commonwealth Bank of Australia	Sumitomo Mitsui Banking Corporation
Credit Industriel et Commercial (CIC)	Sumitomo Trust & Banking Co., Ltd.
Crédit Lyonnais	SunTrust Robinson Humphrey Capital Markets
Credit Suisse First Boston	Svenska Handelsbanken
Daiwa Securities SMBC Co. Ltd.	Toronto Dominion Bank Financial Group
Den Danske Bank	The Bank of Tokyo-Mitsubishi, Ltd.
Deutsche Bank	UBS Warburg
Dresdner Bank	Westdeutsche Landesbank Girozentrale
Fortis Bank	Westpac Banking Corporation
Goldman Sachs	Zürcher Kantonalbank
Hamburgische Landesbank Girozentrale	

Table 3.1-1A**Value of collateral accepted and delivered by respondents, by size class***Millions of US dollars*

		Collateral Received				Collateral Delivered			
		Small	Medium	Large	All	Small	Medium	Large	All
Cash	USD	\$ 968.28	\$ 11,189.68	\$ 52,787.88	\$ 64,945.83	\$ 170.99	\$ 12,906.22	\$ 38,122.26	\$ 51,199.47
	EUR	1,094.52	22,537.43	6,659.78	30,291.72	366.31	9,223.62	4,958.35	14,548.28
	GBP	123.94	608.74	7,461.36	8,194.04	64.58	1,179.08	5,168.90	6,412.56
	JPY	577.94	149.91	704.44	1,432.28	978.35	133.56	413.37	1,525.28
	Other	12.75	385.94	3,764.75	4,163.43	0.18	41.81	806.48	848.47
	Subtotal	2,777.43	34,871.68	71,378.20	109,027.31	1,580.41	23,484.28	49,469.36	74,534.05
Government securities	U.S.	957.31	1,770.67	7,783.08	10,511.07	16.16	4,861.84	9,256.68	14,134.67
	E.U.	188.23	1,964.67	3,644.90	5,797.80	717.65	5,435.65	3,841.62	9,994.92
	Japan	472.46	1,043.55	1,562.92	3,078.93	1,358.22	1,171.50	126.00	2,655.71
	Other	-	231.65	2,549.64	2,781.29	-	96.09	19.26	115.35
	Subtotal	1,618.00	5,010.54	15,540.55	22,169.09	2,092.03	11,565.07	13,243.56	26,900.66
Government Agency securities	21.25	242.60	6,517.74	6,781.59	10.88	460.61	7,718.56	8,190.05	
Supranational bonds	16.00	-	28.13	44.13	-	-	80.00	80.00	
Covered bonds (e.g., Pfandbriefe)	-	35.00	430.00	465.00	106.85	352.00	-	458.85	
Corporate bonds	79.00	528.40	8,530.16	9,137.56	1,252.95	371.00	2,352.78	3,976.73	
Letters of credit	35.00	15.09	2,937.31	2,987.40	150.00	-	524.00	674.00	
Equities	2.00	708.96	19,104.37	19,815.33	-	-	307.38	307.38	
Metals and commodities	-	122.05	906.36	1,028.41	-	-	-	-	
Other (please specify)	-	128.81	2,360.54	2,489.35	-	-	2.00	2.00	
Subtotal	153.25	1,780.92	40,814.60	42,748.76	1,520.68	1,183.61	10,984.72	13,689.01	
Total	4,548.67	41,663.14	127,733.34	173,945.16	5,193.12	36,232.97	73,697.63	115,123.72	
Grand total								\$ 289,068.88	

Table 3.2-2A**Types of collateral accepted and delivered under current policies***Percent of large programs, 2001 and 2002 Surveys*

	Accepted		Delivered	
	2001	2002	2001	2002
USD cash	100	100	100	100
Eur / GBP cash	100	100	100	85
JPY cash	83	92	58	69
US government and agency securities	100	100	100	92
European government securities	100	85	83	77
Japanese government securities	83	69	42	46
Corporate bonds	58	62	25	46
Equities	67	54	50	15
Other	75	85	50	38

Table 3.2-3A**Collateral received and delivered by respondents, by size class and type***Percent of total collateral for each size class*

		Collateral Received			Collateral Delivered		
		Small	Medium	Large	Small	Medium	Large
Cash	USD	21.29	26.86	41.33	3.29	35.62	51.73
	EUR	24.06	54.09	5.21	7.05	25.46	6.73
	GBP	2.72	1.46	5.84	1.24	3.25	7.01
	JPY	12.71	0.36	0.55	18.84	0.37	0.56
	Other	0.28	0.93	2.95	0.00	0.12	1.09
	Subtotal	61.06	83.70	55.88	30.43	64.81	67.12
Government securities	U.S.	21.05	4.25	6.09	0.31	13.42	12.56
	E.U.	4.14	4.72	2.85	13.82	15.00	5.21
	Japan	10.39	2.50	1.22	26.15	3.23	0.17
	Other	0.00	0.56	2.00	0.00	0.27	0.03
	Subtotal	35.57	12.03	12.17	40.28	31.92	17.97
Government Agency securities		0.47	0.58	5.10	0.21	1.27	10.47
Supranational bonds		0.35	0.00	0.02	0.00	0.00	0.11
Covered bonds		0.00	0.08	0.34	2.06	0.97	0.00
Corporate bonds		1.74	1.27	6.68	24.13	1.02	3.19
Letters of credit		0.77	0.04	2.30	2.89	0.00	0.71
Equities		0.04	1.70	14.96	0.00	0.00	0.42
Metals and commodities		0.00	0.29	0.71	0.00	0.00	0.00
Other		0.00	0.31	1.85	0.00	0.00	0.00
	Subtotal	3.37	4.27	31.95	29.28	3.27	14.91

APPENDIX 4: 2002 ISDA MARGIN SURVEY QUESTIONNAIRE



ISDA

International Swaps and Derivatives Association, Inc.
Margin Survey 2002

Section I. Reference Information

1. **What is the name of your company?**

2. **What is your name?**

3. **What is the date of completion of this survey? Please note that the survey is to cover the calendar year ended December 31, 2001.**

4. **Please indicate primary and secondary reporting lines for the margin function in your organization. Tick as many boxes as appropriate and add additional explanation if helpful.**

	Primary	Secondary	
<u>Business Unit</u>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Credit</u>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Operations</u>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Treasury</u>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Other</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input style="width: 180px; height: 15px;" type="text" value="[text]"/>

5. **Which of the following functions does your collateral management team perform? Please check all that apply.**

<u>Data management – checking, cleansing, analysing underlying data.</u>	<input type="checkbox"/>	
<u>Drafting collateral agreements.</u>	<input type="checkbox"/>	
<u>Setting up new agreements in the collateral management system.</u>	<input type="checkbox"/>	
<u>Calculating and reviewing the calculations of collateral calls.</u>	<input type="checkbox"/>	
<u>Calling counterparties to make collateral calls.</u>	<input type="checkbox"/>	
<u>Settling collateral calls.</u>	<input type="checkbox"/>	
<u>Managing reconciliations and disputes for collateralized portfolios.</u>	<input type="checkbox"/>	
<u>Providing management reporting on the collateralized portfolio.</u>	<input type="checkbox"/>	
<u>Credit exposure reporting.</u>	<input type="checkbox"/>	
<u>Providing valuation statements to counterparty.</u>	<input type="checkbox"/>	
<u>Writing collateral policy.</u>	<input type="checkbox"/>	
<u>Other (please specify):</u>	<input type="checkbox"/>	<input style="width: 180px; height: 15px;" type="text" value="[text]"/>

6. Which OTC derivatives products does your function support? Check all that apply. * See Explanatory Notes for how to determine "Percent of Trade Volume" and "Percent of Exposure."

	Tick If supported	Percent of Trade Volume'	Percent of Exposure'
<u>Fixed Income</u>	<input type="checkbox"/>	[%]	[%]
<u>FX</u>	<input type="checkbox"/>	[%]	[%]
<u>Equity</u>	<input type="checkbox"/>	[%]	[%]
<u>Metals</u>	<input type="checkbox"/>	[%]	[%]
<u>Energy</u>	<input type="checkbox"/>	[%]	[%]
<u>Credit</u>	<input type="checkbox"/>	[%]	[%]

7. What other margined products does your function support? Check all that apply.

	Tick If supported	Percent of Trade Volume'	Percent of Exposure'
<u>Fixed Income Repo</u>	<input type="checkbox"/>	[%]	[%]
<u>Equity Repo / Securities Lending</u>	<input type="checkbox"/>	[%]	[%]
<u>Structured Products and SPVs</u>	<input type="checkbox"/>	[%]	[%]
<u>Forward Start, when issued, when traded business</u>	<input type="checkbox"/>	[%]	[%]
<u>Exchange Traded (listed) Derivatives</u>	<input type="checkbox"/>	[%]	[%]
<u>Secured Loans</u>	<input type="checkbox"/>	[%]	[%]
<u>FX Margin Trading</u>	<input type="checkbox"/>	[%]	[%]
<u>Prime Broker Clients</u>	<input type="checkbox"/>	[%]	[%]
<u>Private Banking Clients</u>	<input type="checkbox"/>	[%]	[%]
<u>Other (please specify)</u> [text]	<input type="checkbox"/>	[%]	[%]

8. How many OTC derivative collateral agreements does your firm manage?

Please indicate the actuals as of December 31, 2001.

Type of documentation used:	Unilateral In Your Favour	Unilateral Against You	Bilateral	Total
<u>1994 ISDA Credit Support Annex New York Law (pledge)</u>	[number]	[number]	[number]	[number]
<u>1995 ISDA Credit Support Annex English Law (title transfer)</u>	[number]	[number]	[number]	[number]
<u>1995 ISDA Credit Support Deed English Law (charge)</u>	[number]	[number]	[number]	[number]
<u>1995 ISDA Credit Support Annex Japanese Law</u>	[number]	[number]	[number]	[number]
<u>2001 ISDA Margin Provisions</u>	[number]	[number]	[number]	[number]
<u>German Rahmenvertrag</u>	[number]	[number]	[number]	[number]
<u>French AFB</u>	[number]	[number]	[number]	[number]
<u>Other (please specify)</u> [text]	[number]	[number]	[number]	[number]
Total number for 2001				[number]
Total forecast for 2002				[number]

9. Please indicate your total number of collateralized counterparties by type:

<u>Bank/Broker</u>	[number]
<u>Sovereign/Supranational</u>	[number]
<u>Hedge fund</u>	[number]
<u>Institutional investor (Insurance/pension/money manager)</u>	[number]
<u>Corporate</u>	[number]
<u>Private individuals</u>	[number]
<u>Other - please specify</u> [text]	[number]

10. Please indicate your total number of collateralized counterparties by country of incorporation:

<u>United States and Canada</u>	[number]
<u>Caribbean</u>	[number]
<u>Western Europe</u>	[number]
<u>Japan</u>	[number]
<u>Australia</u>	[number]
<u>Hong Kong, Singapore</u>	[number]
<u>Emerging Markets</u>	[number]
<i>of which</i> <u>Latin America</u>	[number]
<u>Europe/Africa</u>	[number]
<u>Asia</u>	[number]

11. How many legal entities does your collateral management unit support?

<u>Entities owned or controlled by your firm</u>	[number]
<u>External entities not controlled by you</u>	[number]

Section II. Drivers for Collateral Management

12. What are the main drivers for collateral management at your firm? Please rank in order of importance with 1 being most important and 7 being least important.

	Rank 1 to 7	
<u>Regulatory capital savings</u>	[number]	
<u>Credit risk reductions</u>	[number]	
<u>Improved market liquidity</u>	[number]	
<u>Access to more complex or higher risk trades</u>	[number]	
<u>Increased competitiveness, i.e., the ability to quote lower prices</u>	[number]	
<u>Required by counterparty</u>	[number]	
<u>Other</u>	[number]	[text]

Section III. Resourcing

13. Please indicate your 2001 actual and planned 2002 expenditure (US\$ equivalent) for collateral management:

<u>Current 2001</u>	[number]
<u>Forecast 2002</u>	[number]

14. Please indicate the total full time equivalent resources supporting collateral management by function (all locations):

<u>Management</u>	[number]	
<u>Margining</u>	[number]	
<u>Systems</u>	[number]	
<u>Valuations</u>	[number]	
<u>Data Quality</u>	[number]	
<u>Documentation</u>	[number]	
<u>Other</u>	[number]	[text]
Total	[number]	

15. Please indicate your 2002 forecasts for:

<u>Staff</u>	<u>Supporting core collateral activities</u>	[number]
	<u>Working on technology projects/electronic investments</u>	[number]
	<u>Headcount average cost per person (US\$ equivalent)</u>	[number]
<u>Technology</u>		[number]

16. Please indicate the total full time equivalent resources supporting collateral management by location. The total should agree the total in Number 2 (above) of this section.

<u>Americas</u>		[number]
	<u>New York metro area</u>	[number]
	<u>Other North America</u>	[number]
	<u>Latin America</u>	[number]
<u>Europe</u>		[number]
	<u>London or other UK</u>	[number]
	<u>Paris</u>	[number]
	<u>Frankfurt</u>	[number]
	<u>Other Europe</u>	[number]
<u>Asia/Pacific</u>		[number]
	<u>Tokyo</u>	[number]
	<u>Hong Kong</u>	[number]
	<u>Singapore</u>	[number]
	<u>Sydney</u>	[number]
	<u>Other Asia/Pacific</u>	[number]
Total		[number]

Section IV. Technology

17. What is the major technology platform on which you operate your collateral management activity? If you have several collate platforms that you would consider "major", please tick as many boxes as necessary. If you use a platform within your collate process but its role is minor, you may ignore it for this question.

<u>Spreadsheets</u>	<input type="checkbox"/>
<u>Tactical databases e.g., MS Access</u>	<input type="checkbox"/>
<u>In-house built system</u>	<input type="checkbox"/>
<u>Installed vendor package</u>	<input type="checkbox"/>

Section V. Collateral Treasury

18. Please Indicate what assets you accept and deliver as collateral according to your firm's policies, and what assets were actual practice accepted and delivered as of the survey date. Please quote values in US\$ equivalents, using the exchange rates show the Explanatory Notes. For items marked with "", please refer to the Explanatory Notes.

		Collateral Received		Collateral Delivered	
		Accepted per current collateral policy?	US\$ equivalent of collateral holdings at 31 Dec 2001	Delivered per current collateral policy?	US\$ equivalent of collateral delivered at 31 Dec 2001
<u>Cash</u>	<u>USD</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	<u>EUR</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	<u>GBP</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	<u>JPY</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	Other (please specify) [text]	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
<u>Government securities</u>	<u>United States</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	<u>European Union</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	<u>Japan</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
	Other (please specify) [text]	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]
<u>Government Agency securities*</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Supranational bonds*</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Covered bonds (e.g., Pfandbriefe and similar)*</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Corporate bonds</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Letters of credit</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Equities</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Metals and commodities</u>	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	
<u>Other (please specify)</u> [text]	<input type="checkbox"/>	[number]	<input type="checkbox"/>	[number]	

Re-Use

<u>Legally blocked</u>	[number]
<u>Allowed</u>	[number]
<i>of which</i>	
<u>Used to meet calls</u>	[number]
<u>Repo</u>	[number]
<u>Put into custody*</u>	[number]
<u>Other (please specify)</u>	[number] [text]

APPENDIX 5: GLOSSARY OF COLLATERAL BUSINESS TERMINOLOGY

Agreement. An arrangement between any two parties to post collateral to cover credit exposure. A collateral agreement can be *one-way* — in which only one of the parties can be required by the other to post collateral — or *bilateral* — in which collateral can be required by either party. Agreements are said to be *active* once one or more transactions have been included in their scope. The aggregate of a firm's agreements constitutes a collateral *program*. In some instances, the collateral arrangement is managed by a third party, in which case the agreement is termed *tripartite*.

Collateral. The generic term for property provided by one party to another to mitigate the transferee's credit risk on the transferor; also known as *margin*. The term 'collateral' derives from 'collateral security' (as opposed to the principal security, which at one time would typically have been land and buildings). The term can be used to refer to security interest (see *pledge*) or title transfer arrangements. *Credit support* is the term used in ISDA documentation for all forms of collateralization technique.

Credit risk mitigation. Any of a number of ways of systematically limiting the potential for loss due to credit risk. Collateral is a key form of credit risk mitigation, as are credit derivatives, guaranties, and netting. See also *potential future credit exposure*, and *risk – correlation risk*.

Credit Support Annex/Credit support documentation. Legal documents designed to facilitate the establishment and maintenance of collateral agreements between parties in a legally robust and predictable manner. ISDA publishes four such forms of documentation, each appropriate for a different legal environment. These are the New York Law Pledge Annex, the English Law Transfer Annex, the English Law Credit Support Deed and the Japanese Law Annex. These are supported by annually updated reasoned legal opinions as to the enforceability of contracts relying on such documents in different jurisdictions around the world.

Custodian. A third party appointed to hold in custody assets on behalf of account-holders, whose rights to those assets will be shown by entries in a register or similar set of records (typically in computerized form).

Database. A large collection of data in a computer, organized to be readily expanded, updated, or retrieved. Collateral operations require particular forms of data to support them, notably in relation to eligible and posted assets, underlying exposures, and the details of any agreements. The simplest form of database is a spreadsheet. If the volume or complexity of the data is greater but the database is to be used only by a specific business unit, a *tactical database* is a more structured and readily manageable alternative. Finally, a *data warehouse* is a central and widely accessible repository of data, often taken from a variety of sources.

Data warehouse. A repository of potentially useful information, structured in such a way as to make that information accessible to all concerned parts of a firm. It may, in addition, allow the development and maintenance of a historic time series, which may constitute part of that same database or else be stored separately. A key advantage of a data warehouse is that it can (1) assemble data from disparate sources on a variety of issues that have been converted into a common format, and (2) store the data for use throughout a firm's various systems.

Haircut. Any collateral that is eligible for posting is, as a result of market movements, liable to decrease in value relative to the exposure it is intended to secure. To counter this, dealers will typically assign less than full face value to that collateral. The amount by which the value assigned

to the collateral is less than full face value is termed the *haircut*, usually expressed in percentage terms of the face value.

ISDA instruments. Privately negotiated derivatives — including interest rate swaps and options and derivatives referenced to credit, equity and commodity prices, and foreign exchange rates — covered by ISDA documentation. A particular collateral arrangement may cover exposures arising from any or all of these and other financial transactions.

Liquidity (see *risk*). Strictly, funding or the ability to source funding; the ability or willingness to post collateral can help secure access to funding. In the context of the current survey, the term denotes access to financial transactions more broadly.

Margin. A synonym for *collateral*. Particular usages include the terms: *initial margin*, which is collateral required to be posted at the inception of a transaction or relationship; *variation* (top-up) margin is additional collateral provided by one party to the other as a result of changes in the *mark-to-market* value of the exposure or of the collateral; *margin call*, the process by which a party demands initial or further collateral, usually upon the passing of a credit *threshold*; and *cross-margining*, referring to the joint collateralization of several exposures or classes of exposure. Margin also commonly refers to collateral required by an exchange clearing house.

Mark-to-market. The process of valuing an exposure (arising from future obligations) based on current market prices.

Market stress. A period when asset values are suddenly and significantly depressed or otherwise dislocated. In such a period, the benefits of effective collateral arrangements become increasingly important.

Pledge. A form of security interest granted by a party (the *pledgor*) over its property to another party (the *pledgee*). See also *title transfer*, *collateral*, and *rehypothecation*.

Population. The list of underlying transactions that are to be valued at any given time. Since the determination of whether collateral needs to be posted depends on the valuation of exposures, and since a given collateral arrangement may cover a number of different exposures, an important preliminary step is that the two parties to an arrangement agree on the composition of the population.

Potential future (credit) exposure. Once an exposure has been marked to market, it could increase in value in the future. At the same time, many collateral agreements are based on periodic transfers of security. Collateralization therefore often takes into account both the current exposure and the potential for that exposure to increase between mark-to-market or transfer dates.

Program. See *agreement*.

Reconciliation. In this Survey, the process by which a firm checks for agreement between its *population* and that of a counterparty.

Rehypothecation/re-use. Strictly, the use of pledged assets by the pledgee to give as security for the pledgee's own obligations, these being subject to the original pledgor's rights to return of the property. It is sometimes used less precisely to mean pledged assets used by the pledgee as if it owned those assets, for example, sale of the pledged assets by the pledgee to a third party. Still less precisely, it is used to mean re-use, that is, resale by the recipient of collateral under a *title transfer* arrangement.

Repo. A transaction in which one party sells securities to the other at the outset and the parties agree that the other will sell securities of the same type at the same price back to the other party at a specified date in the future. When the party selling the securities at the outset chooses which securities these should be, the transaction is a repo or *securities repurchase* transaction and has the commercial effect of a secured loan; where the party buying the securities at the outset chooses which securities these should be, the transaction is a *securities lending* transaction and allows the buyer to cover a short position in those securities.

Risk. There are a number of risks associated with the establishment and maintenance of collateral programs. *Credit risk* — uncertainty regarding a counterparty’s willingness or ability to fulfil its contractual obligations — is the most prominent. Other risks relevant to this Survey include:

- *Correlation risk.* The risk that the value of collateral will change along with that of the exposure it is intended to secure, thereby reducing its effectiveness as a form of credit risk mitigation.
- *Custodian risk.* The risk of a failed or inadequate performance by a *custodian*.
- *Issuer risk.* The credit risk associated with securities posted as collateral.
- *Legal risk.* The risk that a collateral arrangement will not be enforceable because, for example, of failure to implement a properly documented contract; a subcategory of operational risk.
- *Liquidity risk.* The risk that the value a party is able to realize on collateral held is diminished because of prevailing bid-offer spreads, particularly in relation to the amount of collateral to be realized.
- *Liquidation risk.* The risk that a party will not be able to realize in a timely fashion the value of collateral held.
- *Operational Risk.* Any of a series of risks (including legal risk) that can reduce the effectiveness of a collateral arrangement. ISDA defines operational risk as ‘the risk of direct or indirect loss resulting from inadequate or failed internal process, people and systems or from external events.’

Robust System. See *database*.

Threshold. A specified level of credit exposure, beyond which collateral must be posted. In the interests of operational efficiency, agreements may stipulate a *de minimis* level of collateral required to be posted at any given point. This would be relevant when there has been only a small increase in the underlying credit exposure. This minimum transferable amount is known as the *threshold amount*.

Title transfer. A form of collateral arrangement where absolute title to the underlying assets is transferred in exchange for a promise to return equivalent (fungible) assets, subject to a right of set-off; also referred to as *outright transfer*.