2010 ISDA Operations Benchmarking Survey

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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 820 members in 57 countries. Its members include most of the world's major commercial, universal and investment banks as well as other companies and institutions active in swaps and other privately negotiated derivatives transactions.

Introduction

The ISDA Operations Benchmarking Survey identifies and tracks operations processing trends in privately-negotiated, over-the-counter (OTC) derivatives. The results provide individual firms with a benchmark against which to measure the promptness and accuracy of their trade data capture, confirmation, and settlement procedures, as well as the level of automation of their operational processes. ISDA first conducted the Survey in 2000 and has done so annually since then.

This year, sixty-nine ISDA member firms responded; fifty-seven of those firms participated in last year's Survey as well. Appendix 1 lists the respondents, and Table 1 shows some sample characteristics. The Survey classifies respondents into three size groups based on monthly deal volumes across products. Of the sixty-nine firms that responded, sixty-one are banks or securities firms and two are insurers; the others include an asset manager, an energy trading firm, an export financing agency, a global custodian, a government agency, and a hedge fund. The regional breakdown is as follows: thirty-five are from Europe, sixteen from North America, eleven from Japan, five from Australia or New Zealand, one from Asia outside Japan, and one from South Africa.

Table 1
Firms responding to ISDA Operations Benchmarking Survey
Numbers of firms

Size	**Monthly volume**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Responded 09 & 10**
Large	≥3,000	17	20	20	19	18	17	18	22	17	16	16
Medium	≥500	26	23	22	25	22	18	19	22	22	16	14
Small	<500	18	22	22	23	26	32	29	35	30	37	27
Total		61	65	64	67	66	67	66	79	69	69	57

Appendix 2 contains definitions of terms as used in this year's Survey. The 2010 Survey refers to respondents' activities from January 1 to December 31, 2009. All amounts are in U.S. dollars. Each firm that responds to the Survey receives an individual feedback report that compares the firm's results with the results for respondents of similar size.

Section I of the Survey reports monthly volume statistics for five OTC derivative product groups: interest rate derivatives, credit derivatives, equity derivatives, currency options, and commodity derivatives. Sections II through IV report statistics for trade capture, confirmation and affirmation, and settlement. Section V provides automation data by process and product, and Section VI reports information on staffing levels for trade capture, confirmation, and settlement staff as well as participation in industry best practice or process improvement initiatives. Along with reporting results by size group where feasible, for a small number of questions the Survey will report separate results for the G14 dealer group (see Appendix 2).

Markit and Sapient served as consultants to this year's Operations Benchmarking Survey; the consultants collected and aggregated individual responses to the Survey. All data obtained from Survey responses were kept in strict confidence. Access by ISDA, Markit, and Sapient staff is strictly limited, and the data are not shared with employees of other member firms or with any other outside party.

2010 ISDA Operations Benchmarking Survey

Summary

- OTC derivative monthly volumes grew by 1.5 percent during 2009, compared with 2.0 percent in 2008 and 30 percent in 2007. At large firms, credit and commodity derivative volumes increased while currency option and interest rate and equity derivative volumes fell.

- Credit derivatives show a high degree of electronic processing of confirmations, with 99 percent of event volume eligible for electronic processing and 98 percent actually confirmed electronically. Equity derivatives show the lowest degree of eligibility at 36 percent, but 81 percent of those eligible confirmations are confirmed electronically. Virtually all products experienced improvements in electronic processing of eligible confirmations during 2009.

- An increasing proportion of interest rate and credit derivative confirmations are dispatched on the Trade Date. Equity derivatives continue to lag the others, but same-day dispatch has increased for those equity derivatives that are dispatched electronically. There are significant differences between dispatch times for electronic and non-electronic confirmations.

- Outstanding confirmations, measured as days' worth of business, continues to fall for all products. Equity derivatives still show the highest number of outstanding confirmations, but significantly less than in previous years.

- Average monthly settlement volumes decreased for all products, and significantly for credit and equity derivatives. Incidence of nostro breaks fell from last year for all products. Equity derivatives still tend to have more nostro breaks than other products, and small firms are more likely to encounter nostro breaks than the other size classes. Times to nostro break resolution have improved over last year, most notably in the virtual elimination of breaks taking over four weeks to resolve.

- Credit derivatives continue to show the highest degree of process automation and equity derivatives the lowest. With regard to functions, data transfer and nostro reconciliation are the most automated and settlement pre-matching the least automated overall.

Survey Results

Section 1 – Volumes

The Operations Benchmarking Survey asked respondents to report their monthly event volumes by product type, where events include such actions as new trades, novations, and terminations but exclude intra-company trades and tear-ups. Appendix 2 provides a more detailed definition. Charts 1.1 and 1.2 show the results for all respondents. Chart 1.1 shows that overall OTC derivative volume rose 1.5 percent during 2009, compared with 2.1 percent in the previous year. Chart 1.2 shows the results by product. Over all respondents without regard to firm size, commodity derivatives volumes increased by 41 percent and credit derivatives by 20 percent. In contrast, equity derivative event volumes decreased by 42 percent, currency options by 21 percent, and interest rate derivatives by 15 percent. Both equity derivatives and currency options had decreased in last year's Survey but interest rate derivatives had increased.

Chart 1.1
Average monthly event volume, all products
Number of events

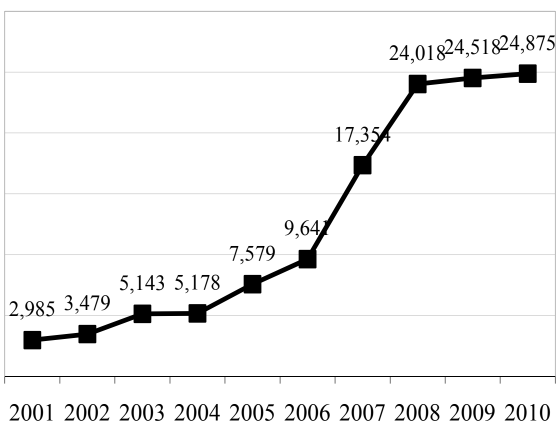


Chart 1.2
Average monthly event volume by product
Number of events

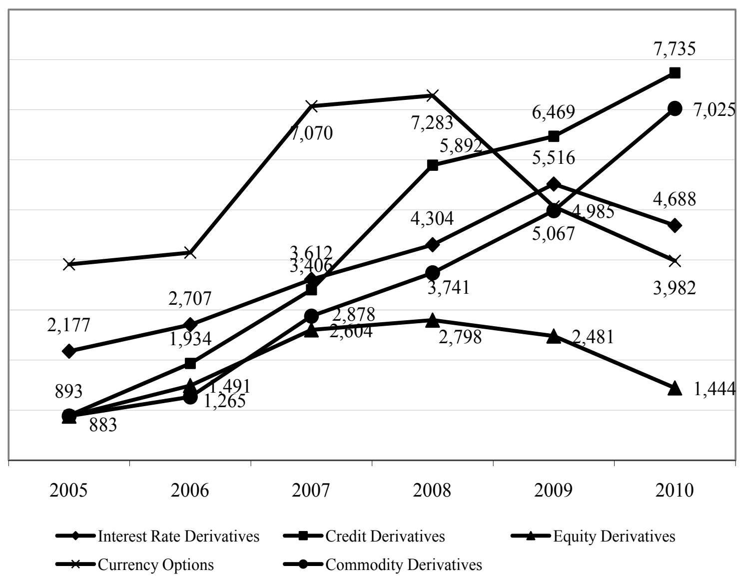


Table 1.1 (continued on following page) shows volumes by product and firm size. At large firms, commodity derivative volumes grew by 42 percent compared with 63 percent the previous year, while credit derivative volumes grew by 25 percent compared with 44 percent the previous year. Equity derivative volumes at large firms fell by 29 percent compared with an increase of 7 percent last year, while interest rate derivative volumes fell by 8 percent compared with a 57 percent increase last year. Equity, interest rate, and commodity derivative volumes fell at medium and small firms.

Table 1.1
Average monthly event volume, by size group

	Large firms						G14		
	2005	2006	2007	2008	2009	2010	2008	2009	2010
Interest rate	5,890	7,631	9,903	12,677	19,881	18,300	12,328	18,369	19,156
Credit	2,790	6,281	9,359	17,547	25,313	29,707	17,982	23,648	31,563
Equity	2,328	4,522	5,237	6,595	7,025	4,849	6,520	6,666	4,765
Currency options	11,252	10,998	16,183	19,955	16,153	12,702	20,150	14,935	13,206
Commodity	2,495	3,968	5,953	8,346	13,600	19,271	9,574	12,593	20,430
Total OTC	25,739	32,256	47,345	65,121	81,972	84,828	66,554	76,210	89,120

Table 1.1 (continued)

	Medium firms						Small firms					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
Interest rate	928	1,643	1,862	2,060	2,674	1,817	282	369	400	335	418	411
Credit	145	392	415	680	663	665	13	39	120	87	64	49
Equity	328	769	1,334	703	1,366	240	52	70	140	255	138	82
Currency options	700	1,177	1,439	1,392	2,702	1,261	134	499	842	315	269	233
Commodity	149	505	424	1,042	969	529	82	41	64	130	174	110
Total OTC	2,093	3,966	4,179	5,878	8,374	4,512	433	1,191	1,043	1,122	1,063	885

Table 1.2 gives summary statistics for volumes by product and firm size. The summary statistics show the dispersion in volumes within size classes. Mean and median volumes are relatively close for large firms, but differences between means and medians in the medium and small firm samples suggest more dispersion among the results reported by firms in those categories.

Table 1.2
Monthly event volume summary statistics, by size group

Large	**Number**	**Average**	**Median**	**25% Quartile**	**75% Quartile**	**Maximum**
Interest rate	15	18,300	16,035	11,830	25,599	34,860
Credit	15	29,707	26,303	14,313	42,995	73,289
Equity	15	4,849	4,701	3,143	6,056	11,991
Currency options	15	12,702	11,280	5,339	18,796	30,901
Commodity	16	19,271	19,935	7,072	24,670	54,013

Medium	**Number**	**Average**	**Median**	**25% Quartile**	**75% Quartile**	**Maximum**
Interest rate	16	1,817	1,379	1,080	2,854	4,058
Credit	14	665	279	95	800	4,319
Equity	13	240	186	33	400	963
Currency options	15	1,261	687	369	1,513	6,591
Commodity	11	529	159	85	546	3,108

Small	**Number**	**Average**	**Median**	**25% Quartile**	**75% Quartile**	**Maximum**
Interest rate	36	411	316	79	710	1,266
Credit	29	49	11	3	85	234
Equity	25	82	33	9	86	441
Currency options	24	233	182	37	291	1,002
Commodity	20	110	12	3	64	600

Section 2 - Trade capture

The Survey asked respondents to report the percent of trade records that have to be amended in front or back office systems because of errors as well as the percent of errors attributable to front office staff. Table 2.1 shows the results for the past two years.

Table 2.1
Amendment rates
By product

	Interest rate			Credit			Equity			Currency			Commodity		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
Percent of trade records containing errors	18	18	14	13	12	13	12	16	15	7	10	11	8	10	10
Percent of errors attributable to front office	37	54	58	34	49	56	29	53	57	35	51	63	25	54	57

The Survey also asked participants to rank error types from most common to least common; Table 2.2 shows the rankings for the five product categories. The results are consistent with those in previous years. For most products, the most common errors are associated with counterparty names and with payment or termination dates, although for credit derivatives errors commonly occur when specifying the reference entity or obligation as well as fees such as initial margins or assignment fees. Notional amount errors are significant for currency options and commodity derivatives.

Table 2.2
Rankings of common sources of errors
By product

Cause	Interest rate	Credit	Equity	Currency	Commodity
Counterparty name	1	2	3	1	1
Payment Date(s) / Termination Date	2	4	1	2	2
Trade Date / Effective Date	3	5	2	4	4
Mutual Early Termination	4	11	11	9	11
Business Day Convention	5	7	7	7	6
Underlying[1]	6	1	4	6	4
Miscellaneous fees[2]	7	3	6	5	7
Notional Amount	8	6	5	3	3
Buy / Sell	9	8	8	8	8
Language / Elections	10	10	10	10	10
Legal agreement date[3]	11	9	9	11	9

[1]Reference obligation, reference entity, rate option, index or share, etc.
[2]Initial margins, assignment fees, upfront fees, etc.
[3]Master agreement, master confirmation agreement

Section 3 - Confirmations

In order to measure the degree of electronic processing of confirmations, the Survey asked respondents to report the share of event volume that is eligible for electronic confirmation as well as the share actually confirmed electronically. Table 3.1 shows the degree to which respondents are taking advantage of opportunities for electronic processing, which is measured as electronically confirmed event volume as a percent of electronically eligible event volume. Credit derivatives are well ahead of other products, with 99 percent of eligible volume confirmed electronically, but the results show progress for almost all products and size groups compared with last year.

Table 3.1
Electronically confirmed event volume as percent of electronically eligible event volume
Percents

	All		**Large**		**Medium**		**Small**	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**
Interest rate	61	77	63	79	48	51	28	47
Credit	95	99	95	99	97	99	93	93
Equity	58	81	60	87	52	42	13	19
Currency	73	71	75	72	52	53	56	61
Commodity	57	76	60	77	4	22	54	70

Table 3.2 shows the underlying data on which the preceding table is based. Credit derivatives show the highest degree of electronic eligibility and, with the exception of small firms, equity derivatives show the lowest. Comparing Tables 3.1 and 3.2 shows one striking result: while Table 3.2 shows that a relatively low proportion (36 percent) of equity derivatives volume is electronically eligible, Table 3.1 shows that a relatively high proportion (81 percent) of eligible equity derivatives volume is electronically processed.

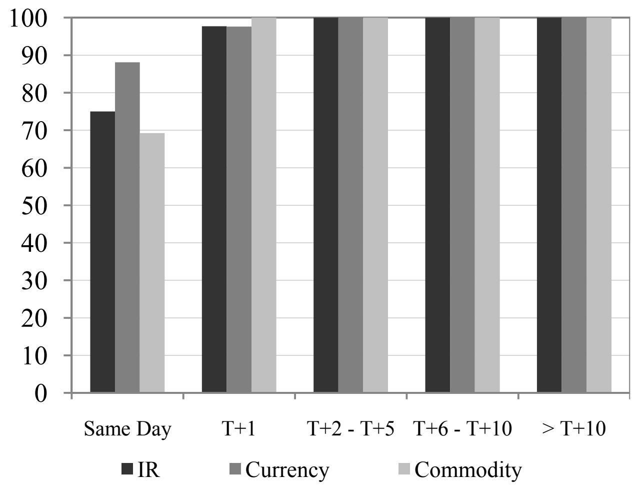
Table 3.2
Electronic confirmation of event volume
Percents

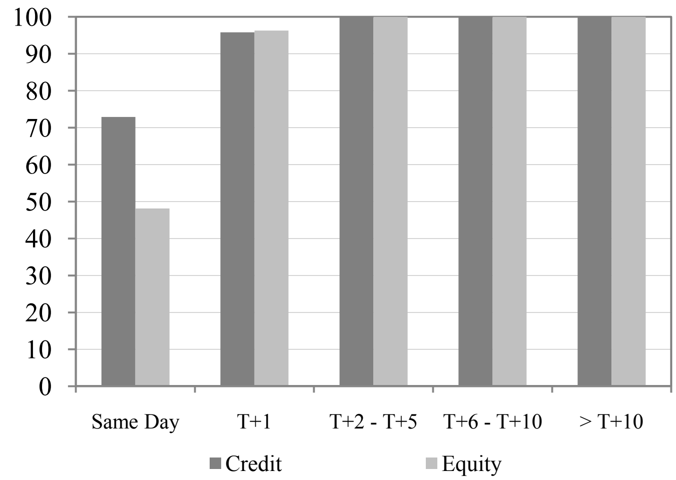
		Electronically eligible		
		Electronically confirmed	Not electronically confirmed	Not electronically eligible
All	Interest	67	20	13
	Credit	98	1	1
	Equity	29	7	64
	Currency	54	21	25
	Commodities	65	20	15
Large	Interest	73	19	7
	Credit	98	1	1
	Equity	30	5	65
	Currency	58	22	20
	Commodities	66	20	14
Medium	Interest	24	24	52
	Credit	84	1	15
	Equity	10	15	75
	Currency	20	18	63
	Commodities	7	26	67
Small	Interest	26	29	44
	Credit	76	6	18
	Equity	12	54	34
	Currency	29	19	52
	Commodities	18	8	74

Production of confirmations. The four parts of Chart 3.2 distinguish between electronic and non-electronic confirmations, where electronic confirmations are those submitted to an electronic platform for matching (Appendix 2). Among electronic confirmations, 75 percent of interest rate derivative confirmations are dispatched on the Trade Date (compared with 64 percent last year) and 98 percent by the day after (T+1); for credit derivatives, 73 percent are dispatched on Trade Date (compared with 63 percent last year) and 96 percent by T+1. Among non-electronic confirmations, only about 17 percent of interest rate and 14 percent of credit derivatives are normally dispatched on Trade Date and about 60 percent by T+1. The charts show that equity derivatives continue to lag behind the other products, although those equity derivatives that are confirmed electronically have shown marked improvement from last year: 48 percent of electronic equity derivative confirmations are dispatched on the Trade Date and 96 percent by T+1 compared with 38 percent and 81 percent in last year's Survey. Table 3.3 on the following page ranks by importance the factors that affect normal dispatch times.

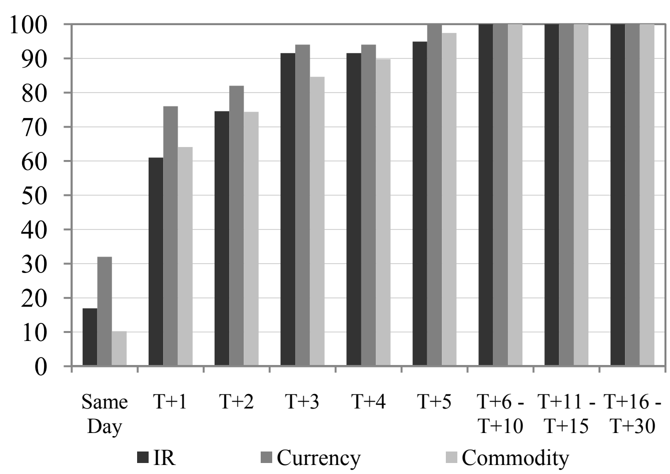
Charts 3.2
Confirmations normally sent by given time, all firms
Cumulative percentages

Electronic





Non - electronic



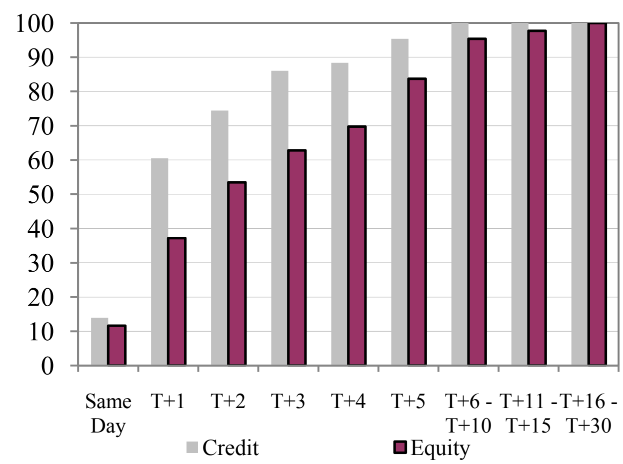


Table 3.3
Factors affecting confirmation dispatch times
Ranked by importance

	Interest rate	Credit	Equity	Currency	Commodity
High Volumes	1	3	1	2	2
New or Non-Standard Product	2	1	2	1	1
Non-Standard Language	3	4	4	5	4
Awaiting data/details from external source[1]	4	6	5	6	7
Awaiting Data or Approval From Legal/Compliance	5	5	3	4	5
Systems/Technology Issues	6	8	7	8	8
Awaiting Data or Approval From Traders/ Marketers	7	2	6	3	3
Awaiting Data or Approval From Credit or Collateral Department	8	7	8	7	6

[1]KYC documentation, static data, etc.

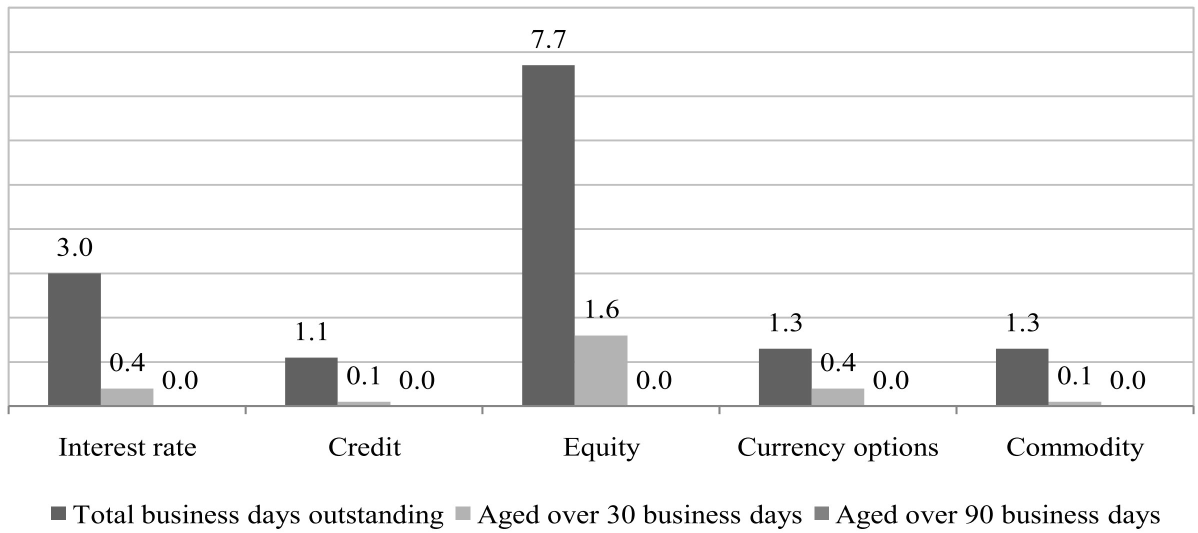
Outstanding confirmations. Survey respondents report average monthly outstanding confirmations, that is, those not yet executed by month-end. Table 3.4 below reports historical data on outstanding confirmations expressed as days' worth of business, which is derived by multiplying the number of outstanding confirmations by a standard number of twenty-two business days and then dividing by monthly event volume. The results show that business days' worth of outstanding confirmations continued to decline in all products for the full sample and, with only one exception, for individual size groups. The Survey also asked for monthly outstanding confirmations aged greater than 30 and greater than 90 days; Chart 3.3 on the following page compares those aged confirmations with total outstanding confirmations. An indication of improved performance in dealing with outstanding confirmations is that in last year's Survey respondents reported confirmations outstanding 180 instead of 90 days. And while there were a small number of confirmations outstanding more than 180 days in last year's Survey, there were virtually no confirmations outstanding more than 90 days in this year's Survey.

Table 3.4
Average monthly levels of confirmations outstanding
Business days

	Large firms						G14	
	2005	2006	2007	2008	2009	2010	2009	2010
Interest rate	11.4	14.1	13.9	10.3	6.8	2.8	6.9	2.9
Credit	23.5	16.2	5.6	6.4	3.5	1.0	3.5	1.0
Equity	16.7	24.6	22.6	13.9	9.7	7.3	9.7	7.4
Currency	5.3	7.9	6.1	2.1	2.6	1.3	2.6	1.3
Commodity	20.2	23.3	7.5	3.2	2.4	1.2	2.6	1.3

	Medium firms						Small firms					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
Interest rate	6.9	7.2	9.4	7.5	4.7	1.3	10.4	6.6	8.0	4.8	5.4	3.5
Credit	7.8	12.7	6.6	4.7	2.4	1.6	5.3	8.2	3.6	5.6	3.6	1.3
Equity	9.7	10.3	10.8	11.2	3.0	4.2	1.6	6.4	7.0	3.5	9.8	7.2
Currency	12.1	2.3	7.1	4.4	1.8	0.5	4.2	4.4	2.3	6.2	6.4	1.3
Commodity	4.3	7.0	4.5	1.4	1.5	1.0	4.1	6.5	4.1	4.1	2.9	1.6

Chart 3.3
Confirmations outstanding, by age
Business days



The Survey also listed a set of risk mitigation criteria used to prioritize the chasing of outstanding confirmations and asked respondents to rank the criteria. Table 3.5 shows the results. The rankings are similar across products, with business days outstanding occupying first place and unrecognized trade second place. The results are generally similar to last year.

Table 3.5
Criteria used to prioritize outstanding confirmations
Rankings

	Interest rate	Credit	Equity	Currency	Commodity
Business days outstanding	1	1	1	1	1
Unrecognized trade	2	2	2	2	2
Type of transaction	3	4	4	4	4
Type of counterparty	4	3	3	3	3
Master Agreement signed	5	5	5	6	4
Net present value	6	7	6	7	8
Broker confirmation checked	7	9	11	5	6
Credit rating of counterparty	8	6	8	9	7
Collateral held / Collateral agreement signed	9	8	7	8	10
Positive feedback from settlement departments	10	11	9	10	9
Other	11	9	9	11	11
Positive feedback from collateral departments	12	12	12	11	11

Finally, Table 3.6 shows the extent to which respondents affirm trades and the methods used to affirm trades, while Table 3.7 shows the times by which respondents aim to complete the affirmation process, with separate results for affirmation of electronic and of non-electronic confirmations.

Table 3.6
Trade affirmation
Percents

	Interest rate	Credit	Equity	Currency	Commodity
Does your firm perform a separate affirmation of key economic details of a trade?					
Yes	59	50	58	57	53
No	15	20	14	16	18
Only when contacted by counterparty	26	30	28	27	29
Method of affirmation					
Phone	26	25	23	50	43
Electronic message	74	75	77	50	57

Table 3.7
Expected affirmation times, all respondents
Percents

Electronic	Interest rate	Credit	Equity	Currency	Commodity
Same day	36	31	20	35	24
T+1	33	37	36	22	47
T+2 - T+5	30	31	44	35	24
T+6 - T+10	0	0	0	4	0
> T+10	0	0	0	4	6
Non-Electronic					
Same day	12	19	14	18	4
T+1	28	25	26	30	38
T+2 - T+5	58	53	57	42	50
T+6 - T+10	2	3	3	6	4
> T+10	0	0	0	3	4

Section 4 - Settlements

Table 4.1 shows that average monthly settlement volumes decreased for all products, most noticeably for equity and credit derivatives. Possible factors behind the fall in interest rate and credit derivatives settlements are extensive tear-up efforts as well as increased use of central counterparties. With regard to commodity derivatives, for which event volumes increased, the most likely reason for lower settlement volumes is increased clearing of inter-dealer transactions through a central counterparty. Table 4.2 gives settlement volume summary statistics for the three size groups.

Table 4.1
Monthly settlements, all respondents
By product

	2005	2006	2007	2008	2009	2010
Interest rate	12,826	12,183	15,341	25,017	29,389	27,150
Credit	4,960	9,641	18,450	37,669	44,327	29,162
Equity	1,139	2,797	3,421	6,771	6,648	3,585
Currency	3,983	3,643	7,752	3,246	4,226	4,100
Commodity	641	1,920	3,623	5,182	5,039	4,872

Table 4.2
Monthly settlements summary statistics, by size category and product

Large	Average	Median	25% Quartile	75% Quartile	Maximum
Interest rate	96,840	69,902	47,086	158,762	208,504
Credit	106,152	90,630	54,942	164,832	241,409
Equity	11,715	9,839	3,318	16,107	42,906
Currency options	11,983	6,417	3,038	13,431	51,820
Commodity	12,779	9,800	3,731	16,822	55,400

Medium	Average	Median	25% Quartile	75% Quartile	Maximum
Interest rate	11,764	8,219	4,459	10,143	65,300
Credit	2,239	1,000	216	2,500	15,446
Equity	278	305	46	347	1,130
Currency options	2,188	672	338	1,279	20,000
Commodity	332	200	89	442	1,400

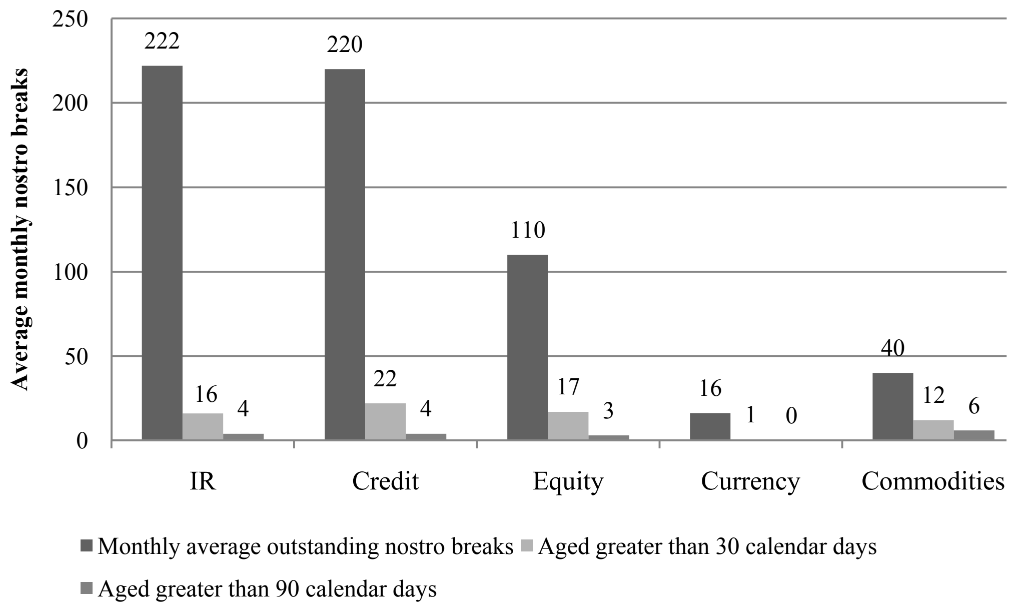
Small	Average	Median	25% Quartile	75% Quartile	Maximum
Interest rate	3,193	1,416	261	4,248	8,594
Credit	417	149	14	636	2,302
Equity	157	85	20	184	570
Currency options	299	140	36	485	1,460
Commodity	294	20	4	584	1,450

Table 4.3 on the following page shows the percent of settlement volume that involves nostro breaks, that is, mismatches of expected and actual cash flows between paying and receiving institutions. All products show decreases in nostro breaks relative to settlement volume from last year for the full sample. The table also shows 2010 nostro breaks by size category; small firms show generally higher percentages than the other categories. Chart 4.1 on the following page shows outstading nostro breaks by product along with breaks aged more than 30 calendar days and those aged more than 90 days.

Table 4.3
Percent of monthly settlement volume resulting in nostro breaks

	All		2010		
	2009	2010	Large	Medium	Small
Interest rate	9	4	3	3	4
Credit	6	4	2	3	5
Equity	15	6	7	2	7
Currency	6	4	3	1	6
Commodity	11	5	3	1	9

Chart 4.1
Monthly average and aged nostro breaks, all respondents
Average by product



The Survey also asked respondents for the normal time frames for resolution of nostro breaks. Respondents were given choices ranging from one day to more than four weeks from the original settlement date. Table 4.4 shows distributions of times to resolution by product for the full sample for 2009 and 2010. The results show that the distributions of resolution times, while still generally centered at 3–5 days, are shifting toward shorter times and that resolution times greater than four weeks have virtually disappeared.

Table 4.4
Times to nostro break resolution, all respondents, 2009-2010
Percent resolved within specified time

	Interest rate		Credit		Equity		Currency		Commodity	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
1 day	4	10	7	9	5	9	17	7	11	16
2 days	14	22	15	23	18	39	19	36	22	28
3 - 5 days	50	41	43	51	45	36	45	40	53	41
1 - 2 weeks	23	21	24	15	25	14	11	13	8	16
2 - 4 weeks	5	5	11	2	8	2	6	4	6	0
> 4 weeks	4	0	0	0	0	0	2	0	0	0

SECTION 5 - AUTOMATION

The Survey questionnaire asked respondents for the percent of volume automated for eleven operational processes. Table 5.1 shows the results for all respondents and Table 5.2 shows the results for the G14 sample; the bottom row for each table shows average degree of automation for each product group and the far right column shows average automation by function.

The tables highlight results that are similar to those in previous years. First, credit derivatives are the most automated product, followed by interest rate derivatives and currency options, for both the full sample and the G14 group. Second, the data transfer and nostro reconciliation functions are the most automated for both groups, and imaging of outgoing and of incoming confirmations are highly automated for the G14 group. In general, most products and functions show somewhat higher average levels of automation than last year. Table 5.3 shows planned automation by function and product.

Table 5.1
Degree of automation by product and function, all respondents
Average percent of volume automated

Function	Interest rate	Credit	Equity	Currency	Commodity	Average for function
Trade data transferred from the front office to operations for processing	85	77	75	81	78	**79**
Trade data transferred from the operations system to the general ledger	87	78	80	83	70	**80**
Additional data added in order to process (SSIs, legal information, etc)	51	48	51	57	55	**52**
Trade affirmation	27	26	28	22	14	**23**
Confirmation matching [1]	37	76	38	39	36	**45**
Confirmation generation - fully automated [2]	52	80	35	57	46	**54**
Confirmation dispatch (non-electronic confirmation only)	51	27	36	52	53	**44**
Imaging of outgoing confirmation	58	58	62	63	56	**59**
Imaging of incoming confirmation	65	54	62	72	71	**65**
Nostro reconciliation	74	81	80	81	73	**78**
Settlement pre-matching	28	51	23	22	21	**29**
Average for product	**56**	**60**	**52**	**57**	**52**	

[1]Electronic solutions offering both generation and matching / affirmation should be counted under "Confirmation generation" and "Confirmation matching"
[2]Trades confirmed through Markitwire DTCC Swift and other external and in-house automation systems

Table 5.2
Degree of automation by product and function, G14
Average percent of volume automated

Function	Interest rate	Credit	Equity	Currency	Commodity	Average for function
Trade data transferred from the front office to operations for processing	93	88	89	86	92	**89**
Trade data transferred from the operations system to the general ledger	95	94	88	91	82	**90**
Additional data added in order to process (SSIs, legal information, etc)	58	68	57	67	66	**63**
Trade affirmation	41	25	38	24	26	**31**
Confirmation matching [1]	72	93	63	62	63	**71**
Confirmation generation - fully automated [2]	84	92	46	75	65	**72**
Confirmation dispatch (non-electronic confirmation only)	67	41	51	61	57	**56**
Imaging of outgoing confirmation	81	80	70	82	75	**78**
Imaging of incoming confirmation	84	88	87	88	84	**86**
Nostro reconciliation	82	88	81	87	68	**81**
Settlement pre-matching	40	80	26	23	20	**38**
Average for product	**73**	**76**	**63**	**68**	**63**	

Table 5.3
Planned automation by product and function, all respondents
Percent responding that they plan to increase automation in coming year

	Interest rate	Credit	Equity	Currency	Commodity	Average for function
Trade data transferred from the front office to operations for processing	46	28	25	24	24	**30**
Trade data transferred from the operations system to the general ledger	27	24	16	15	24	**21**
Additional data added in order to process (SSIs, legal information, etc)	36	27	19	19	18	**24**
Trade affirmation	33	21	18	13	12	**19**
Confirmation matching [1]	51	34	28	36	25	**35**
Confirmation generation - fully automated [2]	72	43	40	42	37	**47**
Confirmation dispatch (non-electronic confirmation only)	39	25	31	31	27	**31**
Imaging of outgoing confirmation	24	16	21	15	15	**18**
Imaging of incoming confirmation	24	21	16	9	12	**16**
Nostro reconciliation	22	19	10	4	12	**14**
Settlement pre-matching	22	31	19	7	7	**18**
Average for product	**36**	**26**	**22**	**20**	**19**	

Section 6 - Staffing

The Survey collects data on the number of staff, expressed as full-time equivalents, employed to support OTC derivatives. The data include front office as well as trade capture, confirmations, and settlements staff. Table 6.1 shows the results, expressed as ratios of front office to operational staff. There is no discernible pattern of increases or decreases in the ratios. To the extent ratios increase over time, the cause might be either more traders or fewer support staff, and a smaller number of support staff might be the result of increasing automation. The low ratios for credit derivatives suggest a larger number of support staff relative to front office staff.

Table 6.1
Ratio of front office to support staff, all respondents

	Front Office / Trade Capture			Front office / Confirmations			Front office / Settlements		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Interest rate	5.3	5.5	3.5	3.5	3.6	3.3	4.1	4.9	4.9
Credit	3.6	4.3	3.2	2.7	3.1	3.4	3.8	3.5	3.7
Equity	3.5	4.8	3.4	5.4	4.7	5.3	7.3	6.8	8.2
Currency	4.2	3.6	3.4	3.2	3.1	3.1	5.2	5.6	5.5
Commodity	5.2	6.8	7.3	5.1	4.8	6.6	5.4	4.6	6.0

Table 6.2 presents another staffing measure, namely, trades per full-time equivalent staff. The results are similar to those from last year: currency options and commodity derivatives tend to have the highest ratios of transactions to staff and equity derivatives the lowest.

Table 6.2
Transactions per full time equivalent staff

Large firms	Front office	Trade capture	Confirmation	Settlement
Interest rate	59	264	231	359
Credit	160	581	625	664
Equity	15	71	100	160
Currency	192	796	733	1,657
Commodity	117	1,248	1,083	968

Medium firms	Front office	Trade capture	Confirmation	Settlement
Interest rate	62	170	259	284
Credit	62	206	281	273
Equity	13	56	77	73
Currency	123	442	528	567
Commodity	48	127	275	307

Small firms	Front office	Trade capture	Confirmation	Settlement
Interest rate	26	86	94	118
Credit	13	33	28	35
Equity	15	32	46	49
Currency	39	111	103	109
Commodity	28	87	106	96

The Survey asked respondents about the percent of staff that is outsourced or in a low cost location; Table 6.3 shows the results for all respondents and for the large firm sample compared with last year's Survey. As in past years, confirmations and settlements are more likely to be outsourced than trade capture, and large firms are more likely to outsource than the average for the full sample. Although outsourcing shows no discernible trend in the full sample relative to 2009, outsourcing appears to have increased for settlements at large firms.

Table 6.3
Percent of full time equivalent staff that is outsourced or in a low-cost location

All respondents	**Interest rate**		**Credit**		**Equity**		**Currency**		**Commodity**	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**
Trade capture staff	8	6	7	8	3	6	7	8	3	0
Confirmation staff	19	15	17	15	13	11	20	22	10	7
Settlement staff	22	19	17	18	15	17	19	28	10	8
Large										
Trade capture staff	8	13	8	14	3	8	6	17	1	1
Confirmation staff	42	43	36	40	26	27	35	46	16	18
Settlement staff	44	49	39	41	24	40	32	61	18	20

Finally, for the first time the Survey asked respondents for information regarding their firms' participation in industry initiatives to implement best practices and process improvements such as electronic confirmations. The Survey asked for (1) percent of projects that relate directly or indirectly to industry initiatives, (2) percent of full-time equivalent staff dedicated to industry initiatives in 2009, and (3) anticipated percent of staff to be dedicated to industry initiatives in 2010. Table 6.4 shows the results for the full sample.

Table 6.4
Participation in industry initiatives
Full sample

	2010 projects	**2009 FTE**	**2010 FTE**
Interest rate	39	14	21
Credit	46	21	22
Equity	37	18	20
Currency options	25	14	17
Commodity	34	18	21

APPENDIX 1 – 2010 SURVEY PARTICIPANTS

AEGON
Aozora Bank
Banco Bilbao Vizcaya Argentaria (BBVA)
Bank of America
Bank of Montreal
Bank of New York Mellon
Bank of Scotland Treasury
Bank of Tokyo-Mitsubishi UFJ
Barclays Capital
Bayerische Landesbank
BHF-BANK Aktiengesellschaft
BNP Paribas
Česká Spořitelna
Cheyne Capital Management
Chuo Mitsui Trust & Banking
Citigroup
Commonwealth Bank of Australia
Crédit Industriel et Commercial (CIC)
Credit Suisse
Daiwa Securities
Danske Bank
Den Norske Bank (DnB NOR ASA)
Deutsche Bank
Development Bank of Singapore
DZ Bank
Eksportfinans
Generali Investment Italy
Goldman Sachs
HSBC Bank
JP Morgan Chase
KBC Bank
Kiwibank
Kreditanstalt für Wiederaufbau (KfW)
Landesbank Baden-Württemberg
Lloyds TSB Bank
Mizuho
Morgan Stanley
National Australia Bank
National Bank of Canada
National Bank of Greece
NIBC Bank
Nikko Cordial Securities
Nomura Securities International
Norddeutsche Landesbank Girozentrale
Nordea Bank
Norinchukin Bank
Northern Trust
Northern Trust Custodian
Pacific Life Insurance
PNC Bank
Prudential Global Funding
Rabobank International
Royal Bank of Canada
Royal Bank of Scotland
Santander Central Hispano
Skandinaviska Enskilda Banken (SEB)
Shell International Trading and Shipping
Shinkin Central Bank
Shinsei Bank
Société Générale
Standard Bank of South Africa
Sumitomo Trust & Banking
Svenska Handelsbanken
Toronto Dominion Bank
Treasury Corporation Victoria
UBS
Wachovia
Westpac
Zürcher Kantonalbank

Appendix 2 – Definitions of terms used in 2010 Survey questionnaire

Affirmation. The process by which two counterparties verify that they agree on the key economic details of a transaction.

Commodity derivatives. Over-the-counter (OTC) swaps, forwards, or options in which the underlying variable is a commodity price, basket of commodity prices, or commodity price index. Common underlying commodities include precious and base metals, crude oil and other petroleum products, natural gas, electric power, freight rates, and weather. Exchange-traded (listed) commodity derivatives are not included in the definition for purposes of the Operations Benchmarking Survey.

Confirmation matching. The process of reconciling the terms of a transaction as confirmed by each counterparty, either manually or on an electronic platform such as DTCC.

Confirmation staff. All employees involved in the confirmation of OTC derivatives trades, including drafting outgoing confirmations, chasing and reviewing incoming confirmations, investigating and reconciling confirmation discrepancies, and conducting the affirmation of key economic trade details.

Credit derivatives. OTC derivative products designed to transfer credit risk. For the purposes of the Survey, credit derivatives include but are not limited to credit default swaps, total return swaps, credit linked notes, and credit spread forwards and options. Underlying credits include single corporate or sovereign names, baskets, portfolios, credit indices, and obligations and indices of obligations such as asset backed securities, collateralized debt obligations, and leveraged loans.

Currency options. OTC options in which the buyer has the right but not the obligation to exchange money denominated in one currency for another currency at an agreed exchange rate on or until a specified date. For the purposes of the Survey, currency options include but are not limited to cross currency/FX puts, calls, range forwards, and corridors; average rate currency options; binary, barrier and rainbow options on currencies, and quanto options. Exchange-traded (listed) currency options are not included.

Electronic confirmation. A confirmation that is submitted for matching to an electronic platform such as Markit Wire, DTCC, or Swift.

Eligible for electronic confirmation. Refers to any transaction for which a facility exists to process the trade electronically, regardless of a particular counterparty's actual ability to process the trade electronically.

Equity derivatives. OTC derivative products with payments linked to the performance of equity shares or equity indices. For the purposes of the Survey, equity derivatives include but are not limited to: share and index swaps and options, equity forwards, equity options, equity linked notes, relative performance trades, correlation swaps, dividend swaps and options, and variance swaps and options. Exchange-traded (listed) equity derivatives are not included in the definition.

Event volume. The number of actions relating to OTC derivatives trades sent to operations for processing during a period. The following constitute events for the purpose of the Survey: new trades, confirmable amendments (i.e., any economic amendment that requires a new confirmation to be drafted), partial and full terminations, increases/decreases, and novations. Credit events do not constitute events for purposes of this definition. Excluded are internal, intra-company, and intra-group trades; terminations and partial terminations arising from Tri-Optima or other tear-up services; and one-way notices such as corporate action notices. One structure is reported as one trade regardless of the number of tickets involved. Prime broker activity or intermediation is reported as two trades. Allocation splits are reported as the number of funds to which a block trade is allocated.

Failed payments. Payments a firm has requested an agent to action on its behalf but for various reasons the agent has not been able to action. For this Survey, the transfer of money is to be considered a payment.

Front office staff. All employees that enter into OTC derivatives trades and that are on front office payroll, including traders, marketers, sales, trade assistants, structurers, and business managers. Front office also includes staff allocated to a proprietary desk if the activity handled by such a desk is otherwise reported within this Survey. Resources shared across different business lines are allocated according to percentage shares.

Full-time equivalents. The percent, represented as a decimal number, of time an employee works, whether permanent, temporary, or contractor. For example, a full-time employee is 1.0, an employee working three days per week is 0.6, and one dedicating 50 percent of his time to an activity is 0.5.

G14. A group of major OTC derivatives dealers that focuses on operational improvements in credit and equity derivatives. The G14 group consists of Bank of America/Merrill Lynch, Barclays Capital, BNP Paribas, Citigroup, Commerzbank, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan Chase, Morgan Stanley, Royal Bank of Scotland, Société Générale, UBS, and Wachovia. Most but not all G14 firms are classified as large firms, and not all large firms are part of the G14 group.

Industry initiatives. Projects resulting from a drive to implement industry best practice or process improvements (e.g., increase electronic confirmation).

Interest rate derivatives. OTC derivative products that involve the exchange of cash flows calculated on a notional amount using specified interest rates. For the purposes of the Survey, interest rate derivatives include but are not limited to interest rate swaps, including cross-currency swaps; forward rate agreements (FRA); inflation swaps; and interest rate options such as caps, floors, collars, swaptions, and exotic options. Exchange-traded (listed) interest rate derivatives are not included.

KYC (Know Your Client) documentation. Documents required to ensure that ‘Know Your Client’ requirements are adequately fulfilled.

Low cost location. An operating location selected for its lower operating cost. The definition includes onshore and offshore locations.

Non-electronic confirmation. A confirmation that is not submitted to an electronic platform for matching.

Nostro break. A mismatch of cash flows between paying and receiving banks, and occurs when the expected cash settlement amount differs from the actual amount.

Nostro reconciliation. A process performed to ensure that the expected cash movements of a transaction or multiple transactions are the same as actual cash movements.

Outstanding confirmations. The total number of electronic and non-electronic confirmations not fully executed as of month end. It includes confirmations not yet drafted or issued, confirmations drafted but not yet issued, confirmations not yet received (where the counterparty is expected to draft the confirmations), confirmations issued but not yet returned, and confirmations with open queries.

Outsourcing. The contracting out to an external service provider of activities that could be performed within a company.

Reporting period. For purposes of this Survey, the period from 1 January 2009 to 31 December 2009.

Settlement. The process whereby obligations arising under a derivatives transaction are discharged by means of payment or delivery or both. For purposes of the Survey, *settlement volume* refers to the gross number of settlements, both payments and receipts, before applying any netting.

Settlement pre-matching. The process of comparing payments via an electronic platform (e.g., DTCC), on which counterparties can bilaterally match payments in advance of a settlement date.

Settlement staff. All employees performing settlement functions, including pre-matching, investigation, and reconciliation of settlement fails and breaks (including nostro breaks).

SSI (Standard Settlement Instructions), Standing payment instructions for a legal entity that specify bank account details for specific products and currencies.

STP (Straight Through Processing). End-to-end automated processing of data without manual intervention.

Trade capture staff. All employees whose primary function is to book, amend, and blotter all trade events into trade capture and operations systems. Additional responsibilities may include coordinating with the front and back office to investigate queries and unrecognized trades, static data maintenance, options exercise and expiry monitoring, and calculating coupon and fee payments.

Unrecognized trade. A transaction that cannot be identified by the supposed counterparty to the trade; sometimes referred to as “Don’t Know” (DK).