

Counterparty Credit Exposure among Major Derivatives Dealers

International Swaps and Derivatives Association

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- The largest derivatives dealers use collateral to reduce their interdealer counterparty exposures to less than 10 percent of the uncovered exposure. For a wider sample of dealers, the average risk reduction is to less than 20 percent.
- Concentration of net exposures averages about 2.0 percent, suggesting that dealers adequately control their counterparty exposures by means of collateral.
- Credit Support Annex coverage of interdealer exposures—which is a necessary first step to allowing for collateralization—is nearly complete for the largest dealers and about 90 percent for a wider sample of dealers.

Background

On May 8, 2003, U.S. Federal Reserve Chairman Alan Greenspan made the following remarks to the Federal Reserve Bank Chicago Conference on Bank Structure and Competition:

Concentration of market making has the potential to create concentrations of credit risks between the dealers and the end-users of derivatives as well as between the dealers themselves. This latter concentration of risk results from dealers frequently managing their market risks through derivatives transactions with a limited number of other dealers. As mentioned earlier, critics of derivatives often raise the specter of the failure of one dealer imposing debilitating losses on its counterparties, including other dealers, yielding a chain of defaults. However, derivatives market participants seem keenly aware of the counterparty credit risks associated with derivatives and take various measures to mitigate those risks.

The subject of counterparty risk is of great interest to ISDA; indeed, concern with counterparty credit risk and its mitigation was one of the primary factors leading to ISDA's establishment and the development of the ISDA Master Agreement. Integral to development of the Master Agreement has been the strengthening of credit risk mitigation measures such as netting and collateralization.

As an organization whose primary members are derivatives dealers, ISDA shares the concern of regulators that counterparty credit risk concentration, especially among the largest dealers, be monitored and managed. Among the ISDA Board of Directors, there was universal agreement that dealers closely monitor and reduce these exposures to manageable levels. The evidence so far, however, has been almost wholly anecdotal. Even regulatory reports—including the reports issued periodically by the Bank for International Settlements—could not provide specific evidence to support or refute the ISDA Board members' intuitions regarding counterparty credit risk concentration.

Given the importance of the subject, ISDA surveyed its Board member firms in order to determine the extent of counterparty credit risk concentration among major derivatives dealers.

Survey methodology

The Counterparty Risk Concentration Survey seeks to provide data that might shed light on the extent of counterparty credit exposure concentration among the major derivatives dealers. We asked each respondent to provide the following:

1. The five largest before-collateral interdealer counterparty credit exposure amounts (USD equivalents) and the same exposures after taking account of collateral
2. The five largest net-of-collateral counterparty exposures and those same exposures before collateral
3. Percentage of agreements with major derivatives dealers that are subject to Collateral Support Agreements
4. Average collateral thresholds—that is, permissible uncollateralized exposures—for AA, A, and BBB-rated counterparties

Respondents did not identify specific counterparties. We asked respondents to net out any exposures to legal entities within a counterparty firm so that each counterparty represents a single firm rather than a subsidiary of a firm. Further, we asked that negative credit exposures resulting from overcollateralization be omitted.

Eighteen firms submitted responses to the Survey, including nine of the ten largest dealers by notional amounts outstanding. One firm, which does not rank among the fifteen largest dealers, was dropped because of differences in practices across jurisdictions that distort the results. The full sample size is therefore seventeen. But in order to focus on risk management practices among the very largest dealers, we also show results for a sub-sample of the ten largest reporting dealers.

Credit Support Agreement coverage of interdealer exposures

Before a derivatives participant can require collateral on its exposure to a counterparty, it is necessary that the Master Agreement between the two include a Credit Support Annex (CSA).

For the sample as a whole (17 dealers) as well as for the ten largest responding dealers, the median CSA coverage ratio is 95 percent. For the ten largest dealers, the modal coverage ratio is 100 percent. That is, among the largest dealers in the sample, CSA coverage is virtually complete. And to the extent that most of the larger responding firms have ratios of less than 100 percent, it results from a small number of legal entities, which account for a small share of total exposure to a counterparty, for which CSAs have not been executed.

Extent of risk reduction for interdealer exposures

As described above, we requested participating firms to list their five largest before-collateral exposures to major dealers along with their same exposures after accounting for the effect of collateral. Table 1a and 1b show the results, which suggest that firms engage in extensive risk reduction on their largest exposures. For the full sample (Table 1a), collateral coverage of the largest exposures averages 81 percent (median 92 percent), leaving less than 20 percent of the original exposure amount uncovered. For the ten largest dealers (Table 1b), coverage is significantly higher, averaging 91 percent (median 94 percent) so less than 10 percent is uncovered.

Table 1a. Full sample

CP rank N=17	Mean (%)		Median (%)	
	<i>Unsecured</i>	<i>Collateralized</i>	<i>Unsecured</i>	<i>Collateralized</i>
1	14	86	5	95
2	17	83	6	94
3	20	80	8	92
4	23	77	11	89
5	22	78	12	88
Total	19	81	8	92

Table 1b. Ten largest dealers

CP rank N=10	Mean (%)		Median (%)	
	<i>Unsecured</i>	<i>Collateralized</i>	<i>Unsecured</i>	<i>Collateralized</i>
1	7	93	3	97
2	11	89	4	96
3	9	91	6	94
4	11	89	10	90
5	8	92	8	92
Total	9	91	6	94

We can illustrate the significance of the risk reduction among the largest exposures by comparing these five largest exposures to the total amount of counterparty credit exposure to all counterparties. In order to do so, we gathered total net derivatives credit exposures to all counterparties from public financial reports. We then measured exposure concentration as the sum of the five largest net exposures, both before and after collateral, as a percent of total net counterparty exposure. Because of data availability, however, the full sample size was reduced from seventeen to fourteen firms. For comparability—and because the results are not appreciably different when the sample is restricted to the ten largest dealers—we present only the results for the ten largest firms.

The results are shown in Table 2. The exposures before collateral average about 14.5 percent of total counterparty exposure, although the median is somewhat lower. But once we add the risk reduction effect of collateral, the remaining net exposure from these five largest exposures is just over 1.15 percent of total exposure.

Table 2

CP rank N=10	Before collateral		After collateral	
	Mean	Median	Mean	Median
1	5.50%	4.25%	0.40%	0.18%
2	3.35%	2.83%	0.24%	0.12%
3	2.31%	1.92%	0.26%	0.16%
4	1.78%	1.46%	0.20%	0.08%
5	1.40%	1.25%	0.04%	0.05%
Total	14.49%	12.45%	1.15%	0.76%

Concentration of net exposures

In order to measure concentration of after-collateral exposure, we requested firms to provide their five largest net-of-collateral counterparty exposures to major dealers. We then measured exposure concentration as the sum of the five largest net (after collateral) exposures as a percent of total net counterparty exposure. Again, we present only the results for the ten largest firms.

Table 3 shows that the largest net exposures add up to an average of just under 2.1 percent of exposure after taking account of risk reduction due to collateral; the median ratio is even lower at 1.6 percent. The low exposure ratios suggest that dealers have effectively reduced interdealer credit exposures and that there is no evidence to support concern with concentration of large interdealer exposures.

Table 3

CP rank N=10	Mean	Median
1	0.62%	0.51%
2	0.44%	0.34%
3	0.38%	0.27%
4	0.34%	0.25%
5	0.29%	0.19%
Total	2.08%	1.58%

Permissible risk exposure: Collateral thresholds

Finally, we requested data on how much credit exposure dealers were willing to accept from other dealer counterparties. In negotiating a CSA with a counterparty, an institution has to decide how much uncovered exposure it will allow before requiring collateral coverage. In order to determine the amount of permissible exposure, we requested firms to provide average thresholds for three credit rating categories, namely, AA, A, and BBB. The results are shown in the Table 4.

Table 4

N=17 Rating	Mean (median) threshold (USD millions)	
	Full sample	Ten largest
AA	27 (28)	25 (25)
A	17 (15)	13 (13)
BBB	10 (6)	9 (6)

Thresholds are generally lower for the ten largest dealers than for the full sample. Further, mean and median exposures are similar in both samples. We understand from discussions with respondents, however, that there is wide variation between thresholds for different firms in each rating categories, which apparently average out in a similar manner across firms. The reason for the variation within firms is apparently the result of differences between external and internal ratings of a counterparty; the two can differ because dealers conduct their own analysis of their counterparties and do not simply rely on external ratings.