
ISDA 2003 Operations Benchmarking Survey

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 600 members across six continents. 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.

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ISDA 2003 Operations Benchmarking Survey

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SECTION 1: INTRODUCTION

In its report [OTC Derivatives Market Activity in the Second Half of 2002](#), the Bank for International Settlements reported that notional amounts outstanding of swaps and other privately-negotiated derivatives — popularly known as over-the-counter (OTC) derivatives — stood at \$142 trillion, an 11 percent increase from just six months before. Growth of this magnitude occurs for one reason, namely, that derivatives provide far reaching benefits to their users. There is every reason to expect this growth to continue.

But even among those who appreciate the benefits of derivatives, the growth has raised concerns about the ability of dealers and end-users to process and settle the growing volumes of transactions. U.S. Federal Reserve Chairman Alan Greenspan, for example, called attention to the importance of automating the trading and settlement of derivative transactions:

“...the way that OTC derivatives are traded and settled clearly could be significantly improved. Despite, or perhaps because of, the rapid pace of product development, the derivatives industry still executes trades predominantly by telephone and confirms them by fax. Systems for the electronic execution and confirmation of trades require a degree of standardization and a large measure of cooperation that are not required for developing new instruments. Still, the derivatives industry has a long history of cooperating to standardize documentation, and it is disappointing that so little progress has been made in adopting efficient and reliable means of executing and confirming trades.” ([Global finance: Is it slowing?](#), March 7, 2003)

The swaps industry appreciates the Chairman’s concern. [The Operations Benchmarking Survey](#), which ISDA initiated in 2000 to address the very issues to which the Chairman alluded, is evidence of the ISDA membership’s continuing commitment to efficiency and automation in swap processing.

The goal of the Operations Benchmarking Survey is to collect, summarize, and report detailed quantitative information on OTC derivatives processing, which firms can use to evaluate their progress toward improved efficiency, accuracy, and reliability. Along with assisting firms in improving the processing of trades, confirmation procedures, and settlement of derivatives, ISDA hopes the Survey results will be useful to firms in their efforts to automate their operations and control their operational risks. And at the industry level, the results should be relevant to industry efforts to develop common operating standards.

The 2003 ISDA Operations Benchmarking Survey was sent to ISDA member firms in March 2003; the Survey Instructions specified that “all data submitted should be for calendar year 2002, January 1 through December 31.” The Survey covers five main subject areas: volumes and customers, operations processing, automation, staffing and organization, and market practice.

We have divided respondents into size classes – small, medium and large – on the basis of their OTC derivatives trading volumes (Table 1). The Survey reports most results for the aggregated sample and for each of the three groups. Appendix 1 lists the firms that responded to the 2003 Survey. A total of 64 financial institutions responded, compared with 65 last year and 61 the year before. This year’s total includes 20 large firms, 22 medium, and 22 small, with regional mixes as shown in Table 1. Of the 64

Table 1
Profile of responding firms

	2001	2002	2003	Regional mix in 2003 Survey				
				Responded 02 & 03	North America	Asia - Pacific	Europe - Africa	Japan
Large(> 600 Deals)	17	20	20	17	9	1	10	0
Medium (200 - 600)	26	23	22	20	2	3	14	3
Small (0 - 200)	18	22	22	15	8	4	6	4
Total	61	65	64	52	19	8	30	7

that responded, 52 (84 percent) are repeat participants from last year. Increasing stability of the Survey sample will lead to increasing confidence with which one can interpret the Survey results.

Three years' of results are now available for most questions concerning forward rate agreements (FRAs), vanilla interest rate and currency swaps, and non-vanilla interest rate and currency swaps, where 'vanilla' refers to a swap that *is capable of* being matched electronically by a commercially available auto-matching engine. Further, two years' worth of results are available for credit and equity derivatives, which made their debut as categories in last year's Survey. Finally, this Survey extends the coverage of many questions to include interest rate options, currency options, and commodity derivatives. Appendix 2 lists definitions of products and other terms used in this Survey.

As in past years, each firm that completes the Survey will receive an individual feedback report that compares the firm's results with the results for respondents of similar size and with the results for the entire respondent population.

Ernst & Young, which served as consultant to this year's Survey, collected and aggregated individual Survey responses. All data obtained from the Survey responses have been kept in the strictest confidence and have not been shared with ISDA staff or with employees of member firms except in aggregated form.

The Operations Benchmarking Survey Advisory Group, which is drawn from the [ISDA Operations Committee](#), plays an active role in framing the Survey questions and in interpreting the results. The following served as members for the 2003 Survey:

David Walker, Bank of America	Deborah Hooper, JP Morgan Chase
Joe Reilly, Barclays Capital	Stuart McClymont, Merrill Lynch
Eric Richard, BNP Paribas	Mark Bramante, Mizuho Capital Markets
Diana Mead, Credit Suisse First Boston	Sean Taylor, UBS Warburg
Steve Horn, Deutsche Bank	

ISDA welcomes comments on the Survey and suggestions as to how it could be further improved. These can be directed to [David Mengle](#), ISDA Head of Research. Questions regarding the activities of the ISDA Operations Committee can be addressed to [Karel Engelen](#) in New York or [Richard Metcalfe](#) in London.

SECTION 2: EXECUTIVE SUMMARY

All 2003 Survey results are based on data for calendar year 2002.

PART 1 – VOLUMES AND CUSTOMERS

With intra-company deals excluded, Survey participants report an average of 1,187 new OTC derivative trades per week during the calendar year 2002, compared with 803 the year before. The aggregate growth conceals a more mixed picture: Volumes at large firms increased from 1,900 trades to 3,248, while volumes at small firms fell from 166 trades to 86. Expectations of future volumes are similar to those reported last year: Most respondents expect volumes for most products to remain stable or to increase by up to 25 percent in the next year. But for credit derivatives, a majority expect increases of more than 25 percent and a substantial proportion expect increases of over 50 percent.

Respondents report that they transact with over 2,000 external OTC derivatives customers on average. For large and small firms, about 40 percent of customers are dealers and 60 percent are end-users; for medium firms, counterparties are about evenly divided between the two. Firms report that they have signed master agreements in place with about 90 percent of their OTC derivatives counterparties.

PART 2 – OPERATIONS PROCESSING

Trade data capture. There has been some slowing of the time it takes for forward rate agreement (FRA) and vanilla swap trade data to reach the back office. But at the same time there has been an increase in the percent of trades that reach the back office within one hour, most likely because of increasing automation. Credit derivatives and equity derivatives trade data take longer to reach the back office than is true for other products, although equity derivatives times improved from last year. Errors in data entered by front office are more common for credit derivatives than for the other products surveyed; a common source of errors is detail on reference entity and reference obligation. For credit derivatives, the most common trade data problems are reference entity and reference obligation details.

Confirmations. Firms report that they have attained their objective of confirmation dispatch by five days after trade date (T+5) for FRAs, vanilla swaps, and commodity derivatives. Confirmations are slower for less standardized products such as credit and equity derivatives, with 83 percent of credit derivative and 84 percent of equity derivative confirmations sent out by T+5; both credit and equity derivatives times improved somewhat from last year's Survey. The reasons most often cited for confirmations not meeting their normal dispatch times are non-standard language; new or non-standard products; and delays in obtaining data or approval from front office, legal, or compliance.

For FRAs, the largest proportion of trades are confirmed by both parties sending out a confirmation that is reviewed and acknowledged by the other party, but not signed or returned. The most common method for vanilla swaps, in contrast, is to send out a confirmation for the counterparty to sign and return. Non-vanilla swaps and credit, equity, and commodity derivatives are even more likely than vanilla swaps to be confirmed by sending out confirmations for the counterparty to sign. Commercial auto-matching systems are used for FRAs (16 percent of trades), currency options (15 percent), and vanilla swaps (7 percent).

The average number of confirmations that are outstanding — that is, sent but not yet completed — increases generally with the sophistication of the product. Credit derivatives have high confirmation

backlogs compared with other products surveyed. About 90 percent of large firms have a formal escalation procedure in place to deal with outstanding confirmations.

Payments and settlements. The Survey expanded its coverage of settlements this year by collecting data by product on average monthly settlements and errors associated with settlements. As in previous Surveys, settlement error rates tend to be higher on payments received than on payments made.

PART 3 – AUTOMATION

As expected, FRAs and currency options are more automated than other OTC products, while credit and equity derivatives tend to be less automated. Automation tends to be binary in nature: Most firms indicate either no automation or a high degree of automation. That is, once a firm is able to automate it does so for a high percentage of volumes. Functions with a high degree of automation include transfer of front office trade data to the operations system, transfer of data from the operations systems to the general ledger, and nostro reconciliation. The least automated are imaging of incoming confirmations and matching of details on confirmations. Sending of confirmations and imaging of outgoing confirmations tend not to be automated for credit and equity derivatives.

Historical data suggest slow progress toward automation of functions. Credit derivatives have increased automation the most compared with other products, although from a far smaller base. Plans for further automation of vanilla swaps focus on the transfer of trade data from the operations system to the general ledger, sending of confirmations, and matching of details on confirmations. Increasing availability of automation services from commercial providers should quicken the pace of automation in future Surveys.

In last year's Survey, most large firms expected to increase their use of FpML during 2002; in this year's Survey, large firms indicated that they had indeed increased FpML use during that period. About 30 percent of medium firms in this year's Survey expect to increase use of FpML during 2003.

PART 4 – STAFFING AND ORGANIZATION

The Survey results suggest that staff productivity, measured as number of front office traders per trade processing staff member and as weekly deals per trade processing staff member, are higher for currency options, equity derivatives, and commodity derivatives than for interest rate derivatives or credit derivatives. Currency options show by far the highest staff productivity ratios of any product, probably because of their relatively high degree of automation. The staff turnover figure of 17 percent is up slightly from last year's 15 percent, but still below the 21 percent figure of 2001.

PART 5 – MARKET PRACTICE

There are few discernible trends in market practice. First, smaller firms appear more likely to sign confirmations than large firms, although few firms of any size say explicitly that they will not sign confirmations. Second, most firms still send out rate reset notices, which is contrary to the expectations expressed by some Operations Committee members. The only exception is large firms, three-quarters of which plan to stop sending rate reset notices to dealers. Finally, most respondents believe the transferor (that is, assigning party) should produce documentation for novations, assignments, and transfers, although restricting the sample to large firms shows a slight preference for the remaining party producing the documentation.

SECTION 3: SURVEY RESULTS

PART 1 – VOLUMES AND CUSTOMERS

The Survey requested participants to give weekly volumes of all OTC derivatives deals averaged over the 12 months of calendar year 2002. We asked respondents to exclude internal and intra-company deals, and to count a deal as a single transaction even if it generates several separate tickets that need to be processed. Table 1.1 shows an average weekly deal volume of 1,187, compared with 803 last year. Because the questions were asked separately, the individual product volumes will not add up to the total OTC derivative volumes for any year or size class. Volumes decreased for vanilla swaps, but increased significantly for the other categories. Two things should be borne in mind, however. First, equity derivative volumes appear large relative to other products because of differences in the way they are booked at some firms; one should therefore be cautious in comparing equity derivative volumes with those of other products. Second, a significant part of this year's currency options increase was the result of the addition of a very high volume program that did not report last year; without that firm, weekly currency option volume for large firms would still have grown about 40 percent over its 2002 Survey level. Table 1.2 shows that firms continue to make substantial use of trades arranged through a broker.

Table 1.1
Average reported weekly deal volume
Number of trades, by firm size

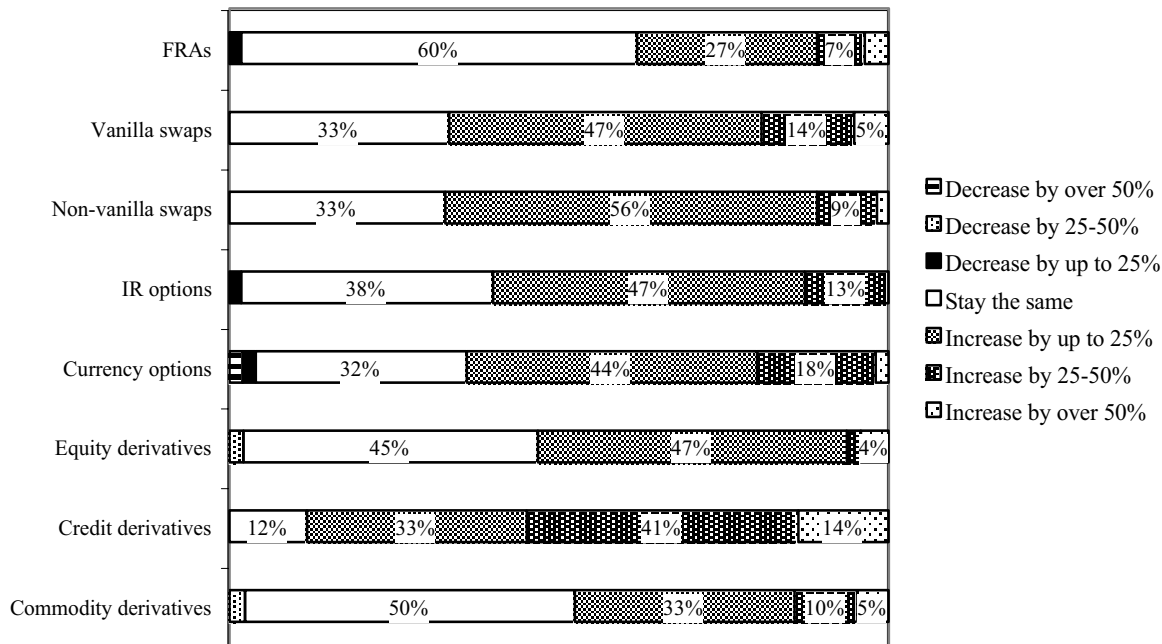
	All respondents			Large Firms			Medium Firms			Small Firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	59	64	66	117	122	106	39	40	61	7	18	12
Vanilla swaps	209	257	236	571	657	564	96	94	127	30	24	32
Non-vanilla swaps	80	40	51	241	85	122	16	21	19	7	6	8
IR options	33	40	51	89	97	126	13	17	18	5	8	8
Currency options	251	238	427	696	503	1,191	112	193	96	10	27	33
Equity derivatives	149	166	291	406	331	606	27	36	102	11	112	22
Credit derivatives	26	38	79	56	92	191	4	11	15	3	2	8
Commodity derivs	120	150	245	264	324	462	35	27	15	0	0	5
Total OTC derivatives	689	803	1,187	1,975	1,900	3,248	286	384	378	57	166	86

Table 1.2
Percent of trades arranged by a broker

	2001	2002	2003
FRAs	56	55	66
Vanilla swaps	46	43	49
Non-vanilla swaps	13	33	23
IR options	38	36	34
Currency options	37	37	24
Equity derivatives	11	27	14
Credit derivatives	29	35	39
Commodity derivatives	47	31	30

Expected future volumes. Chart 1.1 on the following page shows that most respondents expect volumes to remain constant in 2003 or to increase by up to 25 percent. Forward rate agreements are the only product that a majority expect to remain steady. Credit derivatives continue to stand out because 88 percent of respondents expect credit derivatives volumes to increase; 14 percent expect volumes to increase by over 50 percent.

Chart 1.1
Expectations regarding future volumes
By product



Customers and master agreements. Respondents report an 8 percent overall increase in customers with whom they transact OTC derivatives business, although the large increase among small firms in this number conceals small decreases at large and medium firms (Table 1.3). Changes from last year should be treated with caution, however, because the 2003 Survey restricted the definition of customers to those with whom respondents had at least one active trade during 2002. Chart 1.2 shows that counterparties of medium firms are almost evenly divided among dealers and end-users, while about 40 percent of counterparties of large and small firms are dealers. Responding firms report they have signed master agreements in place with about 90 percent of OTC derivative counterparties, compared with 92 percent last year and 85 percent in 2001.

Chart 1.2
Mix of dealers and end-user counterparties
By firm size, 2003 Survey

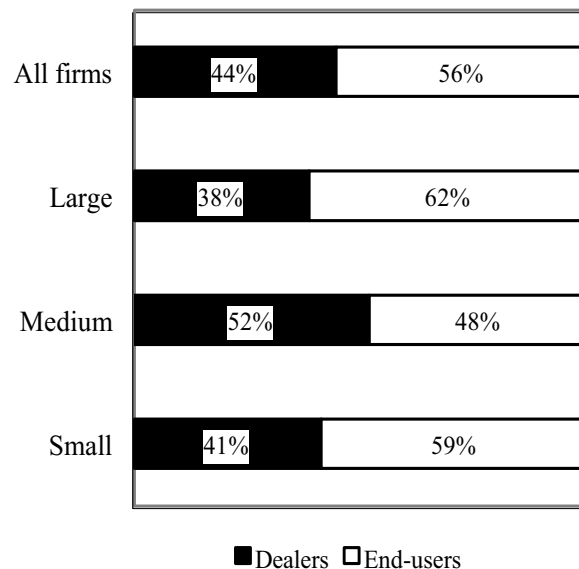


Table 1.3
Average number of swap counterparties
By firm size

	2001	2002	2003
All Firms	2,060	2,009	2,162
Large	4,588	4,273	4,304
Medium	1,707	1,462	1,309
Small	605	627	979

PART 2 - OPERATIONS PROCESSING

This Survey divides operations processing into three functions: trade data capture, confirmation processing, and payments and settlements. All 2003 Survey results are based on data submitted for calendar year 2002.

Trade data capture

The Survey investigated four aspects of trade data capture:

- Time to receipt of front office trade data by back office
- Front office trade tickets with errors in trade data
- Front office trade tickets that require that more data be added
- Rebooking of trades resulting from front office errors

Time to receipt of trade data.

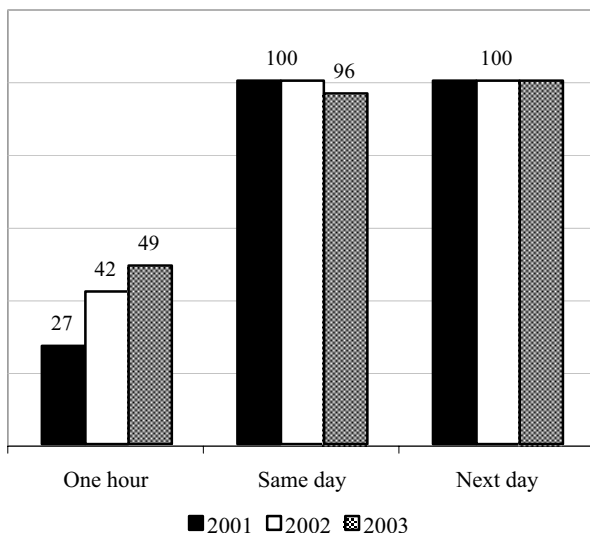
The Survey asked participants about how long it normally takes for front office to get trade details to back office operations for processing. Charts 2.1a-e compare the cumulative percent of trades for which details are ready after one hour, the same day, the next day, or later. Charts 2.1a and 2.1b show times for forward rate agreements and vanilla swaps for the past three years. The results are mixed. On the one hand, there has been an increase in the percent of trades for which data do not arrive until the next day or even later; on the other hand, data for an increasing percent of trades reach the back office within one hour. Charts 2.1c and 2.1d show two years of results for credit and equity derivatives; there has been some slowing for credit derivatives, but equity derivatives trade data are arriving faster. Chart 2.1e shows the results for non-vanilla swaps, interest rate and currency options, and commodity derivatives, for which data were collected for the first time in this year's Survey.

Charts 2.1

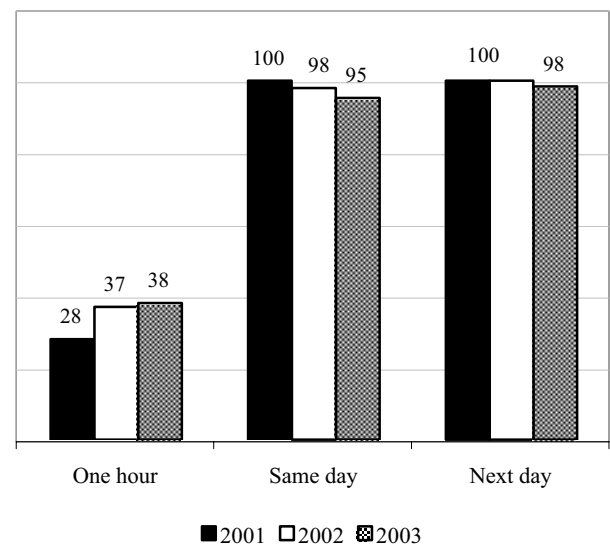
Time until trade details are ready for processing

All respondents, 2003 only

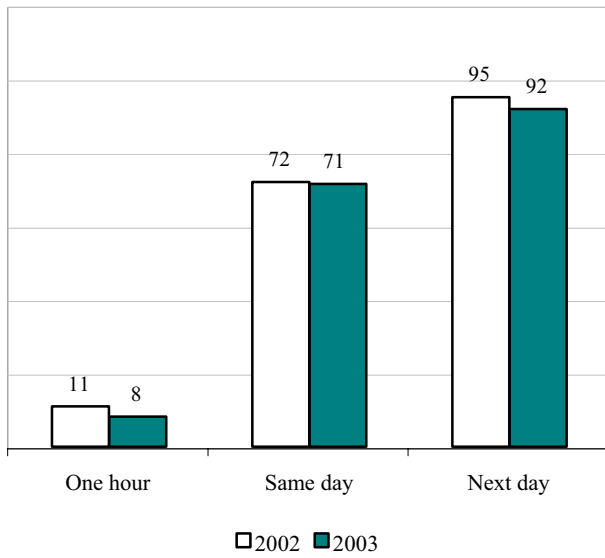
2.1a Forward Rate Agreements



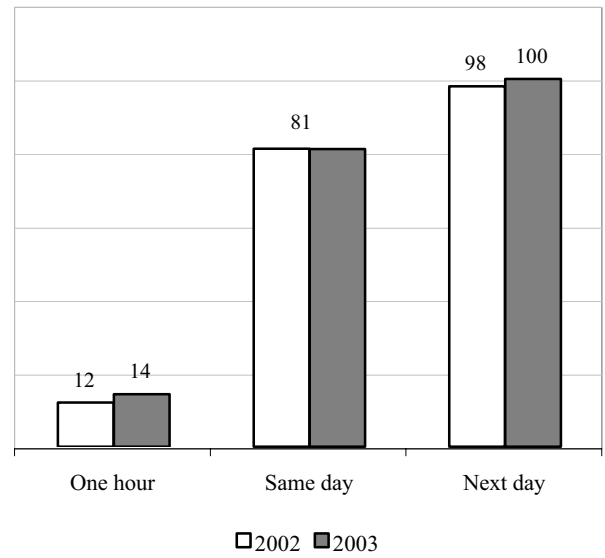
2.1b. Vanilla swaps



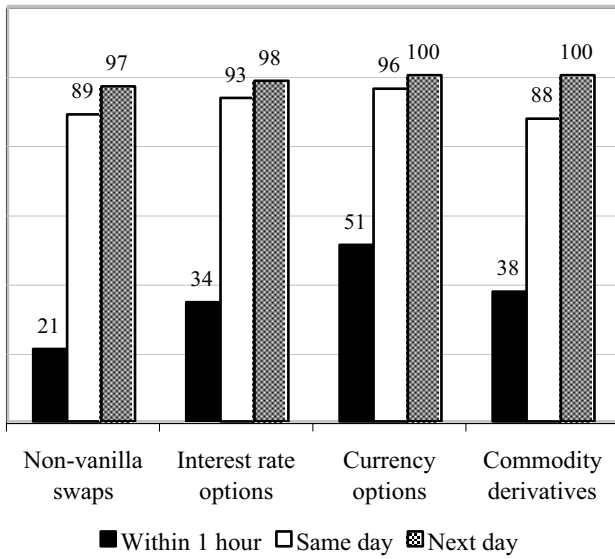
2.1c. Credit derivatives



2.1d. Equity derivatives



2.1e. Other products, 2003 only



Currency options are on a par with FRAs and vanilla swaps, with 96 percent of trade data received on the same day (Chart 2.1e). Next come interest rate options at 93 percent, followed by non-vanilla swaps at 89 percent, commodity derivatives at 88 percent, equity derivatives at 81 percent, and credit derivatives at 71 percent.

Errors in trade data entered by front office

Table 2.1 shows the error rates associated with traders entering erroneous data into deal tickets. The error rates for credit derivatives are high relative to those for other products and, for large firms, compared with those reported last year. One possible explanation is that large firms are more likely to enter into multiple trades on the same reference entity, which presents more opportunity for repeat errors. Another is increased attention to data integrity particularly with regard to the reference obligation, reported by some ISDA member firms over the past year. That is, higher standards lead to more scrutiny, which in turn leads to higher reported error rates.

Charts 2.2a and b show the relative frequencies of trade details the front office gets wrong for vanilla swaps and for credit derivatives. The most common errors for vanilla swaps involve dates (trade, settlement, and so on), trade conventions, and some aspect of counterparty details. Credit derivatives appear more vulnerable to errors in trade details — reference entity and reference obligation details in particular — and less to errors in trade conventions.

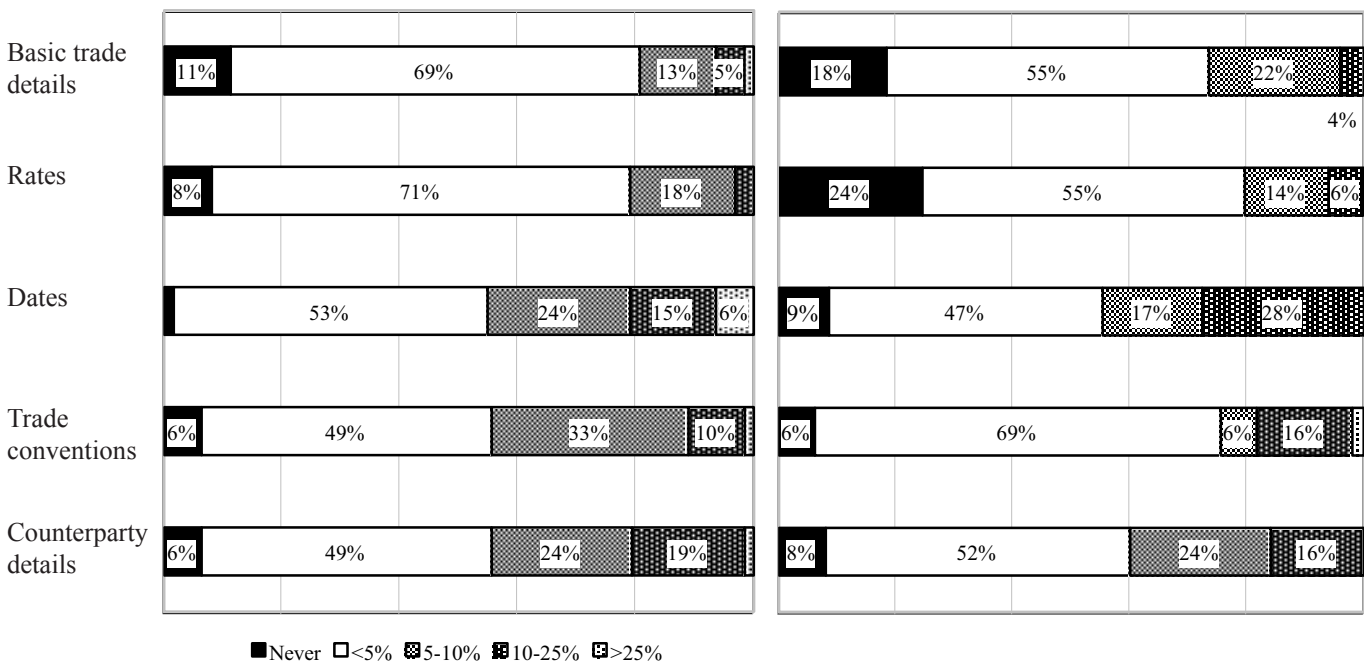
Table 2.1
Average estimated front-office error rates
Percents, by firm size

Percents	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	11	10	9	10	10	10	14	11	10	8	8	6
Vanilla swaps	16	17	13	18	17	19	19	18	9	10	17	10
Non-vanilla swaps			14			20			10			13
Interest rate options			12			17			9			11
Currency options			8			8			6			9
Credit derivatives		21	20		14	28		29	11		27	20
Equity derivatives		19	13		18	18		28	8		13	13
Commodity derivatives			10			8			15			6

Chart 2.2
Frequency of errors in trade details

2.2a Vanilla swaps

2.2b Credit derivatives



Additional trade data needed to process deal tickets

The Survey also asked about omitted trade details that routinely have to be added to front office trade records in order for deals to be processed. About 86 percent of trade tickets arrive at the back office with all necessary data for processing; the remaining 14 percent could be missing data for a variety of reasons. Some details — SSI, master agreement data, and legal language, for example — might routinely be left blank by front office for back office to fill in. Other details, such as collateral or credit details, might be furnished by the collateral management or credit function. And still others, such as trade or counterparty details, might be inadvertently omitted by front office. Chart 2.3 shows the frequency omitted details for four of the products surveyed. When details have to be added downstream, they are most likely to be trade details or counterparty details. Those firms that checked “Other” commented that brokerage fees or, for credit derivatives, accrued interest on assignments, often need to be added. Finally, adding the missing data is itself an occasion for errors; Table 2.2 shows the resulting error rates.

Chart 2.3

Types of data omitted

Percent of respondents indicating that type is routinely omitted by front office

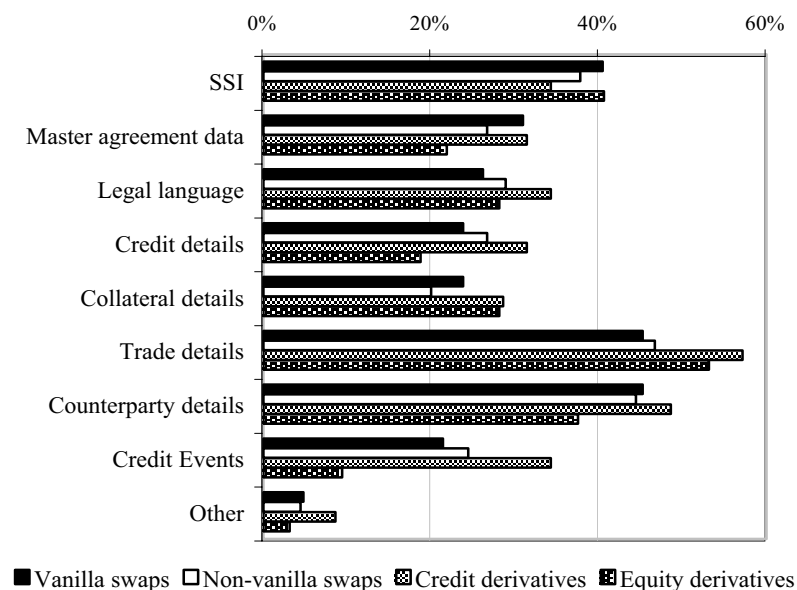


Table 2.2

Error rates associated with need to add omitted trade details

Percents, by firm size

Percents	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	4	8	4	5	4	6	3	4	3	3	19	6
Vanilla swaps	7	11	6	9	7	6	5	5	4	9	19	8
Non-vanilla swaps			6			9			5			6
Interest rate options			6			8			4			8
Currency options			4			4			3			7
Credit derivatives		7	10		5	15		6	5		12	11
Equity derivatives		13	15		9	14		9	10		20	24
Commodity derivatives			6			7			5			5

Rebooking trades

Finally, the Survey asked participants for the percent of trade records that need to be rebooked, whether as a result of an error or a change in trade details, and regardless of materiality. The higher rebooking rates for credit derivatives at large firms appears consistent with the higher error rates discussed above.

Table 2.3
Trades that need to be rebooked
Percents by product

<i>Percents</i>	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	7	9	9	9	13	12	5	6	6	6	6	7
Vanilla swaps	12	14	12	20	21	17	9	9	8	8	13	11
Non-vanilla swaps			12			17			8			11
Interest rate options			11			14			6			12
Currency options			6			6			6			9
Credit derivatives		13	14		17	22		5	7		21	14
Equity derivatives		13	11		16	16		15	6		8	12
Commodity derivatives			8			11			6			3

Confirmations

Production of confirmations

The Survey asked respondents about the time it takes to prepare and process confirmations. The [Process Working Group](#) of the [ISDA Operations Committee](#) in its [Sound Practices and Escalation Procedures](#) has set as a goal the receipt of confirmations by five days after trade date (T+5).

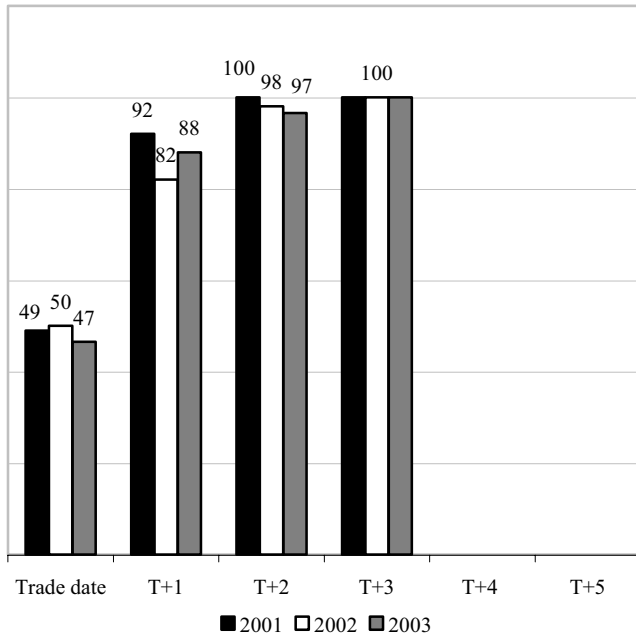
Charts 2.4a–g show times to dispatch of confirmations; each bar on the chart shows the cumulative percent of confirmations dispatched by the date indicated. The Survey results are encouraging in that the Process Working Group goal of T+5 mentioned above has been met so far by forward rate agreements, vanilla swaps, and commodity derivatives. But at the same time, fewer confirmations are dispatched early — that is, by T+2 — than was the case in the two previous years. This increase in times is most noticeable for non-vanilla swaps, which might simply reflect a selection bias caused by the gradual migration of non-vanilla swaps into the vanilla category as auto-matching capabilities increase. Both credit and equity derivatives showed some improvement in confirmation dispatch times from last year’s Survey.

Respondents ranked from one to four the reasons why confirmations do not meet their normal dispatch time. Chart 2.5, which shows results for four products, shows that the most common cause of delay for vanilla swaps is awaiting data or documentation approval from the traders or marketers. For more customized products like non-vanilla swaps and credit and equity derivatives, delays result most often from factors associated with processing new or non-standard products, delays in obtaining data or approval from legal or compliance, and, again, front office delays. For credit derivatives, delays might be the result of reference obligation data problems that come to light during the confirmation process.

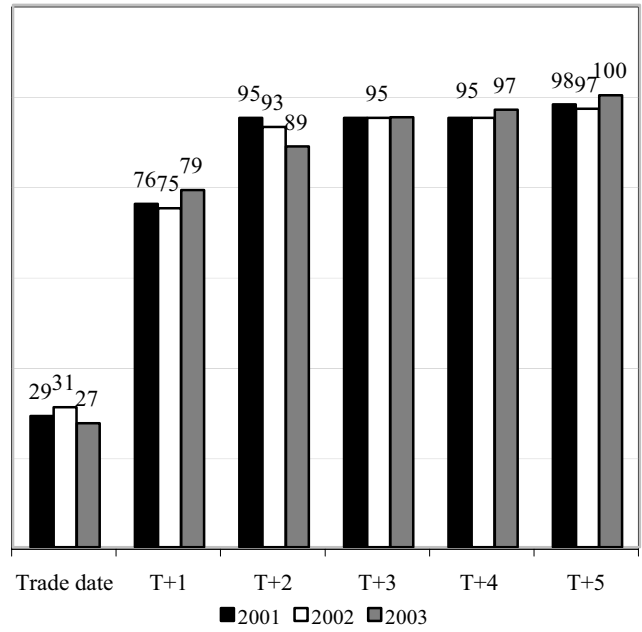
Charts 2.4

Percent of confirmations sent

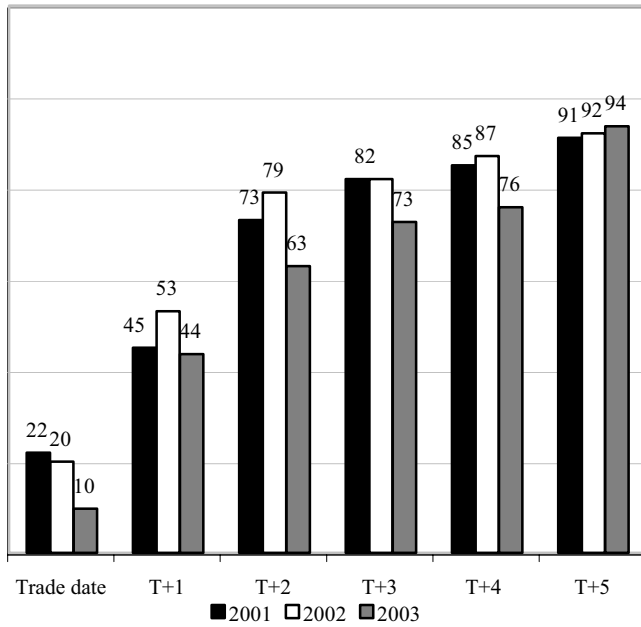
2.4a. Forward rate agreements



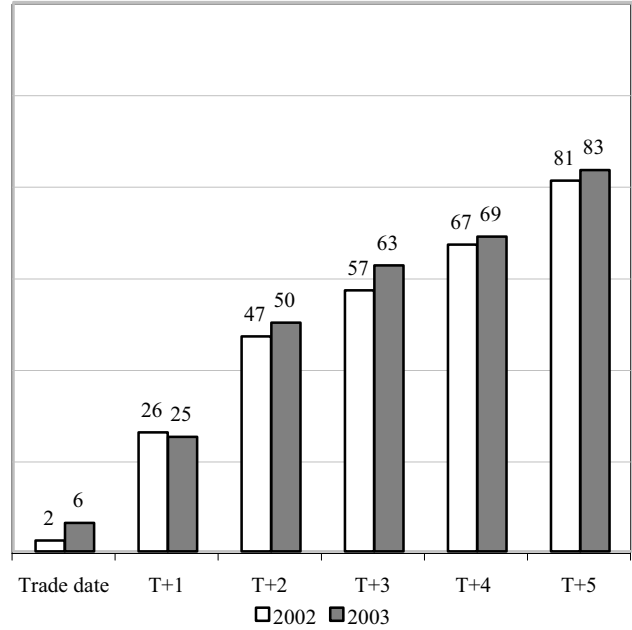
2.4b. Vanilla swaps



2.4c. Non-vanilla swaps



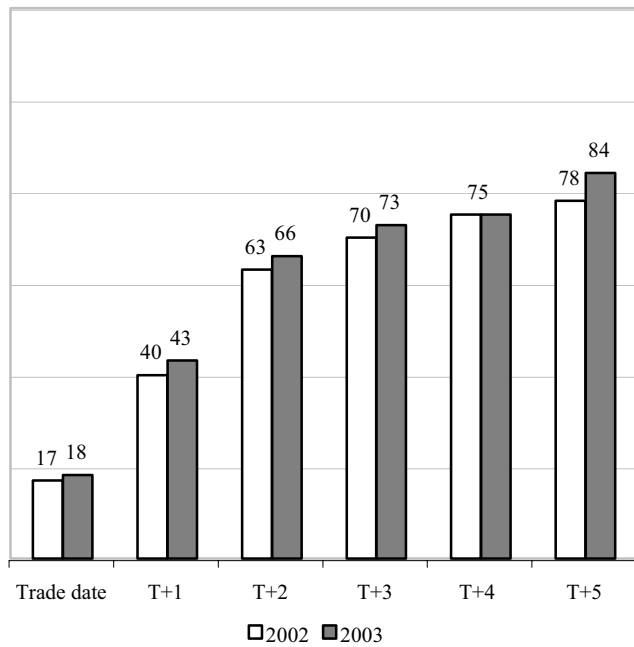
2.4d. Credit derivatives



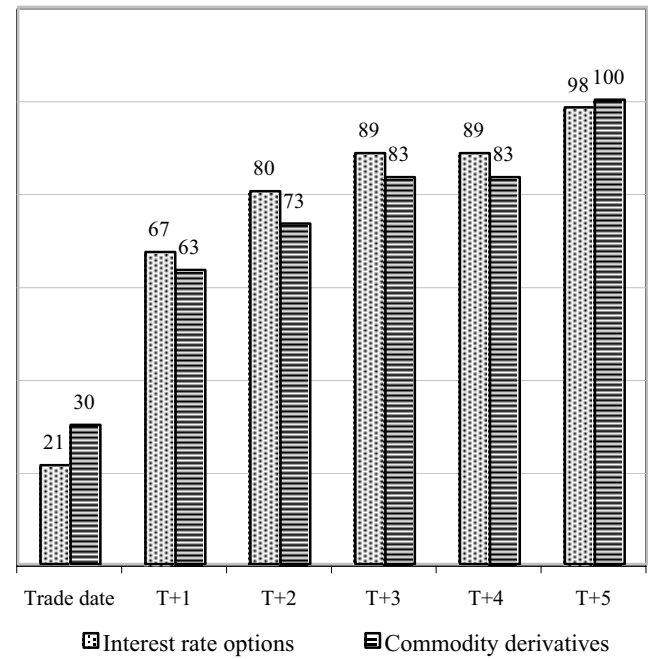
Charts 2.4 (cont.)

Percent of confirmations sent

2.4e Equity derivatives



2.4f. Interest rate and currency options and commodity derivatives



2.4g. Currency options (2003 only)

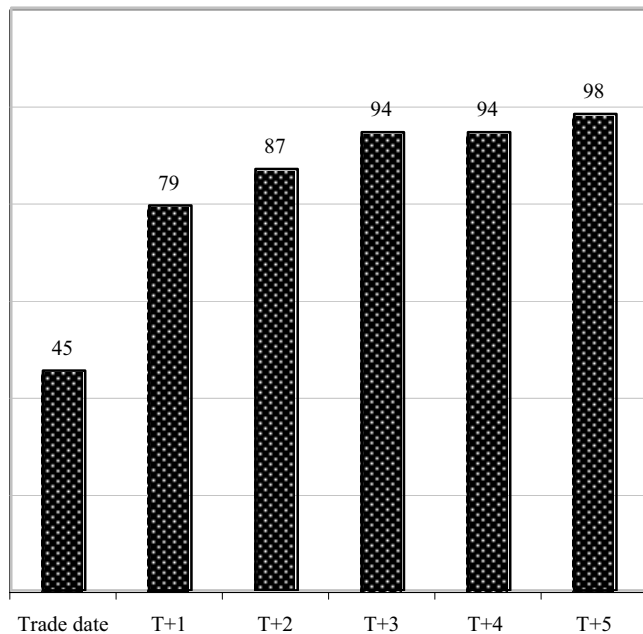
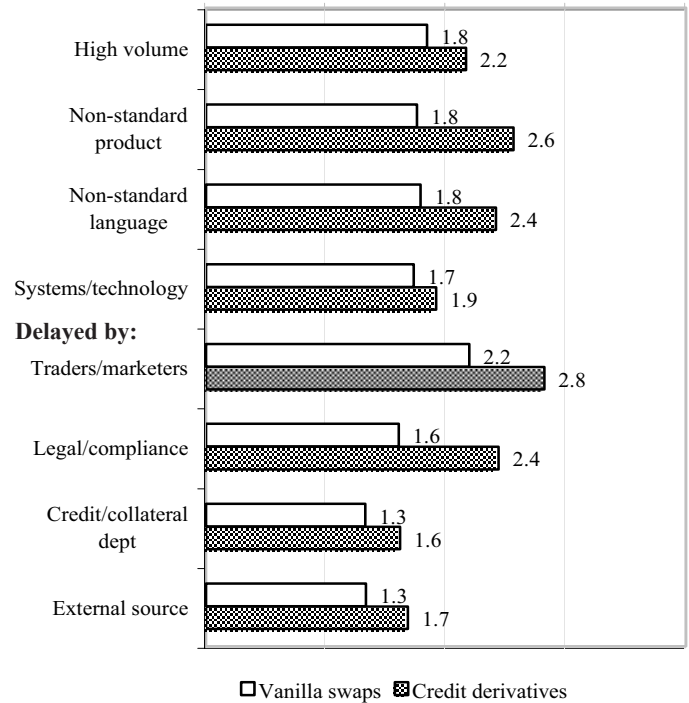


Chart 2.5

Reasons confirmations miss normal dispatch times

Ranked by increasing importance from 1-4



Methods of confirming trades

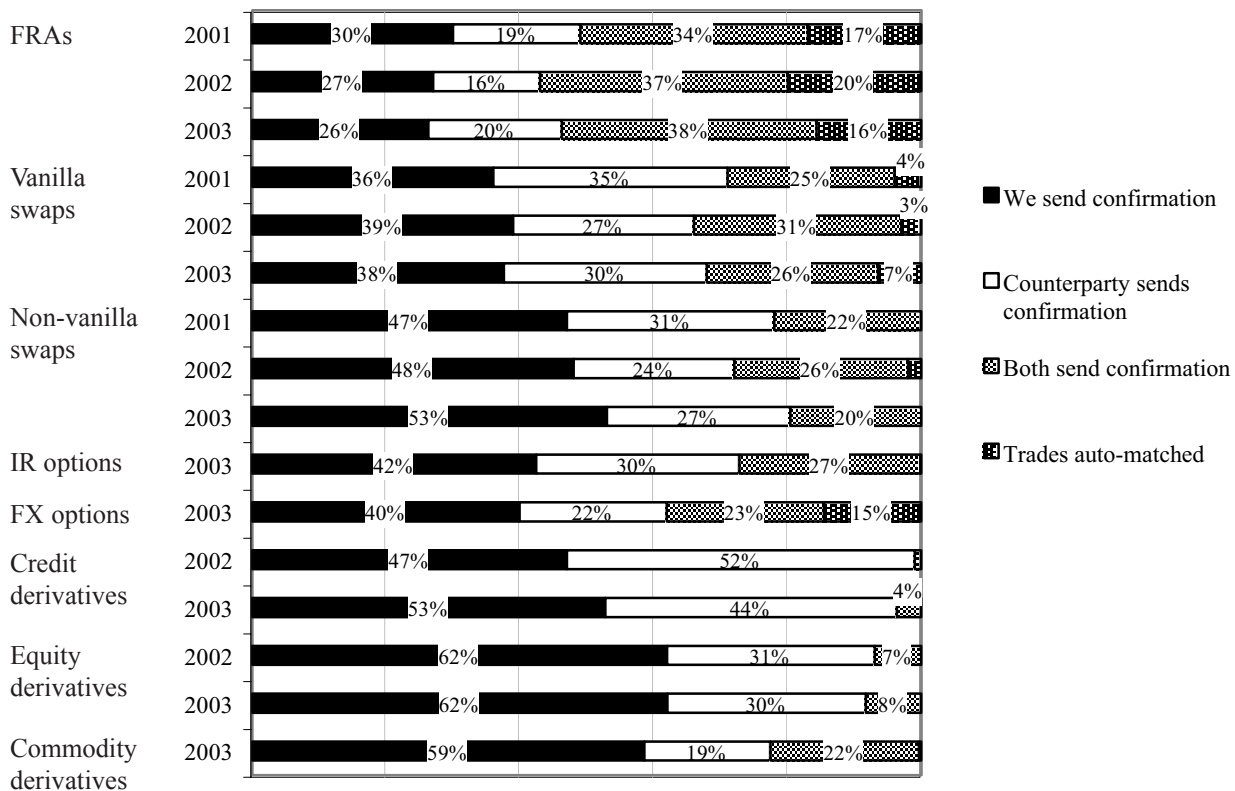
The Survey requested the percentage volumes that are generally confirmed by each of the following four methods:

1. We send a confirmation, which the counterparty signs and returns to us
2. The counterparty sends us a confirmation, which we sign and return
3. Both parties send out a confirmation, each of which is reviewed by the other and acknowledged but not signed or returned
4. Trades are matched by an auto-matching system

The results, shown in Chart 2.6, are generally similar to those from last year.

For FRAs, the largest proportion of trades (38 percent) are confirmed by both parties sending out a confirmation that is reviewed and acknowledged by the other party, but not signed or returned. The most common method (38%) for vanilla swaps, in contrast, is to send out a confirmation for the counterparty to sign and return. Sending out confirmations is even more common for non-vanilla swaps and credit, equity, and commodity derivatives. Auto-matching is significant mainly for forward rate agreements and currency options, although there has been an increase in the percentage of vanilla swaps auto-matched from 3 percent to 7 percent.

Chart 2.6
Methods used by firms to confirm trades



Outstanding confirmations

Survey participants that send out confirmations (Method 1 in Chart 2.6) were asked to estimate the average number of confirmations that have been sent to the counterparty but not yet finalized or signed. The responses, shown in Table 2.4, are expressed as business days' worth of average confirmation volumes, where days are counted from the date of dispatch. The average number of outstanding confirmations in the 2003 Survey was lowest for FRAs and highest for credit derivatives.

Table 2.4

Confirmations outstanding

Business days' worth of average confirmation volumes sent but not yet finalized

<i>Days</i>	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	7.6	7.0	7.1	7.5	7.8	7.0	8.3	6.6	6.2	5.9	6.3	8.5
Vanilla swaps	10.1	9.1	8.9	11.7	10.7	9.6	11.0	9.1	7.4	6.2	7.4	9.6
Non-vanilla swaps	12.1	12.4	12.1	12.1	16.5	12.9	13.6	11.4	12.4	9.1	8.6	10.9
Interest rate options			10.7			11.0			11.6			9.4
Currency options			8.2			8.4			9.4			6.5
Credit derivatives		20.8	21.1		19.8	25.6		21.7	18.0		22.2	16.9
Equity derivatives		14.3	12.6		17.1	12.0		17.2	15.6		8.3	10.6
Commodity derivatives			9.5			9.6			5.1			19.5

Respondents also contributed information about their escalation procedures for outstanding confirmations. Around 84 percent of respondents (almost 90 percent of large firms) have a formal escalation procedure. Escalation procedures tend to kick in after 30 days outstanding at large firms, while they might kick in sooner at small and medium firm.

The Survey asked more detailed questions regarding confirmation risk control escalation and accountability. For example, 55 percent of firms responding to these questions apply risk weightings to prioritize the escalation of outstanding confirmations. Further, 27 percent have developed a formal risk algorithm. Table 2.5 shows the responses to questions regarding the weighting of specific risk factors. The second column shows the percentage of respondents that monitor a particular criterion; the third shows the average ranking of importance of the category (with 1 being the highest importance and 8 the lowest). Not surprisingly, there is a close correlation between ranking of importance of a risk factor and percent of firms monitoring the factor. Among those respondents that chose 'Other,' additional risk factors included maturity date of trade, significant trade discrepancies, lack of trade acknowledgement, and confirmation workflow status (e.g., confirmation is with the legal department or with the client).

Table 2.5

Risk weightings used to prioritize outstandings

Risk category	Percent monitoring	Average ranking	
Days outstanding	95	1.5	
Other	89	1.5	Note: Ranking is from 8 (lowest) to 1 (highest).
Net present value	57	3.5	
Master Agreement signed	66	3.6	
Type of counterparty	68	3.8	
Type of transaction	72	4.2	
Credit rating of counterparty	38	4.9	
Collateral held / Collateral agreement signed	34	4.9	

Processing incoming confirmations

Firms that sign confirmations received from counterparties — Method 2 in the chart on the previous page — were asked the average time it takes to process, from the time the confirmation is received to the time it is sent out again. Table 2.6 shows that FRAs, vanilla swaps, and commodity derivatives take the least time, and that credit and equity derivatives have higher than average processing times at large firms. Almost all categories showed improvement from last year, especially non-vanilla swaps.

Table 2.6
Average time to processing incoming confirmations
Business days, by product and firm size

	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	2.3	2.8	2.6	2.3	2.3	2.6	2.4	2.2	2.3	2.1	4.2	3.0
Vanilla swaps	3.0	4.1	2.6	3.1	3.3	2.9	3.2	2.9	2.4	2.6	5.9	2.7
Non-vanilla swaps	4.1	5.5	4.4	4.2	5.9	3.1	4.3	4.1	3.3	3.7	6.6	6.6
Interest rate options			3.1			2.8			2.5			4.1
Currency options			2.4			2.0			2.2			2.9
Credit derivatives		5.9	4.9		6.2	6.1		5.1	3.6		6.9	4.8
Equity derivatives		4.7	3.8		5.5	5.0		4.5	4.1		3.8	2.3
Commodity derivatives			2.5			2.2			2.6			3.0

Trade discrepancies

Survey participants were asked about the length of time it normally takes to resolve trade discrepancies — that is, differences in how the parties to the trade recorded the details — when they come to light during the confirmation process, regardless of the source of the error. Their responses suggest that, in general, resolution times increase with complexity and novelty (Table 2.7). Exceptions include equity and commodity derivatives, which take less time than vanilla swaps. This year's results are not comparable with those of previous years because of changes in the question. The Survey asked respondents to rank in importance different causes of discrepancies on a scale of 1–4; Chart 2.7 shows that lack of counterparty response and disagreement on trade details rank highest.

Table 2.7
Time to resolve trade discrepancies and rebook trade
Business days, by product and firm size, 2003 Survey

<i>Business days</i>	All firms	Large firms	Medium firms	Small firms
FRAs	2.2	2.3	1.8	2.7
Vanilla swaps	2.7	3.0	2.2	3.0
Non-vanilla swaps	4.2	4.1	2.7	6.0
Interest rate options	3.6	5.0	2.0	4.1
Currency options	2.1	1.7	1.5	3.2
Credit derivatives	4.6	4.6	4.0	5.7
Equity derivatives	4.4	5.5	4.8	2.8
Commodity derivatives	2.3	2.1	2.2	3.3

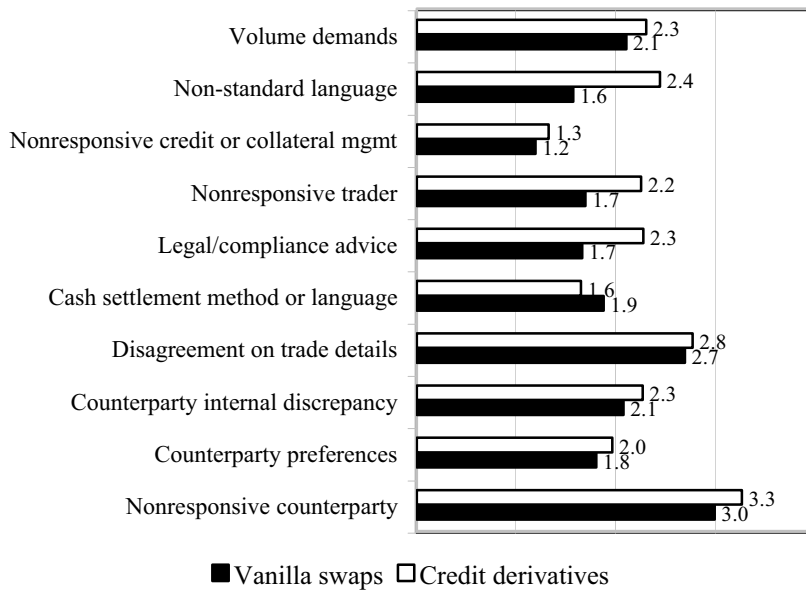
Chart 2.7**Ranking of causes of discrepancies and unsigned confirmations***Vanilla swaps and credit derivatives, 2003 Survey***Error rates attributable to confirmations area**

Table 2.8 shows the estimated error rates arising from the confirmations area, expressed as percent of volume. The main change from last year is an increase in errors attributable to confirmations of non-vanilla swaps.

Table 2.8**Average estimated error rates attributable to the confirmations area***Percents, by firm size*

Percent	All respondents			Large firms			Medium firms			Small firms		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
FRAs	2	3	3	2	3	2	2	2	4	4	4	3
Vanilla swaps	4	6	5	4	4	4	4	3	5	3	12	6
Non-vanilla swaps	5	5	8	6	4	5	4	4	9	4	6	11
Interest rate options			4			4			4			5
Currency options			5			2			4			10
Credit derivatives		2	5		5	6		2	5		0	4
Equity derivatives		4	5		4	5		4	6		3	5
Commodity derivatives			3			2			4			1

Payments and settlements

Table 2.9 shows average monthly settlements for five products. This is the first year the Survey has collected and reported settlement data by product.

Table 2.9

Average monthly settlements

By firm size and product, 2003 Survey

	All firms	Large firms	Medium firms	Small firms
Interest rate derivatives	8,014	20,959	3,762	1,287
Currency options	1,858	5,367	540	235
Equity derivatives	1,444	3,630	288	147
Credit derivatives	1,503	3,463	296	189
Commodity derivatives	1,034	1,820	133	68

Settlement errors. Table 2.10 shows that firms report a higher incidence of errors incurred in payments received than in payments made for all product categories. This is consistent with the results of previous Surveys, which did not break out the results by product.

Nostro breaks. Survey participants were asked how many new nostro breaks — that is, discrepancies between expected and actual cash settlements — they normally have per day, expressed as a percentage of average daily settlement. Commodity derivatives report a higher incidence of nostro breaks than do other products.

All the large firms, almost 90 percent of medium firms, and over half of small firms report that there is an amount that their firm is generally prepared to waive before making an interest claim on a nostro break. For large firms, the average nostro amount waived is \$422 for interest rate derivatives and \$330 for currency options; the corresponding amounts are \$154 and \$176 for medium firms and \$174 and \$183 for small firms.

Payment advices. Previous Operations Surveys have identified not sending out payment advices for all payments as an emerging trend, but this year's Survey shows a reversal of the trend. This year, the Survey again asked firms if they sent out payment advices for payments made and for payments received, but went beyond previous Surveys by asking about practices for five products. In last year's Survey, 64 percent of respondents reported they sent out advices for payments made (61 percent for payments received); in this year's Survey, in contrast, even the smallest percentage for an individual product is significantly larger than the aggregate percentages of last year (Table 2.10).

Payment failures. About 80 percent of respondents (90 percent of large firms) report that they have in place a formal escalation procedure for payment failures. Where such a procedure is in place, 63 percent say it kicks in within five days (or earlier) of the break, 11 percent that it does so within 10 days, and 26 percent that a payment is outstanding longer than 10 days for the procedure to be initiated.

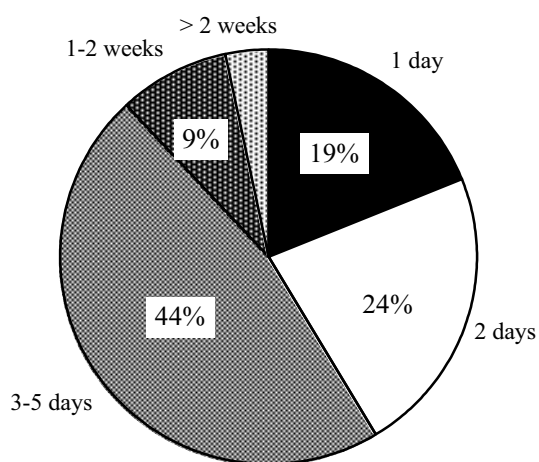
Table 2.10
Settlement error rates, nostro breaks, and payment advices
By product, 2003 Survey

	Interest rate derivatives	Currency options	Equity derivatives	Credit derivatives	Commodity derivatives
Average error rate on payments made (percent of monthly volumes)	1	1	3	4	1
Average error rate on payments received (percent of monthly volumes)	3	2	5	6	4
Average number of new nostro breaks per day (percent of daily settlements)	5	6	7	8	11
Percent of payments made for which payment advices sent	82	74	81	81	92
Percent of payments received for which payment advices sent	83	70	81	77	91

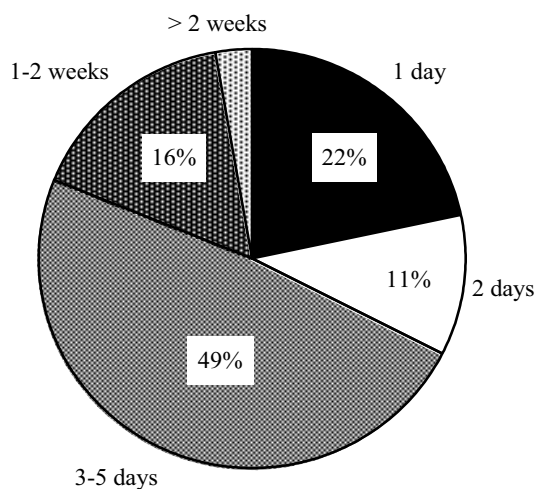
Payment break resolution. Charts 2.8 show the distribution of times to payment break resolution for two products, interest rate derivatives and credit derivatives. For both products, a little less than half of respondents report that it takes three to five days on average to resolve payment breaks. But more respondents report average times of one or two weeks for credit derivatives than for interest rate derivatives.

Charts 2.8
Average time frame for payment break resolution
2003 Survey

2.a Interest rate derivatives



2b. Credit derivatives



PART 3 - AUTOMATION

Straight Through Processing (STP), a long-term focus of the [ISDA Operations Committee](#), requires a high degree of standardization and automation. Standardization initiatives, which take place at the industry level and are sponsored by the ISDA Operations Committee, include the [cash settlement matrix](#), efforts toward a [uniform novation agreement](#), and the [Master Credit Derivative Confirmation](#). Another standardization initiative is [Financial Products Markup Language \(FpML\)](#). Automation, in contrast, occurs at the firm level, and is the focus of Part 3. The following results cover the extent of automation and plans for further automation during calendar year 2002. In addition, we report on implementation of FpML at responding firms.

Current extent of automation

The Survey described explicitly a number of key functions in the processing chain and asked respondents for the percentage volume of their OTC derivatives that each function handles in an automated fashion with no (or minimal) manual intervention. The responses fall into four bands:

- None (the process is entirely manual)
- Up to 50 percent of volume
- 50 percent or over but less than 90 percent
- 90 percent or over.

The questions cover the complete range of products covered in this year's Survey. As in Part 2, the questions posed cover trade data capture, confirmation, and payment and settlement.

The following Charts 3.1a–i show how respondents answered these questions; the actual percentage numbers are shown in the 2003 columns of Table 3.1. For each function, the chart shows the number of respondents that ticked each of the four bands, as a percentage of the total number of respondents that answered. The bands represent the volume of OTC derivatives that are processed automatically, as show in the chart legends.

Product differences. Not surprisingly, currency options and forward rate agreements are the most automated products, followed closely by vanilla swaps, while credit derivatives edge out equity and commodity derivatives as the least automated. Non-vanilla swaps stand firmly in the middle. For all products, the two categories that attract the vast majority of votes are 'none' and '90 percent or more,' indicating an all or nothing approach to automation. That is, if a firm has automation capabilities it applies them to a high percentage of volumes.

Differences between functions. The functions most often automated by respondents are transfer of trade data from front office to operations for processing, transfer of trade data from operations system to general ledger, and nostro reconciliation. The functions least often automated are imaging of incoming confirmations and matching of details on confirmations. Finally, sending of confirmations and imaging of outgoing confirmations tend not to be automated for credit and equity derivatives.

Differences over time. Table 3.1 on page 23 shows three years of responses for FRAs and vanilla and non-vanilla swaps, and two years of responses for credit and equity derivatives. The data show a slow trend toward increased automation, as evidenced by declines for most functions in the percent reporting

no automation and increases in those reporting 50 percent or more. A few products and functions show decreased automation from one year to the other; we believe this to be the result not of reversal of automation, but of sample changes and reporting errors. For most functions, credit derivatives appear to be increasing automation more than other products, albeit from a lower base.

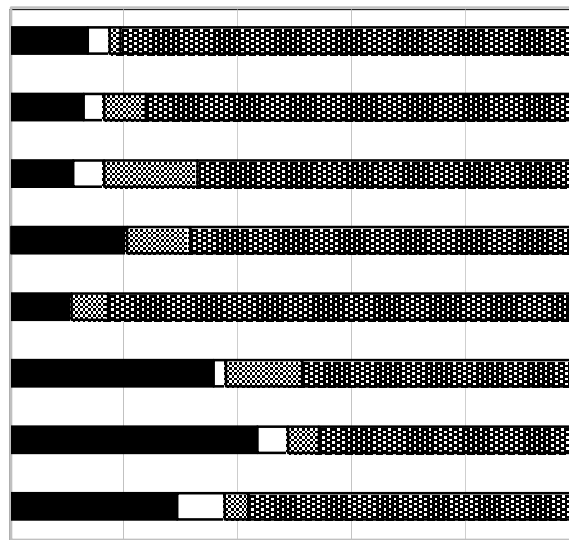
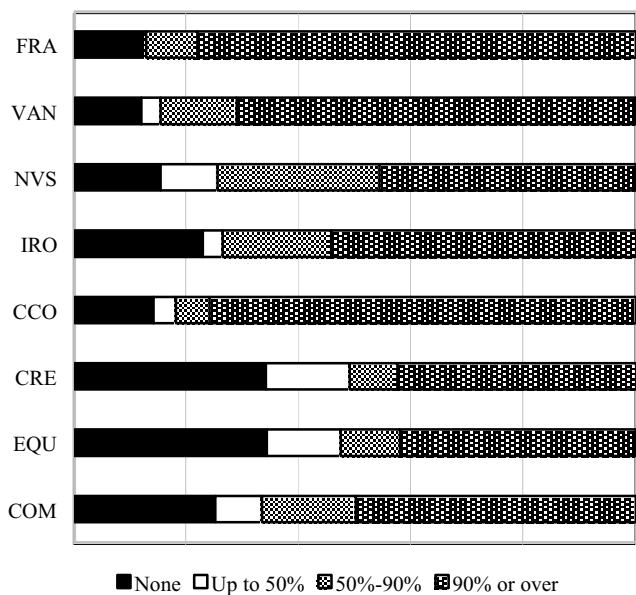
Table 3.2 shows respondent plans for future automation. Operations Committee members have noted the increasing availability of automation services from commercial providers. We expect that, as more firms take advantage of these services, future Surveys will show a faster pace of automation.

Charts 3.1 Current extent of automation of operations functions, 2003 Survey

Legend shown in upper left chart on each page; specific percentages are listed in Table 3.1

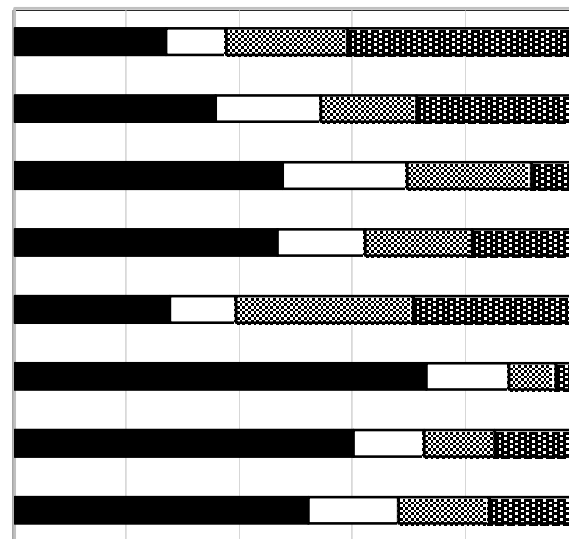
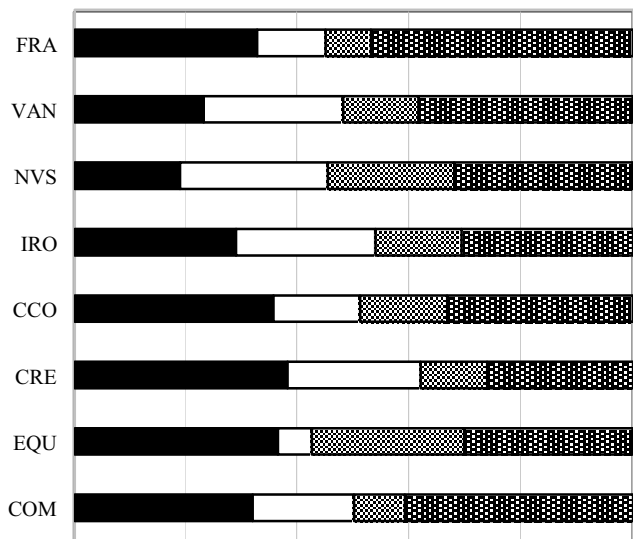
3.1a Trade data transferred from front office to operations system for processing

3.1b Trade data transferred from operations system to general ledger

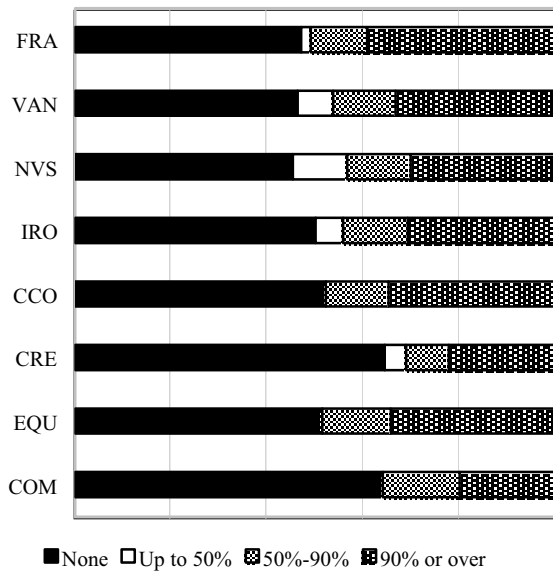


3.1c Additional data added to front office trade record in order to process

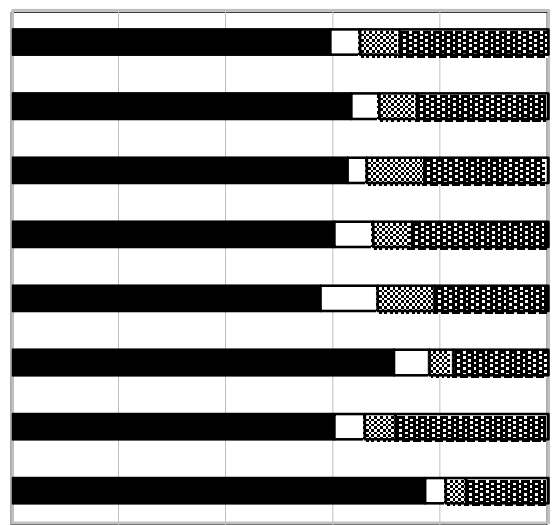
3.1d Confirmation sent



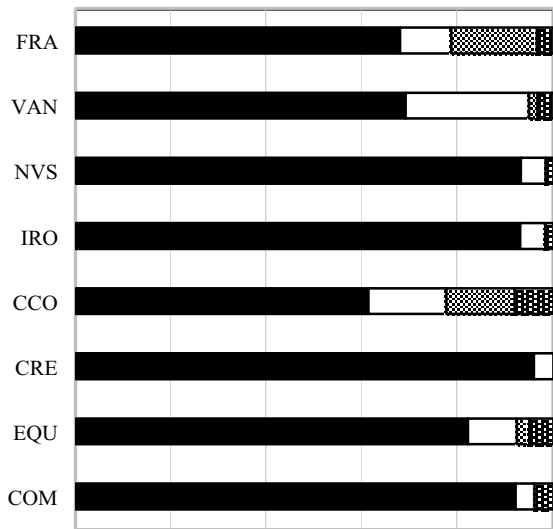
3.1e Imaging of outgoing confirmation



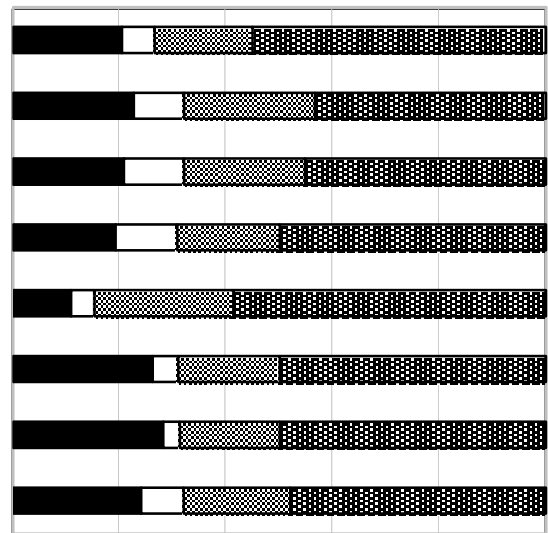
3.1f Imaging of incoming confirmation



3.1g Matching of confirmation details



3.1h Nostro reconciliation



3.1i Automated settlement matching (through clearing house)

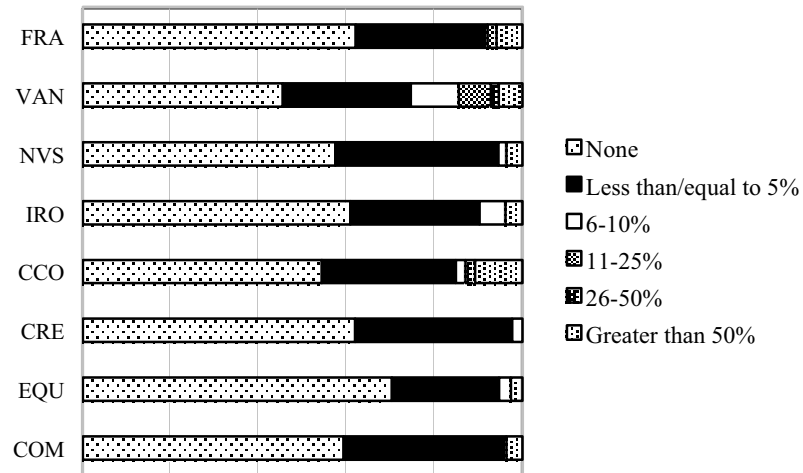


Table 3.1
Automation of selected functions, 2001-2003 Surveys
Percents, by product

	FRA			Vanilla swaps			Non-vanilla swaps			Credit			Equity																																						
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2002	2003	2002	2003	2002	2003																																				
Trade data transferred from front office to operations for processing (no handwritten trade tickets)	16	9	13	19	7	12	20	14	15	34	44	34	13	4	4	0	5	3	18	11	10	10	15	10	13	2	5	9	10	14	29	7	9	12	11	78	82	78	66	70	71	52	61	46	33	43	34	42			
Trade data transferred from operations system to general ledger	12	13	13	10	12	13	11	14	11	14	11	14	11	46	36	35	43	6	5	4	7	7	4	8	5	5	2	3	5	4	7	12	7	13	17	5	78	75	81	78	69	76	75	68	67	42	49	45	46		
Confirmation sent	37	27	27	43	41	36	57	50	47	82	73	60	16	7	11	20	13	19	20	12	22	7	15	13	6	14	21	12	16	17	14	22	2	8	21	13	41	52	41	25	30	29	16	24	8	9	4	11	15		
Imaging of outgoing confirmation	53	50	47	48	53	46	53	57	45	84	64	51	4	4	2	7	5	7	11	6	11	2	4	3	0	6	6	12	11	13	6	9	13	2	9	3	14	37	40	39	33	33	30	28	30	12	22	25	34		
Imaging of incoming confirmation	67	67	59	75	73	63	73	69	63	76	71	60	4	2	6	9	1	5	-	4	4	7	7	0	6	8	9	7	4	13	7	12	16	11	5	4	5	6	21	21	28	12	13	25	15	11	23	12	18	22	29
Matching of details on confirmation	74	70	68	85	82	69	100	95	93	98	96	82	12	9	11	15	18	26	-	5	5	0	4	10	8	12	18	0	2	2	0	2	2	0	3	3	6	9	9	0	2	0	0	0	0	0	5				
NOSTRO reconciliation	17	22	20	24	24	23	23	21	21	15	26	28	6	6	6	9	9	9	9	9	11	13	5	3	23	25	18	22	28	25	31	23	25	19	20	19	54	47	55	43	43	39	45	47	50	43	50				
Automated settlement matching (via clearing house)	80	62	62	63	45	45	88	57	95	62	88	70	6	6	30	17	29	4	4	37	5	36	6	24	6--10	0	0	0	11	0	2	0	0	2	0	3	11--25	0	7	0	0	0	0	0	0	0	0	0			
50 or over	12	6	6	4	5	4	2	2	4	0	0	3	26-50	2	0	7	2	6	6	6	7	2	0	0	0	50 or over	12	6	4	5	2	4	0	0	6	6	2	4	0	0	0	0	0	0	0	0	0	6	3		

Table 3.2**Plans for further automation***Percent of respondents that plan increased automation in next 12 months*

<i>Percents</i>								
	FRA s	Vanilla swaps	Non-vanilla swaps	Interest rate options	Curr. options	Credit deriv.	Equity deriv.	Comm. deriv.
Trade data transfer from front office to operations	52	58	63	61	46	68	55	50
Trade data transfer from operations system to GL	43	47	50	51	44	50	47	44
Additional data added to front office trade record	38	45	52	53	30	49	47	21
Confirmation sent	61	70	67	69	59	68	59	59
Imaging of outgoing confirmation	41	46	47	44	39	52	41	42
Imaging of incoming confirmation	42	46	46	46	41	49	49	46
Matching of details on confirmation	52	55	41	44	49	47	39	38
NOSTRO reconciliation	45	41	40	41	42	49	39	50
Automated settlement matching	27	51	48	35	15	26	10	23

Financial products Markup Language. FpML is the industry standard protocol for complex financial products. ISDA took on the development of FpML as a major initiative in the beginning of 2002, with the goal of creating the same level of standardization for electronic execution and documentation of trades as it provides through its legal documentation. Table 3.3 shows the responses to Survey questions regarding current and planned use of FpML; the results show that use of FpML has increased at large firms and that medium firms intend to increase use during 2003. Widespread adoption of FpML promises to be of particular value to firms in automating the matching of confirmation details.

Table 3.3**Financial products Markup Language (FpML)***Percents, by firm size*

	All firms		Large firms		Medium firms		Small firms	
	2002	2003	2002	2003	2002	2003	2002	2003
Firms using FpML:								
Internally	6	7	11	21	5	0	0	0
Externally	2	7	6	21	0	0	0	0
Both	14	10	28	21	5	11	7	0
Neither	79	76	56	37	89	89	93	100
Plan to increase use of FpML over 12 months	34	43	76	80	6	30	20	8

PART 4 – STAFFING AND ORGANIZATION

Staff numbers and productivity

Table 4.1 contains staffing ratios, where staff numbers are full-time equivalent and exclude staff required to process internal deals; Charts 4.1 and 4.2 show staffing ratios by size class. Table 4.1 also shows average salaries, which consist of basic salary and bonus with overhead excluded. As is true in the rest of this Survey, all 2003 Survey staffing and salary results are based on calendar year 2002 data.

Table 4.1

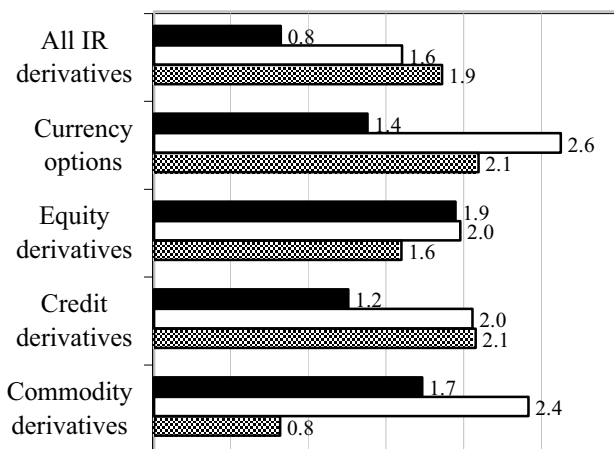
Staff numbers	Front office / trade processing staff		Front office/ trade capture staff	New weekly deals / trade processing staff		Average salary plus bonus (USD)	
	2002	2003	2003	2002	2003	2002	2003
	All IR derivatives	1.9	1.0	3.2	14.7	15.7	57,000
Currency options	2.9	1.7	2.6	45.2	70.8	50,000	53,000
Equity derivatives	2.2	1.9	3.4	9.2	22.8	64,000	65,000
Credit derivatives	2.1	1.3	2.2	5.5	8.2	65,000	62,000
Commodity der.	2.4	1.8	5.6	23.1	32.1	52,000	53,000

Both staffing ratios — front office traders to trade processing staff and average weekly deals to trade processing staff — are measures of back office productivity. Comparing the ratios across products, the two are consistent in that they show higher productivity for currency options, commodity derivatives, and equity derivatives than for interest rate derivatives and credit derivatives. At least in the case of currency options, it is likely that the higher productivity is related to the higher degree of automation. (Note: The unusually large increase in the weekly deals/processing staff ratio for currency options is the result of the addition of a very high volume program that did not report in last year's Survey.) But for equity derivatives and commodity derivatives, which tend to be less automated than other products (Section III), it is not clear why the two ratios are as high as they are relative to other products.

Chart 4.1

Average number of front-office trader per trade processing staff member

By firm size

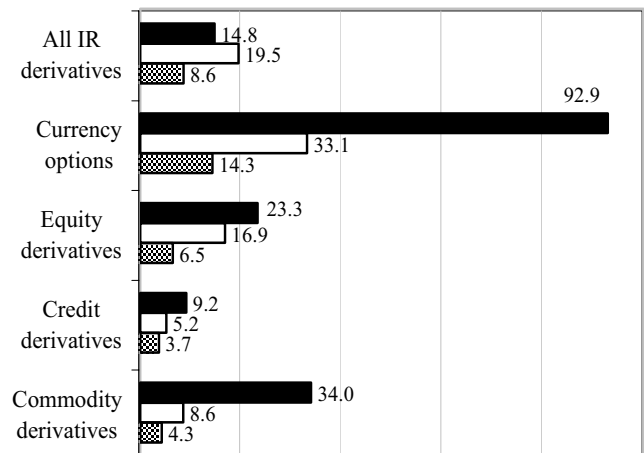


■ Large firms □ Medium firms ▨ Small firms

Chart 4.2

Average number of weekly deals per trade processing staff member

By firm size



■ Large firms □ Medium firms ▨ Small firms

Table 4.1 also shows results across time, and show broadly similar rankings between products in both the 2002 and 2003 Surveys. Unfortunately, it is premature to compare the ratios across time because of refinements in the Survey questions. For example, this year’s Survey distinguishes between two categories of staff: *trade capture staff* includes employees whose function is to enter trade data into operations systems, while *trade processing staff* includes employees involved in confirmation, settlement, reset, and reconciliation. Last year’s Survey, in contrast, did not distinguish between the two. Further, the Survey this year specified explicitly that ‘front office’ includes traders but excludes marketers; last year the Survey was somewhat ambiguous, while the 2001 Survey included marketers in the definition of front office. It is likely that definitions and the sample will stabilize going forward, so tracking productivity trends will be feasible in future Surveys.

Staff turnover

As in preceding years, most respondents reported staff turnover between 10 and 25 percent. The staff turnover figure of 17 percent — which, unusually, is uniform across size classes — is up slightly from last year’s 15 percent, (Chart 4.3). Not all turnover results in operations staff leaving the organization, and the Survey asked respondents for data on the percentage that move internally into other roles. Their response indicates that around half stay within their firms and that half move to other firms, with large firms tending more toward moving internally and small firms tending toward moving outside (Chart 4.4). For staff who leave the organization altogether, about half go to competitor firms.

Chart 4.3
Average annual turnover
Percents, by firm size

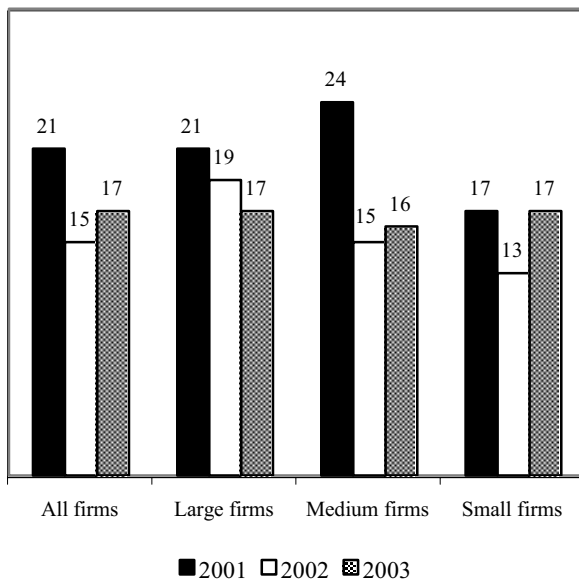
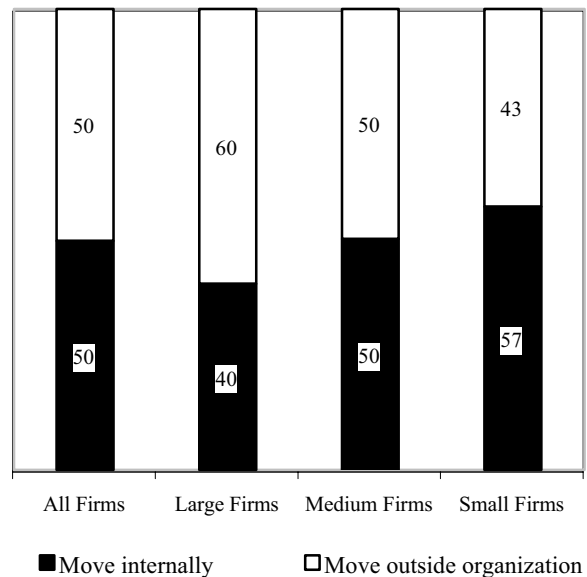


Chart 4.4
Sources of turnover, 2003
Percents, by firm size



Staff training

The percentage of respondents with formal training programs has remained stable since last year's Survey for all respondents, but the aggregate results conceal differences among firms of different size (Table 4.2). Large firms are still more likely to have in place a formal training program for operations staff than medium or small firms. Across all respondents, the average cost of training an operations professional is about \$1,500, the same as last year's Survey. The most common number of days devoted to training at large and medium firms is between three and six days, while the most common number for small firms is three or fewer days.

Table 4.2
Training for operations professionals
Percents, by firm size, 2003 Survey

	Large firms	Medium firms	Small firms
Training program in place	65	63	38
Training days per year			
0-3 days	30	30	70
3-6 days	60	50	25
6-10 days	10	10	5
> 10 days	0	10	0

Organizational structure

The Survey attempts to determine the extent to which firms favor centralized or local processing. Centralized processing potentially offer efficiencies through improved control and reduced duplication of facilities, while decentralized processing can reduce response time and facilitate communication with front offices and customers. Further, the Survey asks respondents whether they prefer organizing by function, by product, or by a combination of the two. Table 4.3 shows the results, along with additional tasks performed by the operations function.

Table 4.3
Organization of operations function
Percents, by firm size

	All firms	Large firms	Medium firms	Small firms
Operations function is centrally managed	69	45	76	85
<i>Operations function is organized by:</i>				
Function	10	5	9	15
Product	24	15	32	25
Combination	66	80	59	60
<i>Additional tasks performed by Operations function:</i>				
Trade capture/enrichment	81	85	73	86
Draft documentation	52	60	50	45
Brokerage analysis and reconciliation	81	85	73	86
Collateral/margin management	70	70	73	68
Mark-to-market	70	60	77	73
Client valuations	59	75	59	45

Disaster recovery and business continuity

Following the September 11 terrorist attacks and the resulting market disruptions, last year's Survey added questions regarding disaster recovery capabilities and business continuity planning. Table 4.4 summarizes the results for this year's Survey.

Table 4.4
Disaster recovery and business continuity
Percents by firm size, 2003 Survey

	All firms	Large firms	Medium firms	Small firms
Organizations with documented plans	97	100	100	91
Expected recovery period:				
Less than 4 hours	52	65	53	41
4 - 8 hours	15	20	21	5
Within one day	15	10	16	18
1 - 2 days	11	5	11	18
More than 2 days	3	0	0	9
Other	3	0	0	9
Recovery facility characteristics:				
Off-site recovery location for IT and operations staff	90	100	100	73
Data center separate from operations location	77	90	90	55
Recovery site on separate power grid from data center	90	100	100	70

PART 5 – MARKET PRACTICE

This part covers issues of current interest, some of which appear on a one-off basis, regarding market practices. All 2003 Survey results are based on data for calendar year 2002.

Table 5.1 shows responses to questions that appeared in the past three Surveys. The first set of questions involves firms' willingness to sign confirmations produced by their OTC derivative counterparties. The questionnaire made six statements, and asked respondents to choose the statement that best reflects their policies toward signing confirmations. As a general matter, smaller firms appear more likely to sign confirmations than large firms, although few firms say explicitly that they will not sign confirmations.

Survey participants were also asked about the manner in which they communicate with their counterparties about terminations for full and partial unwinds. They were given four categories for full unwinds and two for partial unwinds, and asked to allocate the percentage of their OTC derivatives that fall into each category. The lower half of Table 5.1 shows the percentages averaged across respondents.

Table 5.1
Trends in market practice

Percents

	2001	All firms 2002	2003	Large	Medium	Small
	<i>2003 Survey</i>					
Signing counterparty confirmations						
My firm never signs counterparty confirms as a matter of policy	5	6	7	5	5	10
My firm will sign confirmations for certain counterparties only	13	16	16	26	14	10
My firm will sign confirmations only for certain products	3	0	3	11	0	0
My firm will sign confirmations only for certain counterparties and certain products	18	17	26	37	33	10
Flexible approach – each trade/set of trades considered on its own merits	35	38	30	21	29	38
My firm always signs counterparty confirmations	25	23	18	0	19	33
Termination agreements						
<i>Communicating with a counterparty about a termination (full unwind, except credit swaps)</i>						
You send out a termination agreement, which is signed by the counterparty and returned	49	52	44	45	49	39
You send out a termination agreement, which you match with an agreement you receive from the counterparty	18	18	19	22	21	15
You send out a termination agreement, to which your counterparty does not respond	11	9	14	27	9	7
You sign and return a termination agreement from your counterparty	22	21	23	7	22	39
<i>Credit derivatives</i>						
Signed termination required for credit derivatives			82	78	94	75
<i>Partial unwinds</i>						
Send out an amended confirmation			40	35	42	42
Prepare a partial termination document			60	65	58	58

Table 5.2 shows responses to questions that are not directly comparable with questions in previous Surveys. First, the Survey asked respondents about plans to eliminate rate reset notices. Second, it asked respondents which party to a novation, assignment, or transfer should produce the documentation; there is currently no accepted market practice. Third, respondents were asked if they send out a separate

Table 5.2
Current issues in market practice
Percents, by firm size, 2003 Survey

	All firms	Large firms	Medium firms	Small firms
Rate reset notices				
Firm sends rate reset notices for vanilla swaps	94	95	95	91
Plans to eliminate rate reset notices to dealers	42	78	37	15
Plans to eliminate rate reset notices to end-users	16	28	11	7
<i>Plans to eliminate reset notices for:</i>				
Commodities (invoices)	5	7	6	0
Equity Derivatives	5	0	6	8
Neither	91	93	89	92
Novations, assignments, and transfers				
<i>Which party should produce the documentation (except credit derivatives)?</i>				
Assigning party	63	42	68	78
Assignee	14	5	21	17
Remaining party	23	53	11	6
<i>Which party should produce the documentation for credit derivatives?</i>				
Assigning party	59	50	65	62
Assignee	22	19	24	23
Remaining party	20	31	12	15
Swaption straddles				
<i>For European swaption straddles, firm sends out:</i>				
Single confirmation	56	74	47	44
Two separate confirmations	44	26	53	56
Phone confirmations				
<i>Respondents report they phone confirm the following:</i>				
Notional principal exchanges (initial and final)	69	90	55	64
Coupons - Accrual settlements for vanilla	39	30	36	50
Coupons - Accrual settlements for non-vanilla	47	55	36	50
Premiums (Caps, floors, swaptions, and bond options)	63	80	45	64
Fees (Up-front, 3d party, and cancellations)	61	75	55	55
Measures of capital allocated to operational risk				
Metric in place	48	56	47	42
Plan to develop in next year	46	29	80	27
ISDA Cash Settlement Matrix (described on ISDA website)				
Implemented as default	44	74	37	21
Plan to implement	23	25	31	14

confirmation for each part of a swaption straddle or if they confirm it as a single transaction. Fourth, the Survey asked respondents which transactions they confirm by telephone. Fifth, it asked firms if they have developed or plan to develop a metric for measuring operational risk capital. Finally, the Survey asked firms if they use the [ISDA Cash Settlement Matrix](#).

The Current Issues section also included questions about internet portals. About one-third of respondents (22 out of 64) have an internet portal in use for communications with counterparties. Half of these firms plan to expand the portal during the next 12 months. Of those that do not have a portal, 19 percent plan to build one during the next 12 months.

Table 5.3 shows responses to questions regarding primary uses and benefits of client portals. The primary use question asked respondents to choose at most three primary uses out of the six listed. And the benefits question asked respondents to rank the benefits on an increasing scale from one to four.

Table 5.3
Internet portals

Primary use of client portals

Percents

A means to advise on payments	69
Data store for confirmations	63
To provide portfolio valuation	52
A means to advise on rate resets	50
General correspondence	40
Data store for term sheets	19

Main benefits of client portals

Average ranking (1 - 4)

Increasing efficiency	3.4
Customer service	3.2
Reducing cost	2.5
Security	1.8

APPENDIX 1 – 2003 SURVEY PARTICIPANTS

ISDA wishes to thank the following institutions for responding to the 2003 Operations Benchmarking Survey.

Abbey National Financial Products	KBC Bank
ABN AMRO	Keybank National Association
AIG Financial	Lehman Brothers
Australia and New Zealand Banking Group	Lloyds TSB Bank
Baden-Württembergische Bank	Merrill Lynch
Banca Nazionale del Lavoro	Mitsubishi Trust and Banking Corporation
Banco Bilbao Vizcaya Argentaria	Mizuho Capital Markets Corp.
Bank Brussels Lambert	Morgan Stanley
Bank of America	National Australia Bank
Bank of Montreal	National Bank of Canada
Bank of New York	Nikko Cordial Securities
Bank of Tokyo-Mitsubishi	Nikko Salomon Smith Barney
Bank One	Nomura Global Financial Products
Barclays	Norddeutsche Landesbank Girozentrale
Bear Stearns	Nordea Bank Finland
BNP Paribas	Rabobank Nederland
Caixa Geral de Depositos	Royal Bank of Canada
Chu Mitsui Trust & Banking	Royal Bank of Scotland Group plc
Citigroup	Santander Central Hispano
Commerzbank	Société Générale
Commonwealth Bank of Australia	St. George Bank
Credit Suisse First Boston	Standard Corporate and Merchant Bank
Daiwa Securities SMBC	SunTrust Robinson Humphrey Capital Markets
Danske Bank	Svenska Handelsbanken (Handelsbanken Markets)
Den Norske Bank	Toronto Dominion Bank
Deutsche Bank	UBS
FirstRand Bank	UFJ Bank
Fleet Boston	United Overseas Bank
Freddie Mac	Wachovia Securities
Goldman Sachs	Westdeutsche Landesbank Girozentrale
HBOS Treasury Services	Westpac
JP Morgan Chase	Zürcher Kantonalbank

APPENDIX 2 – DEFINITIONS USED IN 2003 SURVEY

The following product definitions were specified in the Instructions to the ISDA 2003 Operations Benchmarking Survey.

All interest rate derivatives and cross-currency swaps include such contracts as FRAs; vanilla and non-vanilla interest rate and cross-currency swaps, as defined below; swap options (swaptions); binary and average rate options; and exotic options.

Vanilla interest rate and currency swaps are interest rate or cross-currency swaps capable of being electronically matched by a commercially available auto-matching engine such as Swift Accord.

Non-vanilla interest rate and cross-currency swaps includes all other interest rate and currency swaps, including exotic structured swaps such as mutual puts and amortizing swaps. Non-vanilla swaps also include swaps with embedded options. The Survey makes the distinction between vanilla and non-vanilla swaps because the complex, customized nature of non-vanilla swaps causes particular processing issues that we want to capture. The expansion of auto-matching capabilities in commercial systems to include increasingly complex products means that swaps classified as non-vanilla in one year's Survey might be classified as vanilla in the next year's Survey.

Interest rate options include interest rate caps, floors, and collars, swap options (swaptions), binary and average rate options, exotic options

Currency/FX options include cross currency/FX puts, calls, range forwards, and corridors; binary and average rate options, barrier and rainbow options, and quantos

Credit derivatives, whether referenced to single names, baskets, or portfolios, include credit default swaps, total return swaps, credit-linked notes, and credit spread options and forwards

Equity derivatives are contracts with payments linked to the performance of equities, baskets of equities, or equity indices. For this Survey, equity derivatives include equity forwards, equity swaps, equity options (but not warrants or exchange-traded equity options), equity-linked notes, and relative performance trades

Commodity derivatives are swaps, forwards, or options on commodity prices or indices. Common underlying commodities include precious and base metals, crude oil and other petroleum products, natural gas, electric power, and weather

Traders includes only traders and not marketers or other front office staff; *trade capture staff* includes employees whose function is to enter trade data into operations systems; and *trade processing staff* includes employees involved in trade confirmation, settlement, reset, and reconciliation.

Days means business days in this Survey, and *close-of-business* (COB) refers to the customary end of the business day in the trading location.

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