



May 2016

## Research Note

### Cross-Border Fragmentation of Global Interest Rate Derivatives: Second Half 2015 Update

The fracturing of the global interest rate swaps market that emerged in the aftermath of US swap execution facility (SEF) rules coming into force in October 2013 shows no signs of reversing. Although concerns over market fragmentation have been apparent for almost three years, some liquidity pools continue to be split on US and non-US lines.

This has been particularly noticeable in euro-denominated interest rate swaps (IRS). This report, the fifth in a series of research notes charting changes in global liquidity, finds that 91.2% of cleared euro IRS activity in the European interdealer market was transacted between European counterparties in December 2015. In September 2013, immediately prior to the introduction of the SEF rules, this figure stood at 70.7%.

The US dollar IRS market has experienced less change than its euro-denominated counterpart. The percentage of activity transacted between European and US dealers in the US interdealer market has decreased slightly, from 51.2% in September 2013 to 47.3% in December 2015.

Canadian and Asian cross-border flows represent a small portion of the euro- and US dollar-denominated swaps market. While both types of regional dealers prefer to transact euro IRS in the larger, exclusively European liquidity pool, Asian counterparties show a preference for trading US dollar IRS with European counterparties as well. Canadian dealers split their US dollar IRS volume between US and European dealers more evenly.

## Fragmentation in the euro IRS market shows no sign of reversing

### SUMMARY

This report analyzes the impact of regulatory change on liquidity in the euro- and US dollar-denominated IRS markets. In particular, the research considers the impact of the US SEF regime on cross-border trading flows.

Following the introduction of US SEF rules in October 2013, all electronic trading venues providing access to US persons had to register with the Commodity Futures Trading Commission (CFTC) as SEFs. Many non-US platforms opted not to register. The first derivatives products were mandated by the CFTC to trade on these platforms from February 15, 2014 under a process known as 'made available to trade' (MAT). From this point, US persons had to trade these product classes on registered SEFs.

Some other jurisdictions plan to adopt similar rules, but – with the exception of Japan – those requirements have yet to come into force. The European Union, for instance, is still in the process of finalizing its revised Markets in Financial Instruments Directive, and the trading obligation is not expected to be implemented until 2018.

This analysis attempts to measure the impact of these regulations on cross-border trading relationships. To do this, ISDA studied monthly regional clearing data from LCH.Clearnet between January 2013 and December 2015 for fixed-floating euro- and US dollar-denominated IRS.

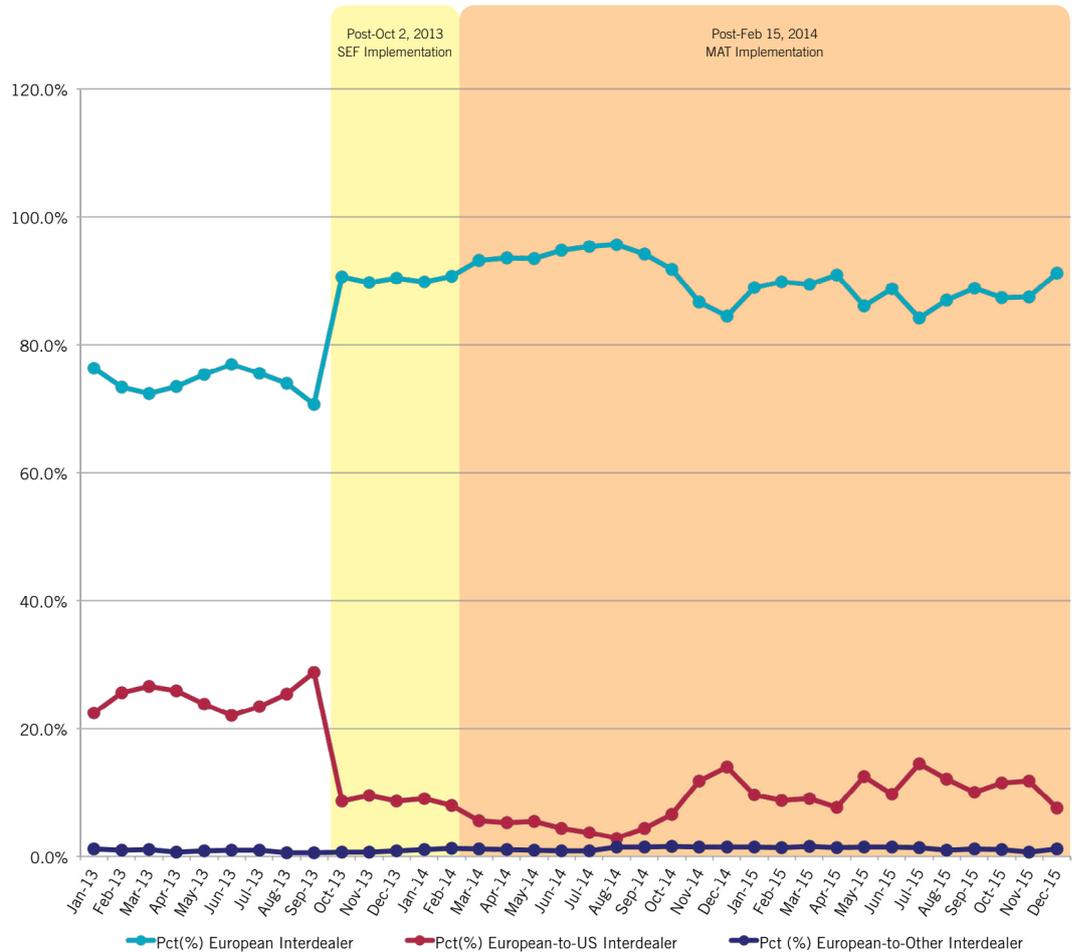
### The analysis reveals:

- The euro-denominated IRS market remains fragmented between US and non-US regional liquidity pools, a phenomenon that coincided with the US SEF rules coming into force in October 2013.
- At the end of 2015, 91.2% of euro IRS volume (€2.78 trillion) in the European interdealer market was transacted between European dealers. In September 2013, prior to the introduction of the US SEF rules, this figure stood at 70.7% (€1.61 trillion). Total European interdealer euro IRS monthly notional volumes have increased from €2.27 trillion to €3.05 trillion over this period.
- Conversely, European-to-US dealer cross-border trading in the European interdealer market for euro IRS has decreased. Trading between European and US dealers comprised 28.7% of market share in September 2013, but had fallen to 7.6% by the end of 2015. Monthly notional volumes fell from €652 billion in September 2013 to €232 billion in December 2015. At their lowest point, monthly volumes for this market segment dropped to just €64 billion in August 2014.
- Regional pools also exist for US dollar IRS, but there is less evidence of fragmentation than in euro IRS. In both the US and European markets for US dollar IRS, European-to-US cross-border flows made up approximately half of the total monthly volume. These flows have increased slightly following the introduction of the US SEF rules.
- Canadian dealers represent less than 1% of euro IRS market share, but account for about 3% of the US dollar IRS market. The US SEF rules appear to have encouraged Canadian dealers to trade more euro-denominated IRS with European dealers over time. However, US dollar IRS volume from Canadian banks is split between US and European regional dealers.
- Asian dealers account for the smallest portion of euro- and US dollar-denominated swaps trading volume – close to 1% in each case. These dealers prefer to transact with European counterparties in both euro and US dollar markets.

## THE EXCLUSIVE EUROPEAN POOL

The percentage of the cleared interdealer euro IRS traded exclusively between European dealers has increased since US SEF rules were implemented

**Chart 1: The European Market for Euro IRS: Percentage of Market Share**



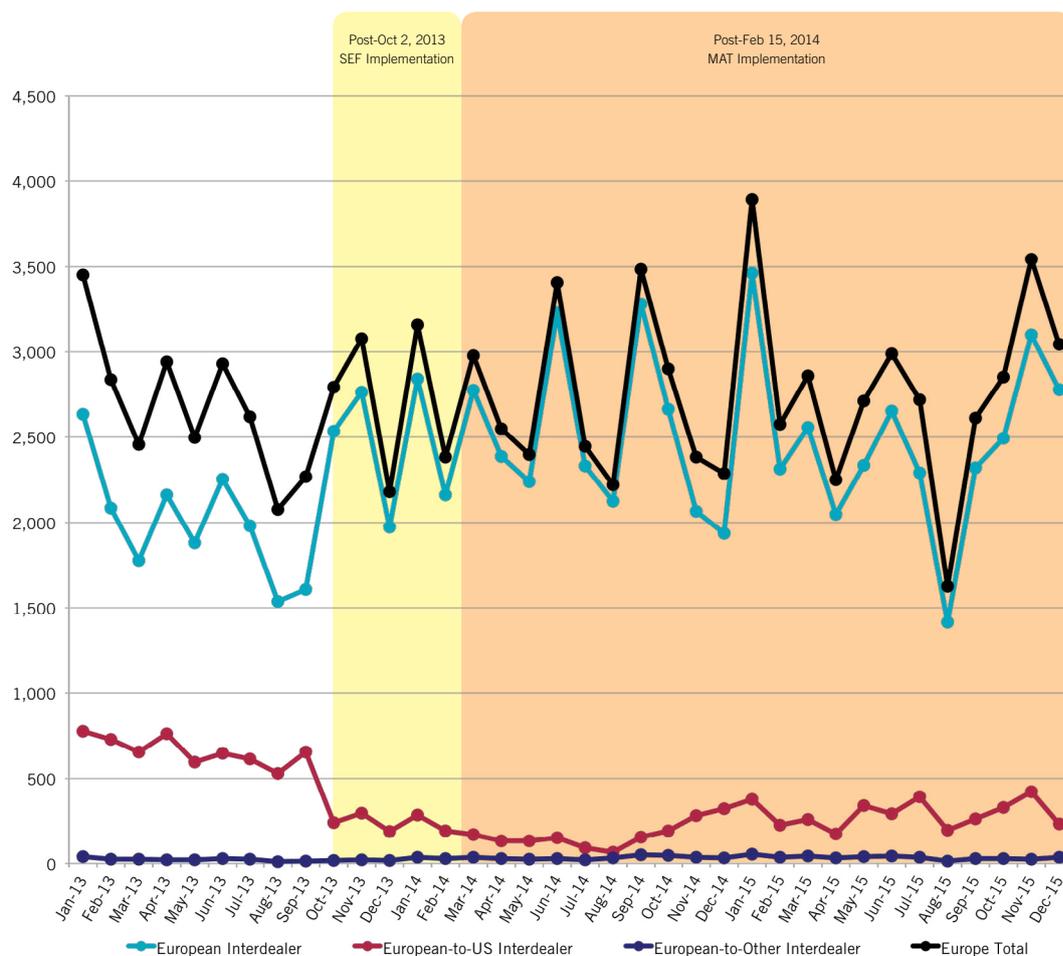
Source: LCH.Clearnet

As shown in Chart 1, a substantial split between the European interdealer pool (blue line) and the European-to-US interdealer pool (red line) for euro IRS appeared after October 2013, when US SEF rules came into force (yellow area). This split has continued since the first CFTC MAT determinations in February 15, 2014 (orange area).

As a result, 91.2% of market volume was transacted exclusively between European dealers in December 2015. One month before the introduction of the SEF rules, the European interdealer market share was 70.7%. The share of activity from European-to-US interdealer trading fell from 28.7% in September 2013 to just 7.6% in December 2015.

Chart 2 compares changes in monthly notional volume before and after the US SEF rules came into effect. In December 2015, total euro IRS volume (black line) stood at €3.05 trillion.

Chart 2: The European Market for Euro IRS (€ billions)



Source: LCH.Clearent

A comparison of the total euro IRS monthly notional volume figures from the period preceding the SEF rules (January 2013 to September 2013) to the period after the SEF rules came into force (October 2013 to December 2015) reveals a 3% increase in average monthly volumes, from €2.68 trillion to €2.75 trillion.

European interdealer average monthly volumes rose 25% when comparing the two periods (from €1.99 trillion to €2.48 trillion), while European-to-US dealer cross-border flows fell by 64%, from €661.5 billion to €236.1 billion.

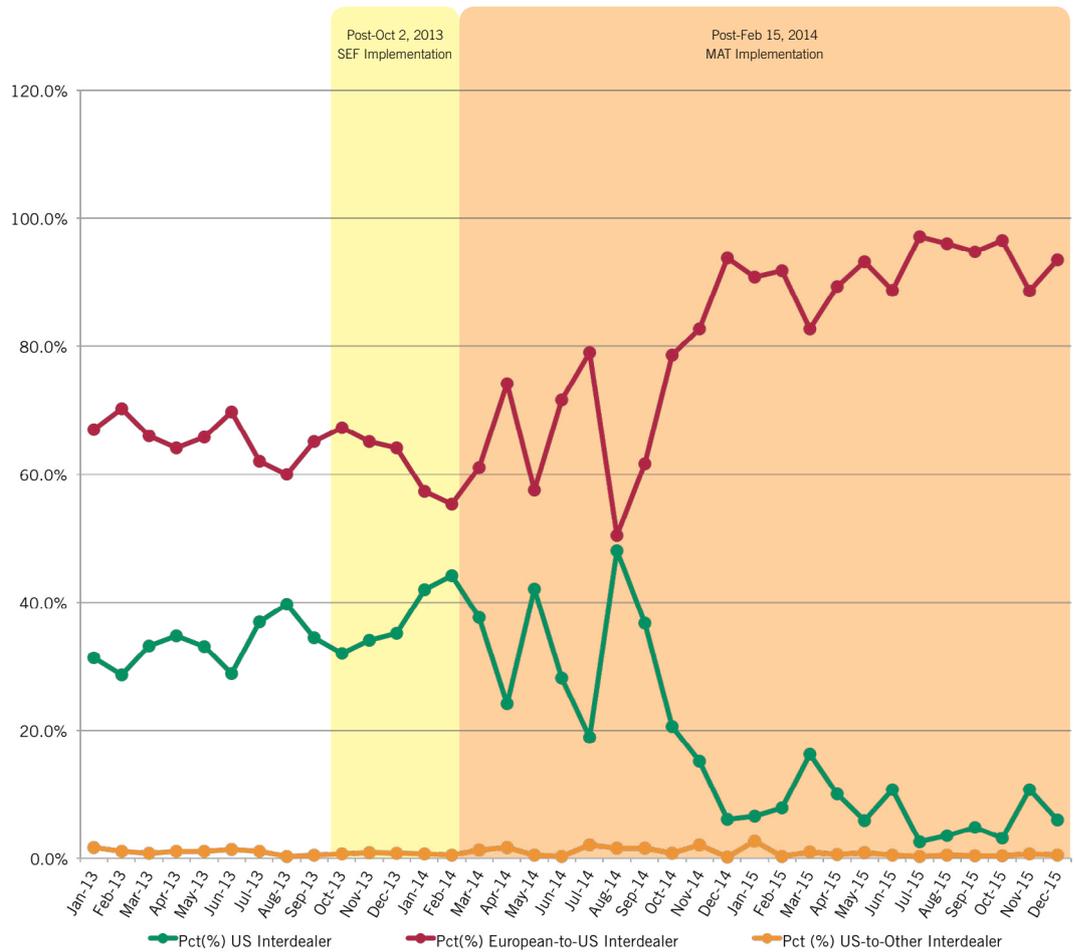
## THE US MARKET FOR EURO IRS

Nearly all euro IRS activity in the US interdealer market is on a cross-border basis

The US market for cleared euro IRS consists of mostly MAT swaps traded on a SEF<sup>1</sup>. During the fourth quarter of 2015, reported euro IRS accounted for roughly 6% of total electronically traded swap volume<sup>2</sup>.

European-to-US cross-border flows (red line, Chart 3) generate most activity in the US regional euro IRS market. These cross-border transactions have dominated market share since the beginning of this research series. In December 2015, euro IRS trading between US and European dealers comprised 93.5% of total volume. The remaining activity was mostly concentrated in the dwindling US interdealer regional market (green line).

**Chart 3: The US Market for Euro IRS: Percentage of Market Share**



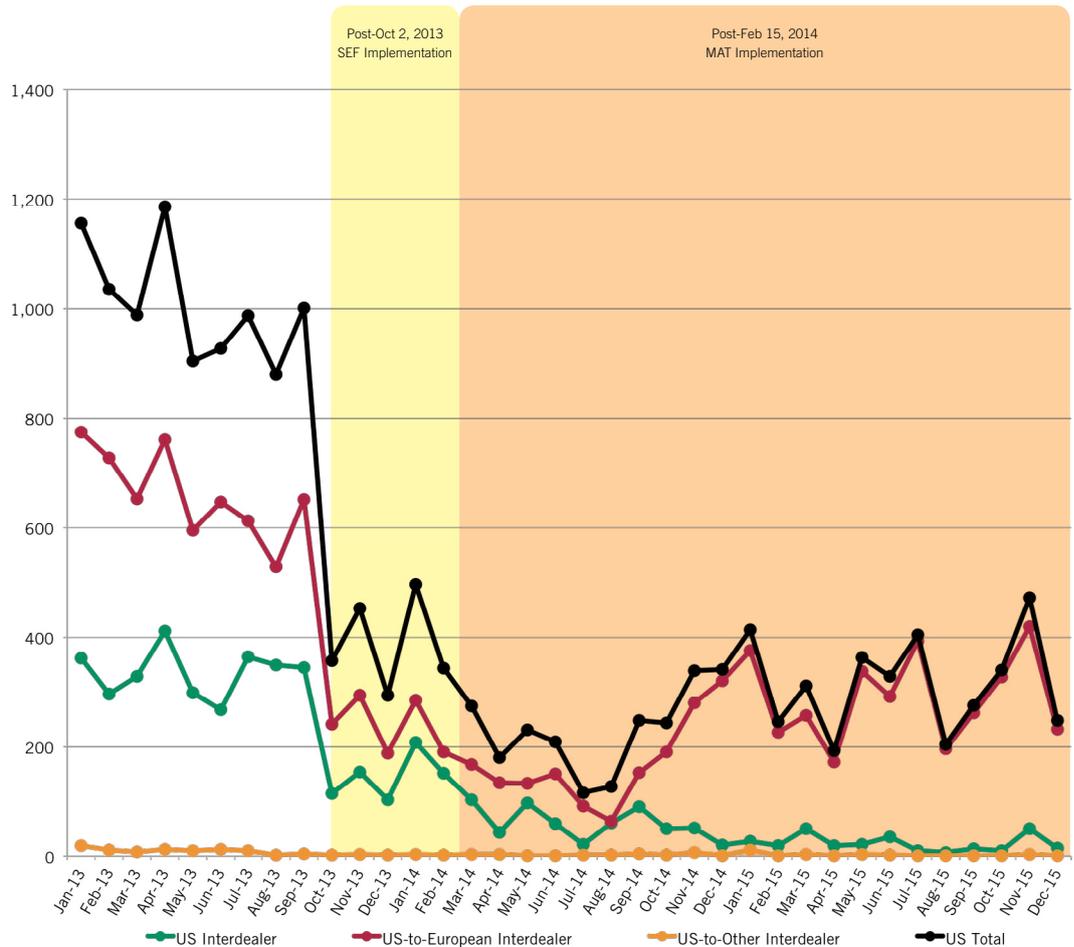
Source: LCH.Clearnet

<sup>1</sup> Euro-denominated plain vanilla IRS swaps fall under the US clearing mandate, and certain classes have been deemed MAT. However, block trades that are cleared (and part of this dataset) may not be reported as trading on a SEF

<sup>2</sup> This statistic was derived using data from the DTCC SDR

Chart 4 compares monthly euro IRS notional volumes in the US regional market. The chart reveals a sharp decline in total volume (black line) following the introduction of the SEF rules, as flows shifted away from the US liquidity pool into the European liquidity pool.

**Chart 4: The US Market for Euro IRS (€ billions)**



Source: LCH.Clearnet

Comparing average total monthly notional volume from the period leading up to the SEF rules (January 2013 to October 2013) to the period after the SEF rules came into force (October 2013 to December 2015) reveals a dramatic decline of 70.5%, from €1.01 trillion to €298 billion.

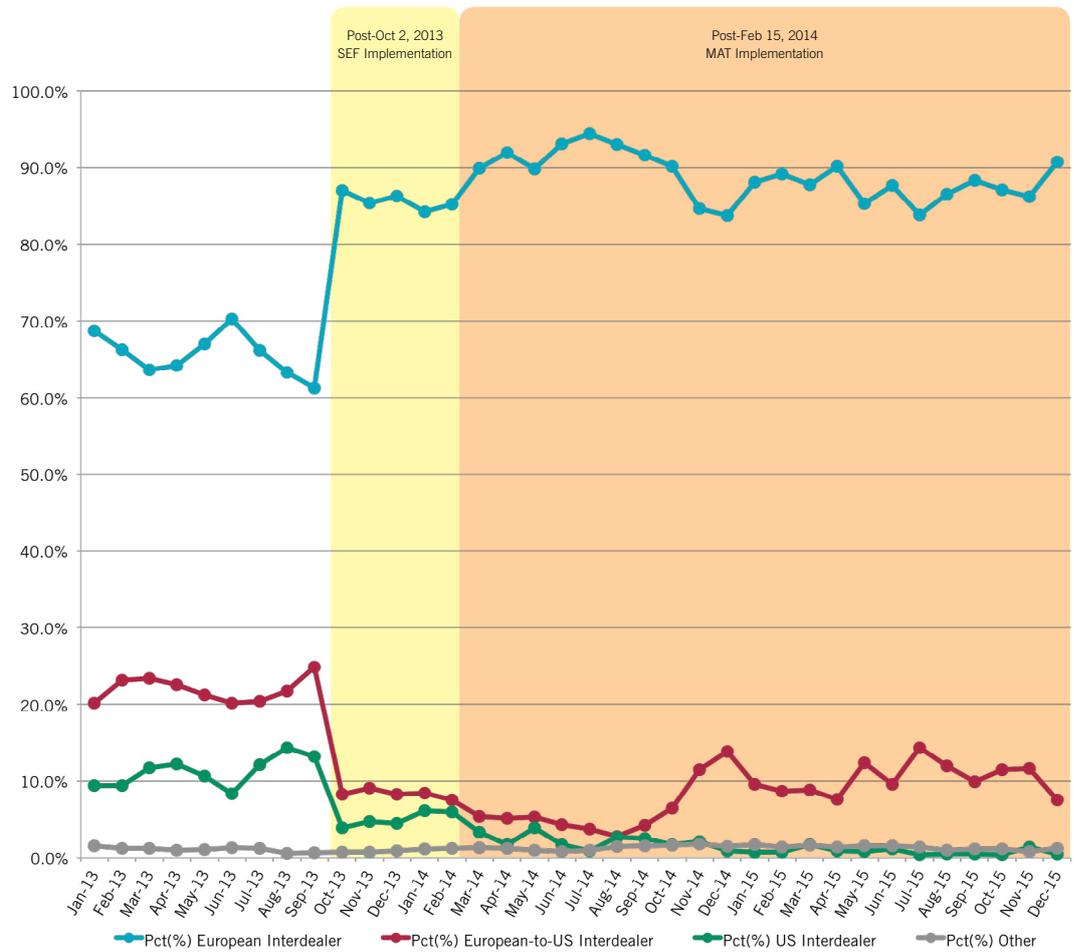
This change is experienced by all market cohorts, but the decline in average monthly US interdealer volume (green line) is the most severe, falling by 82.2% over the same period European-to-US interdealer cross-border average monthly flows dropped by 64.3%.

## THE GLOBAL MARKET FOR EURO IRS

European-to-European dealer trading dominates global euro IRS trading

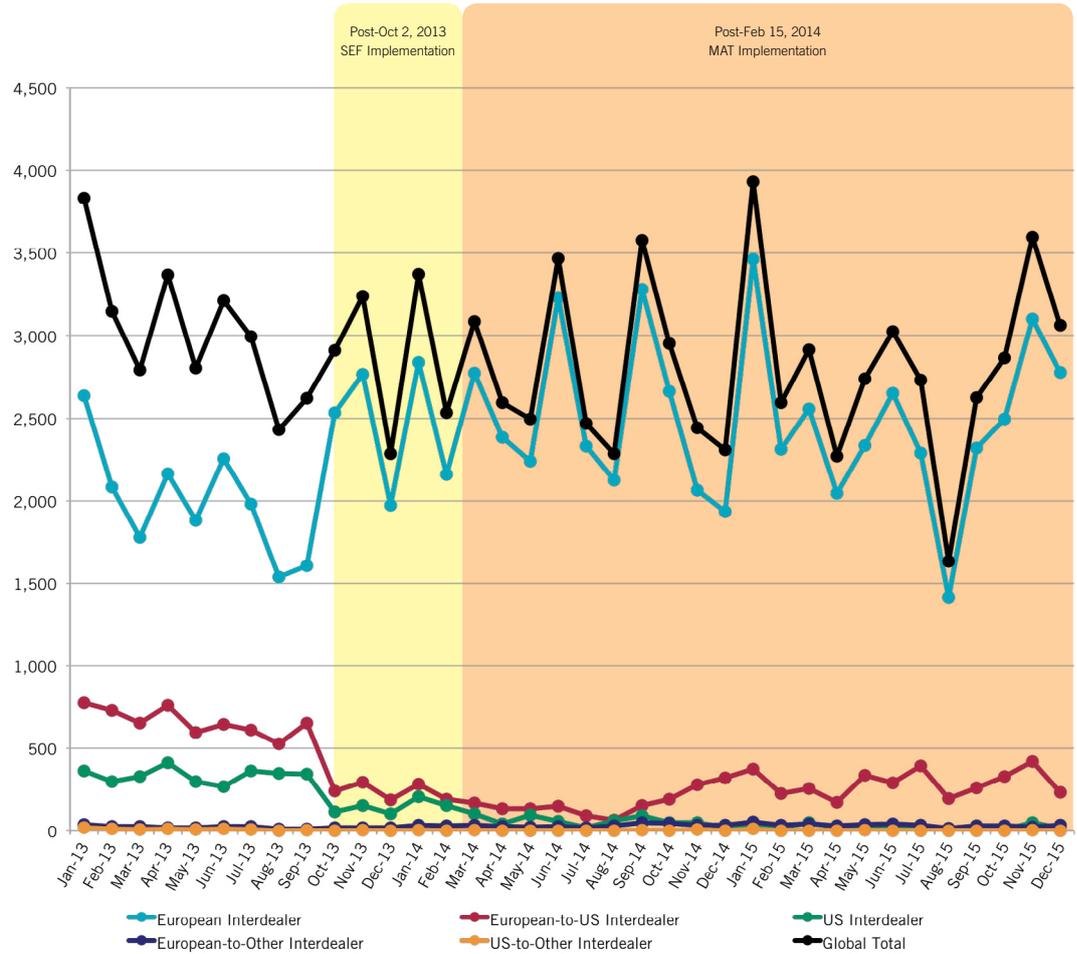
Due to the fragmentation in the euro IRS market, a 'global market' refers to hypothetical liquidity pools and is obtained by collating activity across multiple, separate jurisdictions. Doing this shows most activity on a global basis is traded between European dealers (blue line, Chart 5). This group comprised 90.7% of market share in December 2015, or €2.778 trillion in notional volume.

Chart 5: The Global Market for Euro IRS: Percentage of Market Share



The black line in Chart 6 represents total global euro-denominated IRS notional volume. This total is primarily driven by changes in European-to-European trading (blue line) and totaled €3.062 trillion at the end of 2015.

**Chart 6: The Global Market for Euro IRS (€ billions)**



Comparing average monthly total euro IRS notional volumes during the period before the SEF rules came into force (January 2013 to September 2013) to the period following the start of the SEF requirements (October 2013 to December 2015) reveals a decline of 6.9% in total average monthly volumes, from €3.022 trillion to €2.815 trillion.

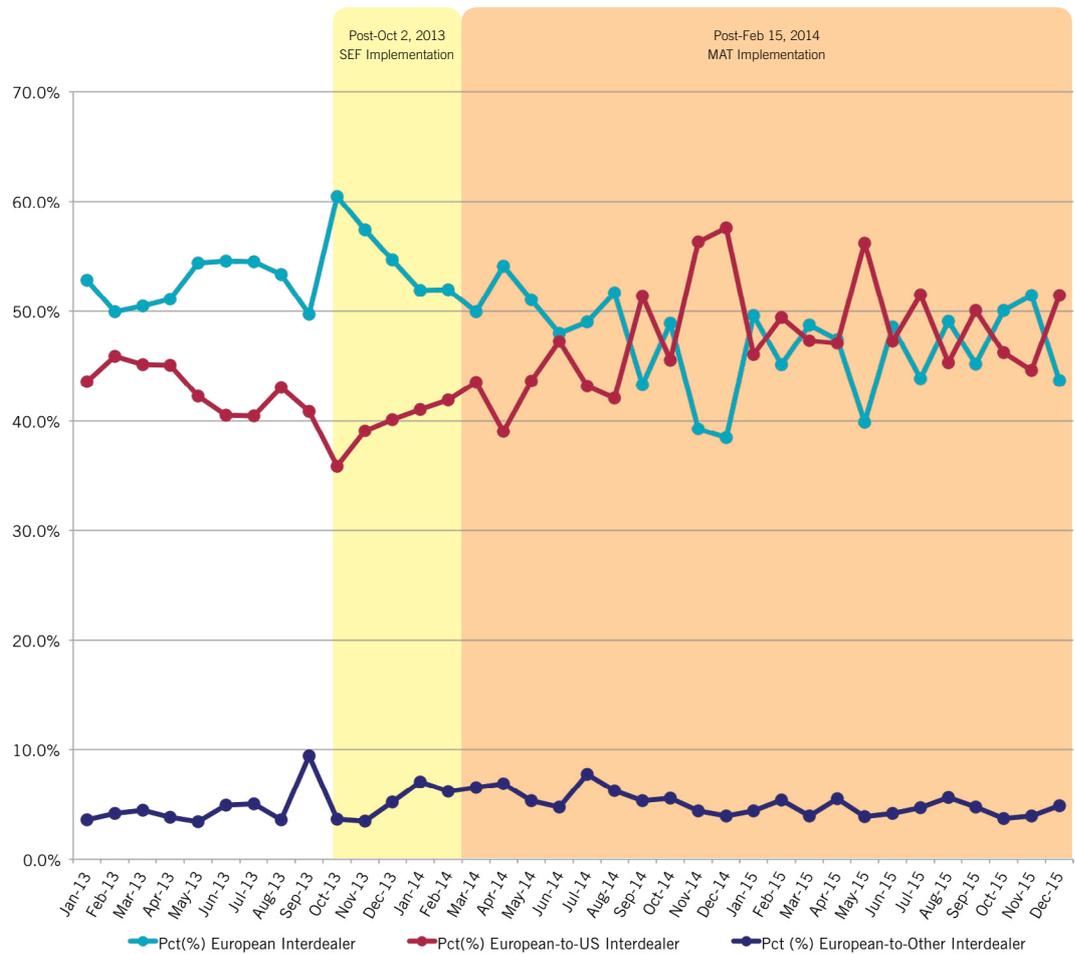
This decrease stemmed from falling European-to-US cross-border and US interdealer flows, while increases were generated from exclusive European interdealer trading.

## THE EUROPEAN MARKET FOR US DOLLAR IRS

Trading in US dollar IRS in the European regional market is evenly split between European-to-European dealer and cross-border trading

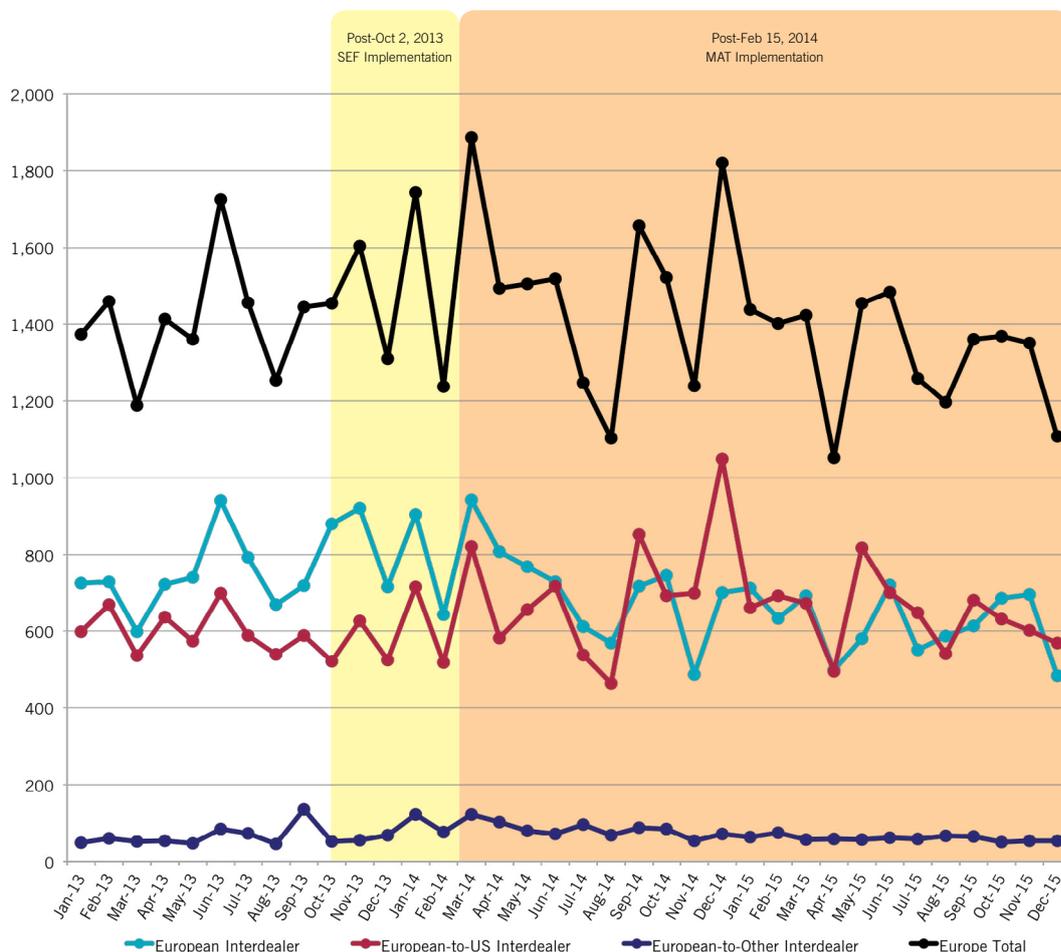
US dealers are the largest regional counterparty to the European dealer community in the European market for US dollar IRS. Since the onset of the US SEF regime in October 2013, cross-border liquidity (Chart 7, red line) has caught up with European interdealer liquidity pool (blue line)<sup>3</sup>.

**Chart 7:** The European Market for US Dollar IRS: Percentage of Market Share



<sup>3</sup> Pct (%) European-to-Other represents transactions between European dealers and Asian/Canadian dealers in the market for US dollar IRS

**Chart 8: The European Market for US Dollar IRS (US\$ billions)**



The black line in Chart 8 represents the total volume of US dollar-denominated swaps traded in Europe. In December 2015, this figure stood at \$1.11 trillion.

Comparing total average monthly notional volumes before the US SEF rules came into effect (January 2013 to September 2013) with the period following the SEF rules (October 2013 to December 2015) reveals a 1% increase in total average monthly volume, from \$1.409 trillion to \$1.417 trillion.

Average monthly European-to-US dealer volume (red line) increased 9%, from \$604 billion to \$656 billion over the two periods. The increase appears to have come at the expense of exclusive European interdealer trading (blue line), where average monthly notional volumes fell by 7% between the two periods.

## THE US MARKET FOR US DOLLAR IRS

Cross-border liquidity remains robust in the US dollar swaps market

The structure of the US market for US dollar IRS looks quite similar to the European market for the same product. Market share is split between European-to-US dealer cross-border flows (Chart 9, red line) and US interdealer trading (green line). These two pools comprised 47.3% and 49.6% of market share, respectively, in December 2015.

**Chart 9:** The US Market for US Dollar IRS: Percentage of Market share

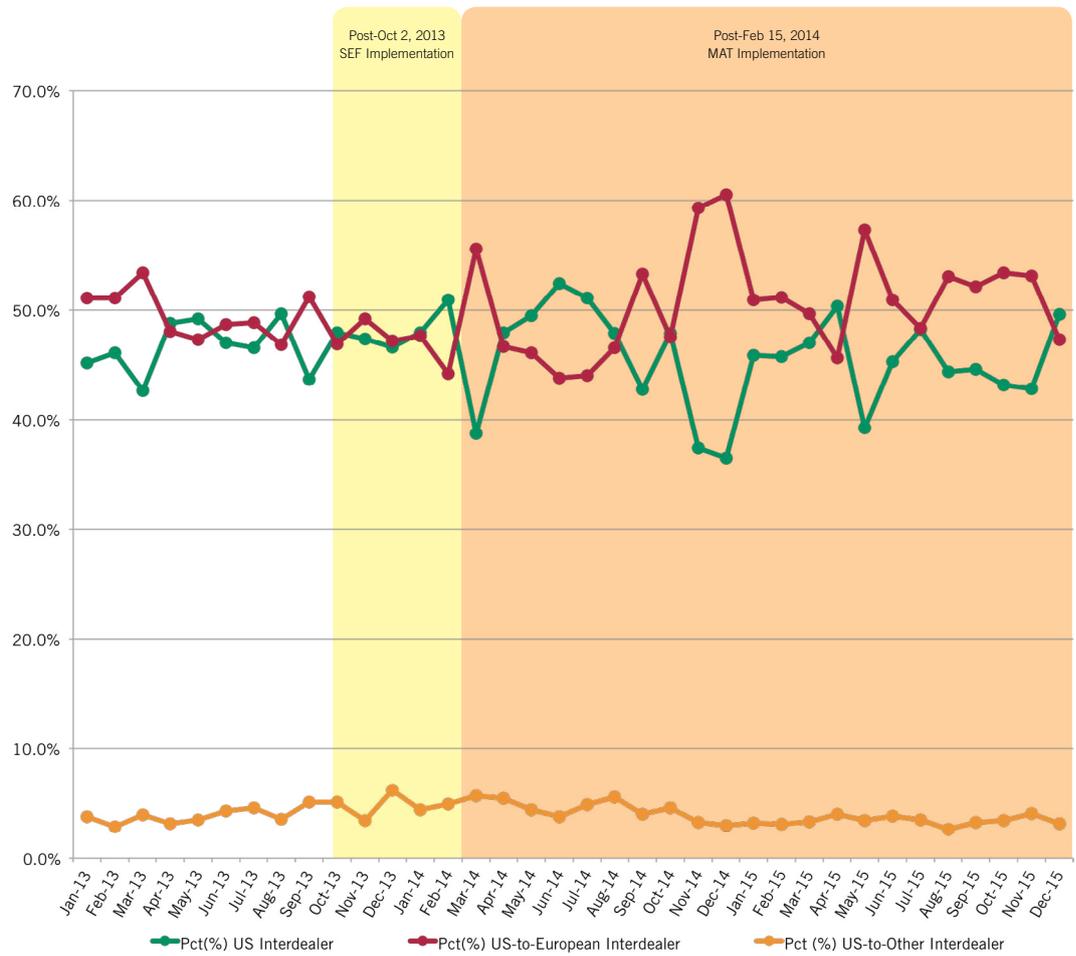
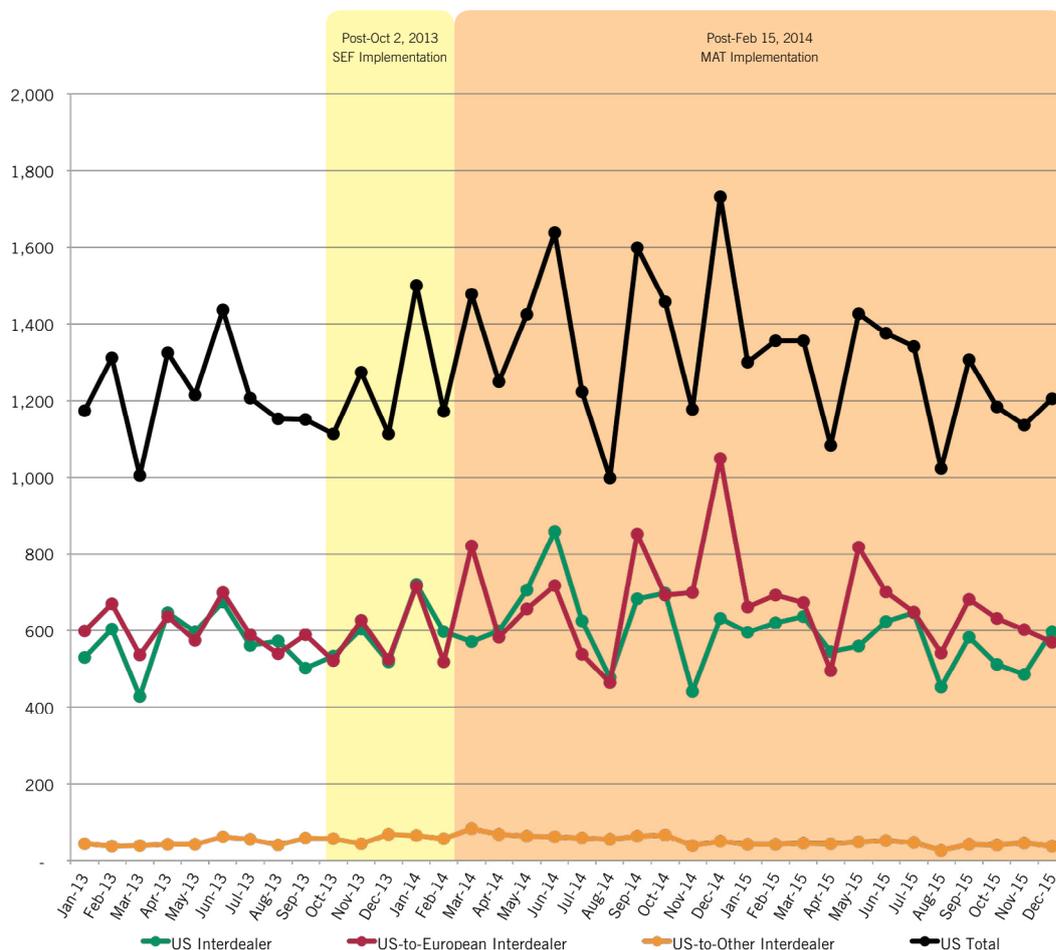


Chart 10: The US Market for US Dollar IRS (US\$ billions)



Comparing total average monthly notional volume before (January 2013 to September 2013) and after the SEF rules came into force (October 2013 to December 2015) reveals an 8% increase in average monthly volume, from \$1.22 trillion to \$1.31 trillion (Chart 10).

US interdealer flows increased by 5% over the period, from \$569 billion to \$597 billion. Meanwhile, European-to-US cross-border flows increased by 9%, from \$604 billion to \$656 billion.

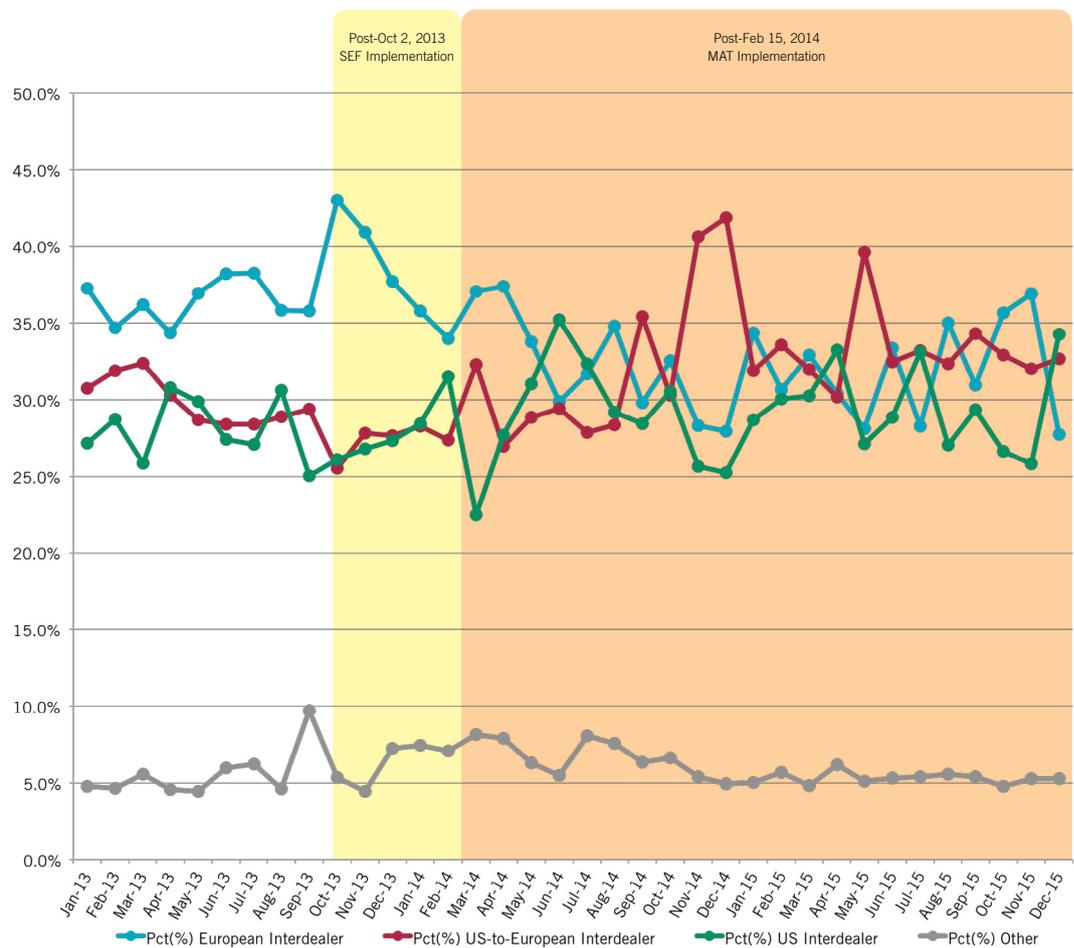
## THE GLOBAL MARKET FOR US DOLLAR IRS

There is less evidence of fragmentation in the global market for US IRS

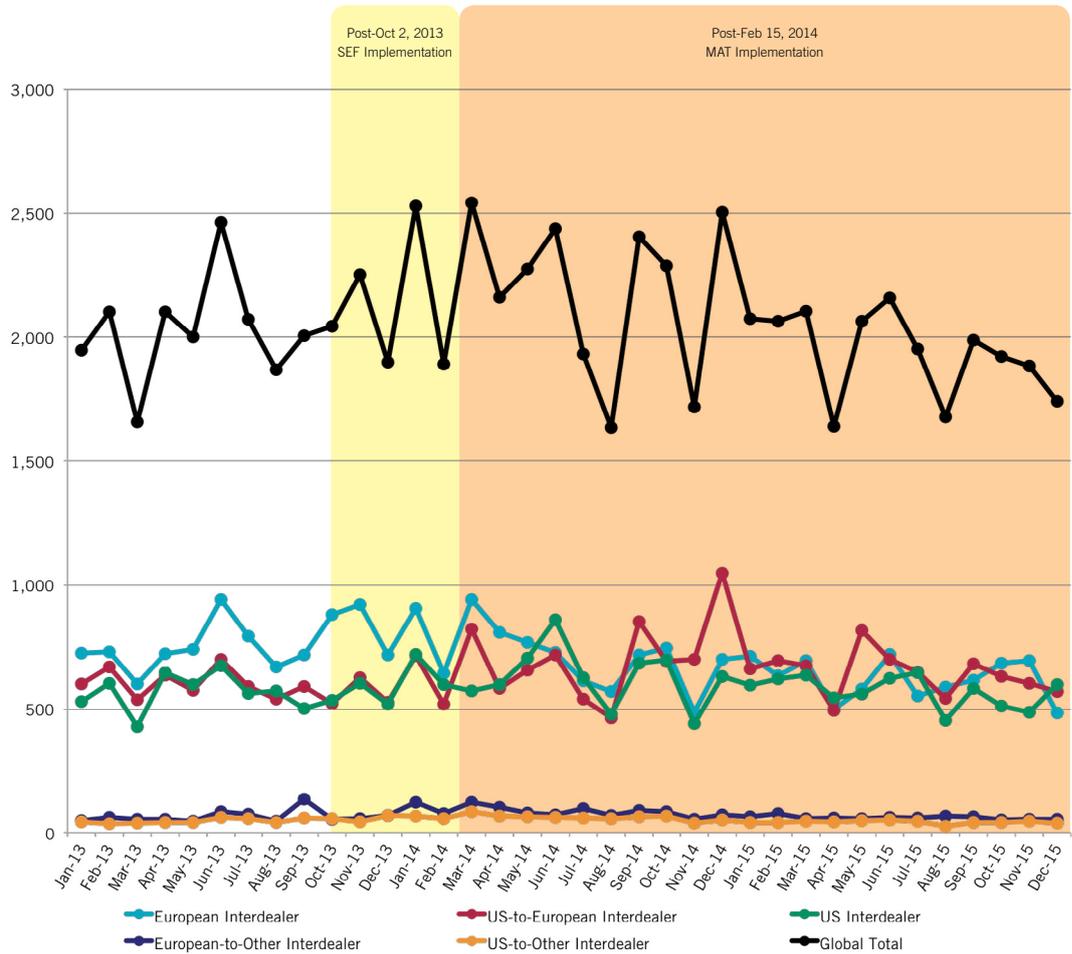
The global market for US dollar IRS (Chart 11) combines all regional participants. Unlike the global market for euro IRS, US dollar IRS market share is more evenly distributed across European dealers (blue line), US dealers (green line) and the European-to-US interdealer market (red line).

At the end of December 2015, US dealers accounted for the largest percentage of market share (34.3%). In comparison, European-to-US interdealer flows accounted for 32.7%, while European interdealer volume stood at 27.8%.

**Chart 11:** The Global Market for US Dollar IRS: Percentage of Market Share



**Chart 12: The Global Market for US Dollar IRS (US\$ billions)**



Average total monthly notional volumes in the global US dollar IRS market have remained fairly steady. Total volume (black line) increased slightly - from \$2.03 trillion to \$2.07 trillion – when comparing the period before the SEF rules were implemented (January 2013 to September 2013) versus the period afterwards (October 2013 to December 2015).

European interdealer and US interdealer volumes moved in opposite directions as the former decreased by 5% from \$738 billion to \$689 billion and the latter increased by 5% from \$569 billion to \$597 billion. European-to-US interdealer flows increased by 9% during this time, from \$604 billion to \$656 billion.

## CANADIAN REGIONAL DEALER TRENDS

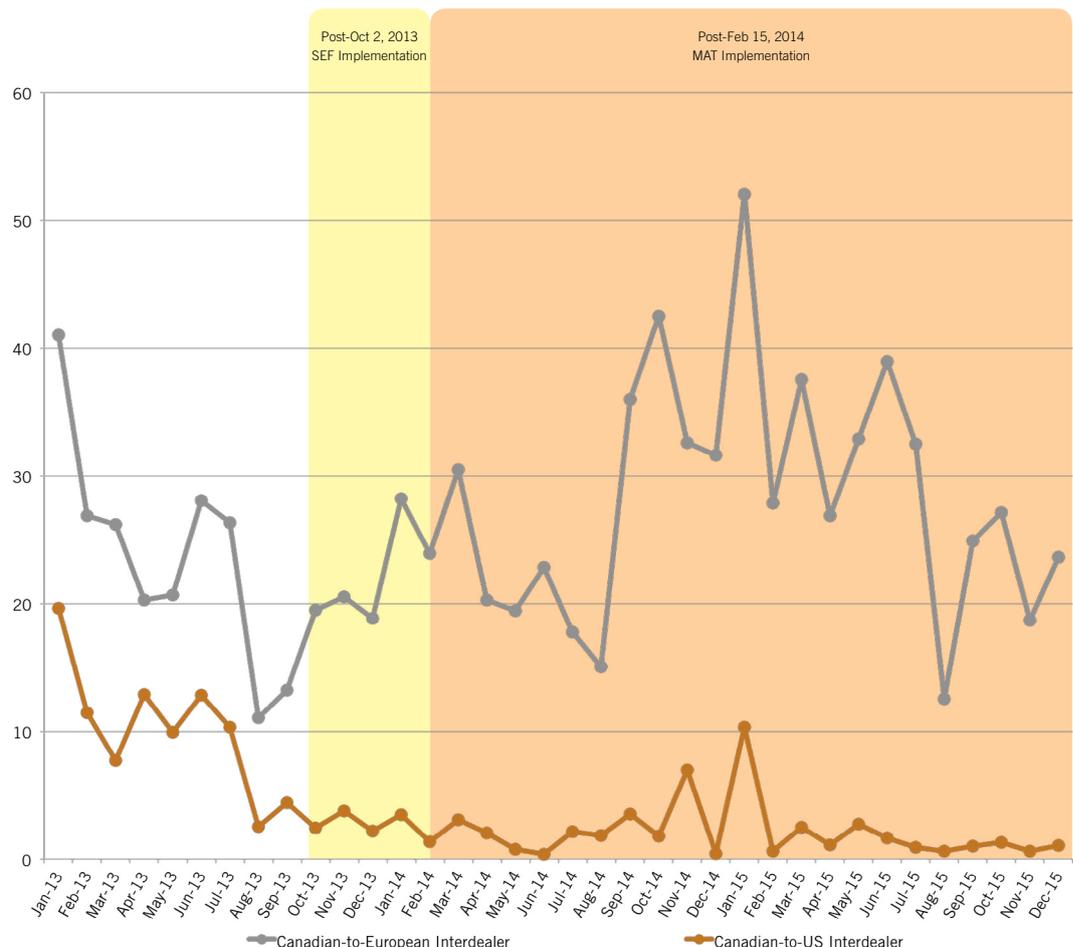
Canadian dealers represent a much smaller part of the euro and US dollar IRS market

Canadian participation in euro IRS trading (Chart 13, grey line) represented about 1% of total European market volume<sup>4</sup> on average each month<sup>5</sup>. During this time, these dealers preferred cross-border trades with European counterparties, allowing them to access the larger European liquidity pool.

This preference has become more obvious over time. Prior to the implementation of the US SEF rules (January 2013 to September 2013), Canadian dealers traded €24 billion notional in euro IRS on average each month. After the rules came into force (October 2013 to December 2015), this figure rose 15% to €27 billion<sup>6</sup>.

Chart 13 also includes US-to-Canadian cross-border euro IRS volume (brown line). Since the implementation of the SEF rules, average monthly notional volumes have fallen below \$10 billion, and stood at \$1 billion at the end of 2015.

**Chart 13:** The Market for Euro IRS: Canadian Interdealer Trends (€ billions)



<sup>4</sup> European market volume is described as the market where European dealers and all of their counterparties transact

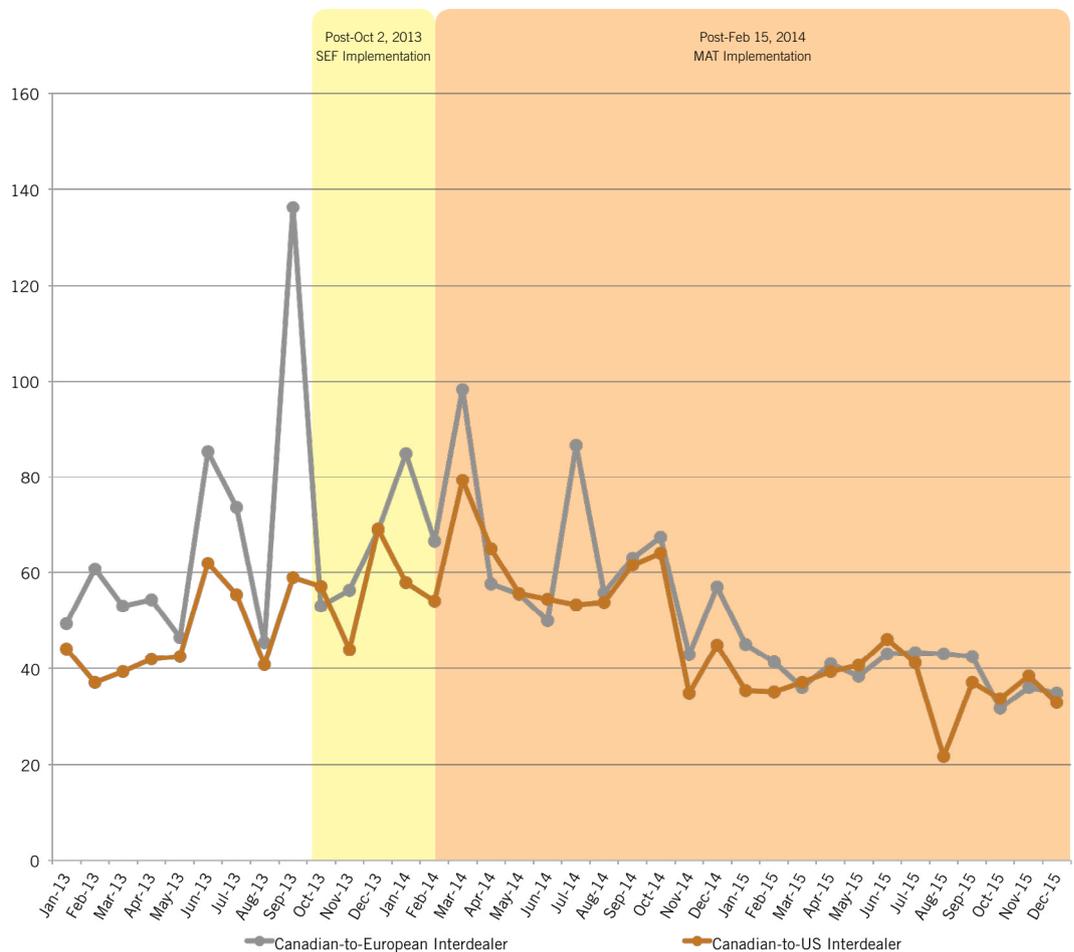
<sup>5</sup> Canadian dealers account for less than 1% of euro IRS volume in the US market for euro IRS, which is defined as the market where US dealers and all of their counterparties transact

<sup>6</sup> During the period leading up to the US SEF rules, Canadian dealers transacted roughly €10 billion each month with US dealers. Following the implementation of the rules this figure decreased 78% to an average of \$2 billion each month

Canadian dealers have traded US dollar swaps with both US and European dealers in mostly equal parts, irrespective of the US SEF rules. As Chart 14 shows, Canadian dealers traded \$35 billion US dollar IRS with European dealers (grey line) and \$33 billion with US dealers (brown line) in December 2015. This volume represented 3.2% and 2.7% of total volume for the month in each regional market, respectively.

As the chart highlights, overall trading of US dollar IRS has trended lower for Canadian dealers. Comparing the pre- and post-SEF period (January 2013-September 2013 versus October 2013-December 2015) reveals most of the decline was generated by a 21% drop in activity with European dealers. Activity with US dealers saw a 2% increase, from \$47 billion to \$48 billion.

**Chart 14: The Market for US Dollar IRS: Canadian Interdealer Trends (US\$ billions)**



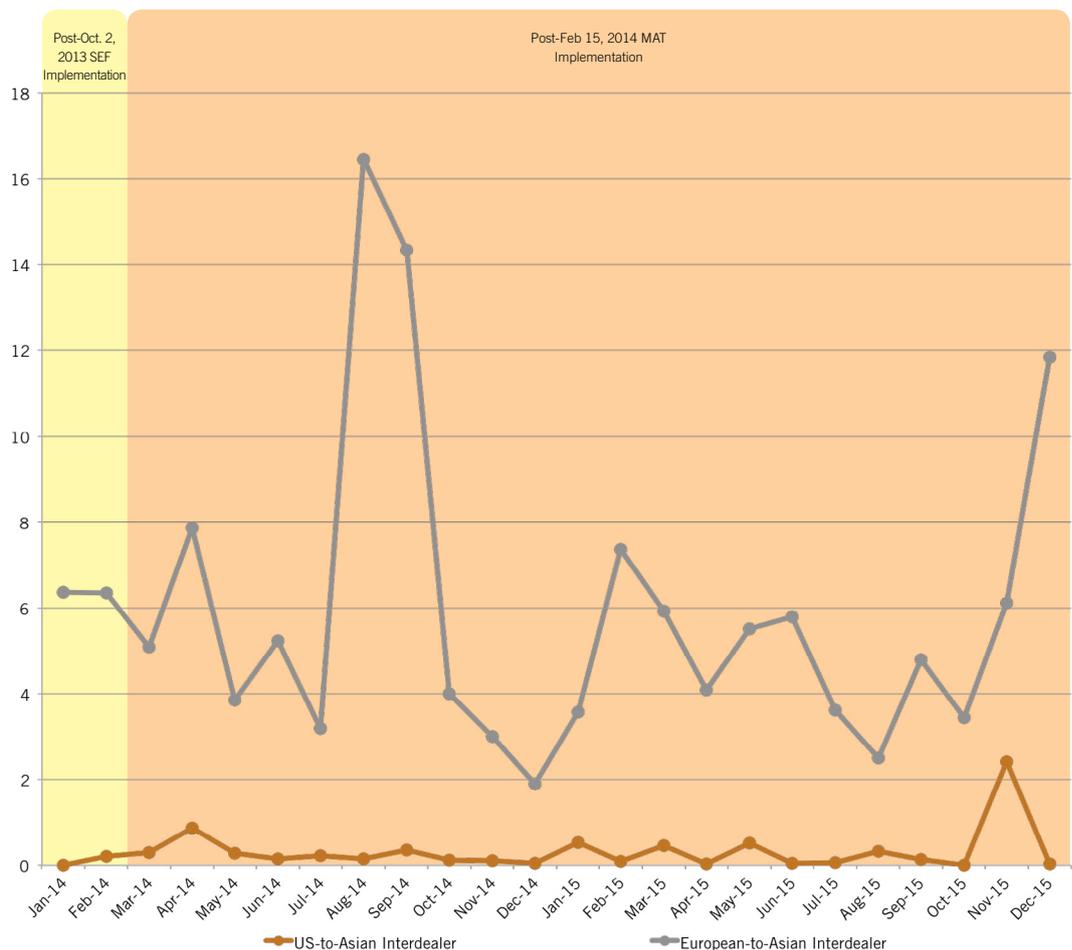
## ASIAN REGION DEALER TRENDS

Asian dealers prefer to trade most often with European counterparties – even in US dollar swaps

Asian regional dealers make up the smallest portion of cross-border flows in the market for euro- and US dollar-denominated swaps. In December 2015, Asian dealers accounted for 0.4% of euro-denominated IRS volume in the European market<sup>7</sup>.

Like Canadian, US and European dealers, Asian market participants primarily transact euro IRS with European counterparties (Chart 15, grey line)<sup>8</sup>. European-to-Asian volumes reached €12 billion in December 2015. Average monthly volumes between January 2014 and December 2015 stood at €6 billion. There are few instances where Asian counterparties traded any euro-denominated IRS with a US dealer.

**Chart 15:** The Market for Euro IRS: Asian Interdealer Behavior (€ billions)



<sup>7</sup> Asian dealers did not have any cleared trade volume with US dealers in the US market for euro-denominated IRS in December 2015. This market consists of US dealers and all of their regional counterparties

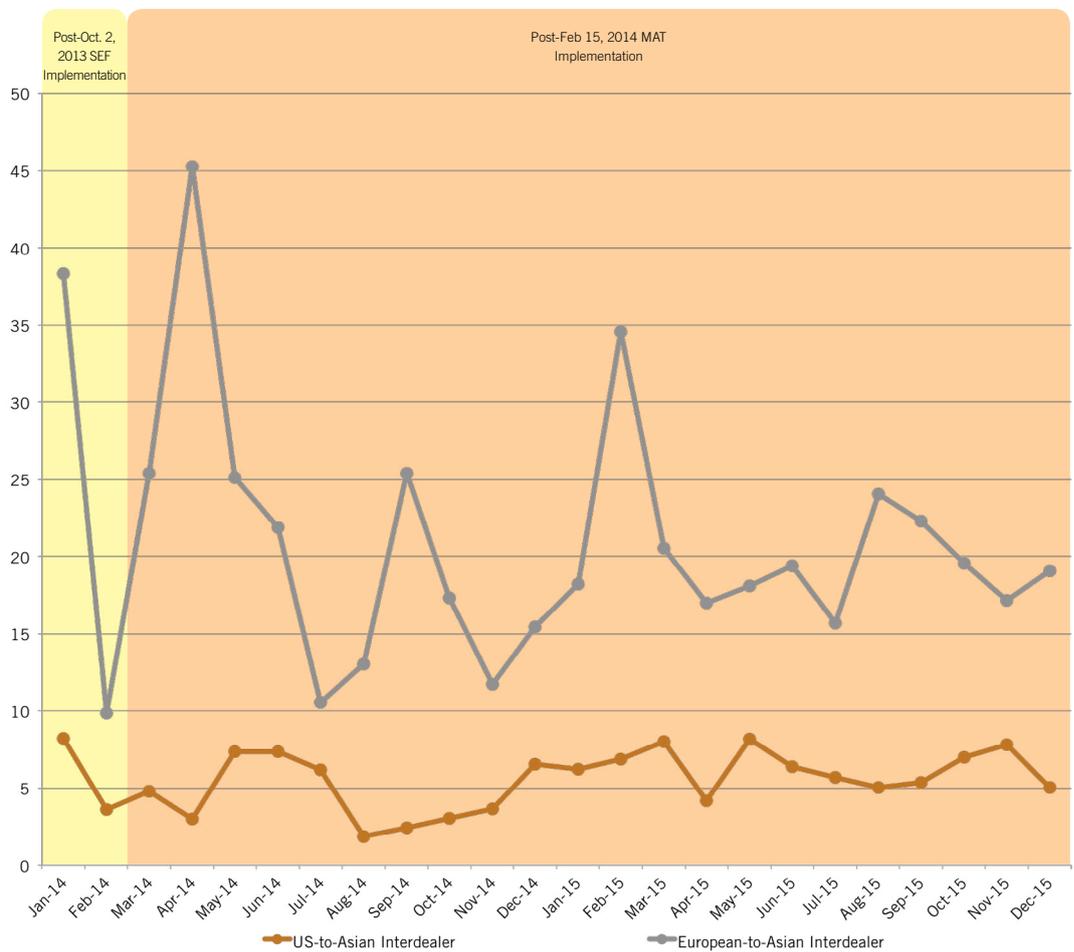
<sup>8</sup> The data range of this chart begins January 2014

Interestingly, Asian dealers also prefer to transact with European dealers when trading US dollar IRS (Chart 16, grey line). In December 2015, European-to-Asian interdealer volume was \$19 billion in the European (non-US) liquidity pool for US dollar IRS. This figure is slightly lower than the series average of \$21 billion.

Notional volumes in the US liquidity pool are much lower between US and Asian dealers, with a monthly average of \$6 billion. Volume for December 2015 was \$5 billion.

Asian dealers accounted for only 1.7% of total US dollar IRS volume dealt by European dealers at the end of last year. US-to-Asian interdealer volume dipped below 1% during that time.

**Chart 16: The Market for US Dollar IRS: Asian Interdealer Behavior (\$ billions)**



## CONCLUSION

Further cross-border trading will rely on the global harmonization of rules

Since the US SEF rules came into force in October 2013, global interest rate swap markets have exhibited varying levels of market fragmentation. This pattern is most persistent in euro-denominated IRS, where the vast majority of trading activity occurs between European dealers.

Fragmentation is much less evident in the US dollar IRS market, with activity split between US, European and cross-border pools. This has remained relatively steady since the SEF rules were implemented.

However, any further increase in cross-border trading is likely to require further harmonization of global derivatives regulation.

## ANNEX

**Table 1: The European Market for Euro IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	76.4%	73.4%	72.4%	73.4%	75.3%	77.0%	75.6%	74.0%	70.7%	90.7%	89.8%	90.5%
European-to-US Interdealer	22.5%	25.6%	26.6%	25.9%	23.9%	22.1%	23.4%	25.5%	28.7%	8.6%	9.6%	8.7%
European-to-Other Interdealer	1.2%	0.9%	1.1%	0.7%	0.8%	1.0%	1.0%	0.5%	0.6%	0.7%	0.7%	0.9%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	89.9%	90.7%	93.2%	93.6%	93.5%	94.8%	95.4%	95.7%	94.2%	91.8%	86.7%	84.5%
European-to-US Interdealer	9.0%	8.0%	5.6%	5.3%	5.5%	4.4%	3.8%	2.9%	4.4%	6.6%	11.8%	14.0%
European-to-Other Interdealer	1.1%	1.3%	1.2%	1.1%	1.0%	0.8%	0.9%	1.4%	1.4%	1.6%	1.5%	1.5%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	88.9%	89.8%	89.5%	91.0%	86.1%	88.8%	84.2%	87.0%	88.9%	87.4%	87.5%	91.2%
European-to-US Interdealer	9.6%	8.8%	9.0%	7.7%	12.5%	9.7%	14.4%	12.1%	10.0%	11.5%	11.8%	7.6%
European-to-Other Interdealer	1.4%	1.4%	1.5%	1.4%	1.4%	1.5%	1.3%	0.9%	1.1%	1.1%	0.7%	1.2%

**Table 2: The European Market for Euro IRS (€ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	2,635	2,084	1,778	2,161	1,880	2,255	1,980	1,538	1,605	2,533	2,764	1,972
European-to-US Interdealer	775	728	653	761	596	647	613	529	652	241	294	189
European-to-Other Interdealer	41	27	26	20	21	28	26	11	13	20	21	19
<b>Total</b>	<b>3,451</b>	<b>2,838</b>	<b>2,457</b>	<b>2,942</b>	<b>2,497</b>	<b>2,930</b>	<b>2,619</b>	<b>2,077</b>	<b>2,270</b>	<b>2,793</b>	<b>3,079</b>	<b>2,180</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	2,839	2,161	2,774	2,386	2,240	3,230	2,331	2,126	3,281	2,663	2,066	1,934
European-to-US Interdealer	285	190	168	134	133	150	92	64	153	191	280	320
European-to-Other Interdealer	35	30	36	28	23	28	21	32	50	47	36	34
<b>Total</b>	<b>3,159</b>	<b>2,381</b>	<b>2,977</b>	<b>2,548</b>	<b>2,396</b>	<b>3,408</b>	<b>2,444</b>	<b>2,222</b>	<b>3,484</b>	<b>2,901</b>	<b>2,381</b>	<b>2,288</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	3,462	2,312	2,557	2,046	2,336	2,652	2,290	1,414	2,321	2,495	3,100	2,778
European-to-US Interdealer	376	226	258	172	338	291	393	196	261	328	419	232
European-to-Other Interdealer	56	35	43	31	38	45	36	15	30	31	25	36
<b>Total</b>	<b>3,893</b>	<b>2,574</b>	<b>2,859</b>	<b>2,250</b>	<b>2,712</b>	<b>2,988</b>	<b>2,719</b>	<b>1,625</b>	<b>2,612</b>	<b>2,853</b>	<b>3,544</b>	<b>3,046</b>

**Table 3: The US Market for Euro IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	31.3%	28.6%	33.2%	34.7%	33.1%	28.9%	36.9%	39.7%	34.5%	32.0%	34.1%	35.1%
US-to-European Interdealer	67.0%	70.3%	66.0%	64.2%	65.8%	69.8%	62.1%	60.0%	65.1%	67.3%	65.1%	64.1%
US-to-Other Interdealer	1.7%	1.1%	0.8%	1.1%	1.1%	1.4%	1.0%	0.3%	0.4%	0.7%	0.8%	0.7%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	41.9%	44.2%	37.7%	24.2%	42.0%	28.2%	18.9%	48.0%	36.7%	20.6%	15.2%	6.1%
US-to-European Interdealer	57.3%	55.4%	61.1%	74.2%	57.5%	71.6%	79.0%	50.4%	61.7%	78.6%	82.7%	93.8%
US-to-Other Interdealer	0.7%	0.5%	1.2%	1.6%	0.5%	0.3%	2.1%	1.6%	1.6%	0.8%	2.1%	0.1%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	6.6%	7.9%	16.3%	10.1%	5.9%	10.7%	2.6%	3.5%	4.8%	3.1%	10.7%	6.0%
US-to-European Interdealer	90.8%	91.8%	82.8%	89.3%	93.2%	88.8%	97.2%	96.0%	94.8%	96.5%	88.7%	93.5%
US-to-Other Interdealer	2.6%	0.3%	1.0%	0.6%	0.9%	0.5%	0.2%	0.5%	0.4%	0.4%	0.6%	0.5%

**Table 4: The US Market for Euro IRS (€ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	362	297	328	412	299	268	364	349	345	115	154	103
US-to-European Interdealer	775	728	653	761	596	647	613	529	652	241	294	189
US-to-Other Interdealer	20	11	8	13	10	13	10	3	4	2	4	2
<b>Total</b>	<b>1,156</b>	<b>1,036</b>	<b>989</b>	<b>1,186</b>	<b>904</b>	<b>927</b>	<b>987</b>	<b>881</b>	<b>1,001</b>	<b>358</b>	<b>452</b>	<b>295</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	208	152	103	44	97	59	22	61	91	50	51	21
US-to-European Interdealer	285	190	168	134	133	150	92	64	153	191	280	320
US-to-Other Interdealer	4											
<b>Total</b>	<b>496</b>	<b>344</b>	<b>275</b>	<b>181</b>	<b>231</b>	<b>210</b>	<b>116</b>	<b>127</b>	<b>248</b>	<b>243</b>	<b>339</b>	<b>341</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	27	19	51	19	22	35	10	7	13	11	51	15
US-to-European Interdealer	376	226	258	172	338	291	393	196	261	328	419	232
US-to-Other	11	1	3	1	3	2	1	1	1	1	3	1
<b>Total</b>	<b>414</b>	<b>246</b>	<b>312</b>	<b>193</b>	<b>363</b>	<b>328</b>	<b>404</b>	<b>204</b>	<b>276</b>	<b>340</b>	<b>473</b>	<b>248</b>

**Table 5: The Global Market for Euro IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	68.8%	66.2%	63.7%	64.2%	67.0%	70.2%	66.1%	63.3%	61.3%	87.0%	85.4%	86.3%
European-to-US Interdealer	20.2%	23.1%	23.4%	22.6%	21.2%	20.1%	20.5%	21.8%	24.9%	8.3%	9.1%	8.3%
US Interdealer	9.4%	9.4%	11.8%	12.2%	10.7%	8.3%	12.2%	14.4%	13.2%	3.9%	4.8%	4.5%
Other†	1.6%	1.2%	1.2%	1.0%	1.1%	1.3%	1.2%	0.6%	0.7%	0.8%	0.8%	0.9%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	84.2%	85.2%	89.9%	92.0%	89.8%	93.1%	94.4%	93.1%	91.7%	90.2%	84.7%	83.8%
European-to-US Interdealer	8.4%	7.5%	5.4%	5.2%	5.3%	4.3%	3.7%	2.8%	4.3%	6.5%	11.5%	13.9%
US Interdealer	6.2%	6.0%	3.4%	1.7%	3.9%	1.7%	0.9%	2.7%	2.5%	1.7%	2.1%	0.9%
Other†	1.1%	1.3%	1.3%	1.2%	1.0%	0.8%	0.9%	1.5%	1.5%	1.6%	1.7%	1.5%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	88.1%	89.2%	87.8%	90.1%	85.3%	87.7%	83.9%	86.6%	88.4%	87.1%	86.2%	90.7%
European-to-US Interdealer	9.6%	8.7%	8.9%	7.6%	12.4%	9.6%	14.4%	12.0%	10.0%	11.4%	11.6%	7.6%
US Interdealer	0.7%	0.7%	1.7%	0.9%	0.8%	1.2%	0.4%	0.4%	0.5%	0.4%	1.4%	0.5%
Other†	1.7%	1.4%	1.6%	1.4%	1.5%	1.5%	1.4%	1.0%	1.2%	1.1%	0.8%	1.2%

† Other represents the percentage of market share represented by European-to-Asian/Canadian and US-to-Asian/Canadian interdealers

**Table 6: The Global Market for Euro IRS (€ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	2,635	2,084	1,778	2,161	1,880	2,255	1,980	1,538	1,605	2,533	2,764	1,972
European-to-US Interdealer	775	728	653	761	596	647	613	529	652	241	294	189
US Interdealer	362	297	328	412	299	268	364	349	345	115	154	103
Other†	61	38	34	33	31	41	37	14	18	22	24	21
<b>Total</b>	<b>3,832</b>	<b>3,146</b>	<b>2,793</b>	<b>3,367</b>	<b>2,805</b>	<b>3,211</b>	<b>2,994</b>	<b>2,429</b>	<b>2,619</b>	<b>2,910</b>	<b>3,237</b>	<b>2,285</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	2,839	2,161	2,774	2,386	2,240	3,230	2,331	2,126	3,281	2,663	2,066	1,934
European-to-US Interdealer	285	190	168	134	133	150	92	64	153	191	280	320
US Interdealer	208	152	103	44	97	59	22	61	91	50	51	21
Other†	38	32	39	31	24	29	23	34	54	48	43	34
<b>Total</b>	<b>3,370</b>	<b>2,535</b>	<b>3,084</b>	<b>2,595</b>	<b>2,494</b>	<b>3,468</b>	<b>2,468</b>	<b>2,285</b>	<b>3,579</b>	<b>2,953</b>	<b>2,440</b>	<b>2,309</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	3,462	2,312	2,557	2,046	2,336	2,652	2,290	1,414	2,321	2,495	3,100	2,778
European-to-US Interdealer	376	226	258	172	338	291	393	196	261	328	419	232
US Interdealer	27	19	51	19	22	35	10	7	13	11	51	15
Other†	66	36	46	32	42	46	37	16	31	32	28	37
<b>Total</b>	<b>3,931</b>	<b>2,594</b>	<b>2,912</b>	<b>2,270</b>	<b>2,737</b>	<b>3,025</b>	<b>2,730</b>	<b>1,634</b>	<b>2,626</b>	<b>2,865</b>	<b>3,598</b>	<b>3,062</b>

† Other represents the percentage of market share represented by European-to-Asian/Canadian and US-to-Asian/Canadian interdealers

**Table 7: The European Market for US Dollar IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	52.8%	50.0%	50.4%	51.1%	54.4%	54.5%	54.5%	53.4%	49.7%	60.5%	57.4%	54.7%
European-to-US Interdealer	43.6%	45.9%	45.1%	45.0%	42.2%	40.5%	40.5%	43.0%	40.8%	35.9%	39.1%	40.1%
European-to-Other Interdealer	3.6%	4.2%	4.5%	3.8%	3.4%	4.9%	5.1%	3.6%	9.4%	3.6%	3.5%	5.2%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	51.9%	51.9%	49.9%	54.1%	51.0%	48.0%	49.1%	51.7%	43.3%	48.9%	39.3%	38.5%
European-to-US Interdealer	41.0%	41.9%	43.5%	39.0%	43.6%	47.3%	43.2%	42.1%	51.4%	45.5%	56.3%	57.6%
European-to-Other Interdealer	7.1%	6.2%	6.6%	6.9%	5.4%	4.7%	7.8%	6.2%	5.3%	5.6%	4.4%	4.0%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	49.6%	45.1%	48.7%	47.4%	39.9%	48.6%	43.8%	49.1%	45.2%	50.1%	51.5%	43.7%
European-to-US Interdealer	46.0%	49.4%	47.3%	47.0%	56.2%	47.2%	51.5%	45.3%	50.1%	46.2%	44.6%	51.4%
European-to-Other Interdealer	4.4%	5.4%	4.0%	5.5%	3.9%	4.2%	4.7%	5.6%	4.8%	3.7%	3.9%	4.9%

**Table 8: The European Market for US Dollar IRS (\$ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	726	729	600	722	740	941	793	670	718	880	921	716
European-to-US Interdealer	599	670	536	637	575	700	589	540	590	522	627	526
European-to-Other	49	61	53	54	47	85	74	45	136	53	56	69
<b>Total</b>	<b>1,375</b>	<b>1,460</b>	<b>1,189</b>	<b>1,413</b>	<b>1,361</b>	<b>1,726</b>	<b>1,456</b>	<b>1,255</b>	<b>1,444</b>	<b>1,455</b>	<b>1,605</b>	<b>1,311</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	905	643	942	808	769	729	612	570	717	745	487	700
European-to-US Interdealer	715	518	821	583	657	718	539	464	852	693	699	1,049
European-to-Other	123	76	124	103	81	72	97	69	88	85	55	72
<b>Total</b>	<b>1,744</b>	<b>1,238</b>	<b>1,887</b>	<b>1,494</b>	<b>1,506</b>	<b>1,518</b>	<b>1,248</b>	<b>1,103</b>	<b>1,657</b>	<b>1,523</b>	<b>1,240</b>	<b>1,822</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	713	633	693	499	581	721	552	587	615	686	696	484
European-to-US Interdealer	662	693	673	495	818	701	648	542	682	632	603	570
European-to-Other	63	76	57	58	57	62	59	67	65	51	53	54
<b>Total</b>	<b>1,438</b>	<b>1,402</b>	<b>1,423</b>	<b>1,052</b>	<b>1,455</b>	<b>1,484</b>	<b>1,259</b>	<b>1,197</b>	<b>1,361</b>	<b>1,369</b>	<b>1,352</b>	<b>1,108</b>

**Table 9: The US Market for US Dollar IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	45.2%	46.1%	42.7%	48.8%	49.2%	47.0%	46.6%	49.6%	43.7%	48.0%	47.4%	46.6%
US-to-European Interdealer	51.1%	51.1%	53.4%	48.0%	47.3%	48.7%	48.8%	46.8%	51.2%	46.9%	49.2%	47.2%
US-to-Other Interdealer	3.8%	2.8%	3.9%	3.2%	3.5%	4.3%	4.6%	3.5%	5.1%	5.1%	3.5%	6.2%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	48.0%	50.9%	38.7%	47.9%	49.5%	52.4%	51.1%	47.9%	42.7%	47.9%	37.4%	36.5%
US-to-European Interdealer	47.6%	44.2%	55.6%	46.6%	46.1%	43.8%	44.0%	46.5%	53.3%	47.5%	59.3%	60.5%
US-to-Other Interdealer	4.4%	4.9%	5.7%	5.4%	4.4%	3.8%	4.9%	5.6%	4.0%	4.6%	3.3%	3.0%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	45.9%	45.8%	47.0%	50.3%	39.3%	45.3%	48.2%	44.4%	44.6%	43.2%	42.8%	49.6%
US-to-European Interdealer	50.9%	51.1%	49.7%	45.6%	57.3%	50.9%	48.3%	53.0%	52.1%	53.4%	53.1%	47.3%
US-to-Other Interdealer	3.2%	3.1%	3.3%	4.0%	3.4%	3.8%	3.5%	2.6%	3.2%	3.4%	4.1%	3.1%

**Table 10: The US Market for US Dollar IRS (\$ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	530	604	428	647	598	675	562	573	503	534	604	519
US-to-European Interdealer	599	670	536	637	575	700	589	540	590	522	627	526
US-to-Other Interdealer	44	37	39	42	43	62	55	41	59	57	44	69
<b>Total</b>	<b>1,173</b>	<b>1,311</b>	<b>1,004</b>	<b>1,325</b>	<b>1,215</b>	<b>1,437</b>	<b>1,207</b>	<b>1,153</b>	<b>1,151</b>	<b>1,113</b>	<b>1,275</b>	<b>1,114</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	720	597	572	599	706	859	625	478	683	698	441	632
US-to-European Interdealer	715	518	821	583	657	718	539	464	852	693	699	1,049
US-to-Other Interdealer	66	58	84	68	63	62	59	56	64	67	39	51
<b>Total</b>	<b>1,502</b>	<b>1,173</b>	<b>1,477</b>	<b>1,250</b>	<b>1,426</b>	<b>1,638</b>	<b>1,224</b>	<b>998</b>	<b>1,599</b>	<b>1,459</b>	<b>1,178</b>	<b>1,732</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
US Interdealer	596	621	637	546	560	623	647	454	584	512	486	598
US-to-European Interdealer	662	693	673	495	818	701	648	542	682	632	603	570
US-to-Other Interdealer	42	42	45	44	49	52	47	27	42	41	46	38
<b>Total</b>	<b>1,300</b>	<b>1,356</b>	<b>1,356</b>	<b>1,084</b>	<b>1,427</b>	<b>1,376</b>	<b>1,342</b>	<b>1,023</b>	<b>1,308</b>	<b>1,185</b>	<b>1,136</b>	<b>1,205</b>

**Table 11: The Global Market for US Dollar IRS (% of Market Share)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	37.3%	34.7%	36.2%	34.4%	37.0%	38.2%	38.3%	35.8%	35.8%	43.0%	40.9%	37.7%
US-to-European	30.8%	31.9%	32.4%	30.3%	28.7%	28.4%	28.4%	28.9%	29.4%	25.5%	27.8%	27.7%
US Interdealer	27.2%	28.8%	25.8%	30.8%	29.9%	27.4%	27.1%	30.6%	25.1%	26.1%	26.8%	27.3%
Other†	4.8%	4.7%	5.6%	4.6%	4.5%	6.0%	6.2%	4.6%	9.7%	5.4%	4.5%	7.3%
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	35.8%	34.0%	37.1%	37.4%	33.8%	29.9%	31.7%	34.8%	29.8%	32.5%	28.3%	28.0%
US-to-European	28.3%	27.4%	32.3%	27.0%	28.9%	29.4%	27.9%	28.4%	35.4%	30.3%	40.6%	41.9%
US Interdealer	28.5%	31.5%	22.5%	27.7%	31.0%	35.2%	32.3%	29.2%	28.4%	30.5%	25.6%	25.2%
Other†	7.5%	7.1%	8.2%	7.9%	6.3%	5.5%	8.1%	7.6%	6.3%	6.6%	5.4%	4.9%
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	34.3%	30.7%	32.9%	30.4%	28.1%	33.4%	28.3%	35.0%	30.9%	35.7%	36.9%	27.8%
US-to-European	31.9%	33.6%	32.0%	30.2%	39.6%	32.5%	33.2%	32.3%	34.3%	32.9%	32.0%	32.7%
US Interdealer	28.7%	30.0%	30.3%	33.3%	27.1%	28.9%	33.1%	27.0%	29.4%	26.6%	25.8%	34.3%
Other†	5.1%	5.7%	4.8%	6.2%	5.1%	5.3%	5.4%	5.6%	5.4%	4.8%	5.3%	5.3%

† Other represents the percentage of market share represented by European-to-Asian/Canadian and US-to-Asian/Canadian interdealers

**Table 12: The Global Market for US Dollar IRS (\$ billions)**

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	726	729	600	722	740	941	793	670	718	880	921	716
US-to-European	599	670	536	637	575	700	589	540	590	522	627	526
US Interdealer	530	604	428	647	598	675	562	573	503	534	604	519
Other†	94	98	92	96	89	147	129	86	195	110	100	138
<b>Total</b>	<b>1,949</b>	<b>2,102</b>	<b>1,657</b>	<b>2,102</b>	<b>2,002</b>	<b>2,463</b>	<b>2,074</b>	<b>1,869</b>	<b>2,006</b>	<b>2,045</b>	<b>2,252</b>	<b>1,899</b>
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	905	643	942	808	769	729	612	570	717	745	487	700
US-to-European	715	518	821	583	657	718	539	464	852	693	699	1,049
US Interdealer	720	597	572	599	706	859	625	478	683	698	441	632
Other†	189	134	208	171	144	134	157	124	152	152	93	124
<b>Total</b>	<b>2,530</b>	<b>1,893</b>	<b>2,543</b>	<b>2,161</b>	<b>2,275</b>	<b>2,439</b>	<b>1,933</b>	<b>1,636</b>	<b>2,404</b>	<b>2,288</b>	<b>1,719</b>	<b>2,505</b>
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
European Interdealer	713	633	693	499	581	721	552	587	615	686	696	484
US-to-European	662	693	673	495	818	701	648	542	682	632	603	570
US Interdealer	596	621	637	546	560	623	647	454	584	512	486	598
Other†	105	118	102	102	105	115	106	94	107	92	100	92
<b>Total</b>	<b>2,076</b>	<b>2,065</b>	<b>2,106</b>	<b>1,641</b>	<b>2,064</b>	<b>2,159</b>	<b>1,953</b>	<b>1,677</b>	<b>1,987</b>	<b>1,921</b>	<b>1,885</b>	<b>1,743</b>

† Other represents the percentage of market share represented by European-to-Asian/Canadian and US-to-Asian/Canadian interdealers



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ISDA has published several research papers on the fragmentation of liquidity pools.

- ***Cross-Border Fragmentation of the Global Interest Rate Derivatives: The New Normal?***, October 2015
- ***Cross-Border Fragmentation of Global Derivatives: End-Year 2014***, April 2015
- ***Cross-Border Fragmentation of Global OTC Derivatives: An Empirical Analysis***, January 2014: <http://isda.link/crossborderanalysis>
- ***Made-Available-to-Trade(MAT): Evidence of Further Market Fragmentation***, April 2014: <http://isda.link/matstudy>
- ***Revisiting Cross-Border Fragmentation of Global OTC Derivatives: Mid-year 2014 Update***, July 2014: <http://isda.link/revisitingcrossborder>
- ***Dispelling Myths: End-User Activity in OTC Derivatives***, August 2014: <http://www2.isda.org/attachment/Njc2Nw==/ISDA-Dispelling%20myths-final.pdf>

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- ***Derivatives Market Analysis: Interest Rate Derivatives***, January 2016
- ***The Impact of Compression on the Interest Rate Derivatives Market***, July 2015

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