January 2015

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Research Note

OTC Derivatives Market Analysis: Interest Rate Derivatives

Publicly available derivatives data does not adjust for the countervailing effects of clearing and compression, making it difficult to obtain a clear picture of underlying derivatives market dynamics. Clearing acts to increase notional outstanding, as a single trade is counted twice once it is cleared. Conversely, compression results in the cancelling out of offsetting trades, which can make it seem like the market is shrinking even if underlying trade activity has increased.

This report adjusts for these two forces with respect to the interest rate derivatives market to provide an insight into the size of the market before compression and clearing occur. The analysis indicates that underlying interest rate derivatives market activity increased in the first six months of 2014, despite a decline in publicly reported notional outstanding figures.

SUMMARY

After adjusting for clearing and compression, the interest rate derivatives market increased in the six months to June 2014

Central clearing and compression can make it difficult to grasp the underlying dynamics of the over-the-counter (OTC) derivatives market. While the Bank for International Settlements (BIS) publishes regular semiannual derivatives notional outstanding data[1], these figures are not adjusted for central clearing activity, which acts to push notional outstanding higher (because one bilateral trade is reported as two transactions once cleared). The BIS data does reflect trade compression activity, however. This acts to decrease notional outstanding, as offsetting trades are cancelled out, or netted. This can make it seem like the overall market is shrinking, even if underlying trade activity has increased.

This report[2] uncovers key trends in the interest rate derivatives (IRD) market by analyzing the impact of these countervailing forces. By adjusting BIS notional outstanding figures, we arrive at an estimated metric that reflects the underlying state and changes in the size of the interest rate derivatives space before compression and clearing occur.

SUMMARY POINTS OF THIS REPORT INCLUDE:

- The BIS reported a 3.6% decrease in IRD gross notional outstanding figures in the six months to June 30, 2014, from $584.4 trillion to $563.3 trillion.
- After factoring out the impact of clearing and compression, gross notional volume has actually increased 5.5% over this period.
- The proportion of the market being cleared has increased significantly since December 2007, with an estimated 69.3% ($230.6 trillion) of the IRD market cleared by June 2014.
- Additionally, overall market size has been reduced by roughly 35.7% through portfolio compression.
- Given the impact of new regulations, cleared and compressed volumes are expected to continue to increase in future periods.
- Roughly 95% of clearable IRD products are already being cleared. Other currencies and IRD products may be cleared over time.

[1] As the Bank of International Settlements (BIS) states: "Notional amounts outstanding provide a measure of market size… However, such amounts are generally not those truly at risk." Gross market values and gross credit exposures are generally considered more appropriate measures of risk

[2] ISDA utilized data from the BIS, the Depository Trust & Clearing Corporation (DTCC), LCH.Clearnet's SwapClear, CME Group and Japan Securities Clearing Corporation (JSCC) in this report

A $700 TRILLION MARKET?

BIS notional outstanding figures do not adjust for clearing or compression

The BIS regularly reports OTC derivatives gross notional outstanding amounts as part of its semiannual statistical release[3]. These figures represent the gross value of all derivatives deals, legacy and new, which are concluded and not yet settled by the reporting date. The metric is intended to provide a measure of market size and a reference from which contractual payments are determined in derivatives markets. Total OTC derivatives notional outstanding was $691.5 trillion at the end of June 2014, according to the BIS.

Although useful, the gross notional outstanding metric is not adjusted for the effects of clearing and compression. Clearing can lead observers to overstate the size of the market because cleared trades are reported twice in the BIS statistics. Conversely, compression can lead observers to understate market size, because offsetting tickets are torn up. In the next sections, we analyze how these two opposing forces affect the interest rate derivatives market in order to arrive at an estimate of underlying market size before clearing and compression.

THE EFFECT OF CLEARING ON INTEREST RATE DERIVATIVES

The proportion of cleared trades has increased rapidly, inflating BIS notional outstanding figures

The BIS states:

> "A CCP is an entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer. When a derivatives contract between two reporting dealers is cleared by a CCP, this contract is replaced, in an operation called novation, by two new contracts: one between counterparty A and the CCP, and a second between the CCP and counterparty B. As the BIS data record all outstanding positions, they would capture both the contracts in this example. This measure of the market size, ie a measure that captures all outstanding contracts, may be appropriate for gauging counterparty risk, given that any outstanding contract could potentially be defaulted on. However, this approach overstates the size of the derivatives market if used to proxy other aspects, such as the transfer of underlying risks, for which a single counting of the centrally cleared contracts would be more appropriate."[4]

The increase in clearing volumes as a result of new regulations that require standardized OTC derivatives to be cleared has therefore added to gross notional outstanding, as per the BIS explanation above.

Table 1 describes the BIS reported gross notional outstanding volume (which we refer to in this paper as RGNO) of interest rate derivatives from December 2007. According to the most recent BIS figures, RGNO fell to $563.3 trillion in June 2014, a 3.6% decline compared to December 2013.

[3] For more information: www.bis.org

[4] BIS, *OTC derivatives statistics at end-June 2013*, November 2013, https://www.bis.org/publ/otc_hy1311.pdf. Footnote 3 on page 7

In order to adjust this figure for the effects of clearing, we use central counterparty (CCP) data to determine the level of bilateral interest rate derivatives outstanding that has been cleared and consequently double counted. This metric represents the adjustment factor for cleared transactions (which we call the AFCT). At June 30, 2014, the AFCT was $230.6 trillion. After applying the adjustment metric, gross notional outstanding totaled $332.7 trillion. In other words, the notional outstanding size of the market (which we refer to as adjusted gross notional outstanding, or AGNO) would be $332.7 trillion if there was no cleared volume in the interest rate derivatives space.

It is notable to mention that the AGNO of $332.7 trillion is roughly 6.7% lower than the adjusted December 2013 data point. This is a larger difference than the change in headline metrics. It is driven by a decrease in total gross notional volume coupled with an increase in cleared versus non-cleared transactions.

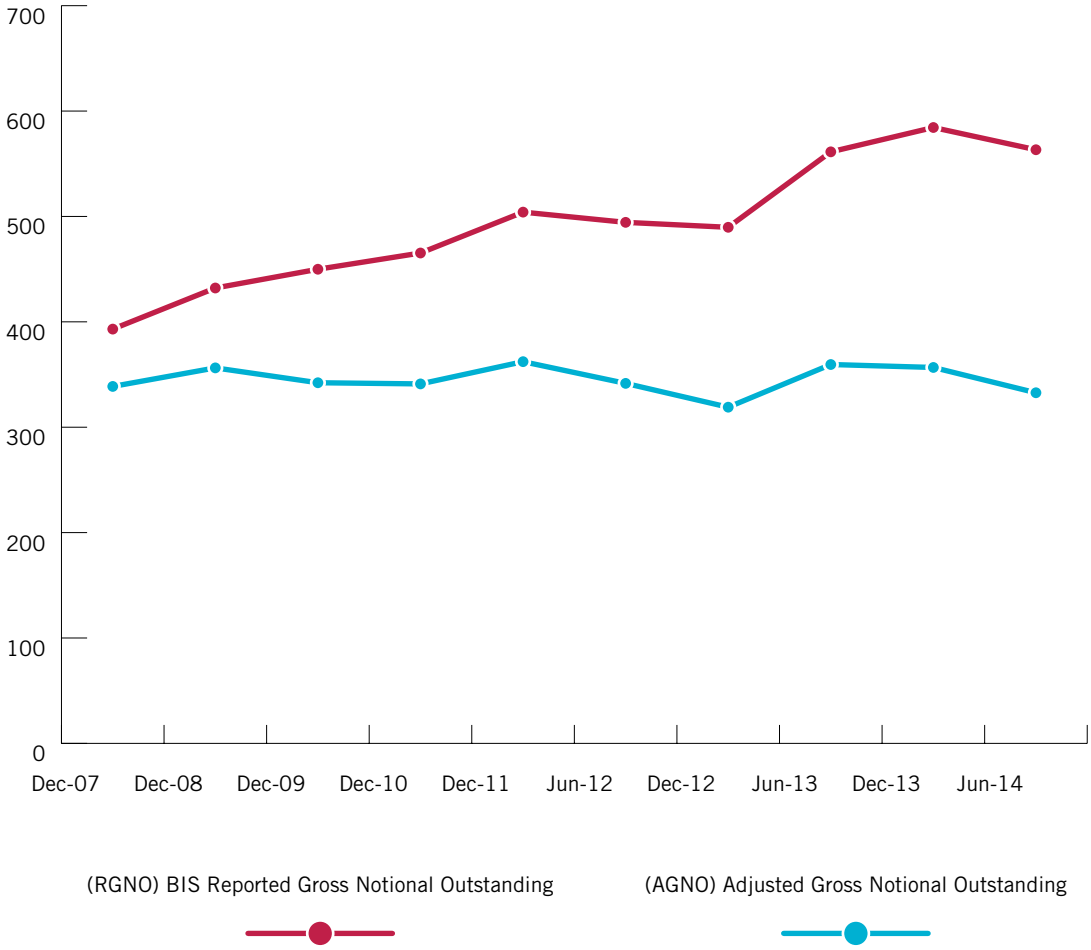
Table 1: Gross Notional Outstanding Volume: Interest Rate Derivatives, US$ trillions

	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14
(RGNO) BIS Reported Gross Notional Outstanding	393.1	432.1	449.9	465.3	504.1	494.4	489.7	561.3	584.4	563.3
(AFCT) Adjustment Factor for Cleared Transactions	54.4	75.8	107.7	124.2	141.9	152.8	170.7	201.8	227.7	230.6
LCH.Clearnet (single-counted) gross notional outstanding	54.4	75.8	107.7	124.2	141.9	152.8	170.7	195.5	213.0	206.8
CME gross notional outstanding	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.0	9.1	15.6
JSCC gross notional outstanding	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.3	5.6	8.2
(AGNO) Adjusted Gross Notional Outstanding	338.7	356.3	342.2	341.1	362.2	341.6	319.0	359.5	356.7	332.7
Pct (%) Cleared Gross Notional Outstanding	16.1%	21.3%	31.5%	36.4%	39.2%	44.7%	53.5%	56.1%	63.8%	69.3%

Chart 1 compares the RGNO and AGNO of interest rate derivatives. From December 2007 through to June 2014, reported gross notional (denoted by the red line) has increased by 43.3%, from $393.1 trillion to $563.3 trillion.

This situation is very different when we adjust for the impact of clearing. The current AGNO figure of $332.7 trillion (denoted by the blue line) was calculated as of June 2014. Comparing that with the December 2007 AGNO figure of $338.7 trillion, interest rate derivatives outstanding has declined by 1.8% over the past 6.5 years. This is visually described by the 'flatness' of the blue line.

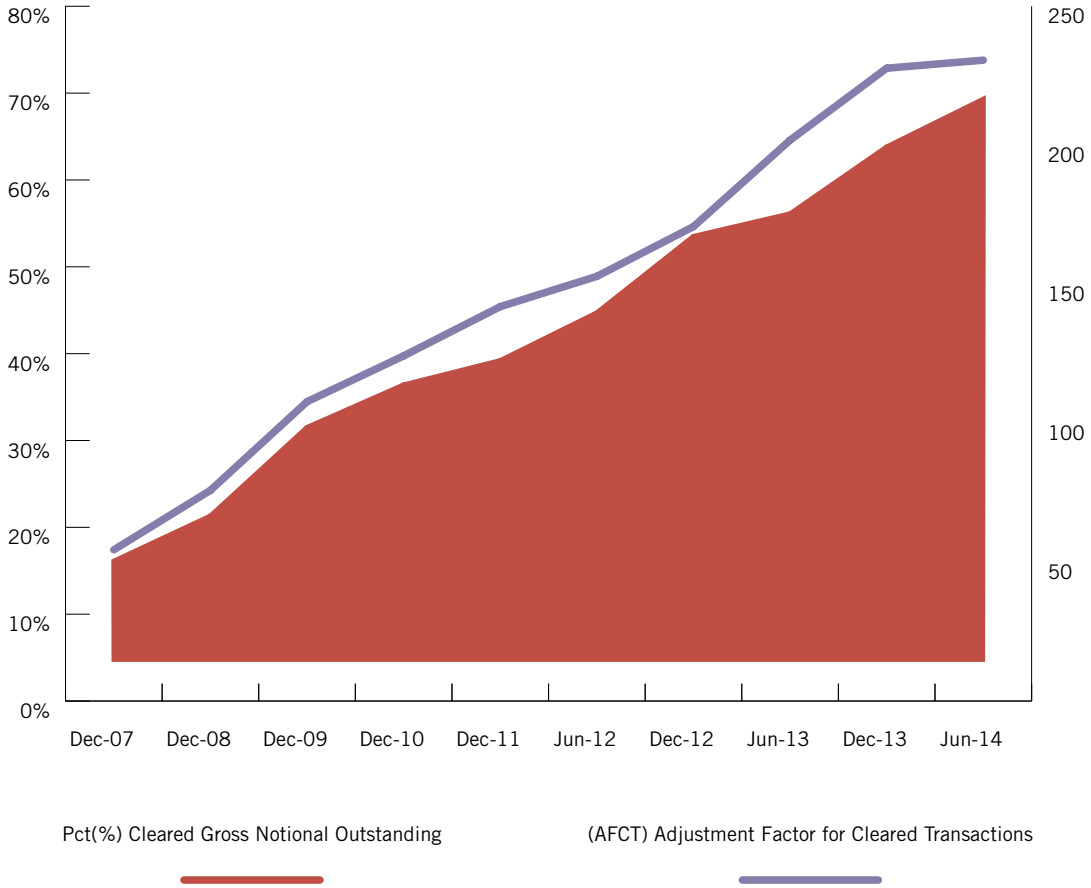
Chart 1: Gross Notional Outstanding Volume: Interest Rate Derivatives, US$ trillions



To provide additional context with regard to the AGNO metric, the red area in Chart 2 is used to describe the evolution of clearing. In December 2007, roughly 16.1% of the interest rate derivatives market was cleared. This percentage has increased steadily over time. A milestone was reached by December 2012, when over half of the market (53.5%) was cleared. New regulations that mandate the clearing of certain derivatives instruments have continued to drive this number higher, to 69.3% as of June 2014.

Chart 2 overlays the AFCT metric, denoted by the purple line, with the percentage of cleared notional outstanding, represented by the red area. The adjustment factor grows larger over time, closely tracking the percentage of cleared gross notional volume. In December 2007, roughly $54.4 trillion of swaps had been cleared. The AFCT metric grew at a fast pace, rising 213.8% to $170.7 trillion by December 2012, when half of the interest rate derivatives market was cleared. By June 2014, the adjustment factor stood at $230.6 trillion, marking a 323.9% increase versus December 2007.

Chart 2: Comparing the Percentage of Cleared Gross Notional Outstanding to the Adjustment Factor for Cleared Transactions (AFCT): Interest Rate Derivatives, US$ trillions



THE EFFECT OF COMPRESSION

A recent surge in compression is reflected in declining notional outstanding figures reported by the BIS

The previous section analyzed the effects of clearing. After adjusting for the double counting of cleared transactions, the size of the market has been relatively stable, as reflected in Chart 1. In this section, we investigate the countervailing effect of compression.

Compression is an administrative process where offsetting trade tickets are netted into a single line item. Although the risk profile is unchanged, this procedure has the effect of reducing gross notional outstanding because the process produces a net notional result. In order to further refine the AGNO metric, we must therefore add back compressed volume in order to better understand the market for interest rate derivatives.

TriOptima triReduce statistics are used as a proxy to evaluate the level of interest rate derivatives compression[5]. CCP compressed figures have been adjusted for double counting and are combined with non-CCP compressions to produce an adjusted compressed notional outstanding metric (ACNO)[6].

[5] For more information: www.trioptima.com

[6] TriOptima triReduce outstanding compressed volume statistics are adjusted for terminated compressions in order to arrive at an ACNO metric that can be compared to the AGNO statistic

Table 2 compares ACNO volumes from December 2011 to June 2014. Total outstanding compressed volume has grown from $94.7 trillion at the beginning of the series to $184.9 trillion in June 2014, representing a 95.3% increase. We observe a steady uptick in compressed CCP trades throughout the series, with the largest jump – an increase of 60% – occurring in the most recent six-month period. Meanwhile, non-CCP outstanding compressed trade volumes have remained more or less flat as the market continues to shift to a cleared world.

Table 2: Adjusted Compressed Notional Outstanding (ACNO) Volume: Interest Rate Derivatives, US$ trillions

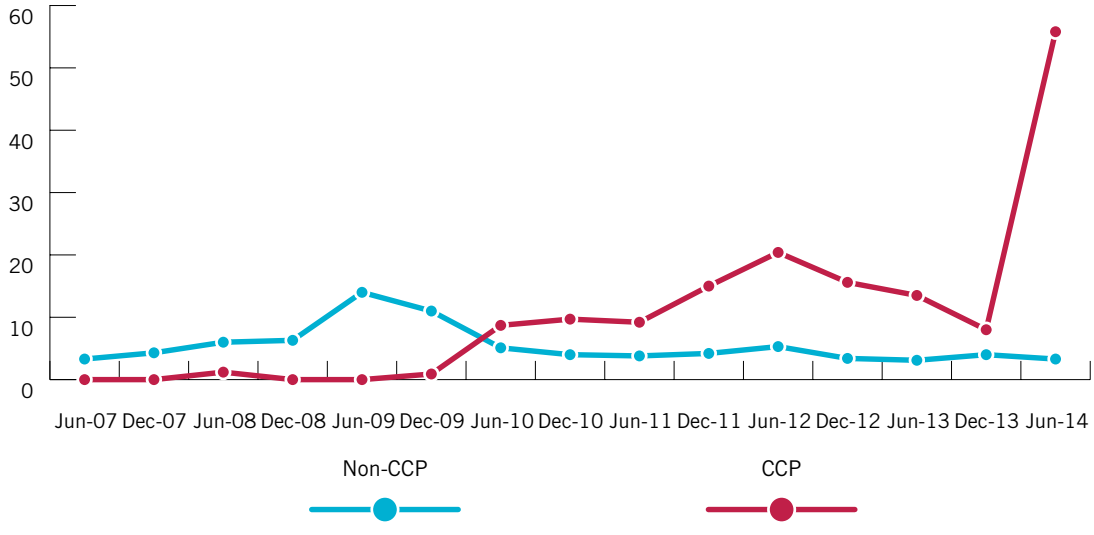
	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14
(ACNO) Adjusted Compressed Notional Outstanding	n/a	n/a	n/a	n/a	94.7	113.8	125.2	131.8	134.1	184.9
Adjusted CCP compression	n/a	n/a	n/a	n/a	41.7	60.1	72.6	80.9	83.9	134.2
Non-CCP compression	n/a	n/a	n/a	n/a	52.9	53.7	52.6	50.9	50.3	50.7

Given the impact of new capital rules – and particularly the leverage ratio under Basel III, which is based on gross notional exposures – it is not surprising to see an uptick in compression volume in recent years, as the need to reduce exposures is critical.

Chart 3 details period compression volume trends from December 2007 to June 2014[7].

CCP period compressions (denoted by the red line) increased by 313.1% (from $13.5 trillion to $55.8 trillion) between June 2013 and June 2014. In comparison, non-CCP period compressed volumes (denoted by the blue line) have been fairly stable (around $3.5 trillion). The move to central clearing, as well as innovations in compression methodology, have driven this increase and will likely continue to do so.

Chart 3: TriOptima triReduce Period Compressed Volume: CCP and Non-CCP Trends, US$ trillions



[7] TriOptima triReduce period compression volumes represent new compression activity recorded in each period. Unlike ACNO statistics, period compressions are not adjusted for terminations

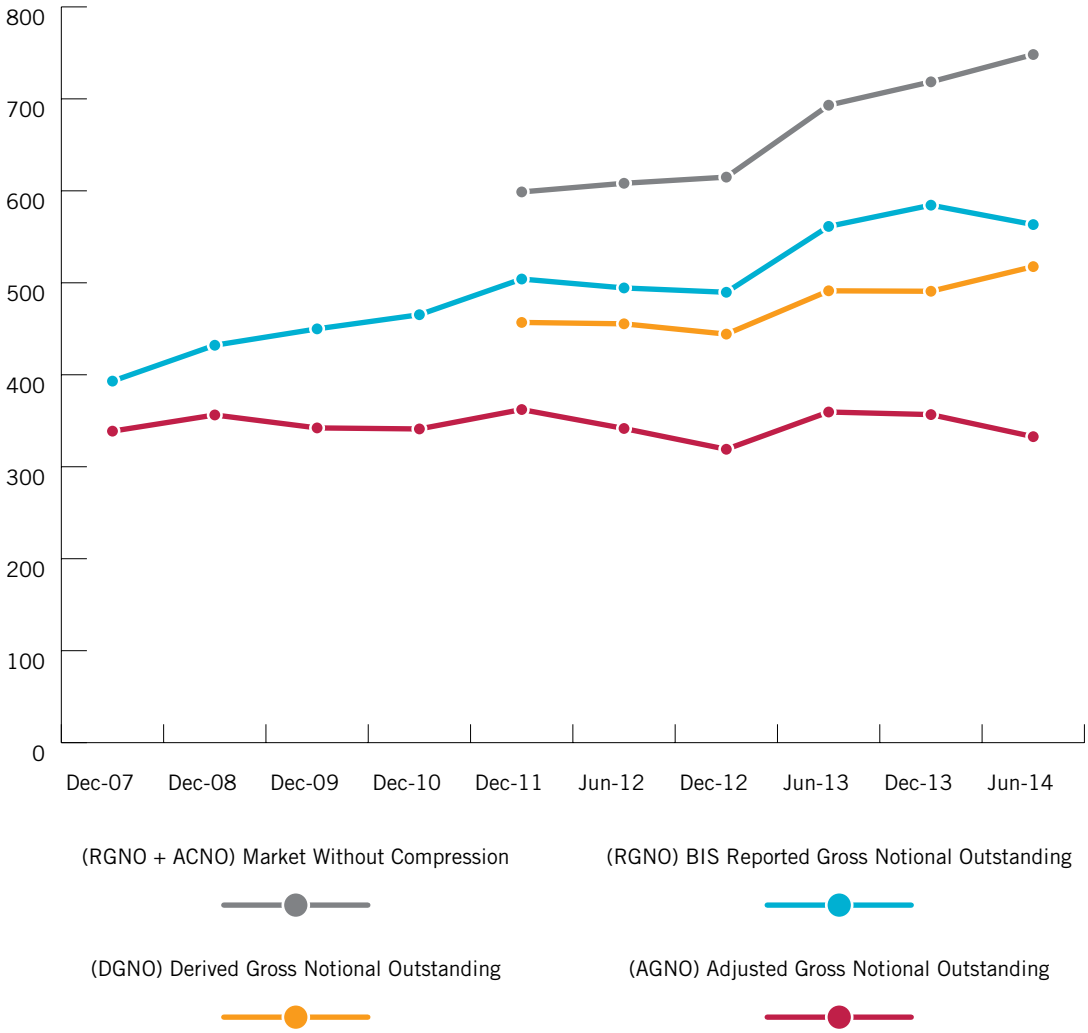
TYING IT ALL TOGETHER

Adjusting for clearing and compression reveals a 13% increase in interest rate derivatives notional outstanding since December 2011

Chart 4 ties together the effects of both clearing and compression since December 2011 (the first period for which the terminations of compressed IRD volume is available). The chart visually depicts:

- The size of the IRD market as per the BIS reported gross notional outstanding – the blue line.
- Market size if there was no portfolio compression activity – the grey line.
- The size of the market if there was no clearing activity (but including portfolio compression) – the red line.
- Market size after factoring out the impact of clearing and compression – the orange line.

Chart 4: Gross Notional Outstanding Volume: Interest Rate Derivatives, US$ trillions



In comparing the orange line to the blue line, several trends become clear:

- The BIS reported a 3.6% decrease in IRD gross notional outstanding figures in the six months to June 30, 2014, from $584.4 trillion to $563.3 trillion.
- After factoring out the impact of clearing and compression, we find that gross notional volume has actually increased 5.5% during this time.

Comparing the two time series over a longer period (year-end 2011 through June 2014) reveals that:

- IRD gross notional outstanding as reported by the BIS increased by 11.7%.
- After factoring out the impact of clearing and compression, gross notional volume has increased by slightly more than the BIS amount (13.3%).
- Interesting clearing and compression trends occurred during this time, which are described in greater detail in Table 3.

Table 3 ties together the effects of both clearing and compression since December 2011. The first line of the table describes what the market would look like had no portfolio compression occurred. Adding together the RGNO and ACNO metrics reveals a $748.2 trillion market in June 2014.

Table 3: Tying it all Together: The Derived Gross Notional Outstanding Measure (DGNO) of Market Size: Interest Rate Derivatives, US$ trillions

	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14
(RGNO + ACNO) Market Without Compression	n/a	n/a	n/a	n/a	598.8	608.2	614.9	693.1	718.50	748.2
(RGNO) BIS Reported Gross Notional Outstanding	393.1	432.1	449.9	465.3	504.1	494.4	489.7	561.3	584.4	563.3
(AGNO) Adjusted Gross Notional Outstanding	338.7	356.3	342.2	341.1	362.2	341.6	319	359.5	356.7	332.7
(ACNO) Adjusted Compressed Notional Outstanding	n/a	n/a	n/a	n/a	94.7	113.8	125.2	131.8	134.1	184.9
(DGNO) Derived Gross Notional Outstanding	n/a	n/a	n/a	n/a	456.9	455.4	444.2	491.3	490.8	517.6

Since our goal is to adjust the RGNO for the effects of both clearing and compression, we must first compare the RGNO and AGNO figures from Table 1 to account for the effects of double counting of cleared transactions. We then use the ACNO statistic to add back compressed volume to the AGNO. In doing so, we are able to derive a clearer view of the underlying size of the outstanding interest rate derivatives market, which we refer to as the derived gross notional outstanding (DGNO) metric[8].

[8] There are several types of compression that occur in the market. TriOptima triReduce compression data reflects a portion of this activity. Further work is needed to estimate the DGNO with greater accuracy

The DGNO metric describes the size of the IRD market before the effects of clearing and compression. We initially observe that the size of the interest rate derivatives market measured before these effects grew roughly 13.3% from year-end 2011 to mid-year 2014. This is slightly higher than the percentage increase indicated by the BIS RGNO statistic.

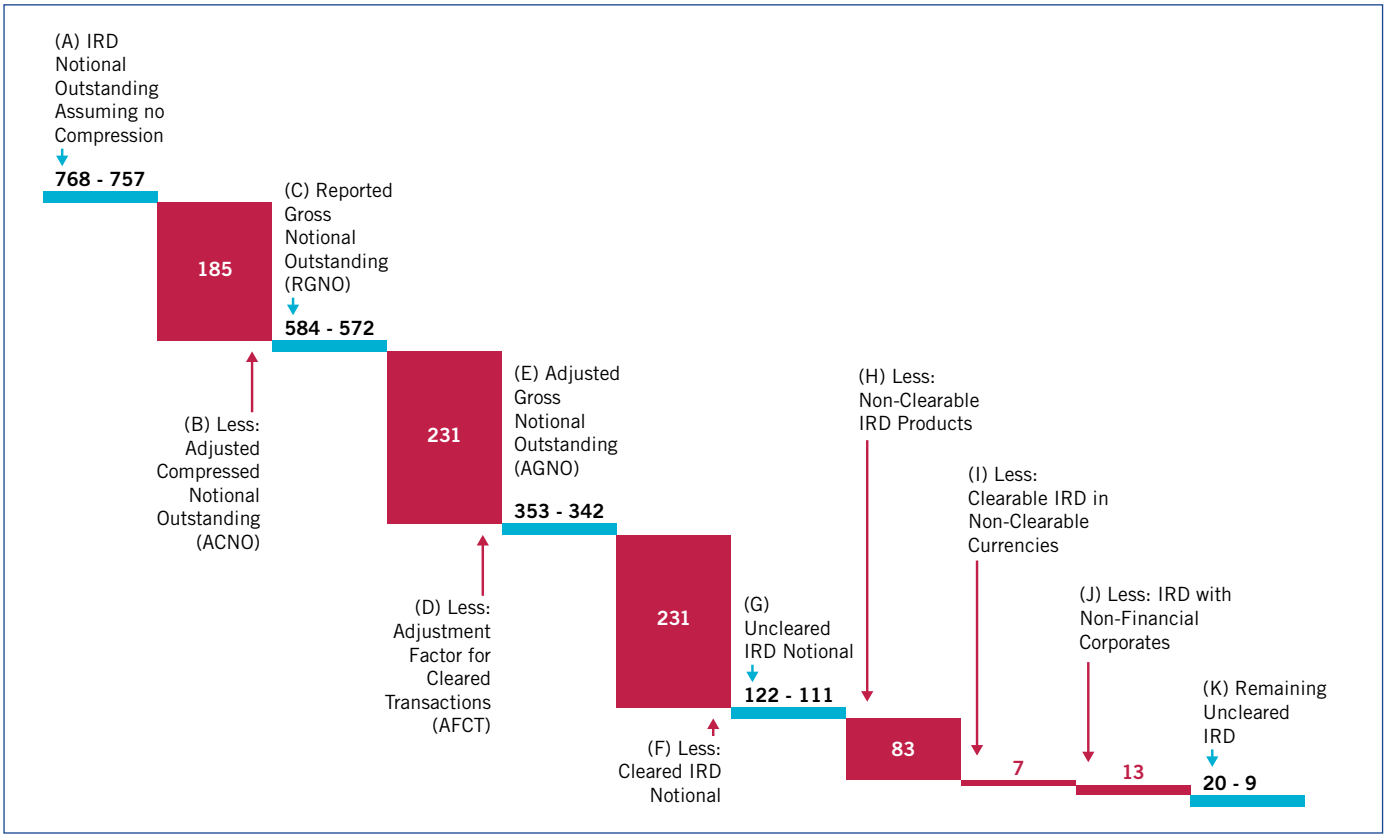
However, the change in the two metrics reveals several underlying clearing and compression trends. For example, the RGNO grew by 4.1% in the six months to December 2013, while the DGNO was more or less flat over the same period (-0.1%). This difference can be attributed to growing cleared volumes combined with fairly stable compression volumes. When compression volumes spiked in June 2014, the RGNO decreased 3.6% from December 2013, while the DGNO increased by 5.5%. Even though cleared volumes continued to increase during this time, more notional was added back given the larger increase in compression volume.

Roughly 95% of clearable interest rate derivatives have already been cleared

MARKET SNAPSHOT AT JUNE 30, 2014

In this section we illustrate the key dynamics shaping the IRD market at end-June 2014. We provide a waterfall analysis of what the IRD market would look like at a specific point in time with and without clearing and compression in Chart 5 below[9].

Chart 5: Interest Rate Derivatives Waterfall: June 30, 2014, US$ trillions



[9] For more information on the effects of clearing and compression, please refer to *Interest Rate Derivatives: A Progress Report on Clearing and Compression* (February 2014), http://www2.isda.org/attachment/NjI4Mw==/RN%20IRD%20Progress%202013-02-05.pdf

The waterfall begins with a calculation of market size had portfolio compression not occurred. This is accomplished by summing the RGNO and ACNO metrics to arrive a gross notional amount outstanding range of $768.4 trillion - $757.3 trillion (Item A)[10].

As discussed in the previous section compressed outstanding volume using triReduce statistics was $184.9 trillion in June 2014. Holding any clearing effects constant, compression alone reduces the market by roughly 25% in the waterfall.

Using the RGNO, we can isolate clearing effects. By subtracting the AFCT from the reported gross notional figures, we arrive at the AGNO, which represents gross notional outstanding had clearing not occurred (Item E).

Clearing has increased substantially in recent years, covering roughly 69.3% of the interest rate derivatives market. There are several reasons why a portion of the market remains non-cleared to date. The remainder of this analysis will focus on this segment.

In order to analyze the non-cleared portion of the market, we must subtract the IRD cleared notional (Item F) from the AGNO to arrive at the non-cleared IRD notional of $122.3 trillion - $111.2 trillion (Item G).

The largest non-cleared segment consists of IRD products that cannot be cleared, totaling $82.7 trillion, according to DTCC public data (Item H). These products include swaptions, caps, floors, cross-currency swaps, options, inflation swaps and exotics. At this time, CCPs do not offer services for these products but may do so at some point in the future.

The next category of non-cleared volume comes from clearable products, such as interest rate swaps, which are denominated in non-clearable currencies. The DTCC reports that roughly $6.8 trillion of outstanding gross notional volume includes such transactions (Item I)[11].

The final segment of the non-cleared IRD market consists of transactions by firms that are exempt from clearing mandates, such as non-financial corporates. According to BIS semiannual survey data, these market participants account for $15.7 trillion of outstanding gross notional volume.

Since some of the transactions conducted by non-financial corporates are likely to consist of non-clearable swaps, we apply the same ratio of clearable to non-clearable IRD to this figure to account for any overlap in the data. When doing so, we estimate that volume by exempt parties is roughly $12.6 trillion (Item J).

Totaling up these three segments, and subtracting the sum from the non-cleared IRD notional, indicates that the level of the IRD market that was not cleared but potentially could be cleared at June 30, 2014 was approximately $20.2 trillion - $9.1 trillion (Item K). This means that in the order of 95% of the clearable IRD market was in fact cleared at this time. Five per cent or less of the clearable outstanding notional potentially remains to be cleared.

[10] We use an enhanced RGNO metric in the waterfall analysis in order to account for differences which underlie the BIS semiannual and triennial surveys. The unallocated proportion of IRD gross notional volume is added to the June 2014 RGNO

[11] At June 30, 2014 non-clearable currencies included: AED, BRL, CLF, CLP, CNY, COP, ILS, INR, KRW, MYR, RUB, SAR, THB, TRY, and TWD. More recently, KRX began clearing KRW IRS on June 30, 2014 and Shanghai Clearing House began clearing onshore CNY IRS on July 2, 2104

CONCLUSION

Derivatives market participants are meeting regulatory goals of increased clearing and portfolio compression

The BIS reported IRD gross notional outstanding figures had decreased 3.6%, from $584.4 trillion in December 2013 to $563.3 trillion in June 2014. Our analysis introduces a framework that adjusts for the countervailing forces of clearing and compression to gain an understanding of IRD activity. By estimating the impact of these effects, we find that gross notional volume has actually increased 5.5% during this time.

Over a longer horizon, from year-end 2011 to mid-year 2014, both the reported and derived headline figures suggest the market grew roughly 12-13%. However, the BIS reported headline figures increased by 4.1% in the six months to December 2013, while our estimate was more or less flat. The difference can be attributed to growing cleared volumes combined with fairly stable portfolio compressions. When compression volumes spiked in the six months to June 2014, our estimate increased more than the BIS figures as portfolio compression volume outpaced cleared volumes.

This research also finds that two goals of policy-makers and market participants are being realized. First, the proportion of the market being cleared has increased significantly over the past couple of years, with an estimated 69.3% ($230.6 trillion) of the IRD market now cleared. Additionally, the overall size of the market has been reduced by portfolio compression. Roughly 35.7% of the IRD market has currently been compressed. Given the impact of new regulations, we expect cleared and compressed volumes to continue to increase in future periods.

Finally, our analysis estimates that roughly 95% of clearable IRD products are being cleared. We also expect this figure to eventually grow as CCPs enhance their offerings to include different types of IRD products and currencies that are not yet clearable.

GLOSSARY

Reported Gross Notional Outstanding (RGNO): The BIS releases statistics describing the nominal of notional value of all deals concluded and not yet settled on the reporting date as part of its semiannual statistical release. The DTCC provides weekly gross notional outstanding statistics on its public website. A comparison of BIS and DTCC statistics is given in the Appendix.

Adjustment Factor for Cleared Transactions (AFCT): Clearing house data is aggregated to determine the level of bilateral interest rate derivatives outstanding that has been cleared. This aggregation produces a metric that adjusts for the double counting of cleared notional outstanding volume reported by the BIS.

Adjusted Gross Notional Outstanding (AGNO): The AGNO metric reflects the difference between the RGNO and AFTC metrics. The AGNO represents the state of the market before clearing occurs.

Pct (%) Cleared Gross Notional Outstanding: This metric is defined as the AGNO, or the state of the market before clearing occurs, divided by the AFCT, or the level of bilateral interest rate derivatives outstanding that have been cleared.

Adjusted Compressed Notional Outstanding (ACNO): TriOptima triReduce statistics are used as a proxy metric to evaluate the level of interest rate derivatives outstanding compression.

Derived Gross Notional Outstanding (DGNO): This metric is defined as the sum of the AGNO and ACNO metrics. The DGNO reflects the level and volume of interest rate derivative gross notional outstanding market before clearing and compression effects.

APPENDIX

Previous ISDA OTC derivatives market analysis reports have coincided with the release of the BIS semiannual statistics in order to obtain a measure of reported gross notional outstanding volume. This analysis combines semiannual BIS survey data with DTCC figures in order to obtain an estimate for non-clearable product dynamics since this information is not available from the BIS.

Table A.1 below compares these two sources across interest rate derivative taxonomies. BIS semiannual data is compared to DTCC daily gross notional outstanding amounts, and the percentage difference between the two sources is provided. Interestingly, the differences in total contracts data are a mere 2% since June 2013. Looking across the components, swaps and forward rate agreements, which accounted for over 93% of total contract volume in December 2013[12], have fairly small inconsistencies, while options show more substantial divergence between sources.

Table A.2 compares BIS and DTCC data by currency. BIS semiannual data is compared to DTCC daily gross notional outstanding amounts, and the percentage difference between the two sources is again provided. The differences in all currencies data is again 2% since June 2013. Euro- and US dollar-denominated transactions accounted for almost three-quarters (72%) of gross notional volume. The discrepancy between the two data sources was 3%-4% in December 2013. Japanese yen transactions, which account for 9% of total volume, only differed by 5%. Lastly, sterling transactions, which contribute to 10% of total volume, showed the largest divergence of 11%.

Table A.1: Gross Notional Outstanding Volume by Taxonomy: Interest Rate Derivatives, US$ trillions

	Total Contracts			Swaps			FRAs			Options		
	BIS	DTCC	%	BIS	DTCC	%	BIS	DTCC	%	BIS	DTCC	%
Jun-12	494.4	502.2	2%	379.4	397.2	5%	64.7	63.5	-2%	50.3	41.6	-17%
Dec-12	489.7	512.2	5%	370	396.9	7%	71.4	74.6	5%	48.4	40.7	-16%
Jun-13	561.3	548.5	-2%	425.6	423.3	-1%	86.3	83.9	-3%	49.4	41.4	-16%
Dec-13	584.4	575.4	-2%	461.3	456.2	-1%	73.8	77.2	5%	49.3	42	-15%

Table A.2: Gross Notional Outstanding Volume by Currency: Interest Rate Derivatives, US$ trillions

	All Currencies			EUR			USD			JPY			GBP		
	BIS	DTCC	%	BIS	DTCC	%	BIS	DTCC	%	BIS	DTCC	%	BIS	DTCC	%
Jun-12	494.4	502.2	2%	179.1	172.2	-4%	164	174.8	7%	60.1	65.3	9%	39.9	42	5%
Dec-12	489.7	512.2	5%	187.4	187.2	0%	148.7	168.7	13%	54.8	59.5	8%	42.2	47.1	11%
Jun-13	561.3	548.5	-2%	227.4	210.3	-8%	169	179.5	6%	55.1	53.3	-3%	46.3	52.5	13%
Dec-13	584.4	575.4	-2%	241.1	233.5	-3%	173.8	181	4%	52.9	50.4	-5%	52.2	58.1	11%

[12] DTCC statistics replace December 2013 data with January 2014 data in order to adjust for end-of-year seasonal effects

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- ***Dispelling Myths: End-User Activity in OTC Derivatives,*** August 2014:

  http://www2.isda.org/attachment/Njc2Nw==/ISDA-Dispelling%20myths-final.pdf

- ***Revisiting Cross-Border Fragmentation of Global OTC Derivatives: Mid-year 2014 Update,*** July 2014:

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Since 1985, ISDA has worked to make the global over-the-counter (OTC) derivatives markets safer and more efficient. Today, ISDA has over 800 member institutions from 66 countries. These members include a broad range of OTC derivatives market participants including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure including exchanges, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's web site: www.isda.org.