ISDA Research Note

Interest Rates Derivatives: A Progress Report on Clearing and Compression

February 2014

Summary

How much of the over-the-counter (OTC) derivatives market is cleared? How much remains to be cleared? What is the composition of the non-cleared segment of the market?

Significant changes in the OTC derivatives market in recent years are altering its size and composition. Central clearing, for example, increases notional amounts outstanding, as one bilateral trade becomes two cleared transactions. Compression of both bilateral and cleared trades, on the other hand, reduces notional outstanding. New requirements related to margin for non-cleared trades may drive users of these instruments to cleared products or to other alternatives.

Given these dynamics, ISDA conducted an analysis of the interest rate derivatives (IRD) market. As part of the analysis, we reviewed Bank for International Settlements (BIS) and Depository Trust & Clearing Corporation (DTCC) data as of June 30, 2013. We also reviewed data on clearing from LCH.Clearnet's SwapClear service, CME Group and the Japan Securities Clearing Corporation (JSCC).

Key findings include:

- Approximately 90 percent of the IRD market that is clearable or has been mandated for clearing has in fact been cleared.
- Conversely, less than 10 percent of outstanding IRD notional consists of transactions that are potentially clearable but were not cleared.
- Approximately $73 trillion, or 13 percent of the IRD market at June 30, consisted of non-clearable transactions. This includes $65 trillion in products that cannot be cleared, and $8 trillion in products that can be cleared but are denominated in currencies that cannot.
- An estimated $29 trillion of IRD transactions were conducted with non-financial corporates that do not face clearing mandates.

IRD Market Waterfall Analysis

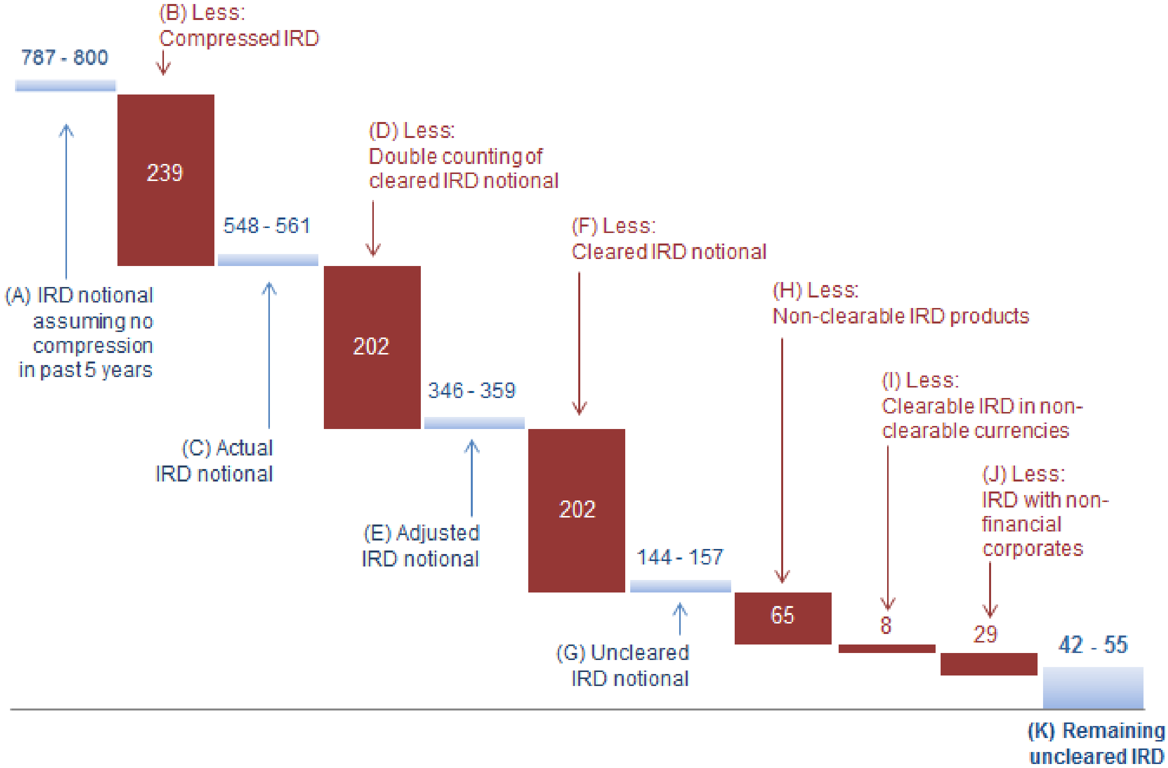
One of the key goals of policymakers and market participants in the past few years has been to reduce counterparty credit risk in the OTC derivatives market. A primary means of achieving this goal is to mandate and/or provide incentives to firms to centrally clear their bilateral OTC derivatives transactions.

Our analysis indicates this goal is being realized. Less than 10 percent of outstanding IRD notional at June 30, 2013 consists of transactions that are potentially clearable but were not cleared.

In addition, significant progress has been made in reducing the size of the market through portfolio compression. Compression has helped to reduce the IRD notional outstanding by approximately 30 percent since 2009.

To illustrate the key dynamics shaping the IRD market today, we conducted a waterfall analysis that is illustrated in Chart 1 below.

Chart 1: IRD Waterfall ($ trillion, June 30, 2013)



Source: BIS, DTCC, LCH SwapClear, CME, JSCC, TriOptima

The analysis begins with calculating the market's size if portfolio compression had not occurred. Compression, also called trade tear-ups, reduces notional outstanding by eliminating matched trades or transactions that do not contribute risk to a dealer's portfolio.

If compression had not occurred, then the notional amount outstanding of the IRD would total between $787 trillion and $800 trillion at June 30, 2013[1] (Item A in the chart).

Firms have eliminated $239 trillion in notional of IRD via compression since 2009, according to post-trade infrastructure provider TriOptima. This can be seen in Item B in the chart. (We chose this period because most IRD are five years in duration.) The amount compressed includes $185.5 trillion of cleared and $53.9 trillion of non-cleared IRD.

Put another way, compression has helped to reduce the size of the IRD market by approximately 30 percent. As a result of compression, IRD notional outstanding was between $548 trillion and $561 trillion at June 30, 2013, as shown in Item C.

While compression reduces notional outstanding, central clearing increases it. If, for example, two parties execute a $100 million swap on a bilateral basis, only one $100 million contract exists. If the same transaction is booked through a clearing house, it will be booked as two $100 million contracts, or $200 million in total.

At June 30, 2013, there was approximately $404 trillion of IRD in central counterparties (CCPs). This includes $391 trillion at SwapClear, $6 trillion at CME Group and $6.6 trillion at the JSCC. Adjusted for double-counting, the level of cleared IRD was $202 trillion, as per Item D in the chart.

After subtracting this $202 trillion from the notional amount outstanding, adjusted IRD notional at mid-year 2013 was between $346 trillion and $359 trillion, illustrated in Item E.

As noted above, $202 trillion of IRD was cleared; subtracting this amount from the adjusted notional outstanding (Item F) reveals that uncleared IRD notional at June 30, 2013 was between $144 trillion and $157 trillion (Item G).

This $144 trillion to $157 trillion reflects the outstanding notional at mid-year 2013 that was not cleared. What exactly does it consist of?

The largest uncleared segment, which totals $65 trillion (Item H), consists of IRD products that cannot be cleared. Table 1 on the next page breaks out non-clearable IRD products.

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[1] At mid-year 2013, the notional outstanding of interest rate derivatives at DTCC's Global Trade Repository was $548 trillion. According to the BIS semiannual survey, the notional amount outstanding of IRD at mid-year 2013 was $561 trillion. Most of the difference -- $8 trillion – is due to a difference in the amount outstanding of options/swaptions (which are non-clearable). For purposes of this analysis, we use a range to describe IRD notional outstanding. Another difference between the two reference sources is that the DTCC GTR is more granular and includes data based on the ISDA product taxonomy, not just the three segments (swaps, FRAs, options) used in the BIS survey.

Table 1: Non-clearable Notional Outstanding ($ trillion)

Non-clearable product	Notional outstanding
Swaptions	29.4
Cross-currency swaps	16.2
Options	10.0
Inflation swaps	3.0
Exotic/Other	6.5
Total	65.1

Source: DTCC Global Trade Repository

Another segment of the uncleared market comprises products that are clearable, but are denominated in currencies that cannot be cleared (Item I in the waterfall chart). This includes many transactions denominated in emerging markets currencies, which may play an important role in hedging economic activity that is important to global growth. Table 2 breaks out OTC derivatives denominated in non-clearable currencies.

Table 2: Non-clearable Currencies ($ trillion)

Currency	Clearable Product	Non-Clearable Product	Total
Brazilian real (BRL)	1.35	0.62	1.97
Indian rupee (INR)	0.62	--	0.62
Korean won (KRW)	1.61	0.26	1.89
Mexican peso (MXN)	1.60	0.15	1.75
Malaysian ringgit (MYR)	0.45	0.01	0.46
Thai baht (THB)	0.52	--	0.52
Other	1.69	0.74	2.43
Total	7.84	1.78	9.64

Source: DTCC Global Trade Repository

To explain this in more detail: at June 30, 2013, there was $1.97 trillion notional in interest rate derivatives denominated in Brazilian real. Of this amount, $1.35 trillion consisted of products that were clearable (such as fixed-floating interest rate swaps and swaps referenced to the overnight indexed swap (OIS) rate). The notional amount of Brazilian real swaps consisting of non-clearable IRD, such as swaptions, was $0.62 trillion.

As can be seen from Table 2, IRD in all non-clearable currencies total nearly $10 trillion in notional. Approximately 80 percent of this amount, or $8 trillion in notional, relates to products that could otherwise be cleared.

Another part of the non-cleared IRD segment consists of transactions by firms that are exempt from clearing mandates, such as non-financial corporates (Item J in the waterfall chart). According to the BIS semiannual survey, transactions by non-financial corporates totaled $36 trillion. Some of this is likely to consist of non-clearable swaps. So, to avoid double-counting of these transactions in our analysis, we apply the same ratio of clearable to non-clearable IRD to non-financial corporate notional outstanding as to the market overall

($73 trillion out of $346 trillion-$359 trillion, or 20-21 percent). This means that the approximately $29 trillion out of the $36 trillion in non-financial corporate notional was clearable.

Totaling up these three segments, and subtracting the sum from the uncleared notional outstanding, indicates that the true level of the IRD market that was not cleared but potentially could be cleared at mid-year 2013 was approximately $42 trillion to $55 trillion (Item K in the waterfall chart). This means that in the order of 90 percent of the clearable IRD market was in fact cleared at June 30, 2013. Ten percent or less of the outstanding notional potentially remains to be cleared.

All indications are that this percentage should decrease further when an analysis of year-end 2013 data is conducted. For example, clearing of IRD denominated in Australian dollars increased during the second half of 2013 as banks in that country became licensed to clear swaps through a global CCP.

In addition, clearing of OIS swaps in major currencies with maturities beyond two years began during the second half of last year. Our analysis indicates that, at June 30, 2013, 87 percent of OIS with less than two years to maturity were cleared, but less than one percent of those with more than two years to maturity were cleared. This slice of the market totaled about $6.7 trillion.

Conclusion

Based on this analysis, it is clear that the drive toward central clearing is progressing quickly. The amount of IRD to be cleared is far less than that which has already been cleared. Further progress with regard to this relatively small amount of uncleared IRD (10 percent or less of notional outstanding) lies ahead.

In addition, market participants have achieved a significant reduction in outstanding notionals via trade compressions. The market has been reduced in size in the order of 30%. Compression remains on the agenda as there remains potential for further reductions in notionals.

Despite this progress, there continues to be misunderstandings and misperceptions about the segment of the IRD market that cannot and will not be cleared. More research and analysis needs to be conducted to understand the uses and benefits of non-clearable IRDs. This will help to avoid policy prescriptions that may needlessly reduce liquidity in this market segment and adversely impact economy activity that depends on it.

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About ISDA

Since its founding in 1985, the International Swaps and Derivatives Association has worked to make over-the-counter (OTC) derivatives markets safe and efficient.

ISDA's pioneering work in developing the ISDA Master Agreement and a wide range of related documentation materials, and in ensuring the enforceability of their netting and collateral provisions, has helped to significantly reduce credit and legal risk. The Association has been a leader in promoting sound risk management practices and processes, and engages constructively with policymakers and legislators around the world to advance the understanding and treatment of derivatives as a risk management tool.

Today, ISDA has over 800 member institutions from 62 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, clearinghouses and repositories, as well as law firms, accounting firms and other service providers.

ISDA's work in three key areas – reducing counterparty credit risk, increasing transparency, and improving the industry's operational infrastructure – show the strong commitment of the Association toward its primary goals; to build robust, stable financial markets and a strong financial regulatory framework.