US Interest Rate Swap Futures: Why Market Participants Would Switch

There is a strong probability that interest rate swap futures will attract sufficient demand from the market to avoid the short and illiquid life of so many newly-launched types of trading vehicles. However, the usual reasons that explain why a new product is successful will not apply to IR swap futures. For instance, some of the recent successes were based on extending the range of an existing class of contracts (CME’s Ultrabond) or the unique packaging of an existing exposure (CBOE’s VIX futures). Rather, how investors view the advantages of the contracts vis-à-vis the new margin and trading requirements for the IR swaps will largely determine their success.

Even if IR swap futures are ultimately successful, adoption will not occur overnight. It took about 20 months for the CME’s Ultrabond futures contract to gain significant market share. Applying that timeline to the swap futures market and starting the clock at the point in which the clearing mandate applies to non-dealers, TABB Group believes that if the industry embraces swap futures, these contracts should account for at least 3% of the notional outstanding of the swaps and swaps futures market by mid-year 2014.

Adam Sussman
V10:43
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www.tabbgroup.com
Introduction

The IR swap is in trouble. A regulatory preference for standardized products that are centrally cleared and traded on an exchange is the antithesis of the highly flexible, privately negotiated swaps market. As TABB Group has argued in the past, the best way to preserve the most liquid components of the swaps market is to shift its trading to an exchange-like environment. In the same breath, however, if the swaps market looks and feels like a listed product, perhaps the industry might as well shift to futures.

A number of announcements from the Chicago Mercantile Exchange (CME), Eris Exchange and the Intercontinental Exchange (ICE) underline the advantages of the futures market in a post-Dodd-Frank world. Announcements on the “futurization” of swaps include conversion of existing products (cleared OTC energy swaps) and new products for rates and credit. An analysis of the specifics of these initiatives shows that the advantages include margin, trading and regulatory designations.

The requirement to post initial margin for swaps immediately swings the pendulum in favor of futures products. For a swap, initial margin is calculated by looking at the maximum loss (using VaR) over 5 days; for a future, the IM can be calculated using just one day of Value at Risk (VaR). Investors will need to incorporate the opportunity costs associated with posting margin into the economic benefits of a trade. While portfolio margining for cleared swaps will help alleviate some of the burdens of IM, the futures contracts will require less offsetting positions because of the lower VaR calculation.

Exhibit 1: Futures versus Swaps, Advantage Goes to...

<table>
<thead>
<tr>
<th>Issue</th>
<th>Advantage Goes to...</th>
<th>Because...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Liquidity</td>
<td>Swaps</td>
<td>Vanilla US IR Swaps have an annual notional turnover of $175 Trillion; swap futures have nearly zero turnover</td>
</tr>
</tbody>
</table>
| Future Liquidity    | Swap Futures         | - Even if the swaps market remains vibrant, swap futures have the potential to reach a much broader swath of the market  
                       |                      | - Swaps liquidity will likely fragment across multiple SEFs  
                       |                      | - Recent trends favor highly liquid, standardized instruments |
| Customization       | Swaps                | Even cleared swaps will allow for greater customization than swap futures. There is limited customization available on Eris contracts |
| Margin Efficiency   | Swap Futures         | The minimum VaR calculation for futures contracts is 1 day, compared to 5 days for cleared swaps |
| Regulatory Status   | Swap Futures         | Trading swap futures is a known regulatory and reporting framework that will not require additional registration |
| Status Quo          | Swaps                | If regulations prove less onerous than expected, then the swaps market will likely continue largely as it is today |

Source: TABB Group
Even if the margin rates were the same for swaps as they are for futures, there are switching costs involved in moving from a bilateral to a cleared swap environment. Certain market participants may feel that as long as a substitute product delivers the same or similar payout as a swap, it will be easier to shift to the future than build the necessary infrastructure for a cleared swap.

From a trading perspective, the swaps market is also disadvantaged when compared to the futures market. The regulatory and investor-driven shift toward open access, transparent trading platforms makes it more difficult for the existing market making business models to persist; these business models are predicated on information asymmetries that could be destroyed by pre- and post-trade transparency rules. However, exchanges do have block trading rules and mechanisms that allow for off-exchange activity with less onerous transparency rules than what will likely appear in the final Swap Execution Facility (SEF) rules. Nevertheless, the swap is between a rock and a hard place. If the market shifts toward an exchange-like environment for swaps, and futures are more capital efficient, then swaps lose. If the market wants to preserve its current off-exchange trading workflow, then depending on how the SEF rules are written, futures may provide more flexibility, and swaps still lose.

Liquidity in swaps could also come under pressure. The pressure on liquidity is not so much about margin, because the major dealers ought to be able to find offsets for most of their swaps positions. Rather, the issue is more about the future of swaps dealers and who will provide swap liquidity in the future. Already we see announcements from the likes of UBS that point to a retreat from the Fixed Income business. Even the European banks that will remain in the business have been pulling back from risk-taking activities.

In the future, swaps liquidity will depend on access to the central clearinghouses and execution venues by non-dealer market making firms. Once access is provided to the clearinghouse, one must still get access to the execution venue. If swaps begin to trade successfully on exchanges, then access should not be a problem. But, according to the regulations while SEFs are not required to let anyone onto their platform, the rules on access must be “impartial.” We are likely to see a plethora of schemes introduced that test the boundaries of impartiality. Those who decide to operate a two-tiered market are likely to price access very high, either in the form of prohibitively expensive access fees or high minimum monthly volumes that only a handful of incumbents could achieve. Others may hedge a bit and make access dependent upon a certain verifiable amount of trading volume. Designated Contract Markets (DCM), aka Exchanges, are likely to keep access requirements to a minimum.

The futures market does not face these hurdles. Volume in interest rate futures is far more diverse and distributed than swaps precisely because the clearing and execution infrastructure is open and neutral.

The recent announcement from ICE that it will shift its OTC Cleared energy business to a futures model is instrumental in showing the futures advantage in regulatory designation.
Significant players in the OTC energy derivatives market would have fallen under requirements to register as either a major swap participant or swap dealer if the ICE contracts remained as swaps. Under the new regime, those participants will no longer have to do so. Far from being regulatory arbitrage, we would argue this is exactly the goal of the regulations: simplify the derivatives market and its regulatory oversight through standardization and consolidation.

**Don’t Count Your Contracts Just Yet**

While the odds seem stacked in favor of the futures market stealing at least some business from the swaps market, it should be remembered that the incumbent always has an advantage, no matter how unfavorable things may appear. Any new trading instrument has a steep hill to climb to become an established alternative to the swaps market. Traders and portfolio managers will expect the new contracts to be competitive with swaps across six different criteria:

- **Liquidity**: The price impact of trading in and out of the instrument
- **Implicit costs**: Basis risk, margin, market impact and other embedded costs
- **Explicit costs**: Commissions, fees, and other disclosed costs
- **Regulatory status**: The oversight surrounding the instrument, including trade reporting, registration and business conduct standards
- **Operational complexity**: Documentation, compliance oversight, mark-to-market valuations, clearing and settlement
- **Counterparty risk**: Exposure to credit risk of a trading partner

In building liquidity for a new instrument, there needs to be enough liquidity on both of sides of the trade. Exchanges must work hard to get market makers to agree to post bids and offers at a reasonable spread. But eventually, investors need to show an interest in the contract or it will be consigned to the graveyard of failed contracts. It took years for ETFs to build enough liquidity to be competitive with the underlying basket of securities – but once that occurred ETFs began to gain more attention from institutional investors. According to an analysis by Morgan Stanley, it took the Ultrabond futures about 18 months to become liquid. Therefore, market participants will need to be patient. What happens to swaps volume during this initial period is critical to the fate of the swap future. Will OTC IR swaps volume collapse and/or a skeleton crew of uncleared products survive to serve specific needs?

A decent amount of liquidity will not be sufficient on its own to attract the end investor, though. One of the key drivers of whether an investor will choose to trade a new instrument is basis risk – how closely the instrument tracks the type of exposure an investor is seeking. The customization available in the current swaps market allows firms to be very specific in nearly every component of a swap, including the tenor, the notional amount, forward start dates, the floating leg and other variables like resets, knockouts, etc. Therefore, if an investor is trying to speculate or hedge something very unique, the swap is the ideal product. In terms of accounting, the less basis risk there is between the hedge and the underlying, the less the income statement will be impacted by a change in the fair value of
either side of the position, which is part of the test for the hedge’s effectiveness that goes into determining favorable tax treatment.

While there are no true explicit costs in the current swaps market, once swaps move to trading on an SEF and execution shifts to an agency model, investors will be able to compare the pricing of a future contract to a swap. Swap execution will become a complementary payment mechanism to the flow business, rather than the bundled throwaway that it is today. We expect pricing between swaps and swap futures among the trading venues to be highly competitive since it is one of the areas where there is no regulatory intervention. Dealers will also likely be creative in how they price these products depending on which one fits better into their long-term strategic plans.

As discussed above, regulatory status is a major driver for the initial interest in swap futures, as some investors may not want to come under the new swaps oversight regime. However, TABB Group believes that regulatory status at any price is not a sufficient cause for investors to choose one product over another. In other words, if investors cannot find cost-efficient hedges using alternative methods, they will simply stop hedging. Primary drivers for product selection will be margin, basis risk, liquidity and explicit costs. However, not all market participants weight the importance of these drivers the same. For instance, TABB Group believes that speculators are less concerned with basis risk than hedgers. While the end user clearing exemption would appear to eliminate IM concerns for corporate end users, the market is not going to preserve uncleared vanilla swaps just because they are still allowed. Corporate end users are going to wind up clearing, switching to futures or stopping hedging.

However, even if the new contracts deliver reasonable basis risk relative to the swap, there remain behavioral barriers to adoption. Firms understand when and how to use and trade swaps – suddenly switching to swap futures has real and intangible costs that will take time to overcome. It will take at least a year from the implementation of the clearing mandate for market participants to understand and believe in the new contracts enough to begin to trade them.

In other words, there are enough differences in the needs of market participants to warrant the introduction of new products while sustaining the current swaps market.

**Product Innovation**

The most innovative instruments we have seen created in the last 25 years are both wrappers: the ETF and the swap. The genius of both lies in that they provide a vessel in which providers can place nearly any type of exposure. In other words, the legal structure of these instruments is designed to accomplish a very specific goal. In the case of the ETF, an exchange listing is used as a nearly perfect distribution channel. For the swap, the innate flexibility enables precision hedging for nearly any risk type imaginable.

The ETF and the swap have been increasingly popular ways for investors to gain access to rates exposure, as alternatives to the classic methods: cash bonds and futures. The ETF
market began with retail investors in mind, while the swap is clearly an institutional and corporate product. Cash treasuries and futures attract a broader swath of the market than either ETFs or swaps.

Consideration of the benefits of the ETF and the swap is important in trying to predict the impact of the recently launched futures products that aim to resemble the payouts of an interest rate swap. The ETF allows for broad distribution, pre-trade transparency and has a clever off-exchange liquidity mechanism called the Creation/Redemption process. The swap is nearly infinitely customizable, has a well-defined legal structure (ISDA agreement) and, at least prior to the implementation of centralized clearing and Basel III, was relatively capital efficient because of its unregulated status. Nevertheless, TABB Group believes that standardized products that allow for broader distribution among market participants will continue to grow, while bespoke products will shrink (see Exhibit 2).

But in today’s regulatory environment, some of the benefits of the swap are being destroyed. Standardization and transparency are being favored over flexibility and private negotiations. In addition, futures have a margin advantage over centrally cleared swaps. Two new rate swap futures products, the Eris IMM-dated contracts and CME delivery for swaps (DFS) contracts, attempt to preserve some of the features of a swap that can be maintained in an exchange-traded environment. Both the Eris and CME contracts will clear through the CME; therefore users will be able to achieve margin offsets with treasury futures and cleared IR swaps. Both will trade electronically but will also have lower block sizes, which will facilitate off-exchange trading. This is where the similarities end, however.

The CME swap future has more in common with an ETF: it favors standardization in order to achieve broad distribution and deep liquidity. The Eris contract is about preserving some of the flexibility of a swap within the new regulatory constraints.

The Eris contract mimics the payout of a swap within the futures product using some unique characteristics. One feature is that upon expiration, it does not settle into cash or physical. This is because the coupon and interest accruals are priced into the contract, therefore there does not need to be any payments outside of the daily variation margin. At expiration, all of the gains or losses of the contract have been incurred and there is nothing left to settle. The advantage of this mechanism is that the contract manages all the cash flow requirements of the position – there is no need to have cash or physical assets ready for expiration.
The Eris contract also allows for a degree of customization, which should appeal to investors that require additional precision. Eris allows users to customize the spot or forward starting date for a contract, as well as the fixed rate out to the fourth decimal.

Conversely, the rate swap future from the CME has a physical-delivery. The advantage for the physical-delivery is that it creates a more natural arbitrage opportunity between the underlying and the future. Traders who can access both the swap and the future market can take advantage of any differences in pricing between the two markets, thereby increasing the chances that the markets will not have significant tracking errors between the two. The other advantage of the physical-settled component is reduced liquidity risk. With any new product, there may be times when the liquidity is not sufficient to exit a position. But, the holder of the future may then choose to hold the future until expiration and simply take delivery of the basket of swaps. Contrary to the Eris Exchange, the CME is not allowing for any customization and is limiting the contract to four points on the curve and a minimum number of IMM dates.

Exhibit 3: Comparison of Cleared Swaps, CME DFS and Eris IMM-Dated contracts

<table>
<thead>
<tr>
<th>Benchmark Contracts</th>
<th>Delivery Months</th>
<th>Announced Market Makers</th>
<th>Margin VaR</th>
<th>Block Size</th>
<th>Contract Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleared US IR Swaps</td>
<td>Custom</td>
<td>G-14</td>
<td>Current: 5 days Min: 5 day</td>
<td>TBD</td>
<td>Custom</td>
</tr>
<tr>
<td>CME DFS</td>
<td>2, 5, 10, 30</td>
<td>Citi, Credit Suisse, Goldman Sachs, Morgan Stanley</td>
<td>Current: 2 days Min: 1 day</td>
<td>Between $50M (30yr) and $600M (2yr)</td>
<td>$100,000</td>
</tr>
<tr>
<td>Eris IMM-Dated</td>
<td>2, 5, 10</td>
<td>DRW, Getco</td>
<td>Current: 5 days Min: 1 day</td>
<td>$25M for 10yr; $50M for 2yr</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

Source: TABB Group

It is important to note that this is not the first time a derivatives exchange has tried to port some of the OTC market onto its platform. The CME has listed swaps products on its platform in the past, but they failed to attract much attention. Partly this was because there was no reason for anyone to switch, and partly it was because of the mismatch between the swap and the original rate swap future. The original swap future is cash settled. Cash settlements can be a benefit for those who may want to hold the contract until expiration but do not want the hassle of having to actually go out and deliver a physical underlying. The best example is cash-settled commodity futures – most investors would not want to take on the cost alone of delivering barrels or bullion.
In 2010 the CME launched cash-settled futures for On-the-Run (OTR) treasuries, but the product never gained significant traction. While there are participants who may not want to ever deliver or take the physical, it does not appear that there is so much demand for cash-settled treasury products. This is probably because the cost of delivering Treasuries is not as burdensome, as say, oil or gold (see Exhibit 4).

**Market Sizing**

Determining the addressable part of the IR swaps market for potential conversion to a futures model is most certainly a fool’s errand – but one we are happy to undertake. In this particular exercise we will only look at the first wave of adoption of swap futures by existing swaps users; we leave out players, such as retail and high-frequency traders, who could begin trading should such contracts become successful. Therefore, we will focus on answering the following questions:

- Which market participants are more likely to replace swaps with other products?
- How much of the swap market do they trade?
- How frequently will swap future positions turnover?

Margin, clearing mandates and regulatory status are the most near-term issues that will influence product selection. Non-financial rate swap traders face much the same issue as those in the OTC energy industry, where many major energy players will need to register as a major swap participant if they continue their current activities post-Dodd-Frank implementation. While not all traders would engage in enough swaps trading to fall under increasing regulatory oversight, the firms that account for the majority of swap trading certainly will.

<table>
<thead>
<tr>
<th>Firm Type</th>
<th>% of IR Swap Outstanding</th>
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<tbody>
<tr>
<td>Dealers</td>
<td>75%</td>
</tr>
<tr>
<td>Banks (Non-dealer)</td>
<td>8%</td>
</tr>
<tr>
<td>Non-Financial End Users</td>
<td>6%</td>
</tr>
<tr>
<td>Buy Side</td>
<td>6%</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: TABB Group

TABB Group estimates that 6% of the IR swaps notional outstanding is held by non-financial end users. Based on the mixed benefits and costs associated with swap futures, we believe that only a minority of these participants will be among the early adopters of the new futures contracts (see Exhibit 5).

The dealer community is the most intriguing part of the market. On the one hand, it does not seem that swap futures would confer significant benefits to dealers: portfolio margining will significantly reduce the burden of initial margin, and registering as a swap dealer is unavoidable anyway. On the other hand, major dealers have agreed to provide liquidity into the CME deliverable swap futures. However, there is little doubt in our minds that dealers want to preserve the traditional swaps market for as long as possible. Dealers account for 75% of the notional outstanding and a similar share of the turnover. At the end of the day, though, dealers will react to demand from other market participants even as they continue to support the status quo.
About

TABB Group

TABB Group is a financial markets research and strategic advisory firm focused exclusively on capital markets. Founded in 2003 and based on the methodology of first-person knowledge, TABB Group analyzes and quantifies the investing value chain from the fiduciary, investment manager, broker, exchange, and custodian. Our goal is to help senior business leaders gain a truer understanding of financial markets issues and trends so they can better grow their business. TABB Group members are regularly cited in the press and speak at industry conferences. For more information about TABB Group, go to www.tabbgroup.com.

The Author

Adam Sussman

Adam Sussman is a partner and director of research at TABB Group. Sussman joined the firm in 2004 as a senior analyst. Before that, he served as a senior product manager responsible for order-management systems, routing and next-generation trading tools focused on the equities and options markets at Ameritrade, Inc., a brokerage industry subsidiary of Ameritrade Holding Corp. Sussman earned a BA in philosophy and comparative literature at the University of Rhode Island. At TABB Group, Sussman has authored a number of reports, including “US Equity Mid-Year Review 2012”; “Reinventing Capital Markets Infrastructure”; “Russia 3.0: Liquidity Perestroika?”; “Trading Net Alpha 2012”; “US Equity High-Frequency Trading: Strategies, Sizing and Market Structure”; “Equity Risk Models: The Evolution of Predictions”; “Equity Swaps and OTC Options: A Buy-Side Perspective”; and “International Perspective on Transaction Cost Analytics”; among others.