May 2017

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SwapsInfo First Quarter 2017 Review

The ISDA SwapsInfo Quarterly Review provides analysis of interest rate derivatives (IRD) and credit default swap (CDS) index trading activity. The report provides a breakdown of publicly available data to analyze the impact of regulatory change on swap execution facility (SEF) and bilateral trading volumes, as well as cleared and non-cleared activity.

Interest rate derivatives and CDS index notional volume and trade count data is taken from the ISDA SwapsInfo website (swapsinfo.org), using information from the Depository Trust & Clearing Corporation and Bloomberg swap data repositories (SDRs).

KEY HIGHLIGHTS FOR FIRST QUARTER OF 2017

With new margin requirements for non-cleared derivatives being phased in, the shift to centrally cleared IRD transactions continues to pick up pace. Both cleared and total IRD notional volume and trade count grew in the first quarter of 2017 versus the first quarter of 2016, as well as on a 12-month trailing basis.

During the first three months of the year, IRD notional volume figures rose by 29.5%, from \$39.5 trillion to \$51.2 trillion, versus the first quarter of 2016. Trade count grew by 9.7% over the same period, from 279,510 to 306,682.

Notional volume reached \$177.9 trillion in the 12 months to end-March 2017, a 24.3% increase from the \$143.1 trillion recorded over the previous 12 months. IRD trade count grew by 9.0% over the same period, from 1,038,110 to 1,131,185 transactions.

- Cleared transactions represented 87.5% of total notional volume and 79.6% of trade count in the first quarter of 2017. Cleared volume rose by 37.2% in the first three months of the year compared with the first quarter of 2016. Cleared trade count grew by 18.0% over the same period. Cleared volumes also ticked higher in the 12 months to end-March 2017 versus the previous 12 months, growing by 32.6%, while trade count grew by 16.2%. Conversely, non-cleared volume and trade count fell by all respective measures.
- As more swaps were cleared, SEF-traded volumes also increased. SEF-traded swaps represented 56.7% of notional volume and 58.7% of trade count in the first quarter of 2017. SEF volume grew by 31.0% in the first three months of 2017 compared with the same period a year ago, while off-SEF volume increased by 27.4%. Notional volume transacted on a SEF, as well as volume transacted off venue, increased on a yearly basis. The former grew by 20.5%, while the latter expanded by 29.4%.
- More IRD transactions occurred on SEFs. SEF trade count increased by 22.4% between the first quarter of 2016 and the comparable quarter a year later. Off-SEF transactions fell by 4.3% over the same period. The number of SEF transactions rose by 14.4% over the year to end-March 2017 versus the previous 12 months, while off-SEF trade count increased by 3.0% over the same period.

While IRD volumes rose, CDS index notional volume and trade count were lower in the first three months of the year versus the first quarter of 2016. Volume measures were also lower on a yearly basis.

CDS index notional volume fell by 26.7% to \$1.8 trillion in the first quarter of 2017, from \$2.4 trillion in the first three months of 2016. Likewise, trade count also contracted, with the number of trades falling from 77,530 to 54,712 over that period.

CDS index notional volume and trade count also fell on an annual basis. Notional volume decreased by 14.7%, from \$7.7 trillion in the 12 months to end-March 2016 to \$6.6 trillion in the subsequent 12 months. Trade count totaled 210,271 over the year, marking a decrease of 13.8% from 244,007 transactions in the previous 12-month period.

- Over three-quarters of CDS index volume and trade count was cleared in the first three months of 2017: 78.7% of notional volume and 76.9% of transactions. Cleared volume declined by 29.2% versus the first quarter of 2016, while trade count fell by 32.3% over the same period. Cleared notional volume contracted by 13.7% on a 12-month trailing basis, while trade count decreased by 13.4%.
- Although three-quarters of CDS index volume was transacted on a SEF, notional volume was 30.0% lower in the first three months of 2017 versus the comparable quarter in 2016. Volume transacted away from a SEF declined by 15.1% over this time. SEF-traded notional volume also fell over the 12 months to end-March 2017 versus the previous 12 months. SEF-traded notional volume declined by 14.3%, while off-SEF volume was 15.8% lower over this period.
- Changes in SEF trade count tracked notional volume trends, as the number of transactions declined. The number of SEF transactions fell sharply in the first quarter of 2017, decreasing by 33.7% compared to the first quarter of 2016. Trades executed off-venue decreased by 13.8% over the same period. The number of SEF transactions also declined in the 12 months ending March 31, 2017, falling by 14.6% versus the previous 12 months. Off-SEF trade count declined by 11.2% over the same period.

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IRD STATISTICS: CENTRAL CLEARING DASHBOARD

The percentage of cleared IRD notional volume and trade count during the first quarter of 2017 is shown in the pie charts below. 87.5%, or \$44.8 trillion out of \$51.2 trillion transacted in the quarter, was centrally cleared, representing 79.6% of trade count (244,095 out of 306,682).







Source: DTCC and Bloomberg SDRs

Notional Volume: Cleared volume (solid blue line, main axis) rose by 37.3% in the first quarter of 2017 versus the first quarter of 2016, from \$32.6 trillion to \$44.8 trillion. Non-cleared volume (solid red line, main axis) fell by 7.4% over the same period, from \$6.9 trillion to \$6.4 trillion. Cleared volume also continued to tick higher in the 12 months to end-March 2017 versus the previous 12 months, growing by 32.6%, from \$114.5 trillion to \$151.8 trillion. Non-cleared volume fell by 8.8% over this time, from \$28.6 trillion to \$26.1 trillion.

Trade Count: Changes in trade count mimicked notional volume trends. Cleared trade count (dashed blue line, secondary axis) increased by 18.0% in the first three months of 2017 versus the same quarter a year earlier, from 206,805 to 244,095. Non-cleared trade count (dashed red line, secondary axis) fell by 13.9%, from 72,705 to 62,587, over the period. Cleared trade count increased by 16.2% in the 12 months to end-March 2017 versus the previous 12-month period, from 740,274 to 860,112. Non-cleared trade count fell by 9.0%, from 297,836 to 271,073, over this time.

IRD STATISTICS: CENTRAL CLEARING TRENDS

Changes in cleared and non-cleared average daily volume, trade count and trade size statistics are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | Cleared Statistics |
|------------------|---------------|--|
| 35.1% | 32.5% | Average daily IRD cleared notional volume increased. Average daily cleared notional volume increased by 35.1% over the first three months of 2017 compared to the same period a year before, from \$510.1 billion to \$689.3 billion. Comparing average daily cleared IRD volume in the 12 months ending March 31, 2017 to the previous 12-month period reveals a 32.5% increase, from \$439.1 billion to \$581.8 billion. |
| 16.2% | 16.1% | The number of centrally cleared IRD contracts increased in line with notional volume. Trade count averaged 3,755 transactions per day in the first quarter of 2017. This figure was 16.2% higher compared to the first quarter of 2016, when the average was roughly 3,231. Over the 12 months to end-March 2017, the average daily cleared IRD trade count was 3,297. This figure marks a 16.1% increase versus the 2,839 observed in the one-year period ending March 31, 2016 |
| 15.1% | 15.3% | The average trade size of cleared transactions has also continued to grow. Average trade size has grown by 15.1%, from \$151.0 million in the first three months of 2016 to \$173.8 million in the first three months of 2017. On a yearly basis, average IRD cleared transaction size has grown by 15.3%, from \$144.6 million to \$166.7 million. |
| | | Non-Cleared Statistics |
| -7.4% | -8.5% | Non-cleared IRD average daily notional volume trended lower. During the first three months of 2017, average daily non-cleared IRD notional volume fell by 7.4% compared to the first quarter of 2016, from \$106.2 billion to \$98.3 billion per day. Average daily notional volume was 8.5% lower on a 12-month trailing basis, from \$109.4 billion to \$100.1 billion. |
| -13.9% | -8.7% | Non-cleared trade counts have also contracted. Trade count fell by 13.9%, from 1,119 to 963 trades per day, during the first quarter of this year versus the first quarter of 2016. The average number of non-cleared daily transactions also fell by 8.7% on a yearly basis, from 1,137 in the 12 months to March 31, 2016 to 1,039 over the following 12 months. |
| 8.5% | 0.8% | Non-cleared IRD trade size rose as volume fell. Average trade sizes rose by 8.5% between the first quarters of 2016 and 2017, from \$93.7 million to \$101.6 million. Average daily transactions were 0.8% larger in the 12 months to end-March 2017 versus the prior 12-month period, increasing from \$95.5 million to \$96.3 million. |

IRD STATISTICS: CENTRAL CLEARING DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | Cleared | Non-Cleared |
|---------------------------------------|----------------|---------|-----------------|-----------------|-----------------|
| | 2014 | 2014 Q1 | 605,582,617,340 | 478,723,706,003 | 134,338,969,243 |
| | | 2014 Q2 | 550,423,089,569 | 442,012,993,342 | 108,410,096,228 |
| me | | 2014 Q3 | 517,906,017,085 | 403,741,372,509 | 114,164,644,576 |
| olu | | 2014 Q4 | 531,633,991,286 | 387,435,659,557 | 144,198,331,729 |
| Notional Volume billions) | 2015 | 2015 Q1 | 604,127,468,232 | 472,077,012,079 | 139,426,659,466 |
| ion | | 2015 Q2 | 540,887,477,728 | 412,167,918,729 | 128,719,558,998 |
| bill | billions) 5012 | 2015 Q3 | 510,038,307,494 | 412,637,999,791 | 97,400,307,703 |
| Daily (\$US | | 2015 Q4 | 526,753,144,609 | 421,574,177,342 | 105,178,967,267 |
| Average Daily (\$US | 2016 | 2016 Q1 | 608,393,396,643 | 510,079,519,764 | 106,161,254,106 |
| rag | | 2016 Q2 | 684,205,677,572 | 574,390,349,802 | 109,815,327,770 |
| Ave | | 2016 Q3 | 639,614,194,740 | 539,604,590,660 | 100,009,604,080 |
| | | 2016 Q4 | 616,270,373,802 | 524,099,507,491 | 92,170,866,311 |
| | 2017 | 2017 Q1 | 787,622,713,750 | 689,300,831,742 | 98,321,882,007 |
| | 2014 | 2014 Q1 | 3,683 | 2,412 | 1,309 |
| | | 2014 Q2 | 3,359 | 2,210 | 1,149 |
| ¥ | | 2014 Q3 | 3,628 | 2,335 | 1,293 |
| cour | | 2014 Q4 | 4,034 | 2,361 | 1,674 |
| Average Daily Trade Count | 2015 | 2015 Q1 | 4,645 | 2,975 | 1,716 |
| Irac | | 2015 Q2 | 4,069 | 2,811 | 1,258 |
| Ali | | 2015 Q3 | 3,731 | 2,642 | 1,090 |
| Da | | 2015 Q4 | 3,755 | 2,673 | 1,082 |
| age | 2016 | 2016 Q1 | 4,300 | 3,231 | 1,119 |
| Avei | | 2016 Q2 | 4,236 | 3,140 | 1,097 |
| | | 2016 Q3 | 4,043 | 2,971 | 1,072 |
| | | 2016 Q4 | 4,343 | 3,321 | 1,022 |
| | 2017 | 2017 Q1 | 4,718 | 3,755 | 963 |
| | 2014 | 2014 Q1 | 152,813,199 | 183,424,007 | 100,816,871 |
| | | 2014 Q2 | 152,525,902 | 182,203,418 | 94,741,101 |
| | | 2014 Q3 | 139,422,891 | 165,728,136 | 90,691,484 |
| Ze | | 2014 Q4 | 126,784,638 | 152,910,336 | 85,423,055 |
| s Si ns) | 2015 | 2015 Q1 | 123,607,165 | 147,534,936 | 81,804,786 |
| illic | | 2015 Q2 | 128,260,581 | 137,019,914 | 103,109,899 |
| E E | | 2015 Q3 | 130,875,916 | 146,846,287 | 89,502,322 |
| Average Trade Size (\$US millions) | | 2015 Q4 | 130,576,406 | 143,644,149 | 95,702,858 |
| Ave | 2016 | 2016 Q1 | 134,633,149 | 151,031,981 | 93,667,982 |
| | | 2016 Q2 | 152,524,444 | 169,897,098 | 99,687,525 |
| | | 2016 Q3 | 153,520,631 | 174,523,881 | 94,890,548 |
| | | 2016 Q4 | 134,309,244 | 148,693,056 | 88,983,258 |
| | 2017 | 2017 Q1 | 159,257,822 | 173,770,950 | 101,628,033 |

IRD STATISTICS: TRADING VENUE DASHBOARD

While total IRD notional volume and the percentage of centrally cleared transactions have increased, the proportion of swaps that trade on a SEF have edged modestly higher. More than half of notional volume and trade count is currently transacted on an electronic venue. During the first quarter of 2017, 56.7% of volume, or \$29.0 trillion out of \$51.2 trillion, and 58.7% of trade count, representing 179,919 out of 306,682 transactions, was executed on a SEF.







Source: DTCC and Bloomberg SDRs

Notional Volume: SEF volume (solid blue line, main axis) grew by 31.0% in the first three months of the year versus the first quarter of 2016, from \$22.1 trillion to \$29.0 trillion. Over the same period, off-SEF volume (solid red line, main axis) rose by 27.4%, from \$17.4 trillion to \$22.2 trillion. SEF-traded volumes ticked higher on a 12-month trailing basis, growing by 20.5%, from \$81.3 trillion to \$97.9 trillion. Off-SEF volume also rose by 29.4% over the same period, from \$61.9 trillion to \$80.0 trillion.

Trade Count: SEF transactions (dashed blue line, secondary axis) increased by 22.4% in the first quarter of this year versus the first quarter of 2016, from 147,038 to 179,919. Off-SEF trade count (dashed red line, secondary axis) fell by 4.3% over this time, from 132,472 to 126,763. Changes in trade count mostly followed notional volume trends, with SEF transactions increasing by 14.4%, from 543,077 in the 12-months to end-March 2016 to 621,062 in the 12 months ending March 31, 2017. Off-SEF trade count rose modestly by 0.3% over the same period, from 495,033 to 510,123

IRD STATISTICS: TRADING VENUE TRENDS

Changes in SEF and off-SEF average daily volume and trade count are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | SEF Statistics |
|------------------|---------------|--|
| 31.0% | 21.0% | SEF-traded average daily notional volume has grown over the past 12 months. SEF volume rose by 31.0%, from \$345.9 billion in the first quarter of 2016 to \$453.3 billion in the comparative quarter of 2017. Roughly \$377.0 billion of notional volume traded each day in the 12 months to end-March 2017, representing an increase of 21.0% from the daily average of \$311.6 billion in the previous 12-month period. |
| 22.4% | 14.8% | The number of contracts transacted on a SEF also increased. Average daily trade count increased by 22.4% between the first quarters of 2016 and 2017, from 2,297 to 2,811. The number of daily transactions rose by 14.8% on an annual basis, from 2,082 in the 12 months to end-March 2016 to 2,391 in the following 12-month period. |
| 7.6% | 5.8% | The average SEF transaction size continued to increase. Average trade size rose by 7.6% between the first quarters of 2016 and 2017, from \$136.9 million to \$147.3 million. Average trade size increased by 5.8% on a 12-month trailing basis, climbing from \$133.7 million at end-March 2016 to \$141.1 million at end-March 2017. |
| | | Off-SEF Statistics |
| 27.4% | 29.8% | Off-SEF volume grew in tandem with SEF-traded volume. Volume executed away from a SEF rose from \$267.8 billion in the first quarter of 2016 to \$341.3 billion in the first three months of 2017, an increase of 27.4%. Average daily off-SEF volume rose by 29.8% on a yearly basis, from \$236.3 billion in the 12-months to end-March 2016 to \$306.7 billion over the subsequent 12 months. |
| -4.3% | 3.4% | Off-SEF trade counts were modestly higher over the year. During the first three months of 2017, the average number of transactions fell by 4.3% versus the first quarter of 2016, from 2,038 to 1,950. Average daily off-SEF trade count increased by 3.4% on an annual basis, from 1,891 trades in the 12- months to end-March 2016 to 1,955 trades over the following 12 months. |
| 31.5% | 25.4% | Off-venue trade sizes have surpassed the average trade size executed on a SEF. Between the first quarter of 2016 and the comparable quarter one year later, off- SEF transactions tended to be larger than SEF trades. At this time, off-SEF trades increased in size by 31.5%, from \$130.3 million to \$171.4 million. Off-SEF trade size grew 25.4% on a yearly basis, increasing from \$123.8 million over the 12 months to end-March 2016 to \$155.2 million over the following 12-month period. |

IRD STATISTICS: TRADING VENUE DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | SEF | Off-SEF |
|---------------------------------|------|---------|-----------------|-----------------|-----------------|
| | 2014 | 2014 Q1 | 605,582,617,340 | 312,484,598,672 | 297,980,590,522 |
| | | 2014 Q2 | 550,423,089,569 | 299,810,132,829 | 250,612,956,740 |
| me | | 2014 Q3 | 517,906,017,085 | 269,753,339,203 | 248,152,677,882 |
| Notional Volume billions) | | 2014 Q4 | 531,633,991,286 | 264,280,178,098 | 267,353,813,187 |
| al V s) | 2015 | 2015 Q1 | 604,127,468,232 | 354,141,955,300 | 255,518,980,983 |
| Notiona billions) | | 2015 Q2 | 540,887,477,728 | 297,645,161,158 | 243,242,316,570 |
| | | 2015 Q3 | 510,038,307,494 | 298,455,996,185 | 211,582,311,309 |
| Daily (\$US | | 2015 Q4 | 526,753,144,609 | 304,284,325,423 | 222,468,819,186 |
| Average Daily (\$US | 2016 | 2016 Q1 | 608,393,396,643 | 345,875,827,042 | 267,838,736,170 |
| rag | | 2016 Q2 | 684,205,677,572 | 381,749,224,266 | 302,456,453,306 |
| Ave | | 2016 Q3 | 639,614,194,740 | 342,220,959,829 | 297,393,234,912 |
| | | 2016 Q4 | 616,270,373,802 | 330,575,207,436 | 285,695,166,366 |
| | 2017 | 2017 Q1 | 787,622,713,750 | 453,258,601,084 | 341,337,321,913 |
| | 2014 | 2014 Q1 | 3,683 | 1,635 | 2,074 |
| | | 2014 Q2 | 3,359 | 1,653 | 1,707 |
| ŧ | | 2014 Q3 | 3,628 | 1,749 | 1,879 |
| Average Daily Trade Count | | 2014 Q4 | 4,034 | 1,755 | 2,279 |
| e C | 2015 | 2015 Q1 | 4,645 | 2,270 | 2,410 |
| Irac | | 2015 Q2 | 4,069 | 2,059 | 2,010 |
| ily . | | 2015 Q3 | 3,731 | 1,992 | 1,740 |
| Da | | 2015 Q4 | 3,755 | 1,981 | 1,774 |
| age | 2016 | 2016 Q1 | 4,300 | 2,297 | 2,038 |
| Ver | | 2016 Q2 | 4,236 | 2,230 | 2,007 |
| 4 | | 2016 Q3 | 4,043 | 2,172 | 1,871 |
| | | 2016 Q4 | 4,343 | 2,352 | 1,991 |
| | 2017 | 2017 Q1 | 4,718 | 2,811 | 1,950 |
| | 2014 | 2014 Q1 | 152,813,199 | 164,580,423 | 140,737,717 |
| | | 2014 Q2 | 152,525,902 | 156,310,096 | 143,390,758 |
| | | 2014 Q3 | 139,422,891 | 140,236,539 | 135,580,565 |
| e e | | 2014 Q4 | 126,784,638 | 132,819,001 | 117,722,348 |
| Trade Size millions) | 2015 | 2015 Q1 | 123,607,165 | 137,602,237 | 106,932,949 |
| Trade Si millions) | | 2015 Q2 | 128,260,581 | 128,422,659 | 121,187,822 |
| <u><u> </u></u> | | 2015 Q3 | 130,875,916 | 134,764,008 | 121,516,190 |
| Average ⁻ (\$US r | | 2015 Q4 | 130,576,406 | 134,812,941 | 122,141,228 |
| Ave (\$ | 2016 | 2016 Q1 | 134,633,149 | 136,898,500 | 130,291,427 |
| | | 2016 Q2 | 152,524,444 | 149,744,190 | 149,166,804 |
| | | 2016 Q3 | 153,520,631 | 141,861,900 | 160,869,942 |
| | | 2016 Q4 | 134,309,244 | 126,707,458 | 139,523,249 |
| | 2017 | 2017 Q1 | 159,257,822 | 147,345,008 | 171,380,587 |

IRD STATISTICS: TAXONOMY DASHBOARD

Single currency fixed-to-floating interest rate swap (IRS) volume accounted for 28.9% of IRD notional volume, or \$14.8 trillion out of \$51.2 trillion, during the first quarter of 2017. IRS trade count represented 64.2% of the total, or 196,988 out of 306,682 transactions.







Source: DTCC and Bloomberg SDRs

Notional Volume: IRS volume (solid blue line) grew by 13.5%, from \$13.0 trillion in the first quarter of 2016 to \$14.8 trillion in the first three months of 2017. Volume in other taxonomies (solid red line) increased by 37.3% over the same period, from \$26.5 trillion to \$36.4 trillion. IRS volume rose modestly on a 12-month basis, increasing by 7.5% from \$48.3 trillion in the 12 months to end-March 2016 to \$51.9 trillion over the subsequent 12 months. Volume linked to other taxonomies grew by 32.9% over the same period, from \$94.8 trillion to \$126.0 trillion.

Trade Count: IRS trade count (blue dashed line) grew by 4.9% between the first quarters of 2016 and 2017, from 187,874 to 196,988. Transactions involving other taxonomies (red dashed line) rose by 19.7% over the same period, from 91,636 to 109,694 trades. The number of IRS transactions increased by 5.8% on a yearly basis, from 693,883 in the 12 months to end-March 2016 to 733,790 over the following 12 months. Trade count also grew by 15.4% in other taxonomies over the same period, from 344,227 to 397,395.

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IRD STATISTICS: TAXONOMY TRENDS

Changes in interest rate swap and other taxonomy average daily volume and trade count are compared in the table below on a quarter-over-quarter and year-over-year basis.

| 2017Q1 vs 2016Q1 | Yearly Change | Interest Rate Swap Statistics |
|------------------|---------------|--|
| 11.8% | 7.5% | Average daily IRS notional volume has grown over the past 12 months. Average daily notional volume rose by 11.8%, from \$203.4 billion in the first quarter of 2016 to \$227.4 billion during the first quarter of 2017. Notional volume increased by 7.5% on a 12-month trailing basis, from \$185.2 billion to \$199.1 billion. |
| 3.2% | 5.7% | The average number of IRS contracts transacted each day also increased. Between the first quarter of 2016 and the first three months of 2017, the average number of daily transactions rose by 3.2%, from 2,936 to 3,031. In the 12 months to end March 2017, trade count rose by 5.7% compared to the prior 12-month period, from 2,661 to 2,812. |
| 8.4% | 1.7% | As average daily volume and trade count rose, IRS trade size also increased. Average trade size rose by 8.4% between the first quarters of 2016 and 2017, from \$69.2 million to \$75.0 million. The average IRS trade size was 1.7% larger in the year ended March 2017, rising from \$69.2 million in the 12 months to end-March 2016 to \$70.4 million over the following 12-month period. |
| | | Other Taxonomy Statistics |
| 37.3% | 33.3% | Average daily volume growth in other taxonomies continued to outpace IRS in the first three months of 2017. During the first quarter of 2017, average daily notional volume in other taxonomies increased by 37.3% versus the comparative quarter in 2016, from \$408.1 billion to \$560.2 billion. Volume grew on a yearly basis by 33.3%, from \$362.1 billion in the 12 months to March 2016 to \$482.8 billion over the subsequent 12 months. |
| 19.7% | 15.9% | Average trade counts of other taxonomies climbed higher. The average number of daily transactions rose by 19.7%, from 1,410 in the first quarter of 2016 to 1,688 in the same quarter in 2017. The number of transactions increased by 15.9% in the 12 months ending March 31, 2017 versus the previous 12 months, from 1,314 to 1,523. |
| 17.5% | 16.3% | The average daily trade size of other taxonomies grew more and remained larger than IRS. In the first three months of 2017, average trade size increased by 17.5%, from \$277.4 million to \$326.0 million, relative to the first quarter of 2016. Trades were 16.3% bigger for other taxonomies on a yearly basis, increasing from an average size of \$265.0 million in the 12 months to end-March 2016 to \$308.2 million over the following 12 months. |

SwapsInfo First Quarter 2017 Review

IRD STATISTICS: TAXONOMY DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | Interest Rate Swaps | Other Taxonomies |
|-------------------------------------|------|---------|-----------------|---------------------|------------------|
| | 2014 | 2014 Q1 | 605,582,617,340 | 187,165,896,182 | 418,416,721,158 |
| | | 2014 Q2 | 550,423,089,569 | 168,126,024,437 | 382,297,065,133 |
| me | | 2014 Q3 | 517,906,017,085 | 182,644,891,655 | 335,261,125,430 |
| Notional Volume billions) | | 2014 Q4 | 531,633,991,286 | 216,886,196,583 | 314,747,794,702 |
| al V s) | 2015 | 2015 Q1 | 604,127,468,232 | 205,124,100,926 | 399,003,367,306 |
| Notiona billions) | | 2015 Q2 | 540,887,477,728 | 188,291,926,731 | 352,595,550,997 |
| Not bill | | 2015 Q3 | 510,038,307,494 | 173,893,871,095 | 336,144,436,399 |
| Daily (\$US | | 2015 Q4 | 526,753,144,609 | 175,125,379,751 | 351,627,764,858 |
| ä.€ | 2016 | 2016 Q1 | 608,393,396,643 | 203,436,940,962 | 408,086,254,773 |
| Average | | 2016 Q2 | 684,205,677,572 | 188,060,258,298 | 496,145,419,275 |
| Ave | | 2016 Q3 | 639,614,194,740 | 175,597,546,401 | 464,016,648,340 |
| | | 2016 Q4 | 616,270,373,802 | 205,243,755,701 | 411,026,618,101 |
| | 2017 | 2017 Q1 | 787,622,713,750 | 227,427,647,571 | 560,195,066,178 |
| | 2014 | 2014 Q1 | 3,683 | 2,280 | 1,403 |
| | | 2014 Q2 | 3,359 | 2,169 | 1,190 |
| ŧ | | 2014 Q3 | 3,628 | 2,454 | 1,174 |
| Average Daily Trade Count | | 2014 Q4 | 4,034 | 2,875 | 1,160 |
| о е | 2015 | 2015 Q1 | 4,645 | 3,075 | 1,570 |
| Irad | | 2015 Q2 | 4,069 | 2,757 | 1,312 |
| ly J | | 2015 Q3 | 3,731 | 2,506 | 1,226 |
| Da | | 2015 Q4 | 3,755 | 2,446 | 1,309 |
| age | 2016 | 2016 Q1 | 4,300 | 2,936 | 1,410 |
| wer | | 2016 Q2 | 4,236 | 2,706 | 1,530 |
| A | | 2016 Q3 | 4,043 | 2,621 | 1,422 |
| | | 2016 Q4 | 4,343 | 2,891 | 1,452 |
| | 2017 | 2017 Q1 | 4,718 | 3,031 | 1,688 |
| | 2014 | 2014 Q1 | 152,813,199 | 80,989,664 | 276,794,066 |
| | | 2014 Q2 | 152,525,902 | 77,428,440 | 302,674,795 |
| | | 2014 Q3 | 139,422,891 | 74,525,536 | 276,103,618 |
| a | | 2014 Q4 | 126,784,638 | 74,355,992 | 249,651,947 |
| Trade Size millions) | 2015 | 2015 Q1 | 123,607,165 | 66,011,823 | 233,774,495 |
| ade Ilior | | 2015 Q2 | 128,260,581 | 67,974,782 | 258,886,123 |
| mil Tra | | 2015 Q3 | 130,875,916 | 69,182,216 | 268,208,707 |
| Average Trade Si (\$US millions) | | 2015 Q4 | 130,576,406 | 70,439,816 | 255,577,838 |
| Aver (\$ | 2016 | 2016 Q1 | 134,633,149 | 69,167,354 | 277,446,958 |
| 4 | | 2016 Q2 | 152,524,444 | 69,456,859 | 308,377,978 |
| | | 2016 Q3 | 153,520,631 | 67,086,700 | 329,731,043 |
| | | 2016 Q4 | 134,309,244 | 69,946,911 | 268,721,199 |
| | 2017 | 2017 Q1 | 159,257,822 | 74,952,123 | 325,991,803 |

IRD STATISTICS: CURRENCY DASHBOARD

IRD average daily volume and trade count trends continued to be influenced by US dollar-denominated trading. During the first quarter of 2017, these trades accounted for 69.0% and 53.6% of the total, respectively. Euro-denominated transactions accounted for a far smaller percentage of notional volume (15.6%) and trade count (15.5%).







Source: DTCC and Bloomberg SDRs

Notional Volume: US dollar-denominated IRD volume (solid blue line) grew by 47.0%, from \$24.0 trillion in the first quarter of 2016 to \$35.3 trillion in the first three months of 2017. The volume of IRD denominated in other currencies (solid red line) increased by a modest 2.3% over the same period, from \$15.5 trillion to \$15.9 trillion. US dollar IRD volume also increased by 40.0% in the 12 months to end-March 2017 versus the previous year, from \$86.6 trillion to \$121.2 trillion. Non-dollar volume was mostly unchanged over the same period: it rose by 0.3%, from \$56.5 trillion to \$56.7 trillion.

Trade Count: The number of US dollar IRD transactions (dashed blue line) grew by 12.0% between the first quarter of 2016 and the same period a year later, from 146,886 to 164,482. The number of non-dollar transactions (dashed red line) rose by 7.2% over that period, from 132,624 to 142,200. US dollar IRD transactions increased by 13.6% in 12 months to end-March 2017 versus the 12 months to end-March 2016, from 542,232 to 616,152. Non-dollar swap transactions also increased, albeit at a slower pace (3.9%), from 495,878 to 515,033.

IRD STATISTICS: CURRENCY TRENDS

Changes in the average daily volume and trade count of US dollar-denominated IRD and IRD linked to other currencies are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | US Dollar IRD Statistics |
|------------------|---------------|--|
| 49.3% | 41.1% | The frequency and size of US dollar IRD trading increased over the quarter. Between the first quarters of 2016 and 2017, average daily US dollar IRD volume rose by 49.3%, from \$369.9 billion to \$552.2 billion. Notional volume also rose by 41.1% on a 12-month trailing basis, from \$331.9 billion to \$468.4 billion. |
| 13.7% | 14.6% | The average daily number of contracts traded in US dollars also increased. The average number of US dollar transactions grew by 13.7%, from 2,260 trades per day in the first quarter of 2016 to 2,570 in the first three months of 2017. In the 12 months to end-March 2017, trade count was 14.6% higher than the previous 12-month period, rising from 2,078 to 2,380 transactions per day. |
| 33.9% | 24.7% | Daily average US dollar IRD trade sizes were larger. Trade size was 33.9% bigger in the first quarter of 2017 versus the same period a year earlier, increasing from \$151.2 million to \$202.5 million. The average transaction size was \$147.9 million in 12 months to end March 2016 compared to \$184.4 million over the following 12 months, marking a 24.7% increase. |
| | | Other Currency Statistics |
| 0.7% | 0.2% | While US dollar IRD notionals rose dramatically, non-dollar average daily volume was mostly unchanged. Average daily notional volume of non-dollar IRD rose mildly in the first three months of 2017 relative to the same period in 2016. Over this time, volume increased by 0.7%, from \$242.2 billion to \$243.9 billion. On a yearly basis, notional volume grew by 0.2%, from \$216.8 billion in the 12 months to end-March 2016 to \$217.3 billion per day in the following 12-month period. |
| 5.6% | 3.8% | Non-dollar average trade counts grew more than notional volume. In the quarter ended March 2017, non-dollar average daily trade count rose by 5.6%, from 2,072 to 2,188, versus the first quarter of 2016. The average number of trades executed per day in the 12 months to end-March 2017 was 3.8% higher versus the previous year, climbing from 1,902 to 1,974. |
| -5.2% | -2.3% | As notional volume and the number of transactions increased, average trade size fell. Transactions were 5.2% smaller during the first quarter of 2017 versus the comparative quarter in 2016, falling from \$114.7 million to \$108.7 million. Average trade sizes were 2.3% smaller in the 12 months March 31, 2017 versus the previous year. Average trade size shrunk from \$109.8 million to \$107.3 million during this time. |

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IRD STATISTICS: CURRENCY DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | US Dollar Swaps | Other Currencies |
|-------------------------------------|------|---------|-----------------|-----------------|------------------|
| | 2014 | 2014 Q1 | 605,582,617,340 | 300,185,193,596 | 305,397,423,744 |
| | 2011 | 2014 Q2 | 550,423,089,569 | 279,756,876,474 | 270,666,213,095 |
| ne | | 2014 Q3 | 517,906,017,085 | 286,279,622,415 | 231,626,394,670 |
| Notional Volume billions) | | 2014 Q4 | 531,633,991,286 | 310,326,691,514 | 221,307,299,772 |
| Ň | 2015 | 2015 Q1 | 604,127,468,232 | 349,311,519,922 | 254,815,948,310 |
| Notiona billions) | | 2015 Q2 | 540,887,477,728 | 309,764,869,778 | 231,122,607,949 |
| Not billi | | 2015 Q3 | 510,038,307,494 | 320,059,130,698 | 189,979,176,796 |
| | | 2015 Q4 | 526,753,144,609 | 327,811,789,507 | 203,908,200,398 |
| Average Daily (\$US | 2016 | 2016 Q1 | 608,393,396,643 | 369,916,019,540 | 242,203,586,120 |
| age | | 2016 Q2 | 684,205,677,572 | 460,024,708,192 | 224,180,969,380 |
| Aver | | 2016 Q3 | 639,614,194,740 | 436,335,981,138 | 203,278,213,602 |
| 4 | | 2016 Q4 | 616,270,373,802 | 425,046,582,368 | 197,762,969,625 |
| | 2017 | 2017 Q1 | 787,622,713,750 | 552,174,178,685 | 243,943,522,429 |
| | 2014 | 2014 Q1 | 3,683 | 1,830 | 1,853 |
| | | 2014 Q2 | 3,359 | 1,807 | 1,552 |
| <u> </u> | | 2014 Q3 | 3,628 | 1,928 | 1,700 |
| unc | | 2014 Q4 | 4,034 | 2,131 | 1,903 |
| Average Daily Trade Count | 2015 | 2015 Q1 | 4,645 | 2,219 | 2,425 |
| rad | | 2015 Q2 | 4,069 | 2,113 | 1,956 |
| IV T | | 2015 Q3 | 3,731 | 1,965 | 1,766 |
| Dai | | 2015 Q4 | 3,755 | 1,973 | 1,812 |
| age | 2016 | 2016 Q1 | 4,300 | 2,260 | 2,072 |
| vera | | 2016 Q2 | 4,236 | 2,339 | 1,897 |
| A | | 2016 Q3 | 4,043 | 2,202 | 1,841 |
| | | 2016 Q4 | 4,343 | 2,410 | 1,970 |
| | 2017 | 2017 Q1 | 4,718 | 2,570 | 2,188 |
| | 2014 | 2014 Q1 | 152,813,199 | 147,941,704 | 153,531,465 |
| | | 2014 Q2 | 152,525,902 | 138,610,514 | 164,491,831 |
| | | 2014 Q3 | 139,422,891 | 140,390,992 | 135,268,248 |
| a | | 2014 Q4 | 126,784,638 | 136,313,683 | 111,818,053 |
| Trade Size millions) | 2015 | 2015 Q1 | 123,607,165 | 142,014,928 | 102,613,762 |
| lior | | 2015 Q2 | 128,260,581 | 138,419,949 | 114,756,815 |
| mil | | 2015 Q3 | 130,875,916 | 151,375,362 | 104,239,875 |
| age US | | 2015 Q4 | 130,576,406 | 150,546,298 | 105,512,718 |
| Average Trade Si (\$US millions) | 2016 | 2016 Q1 | 134,633,149 | 151,235,865 | 114,713,540 |
| 4 | | 2016 Q2 | 152,524,444 | 182,029,639 | 114,075,452 |
| | | 2016 Q3 | 153,520,631 | 186,038,438 | 108,851,437 |
| | | 2016 Q4 | 134,309,244 | 167,209,264 | 97,342,781 |
| | 2017 | 2017 Q1 | 159,257,822 | 202,514,093 | 108,739,333 |

CDS INDEX STATISTICS: CENTRAL CLEARING DASHBOARD

Cleared CDS index notional volume and trade count represented more than three-quarters of total volume during the first three months of 2017. At this time, 78.7% of notional volume, or \$1.4 trillion out of \$1.8 trillion, and 76.9% of transactions, or 42,092 out of 54,712, were centrally cleared.







Source: DTCC and Bloomberg SDRs

Notional Volume: CDS index cleared volume (solid blue line, main axis) declined by 29.2%, from \$2.0 trillion in the first quarter of 2016 to \$1.4 trillion during the first three months of 2017. Non-cleared notional volume (solid red line, main axis) contracted by 16.1% over the same period, from \$450.3 billion to \$377.9 billion. Cleared volume fell by 13.7% in the 12 months to end-March 2017 versus the prior 12-month period, from \$6.1 trillion to \$5.3 trillion. Non-cleared volume continued to trend lower over this period, falling from \$1.6 trillion to \$1.3 trillion, a decline of 18.5%.

Trade Count: At the end of the first quarter in 2017, the number of centrally cleared (dashed blue line, secondary axis) and non-cleared transactions (dashed red line, secondary axis) fell relative to the first quarter of 2016. Cleared trade count decreased by 32.3%, from 62,150 to 42,092, while non-cleared trading fell by 17.9%, from 15,380 to 12,620 transactions. CDS index cleared trade count fell by 13.4% on an annual basis, from 193,263 transactions in the 12 months to end-March 2016 to 167,427 in the following 12 months. Non-cleared contracts also declined on a trailing 12-month basis, falling from 50,744 to 42,844, a decrease of 15.6%.

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CDS INDEX STATISTICS: CENTRAL CLEARING TRENDS

Changes in cleared and non-cleared average daily volume, trade count and trade size statistics are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | Cleared Statistics |
|------------------|---------------|--|
| -29.2% | -13.4% | Average daily cleared CDS index notional volume decreased in the first three months of 2017 versus the same period a year earlier. Average daily centrally cleared volume fell by 29.2%, from \$30.8 billion to \$21.8 billion, at this time. In the 12 months to end-March 2017, cleared notionals decreased by 13.4% compared with the prior 12 months, from \$23.5 billion to \$20.4 billion. |
| -32.2% | -13.0% | The number of centrally cleared contracts decreased in line with notional volume. As notionals drifted lower, the number of contracts traded each day also fell. Trade count contracted by 32.2% between the first quarters of 2016 and 2017, from 971 to 658 transactions. Average daily cleared trade count was at roughly 650 contracts in the year ending March 31, 2017, a 13.0% decrease from the average of 747 in the previous year. |
| 2.9% | -1.1% | Cleared CDS index average trade size modestly increased in the first quarter of 2017. Average trade size increased by 2.9%, from \$31.0 million in the first quarter of 2016 to \$31.9 million in the same quarter a year later. Trade size shrunk by 1.1% year-over-year, from \$30.9 million in the 12-month period to end-March 2016 to \$30.6 million over the subsequent 12 months. |
| | | Non-Cleared Statistics |
| -17.4% | -18.2% | Non-cleared CDS index average daily volume diminished further. Average daily volume declined by 17.4%, from \$7.0 billion in the first quarter of 2016 to \$5.8 billion during the first three months of 2017. Average daily notional volume was 18.2% lower on a 12-month trailing basis, from \$6.2 billion to \$5.1 billion. |
| -19.2% | -15.5% | Non-cleared trade count was also lower. The average daily number of CDS index transactions fell from 240 in the first quarter of 2016 to 194 in the first three months of 2017, a decline of 19.2%. On a trailing 12-month basis, the number of transactions declined by 15.5%, from 196 to 165 contracts per day. |
| 2.9% | -0.7% | Non-cleared CDS index trade size changed the least of all the measures. Between the first quarter of 2016 and the comparative quarter a year later, average trade size grew by 2.9%, from \$29.6 million to \$30.4 million. Average trade size fell by 0.7% on an annual basis, from \$32.1 million in the 12 months to end-March 2016 to \$31.9 million over the following 12-month period. |

CDS INDEX STATISTICS: CENTRAL CLEARING DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | Cleared | Non-Cleared |
|--|------|---------|----------------|----------------|----------------|
| | 2014 | 2014 Q1 | 31,483,629,599 | 19,889,590,377 | 11,594,039,222 |
| | | 2014 Q2 | 24,488,144,463 | 18,739,310,224 | 6,325,428,400 |
| me | | 2014 Q3 | 30,336,775,219 | 24,322,606,178 | 6,014,169,042 |
| Average Daily Notional Volume (\$US billions) | | 2014 Q4 | 34,581,337,717 | 28,975,750,571 | 6,044,613,670 |
| al V s) | 2015 | 2015 Q1 | 29,313,181,302 | 23,751,067,897 | 5,562,113,405 |
| ion | | 2015 Q2 | 25,270,066,059 | 19,152,448,544 | 6,412,270,570 |
| bill | | 2015 Q3 | 29,679,583,828 | 23,738,270,172 | 5,941,313,656 |
| aily US | | 2015 Q4 | 25,818,285,974 | 20,370,492,053 | 5,447,793,921 |
| ä.₹ | 2016 | 2016 Q1 | 37,238,149,678 | 30,784,042,692 | 7,035,953,075 |
| rage | | 2016 Q2 | 25,945,282,535 | 21,466,853,040 | 4,808,688,773 |
| Ave | | 2016 Q3 | 24,098,650,347 | 19,644,496,975 | 4,454,153,372 |
| | | 2016 Q4 | 23,699,449,396 | 18,533,029,000 | 5,248,427,069 |
| | 2017 | 2017 Q1 | 27,285,736,015 | 21,808,104,191 | 5,813,141,120 |
| | 2014 | 2014 Q1 | 844 | 543 | 301 |
| | | 2014 Q2 | 647 | 506 | 156 |
| ŧ | | 2014 Q3 | 875 | 711 | 164 |
| Average Daily Trade Count | | 2014 Q4 | 1,060 | 878 | 195 |
| e C | 2015 | 2015 Q1 | 872 | 711 | 162 |
| Irad | | 2015 Q2 | 780 | 616 | 174 |
| | | 2015 Q3 | 913 | 729 | 185 |
| Da | | 2015 Q4 | 854 | 671 | 183 |
| age | 2016 | 2016 Q1 | 1,193 | 971 | 240 |
| Aver | | 2016 Q2 | 863 | 718 | 157 |
| 1 | | 2016 Q3 | 770 | 605 | 165 |
| | | 2016 Q4 | 760 | 617 | 145 |
| | 2017 | 2017 Q1 | 842 | 658 | 194 |
| | 2014 | 2014 Q1 | 37,206,660 | 36,209,240 | 39,121,304 |
| | | 2014 Q2 | 36,935,689 | 36,824,181 | 40,017,985 |
| | | 2014 Q3 | 34,551,010 | 34,052,828 | 37,374,127 |
| ze | | 2014 Q4 | 31,334,341 | 31,733,251 | 31,973,729 |
| si: ns) | 2015 | 2015 Q1 | 33,331,730 | 33,010,656 | 35,257,039 |
| ade illio | | 2015 Q2 | 31,984,005 | 31,408,760 | 36,476,265 |
| e Tr | | 2015 Q3 | 31,916,335 | 31,782,150 | 32,769,348 |
| Average Trade Size (\$US millions) | | 2015 Q4 | 29,310,672 | 29,355,910 | 29,491,026 |
| Ave (; | 2016 | 2016 Q1 | 30,464,370 | 31,018,322 | 29,556,074 |
| | | 2016 Q2 | 29,382,869 | 29,600,375 | 30,525,076 |
| | | 2016 Q3 | 30,175,521 | 30,816,698 | 28,308,348 |
| | | 2016 Q4 | 31,547,666 | 29,933,368 | 38,195,179 |
| | 2017 | 2017 Q1 | 31,088,592 | 31,913,624 | 30,424,746 |

CDS INDEX STATISTICS: TRADING VENUE DASHBOARD

The percentage of CDS index volume transacted on a SEF is similar to the percentage of cleared trades. During the first quarter of 2017, 74.5% of notional volume, or \$1.3 trillion out of \$1.8 trillion, was SEF-traded. At this time, 74.0% of trades, or 40,476 out of 54,712 transactions, were executed on a venue.







Source: DTCC and Bloomberg SDRs

Notional Volume: CDS index volume transacted on SEF (solid blue line, main axis) decreased by 30.0% in the first quarter of 2017 relative to the same quarter of 2016, from \$1.9 trillion to \$1.3 trillion. Over the same period, off-SEF notional volume (solid red line, main axis) declined by 15.1%, from \$532.5 billion to \$452.2 billion. On an annual basis, SEF-traded notional volume declined by 14.3%, from \$5.7 trillion in the year ending March 31, 2016 to \$4.9 trillion over the following 12 months. Off-SEF volume fell by 15.8%, from \$2.0 trillion to \$1.7 trillion, during that time.

Trade Count: During the first quarter of 2017, the number of CDS index transactions executed on a SEF (dashed blue line, secondary axis) fell to 40,476 trades per day, a drop of 33.7% from the 61,014 on-SEF trades executed in the first quarter of 2016. Off-SEF trade count (dashed red line, secondary axis) was 13.8% lower, declining from 16,516 to 14,236 over that time. SEF transactions also declined by 14.6% on a 12-month trailing basis. The average number of daily transactions fell from 187,147 in the 12 months to end-March 2016 to 159,770 over the following 12 months. Off-SEF transactions fell by 11.2% over the same period, from 56,860 to 50,501.

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CDS INDEX STATISTICS: TRADING VENUE TRENDS

Changes in SEF and off-SEF average daily volume and trade count are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | SEF Statistics |
|------------------|---------------|---|
| -31.1% | -14.4% | SEF-traded CDS index average daily notional volume has contracted over the past year. Average daily SEF volume fell by 31.1% between the first quarters of 2016 and 2017, from \$29.5 billion to \$20.3 billion. In the 12 months to end-March 2017, \$18.9 billion worth of CDS index trades were executed on a SEF each day, marking a decrease of 14.4% over the previous year, when daily volume was approximately \$22.1 billion. |
| -34.6% | -14.6% | SEF-executed trade count also dipped lower. Declines in the average daily number of SEF transactions were evident as trade count fell by 34.6%, from 953 transactions in the first quarter of 2016 to 623 in the first quarter of 2017. Trade count was also 14.6% lower on a yearly basis, from 723 in the year ending March 31, 2016 to 617 trades per day in the following 12 months. |
| 1.4% | -1.1% | The average SEF transaction size was mostly unchanged. Average CDS index trade size increased by 1.4% between the first three months of 2016 and the comparative quarter a year later, from \$30.6 million to \$31.0 million. Trade size was 1.1% smaller on a 12-month trailing basis, from \$30.1 million to \$29.7 million. |
| | | Off-SEF Statistics |
| -13.8% | -14.8% | Average daily CDS index off-SEF volume remained nearly three times lower than SEF-traded volume. Average daily volume traded away from SEFs was 13.8% lower in the first quarter of 2017 versus the same quarter a year before, falling from \$8.2 trillion to \$7.1 trillion. On a yearly basis, off-SEF CDS index notionals were 14.8% smaller compared to a year earlier, averaging \$6.5 billion versus \$7.6 billion per day. |
| -12.6% | -10.2% | Fewer transactions were traded away from a SEF. Comparing the average daily number of trades in the first quarter of 2017 to the comparative quarter a year earlier reveals a 12.6% decline, as trade count fell from 254 to 222 contracts each day. On a trailing 12-month basis, average off-SEF daily trade count contracted by 10.2%, from 218 to 196 trades per day. |
| 1.1% | -1.9% | CDS index trade size executed away from a SEF was mostly unchanged. Average trade size grew modestly by 1.1%, from \$31.8 million in the first three months of 2016 to \$32.1 million in the first quarter of this year. Off-SEF trade size declined by 1.9% on a yearly basis, from \$34.6 million in the year ended March 2016 to \$33.9 million per trade over the following 12 months. |

CDS INDEX STATISTICS: TRADING VENUE DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | SEF | Off-SEF |
|---------------------------------------|------|---------|----------------|----------------|----------------|
| | 2014 | 2014 Q1 | 31,483,629,599 | 14,717,510,556 | 16,766,119,044 |
| | | 2014 Q2 | 24,488,144,463 | 15,997,363,370 | 8,983,007,659 |
| me | | 2014 Q3 | 30,336,775,219 | 21,450,898,634 | 8,885,876,585 |
| Notional Volume billions) | | 2014 Q4 | 34,581,337,717 | 25,553,012,261 | 9,415,492,309 |
| al V s) | 2015 | 2015 Q1 | 29,313,181,302 | 21,045,221,098 | 8,267,960,203 |
| Notiona billions) | | 2015 Q2 | 25,270,066,059 | 17,419,078,884 | 8,118,973,004 |
| No | | 2015 Q3 | 29,679,583,828 | 21,765,061,053 | 7,914,522,775 |
| Average Daily (\$US | | 2015 Q4 | 25,818,285,974 | 19,630,384,836 | 6,187,901,138 |
| ä. € | 2016 | 2016 Q1 | 37,238,149,678 | 29,499,262,382 | 8,192,722,102 |
| rag | | 2016 Q2 | 25,945,282,535 | 20,155,167,888 | 6,100,194,154 |
| Ave | | 2016 Q3 | 24,098,650,347 | 17,825,789,291 | 6,272,861,056 |
| | | 2016 Q4 | 23,699,449,396 | 17,319,119,382 | 6,481,605,093 |
| | 2017 | 2017 Q1 | 27,285,736,015 | 20,328,928,884 | 7,065,507,243 |
| | 2014 | 2014 Q1 | 844 | 428 | 416 |
| | | 2014 Q2 | 647 | 456 | 205 |
| ŧ | | 2014 Q3 | 875 | 657 | 219 |
| Average Daily Trade Count | | 2014 Q4 | 1,060 | 807 | 265 |
| о е | 2015 | 2015 Q1 | 872 | 647 | 226 |
| Irad | | 2015 Q2 | 780 | 576 | 213 |
| ly J | | 2015 Q3 | 913 | 697 | 216 |
| Da | | 2015 Q4 | 854 | 665 | 189 |
| age | 2016 | 2016 Q1 | 1,193 | 953 | 254 |
| Ver | | 2016 Q2 | 863 | 691 | 183 |
| 4 | | 2016 Q3 | 770 | 568 | 202 |
| | | 2016 Q4 | 760 | 587 | 176 |
| | 2017 | 2017 Q1 | 842 | 623 | 222 |
| | 2014 | 2014 Q1 | 37,206,660 | 33,419,542 | 40,757,377 |
| | | 2014 Q2 | 36,935,689 | 34,880,285 | 43,301,181 |
| | | 2014 Q3 | 34,551,010 | 32,455,351 | 40,934,455 |
| <u>e</u> | | 2014 Q4 | 31,334,341 | 30,363,245 | 35,602,531 |
| Siz 1s) | 2015 | 2015 Q1 | 33,331,730 | 32,028,056 | 37,354,809 |
| ade Ilioi | | 2015 Q2 | 31,984,005 | 30,569,838 | 37,491,280 |
| ai Tr | | 2015 Q3 | 31,916,335 | 30,434,699 | 36,739,282 |
| age US | | 2015 Q4 | 29,310,672 | 28,604,313 | 32,373,373 |
| Average Trade Size (\$US millions) | 2016 | 2016 Q1 | 30,464,370 | 30,601,752 | 31,788,786 |
| 4 | | 2016 Q2 | 29,382,869 | 28,817,886 | 33,076,827 |
| | | 2016 Q3 | 30,175,521 | 29,622,383 | 31,713,599 |
| | | 2016 Q4 | 31,547,666 | 29,389,520 | 38,847,083 |
| | 2017 | 2017 Q1 | 31,088,592 | 31,028,784 | 32,131,207 |

CDS INDEX STATISTICS: TAXONOMY DASHBOARD

CDX indices accounted for the largest share of CDS index notional volume and trade count in the first quarter of 2017. CDX indices made up 49.6% of notional volume, or \$879.0 billion out of \$1.8 trillion, and 51.8% of trade count, or 28,318 out of 54,703 trades.







Source: DTCC and Bloomberg SDRs

Notional Volume: CDX index notional volume¹ (solid blue line) fell by 25.1% in the first quarter of 2017 versus the first three months of 2016, from \$1.2 trillion to \$879.0 billion. Volume linked to other CDS indices and swaptions (solid red line) shrunk by 28.3% over the same period, from \$1.2 trillion to \$894.6 billion. On an annual basis, CDX index notional contracted by 11.0%, from \$3.7 trillion in the year ending March 31, 2016 to \$3.3 trillion over the following 12 months. Volume linked to other CDS indices declined by 18.2% over the same period, from \$3.9 trillion to \$3.2 trillion.

Trade Count: CDX index trade count (red dashed line) fell by 23.7%, from 37,098 in the first quarter of 2016 to 28,318 in the first quarter of 2017. Transactions involving other taxonomies (blue dashed line) declined by 34.3% over the same period, from 40,157 to 26,385. The number of CDX index transactions decreased on a 12-month trailing basis by 4.3%, from 119,340 in the year to end-March 2016 to 114,239 over the following 12 months. A yearly decline in aggregate trade count of 22.7% was also observed for other taxonomies, from 123,739 to 95,706 trades.

¹ CDX notional volume and trade count includes all untranched CDX indices present in the DTCC and Bloomberg swap data repositories

INDEX CDS STATISTICS: TAXONOMY TRENDS

Changes in CDX index and other CDS index average daily volume and trade count are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | CDX Index Statistics |
|------------------|---------------|---|
| -25.1% | -11.2% | Average daily notional volume of CDX indices has declined. Average daily notional declined sharply by 25.1%, from \$18.9 billion in the first quarter of 2016 to \$14.2 billion in the first quarter of this year. On an annual basis, average daily notional volume decreased by 11.2%, from \$14.8 billion in the year to end-March 2016 to \$13.2 billion over the following year. |
| -23.6% | -4.4% | The average daily number of CDX index contracts traded was also lower. During the first quarter of 2017, 23.6% fewer contracts were executed when compared to the same quarter of 2016: roughly 457 contracts versus 598 last year. CDX index trade count also fell by 4.4% on a 12-month trailing basis, from 473 to 452 contracts per day. |
| -3.8% | -8.0% | As average daily volume and trade count fell, trade size also decreased. Trade size was 3.8% smaller between the first quarter of 2016 (\$31.0 million) and the comparative quarter in 2017 (\$29.8 million). Average CDX index trade size was 8.0% smaller in the year leading up to end-March 2017, falling from \$30.9 million over the previous 12-month period to \$28.4 million at present. |
| | | Other Index Statistics |
| -29.4% | -18.0% | Average daily notional volume of non-CDX indices was also lower. Average daily notional volume was 29.4% lower in the first quarter of 2017 versus the comparative quarter in 2016, falling from \$19.5 billion to \$13.8 billion. Average daily volume fell by 18.0% on a 12-month trailing basis, from \$15.2 billion to \$12.5 billion. |
| -35.2% | -22.5% | Average trade counts of other CDS index taxonomies declined in lockstep with notionals. Declines were recorded between the first quarter of 2016 and the first three months of 2017. During this time, the number of daily trades dropped by 35.2%, from 627 to 406. In the year to end-March 2017, the average number of contracts traded fell by 22.5% to 369 trades per day, from 477 in the year to end-March 2016. |
| 6.5% | 5.7% | Average trade size was the only measure showing positive growth. Between the first quarter of 2016 and the first quarter of this year, trade sizes of other taxonomies grew from \$31.0 million to \$33.0 million, marking a 6.5% increase. Trade size rose by 5.7%, from \$31.6 million to \$33.4 million, on a year-over-year basis. |

CDS INDEX STATISTICS: TAXONOMY DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | CDX Index | Other Indices |
|---------------------------------------|------|---------|----------------|----------------|----------------|
| | 2014 | 2014 Q1 | 31,483,629,599 | 13,966,032,963 | 17,437,908,321 |
| Notional Volume billions) | 2011 | 2014 Q2 | 24,488,144,463 | 10,998,752,901 | 13,823,355,027 |
| | | 2014 Q3 | 30,336,775,219 | 13,620,542,952 | 17,127,207,453 |
| | | 2014 Q4 | 34,581,337,717 | 17,367,130,484 | 18,002,546,498 |
| | 2015 | 2015 Q1 | 29,313,181,302 | 13,345,945,135 | 16,175,076,565 |
| iona ons | 2010 | 2015 Q2 | 25,270,066,059 | 11,003,120,490 | 14,429,641,259 |
| Notiona billions) | | 2015 Q3 | 29,679,583,828 | 15,186,762,864 | 14,945,086,899 |
| | | 2015 Q4 | 25,818,285,974 | 14,293,408,129 | 11,958,267,327 |
| Average Daily (\$US | 2016 | 2016 Q1 | 37,238,149,678 | 18,916,540,987 | 19,486,345,123 |
| age | | 2016 Q2 | 25,945,282,535 | 13,211,112,072 | 12,932,985,534 |
| Aver | | 2016 Q3 | 24,098,650,347 | 13,081,529,278 | 11,412,629,866 |
| | | 2016 Q4 | 23,699,449,396 | 12,302,651,085 | 11,772,519,730 |
| | 2017 | 2017 Q1 | 27,285,736,015 | 14,176,726,501 | 13,762,907,593 |
| | 2014 | 2014 Q1 | 844 | 392 | 448 |
| | | 2014 Q2 | 647 | 321 | 335 |
| н | | 2014 Q3 | 875 | 414 | 474 |
| Average Daily Trade Count | | 2014 Q4 | 1,060 | 520 | 563 |
| С ө | 2015 | 2015 Q1 | 872 | 397 | 480 |
| rad | | 2015 Q2 | 780 | 345 | 438 |
| ly 1 | | 2015 Q3 | 913 | 470 | 453 |
| Da | | 2015 Q4 | 854 | 477 | 388 |
| age | 2016 | 2016 Q1 | 1,193 | 598 | 627 |
| ver | | 2016 Q2 | 863 | 472 | 395 |
| 4 | | 2016 Q3 | 770 | 430 | 352 |
| | | 2016 Q4 | 760 | 448 | 324 |
| | 2017 | 2017 Q1 | 842 | 457 | 406 |
| | 2014 | 2014 Q1 | 37,206,660 | 34,360,133 | 39,218,503 |
| | | 2014 Q2 | 36,935,689 | 34,086,358 | 40,619,517 |
| | | 2014 Q3 | 34,551,010 | 32,536,955 | 36,038,146 |
| e e | | 2014 Q4 | 31,334,341 | 31,525,685 | 31,439,976 |
| Siz ns) | 2015 | 2015 Q1 | 33,331,730 | 32,573,391 | 33,605,389 |
| ade Ilio | | 2015 Q2 | 31,984,005 | 31,762,370 | 32,744,133 |
| <u> </u> | | 2015 Q3 | 31,916,335 | 31,644,470 | 32,606,833 |
| Average Trade Size (\$US millions) | | 2015 Q4 | 29,310,672 | 29,114,833 | 30,050,827 |
| Ave (\$ | 2016 | 2016 Q1 | 30,464,370 | 30,956,604 | 30,982,769 |
| 4 | | 2016 Q2 | 29,382,869 | 27,714,238 | 32,028,264 |
| | | 2016 Q3 | 30,175,521 | 28,864,831 | 31,905,811 |
| | | 2016 Q4 | 31,547,666 | 27,287,286 | 36,687,112 |
| | 2017 | 2017 Q1 | 31,088,592 | 29,766,880 | 33,002,964 |

CDS INDEX STATISTICS: CURRENCY DASHBOARD

The majority of CDS index volume and trade count was dealt in US dollars. During the first quarter of 2017, these trades represented 61.7% of notional volume and 67.2% of transactions. Euro-denominated contracts accounted for 38.2% and 32.6% of volume and trade count, respectively.



Currency: CDS index Notional Volume (US\$ trillions) and Trade Count (thousands) 2014Q1 - 2017Q1



Source: DTCC and Bloomberg SDRs

Notional Volume: CDS index notional volume denominated in US dollars (solid blue line) fell to \$1.1 trillion in the first quarter of 2017, representing a 25.2% decline from the same three-month period in 2016, when volume reached \$1.5 trillion. Non-dollar notionals (solid red line) fell by 29.0%, from \$957.9 billion to \$679.7 billion, over the same period. US dollar-denominated CDS index volume fell in the 12 months ending March 31, 2017 versus a year earlier. Notionals declined by 13.2%, from \$4.8 trillion to \$4.1 trillion. Non-dollar index volume was also 17.2% lower during this time, contracting from \$2.9 trillion to \$2.4 trillion.

Trade Count: US dollar CDS index trade count (dashed blue line) decreased by 21.3%, from 46,711 trades in in the first quarter of 2016 to 36,755 in the first quarter of 2017. During this time, the number of non-dollar index transactions (dashed red line) also fell from 30,544 to 17,948 contracts, representing a 41.2% drop. The amount of US dollar CDS index transactions decreased by 5.5% on 12-month trailing basis, from 150,600 to 142,382 contracts. During this time, the amount of non-dollar index trades fell by 26.9%, from 92,479 to 67,563.

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CDS INDEX STATISTICS: CURRENCY TRENDS

Changes in the average daily volume and trade count of US dollar-denominated CDS indices and CDS indices linked to other currencies are compared in the table below.

| 2017Q1 vs 2016Q1 | Yearly Change | US Dollar CDS Index Statistics |
|------------------|---------------|--|
| -25.2% | -12.5% | CDX index volume denominated in US dollars declined. Average daily notional volume decreased by 25.2%, from \$22.8 billion in March 2016 to \$17.1 billion in the first three months of this year. Volume fell by 12.5% in the 12 months ending March 31, 2017 versus the previous year, from \$18.4 billion to \$16.1 billion. |
| -21.4% | -4.7% | The average number of US dollar CDS index trades executed each day was also lower. Trade count declined by 21.4% between the first quarter of 2016 and the comparable quarter a year later, from 730 to 574 transactions per day. The average number of transactions fell by 4.7% on a 12-month trailing basis, from 582 to 554. |
| -4.8% | -8.0% | CDS indices denominated in US dollars were traded in smaller size. Average trade size contracted by 4.8%, from \$30.2 million to \$28.7 million per trade between the first quarter of 2016 and the first three months of 2017. On a yearly basis, average trade size was 8.0% smaller, from \$31.0 million in the 12 months leading up to end-March 2016 to \$28.5 million over the following year. |
| | | Other Currency CDS Index Statistics |
| -30.1% | -16.7% | Non-dollar CDS index average daily volume fell in tandem with broader trends. In the first three months of 2017, daily transactions of CDS indices denominated in other currencies were 30.1% lower relative to the same period in 2016, falling from \$15.0 billion to \$10.5 billion. Average daily notional volume shrank by 16.7% on a trailing 12-month basis, from \$11.2 billion in the 12 months to end-March 2016 to \$9.4 billion over the following 12 months. |
| -42.1% | -26.5% | Non-US dollar average daily trade count fell more sharply than notionals. The average daily number of trades fell from 477 in the first quarter of 2016 to 276 in the same period a year later, a drop of 42.1%. The average number of trades executed per day was 26.5% lower on a yearly basis, falling from 356 in the year to end-March 2016 to 262 over the subsequent 12 months. |
| 17.2% | 13.7% | Average trade size increased for CDS indices denominated in non-dollar currencies. During the first three months of 2017, average trade size was 17.2% larger than the first quarter of 2016, rising from \$31.1 million to \$36.4 million. In the 12 months leading up to March 2017, trades were 13.7% larger versus the previous one-year period, increasing from \$30.8 million to \$35.1 million. |

CDS INDEX STATISTICS: CURRENCY DATA

Average Daily Notional Volume, Trade Count and Trade Size Quarterly Statistics

| | | | Total | US Dollar CDS Index | Other Currencies |
|---------------------------------------|------|---------|----------------|---------------------|------------------|
| | 2014 | 2014 Q1 | 31,483,629,599 | 18,225,759,375 | 13,178,181,909 |
| Notional Volume billions) | 2014 | 2014 Q1 | 24,488,144,463 | 14,587,516,958 | 10,050,795,426 |
| | | 2014 Q3 | 30,336,775,219 | 17,258,261,783 | 13,076,744,895 |
| | | 2014 Q4 | 34,581,337,717 | 20,677,694,157 | 14,434,571,833 |
| | 2015 | 2015 Q1 | 29,313,181,302 | 16,718,603,792 | 12,590,577,510 |
| | 2010 | 2015 Q2 | 25,270,066,059 | 14,894,362,638 | 10,598,264,375 |
| Not billi | | 2015 Q3 | 29,679,583,828 | 18,759,565,303 | 10,912,079,524 |
| | | 2015 Q4 | 25,818,285,974 | 17,294,232,357 | 8,517,645,925 |
| Average Daily (\$US | 2016 | 2016 Q1 | 37,238,149,678 | 22,844,535,067 | 14,967,209,137 |
| age | | 2016 Q2 | 25,945,282,535 | 16,329,860,104 | 9,862,218,241 |
| Aver | | 2016 Q3 | 24,098,650,347 | 15,612,982,551 | 8,615,301,486 |
| 4 | | 2016 Q4 | 23,699,449,396 | 15,520,193,886 | 8,554,976,929 |
| | 2017 | 2017 Q1 | 27,285,736,015 | 17,090,772,970 | 10,457,485,638 |
| | 2014 | 2014 Q1 | 844 | 507 | 333 |
| | | 2014 Q2 | 647 | 411 | 239 |
| ÷ | | 2014 Q3 | 875 | 511 | 364 |
| Average Daily Trade Count | | 2014 Q4 | 1,060 | 616 | 460 |
| С ө | 2015 | 2015 Q1 | 872 | 495 | 376 |
| rad | | 2015 Q2 | 780 | 455 | 330 |
| ly I | | 2015 Q3 | 913 | 570 | 339 |
| Da | | 2015 Q4 | 854 | 571 | 279 |
| age | 2016 | 2016 Q1 | 1,193 | 730 | 477 |
| Ver | | 2016 Q2 | 863 | 569 | 299 |
| A | | 2016 Q3 | 770 | 532 | 241 |
| | | 2016 Q4 | 760 | 541 | 231 |
| | 2017 | 2017 Q1 | 842 | 574 | 276 |
| | 2014 | 2014 Q1 | 37,206,660 | 34,876,682 | 39,945,664 |
| | | 2014 Q2 | 36,935,689 | 34,733,716 | 41,700,625 |
| | | 2014 Q3 | 34,551,010 | 32,828,002 | 35,617,882 |
| e S | | 2014 Q4 | 31,334,341 | 31,910,180 | 31,071,901 |
| Siz ns) | 2015 | 2015 Q1 | 33,331,730 | 33,027,415 | 33,056,202 |
| ade | | 2015 Q2 | 31,984,005 | 32,706,960 | 32,259,781 |
| <u> </u> | | 2015 Q3 | 31,916,335 | 31,990,033 | 30,759,072 |
| Average Trade Size (\$US millions) | | 2015 Q4 | 29,310,672 | 28,956,191 | 29,239,556 |
| Ave (\$ | 2016 | 2016 Q1 | 30,464,370 | 30,159,147 | 31,069,106 |
| 4 | | 2016 Q2 | 29,382,869 | 28,589,059 | 31,912,107 |
| | | 2016 Q3 | 30,175,521 | 27,889,147 | 34,755,134 |
| | | 2016 Q4 | 31,547,666 | 28,774,783 | 37,168,202 |
| | 2017 | 2017 Q1 | 31,088,592 | 28,702,517 | 36,419,922 |

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ISDA has published other recent research papers:

- SwapsInfo Fourth Quarter 2016 Review, February 2017 http://www2.isda.org/attachment/OTE5Nw==/Swaps%20review%20Q4%202016.pdf
- Derivatives Market Analysis: Interest Rate Derivatives, December 2016

http://www2.isda.org/attachment/OTA2NQ==/OTC%20Derivatives%20Market%20Analysis%20-%20DEC%202016%20-%20V3.pdf

- Trends in IRD Clearing and SEF Trading, December 2016
 http://www2.isda.org/attachment/OTAzMA==/Trends%20in%20IRD%20Clearing%20and%20
 SEF%20Trading1.pdf
- Key Trends in Clearing for Small Derivatives Users, October 2016

http://www2.isda.org/attachment/ODc5Mw==/Key%20Trends%20in%20Clearing%20for%20 Small%20Derivatives%20Users%20FINAL.pdf

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