



Recent Trends in CDS Markets

by

John Coughlan, Richard Haynes, Madison Lau, and Bruce Tuckman
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Introduction¹

In recent years, market participants, as well as policymakers, have highlighted a downward trend in CDS credit market activity since the financial crisis. As one example, analysis by the Bank of International Settlements (BIS) shows that global CDS markets have fallen from a high of just over \$60tn in notional amount outstanding in 2007 to under \$10tn at the end of 2017.² A number of reasons have been given for this sharp reduction in notional holdings. First, swap compression exercises have become much more common during the post-crisis period, leading to reductions (often significant) in portfolio notional though the portfolio itself retains very similar risk characteristics. Recent updates to capital and leverage requirements have incentivized portfolio efficiency, making compression a much more attractive swap portfolio service.

Second, and somewhat similar in effect, the clearing of credit products has increased. In certain cases, like highly standardized index trading in the U.S. and Europe, clearing is now required. In other cases, like single-name CDS, though a mandate is not present, opportunities for clearing have expanded and clearing can often provide portfolio netting benefits with mandated indices that already sit at the clearinghouse. The effects of swap clearing are similar to those for compressions. Portfolios are centralized at the clearinghouse/CCP, and the CCP automatically nets offsetting positions, playing a “compression-like” role. Like compression, the clearing of a portfolio may result in a reduced gross notional, but a relatively unchanged risk profile compared to the original uncleared position.

Finally, market participants have argued that liquidity in credit markets, especially single-name credit markets, has deteriorated in recent years. Increased costs of intermediation, unexpected credit events (or lack of credit events in some cases), and the introduction of alternate credit products like credit ETFs have all been cited as potential drivers of recent liquidity changes. In this report, we do not argue for these, or other, reasons for the changes that have occurred. However, we do provide a summary of credit market trends over a recent five year period, and include more detailed summaries for credit and market participant segments. Among other trends, we find:

- A significant reduction in outstanding notional in the credit market as a whole. However this reduction, at least for the market subset we analyze, is primarily concentrated in: 1) the single-name market and 2) inter-dealer holdings
- An ongoing shift in positions from the uncleared to the cleared space. Because of the clearing mandate, this shift occurred earlier for index credit products. However, by mid-2019, the level of voluntary clearing in single-name products was roughly proportional to the level of activity in the reference name.
- A general reduction in the size, and number, of single-name contracts with high levels of liquidity. These shifts have occurred in both the sovereign as well as the corporate single-name markets.

Data:

¹ While this paper was produced in the authors’ official capacity, the analyses and conclusions expressed here are those of the authors and do not necessarily reflect the views of other Commission staff, the Office of the Chief Economist, or the Commission. Corresponding authors: John Coughlan, Economist: jcoughlan@cftc.gov, Richard Haynes, Senior Economist: rhaynes@cftc.gov and Madison Lau, Economist: mlau@cftc.gov

² For this analysis, as well as a broader discussion of global CDS trends across a recent decade, see “[The credit default swap market: what a difference a decade makes](#)”. Similarly, a [recent ISDA report](#) estimates that the number of single-name transactions in a given quarter has fallen from over 300 thousand to roughly 100 thousand over the last five years. That recent report primarily focuses on trends in market activity over the last five years, providing a complement to the position focus (with a similar time horizon) of this report.

For our analysis, we use data provided to the CFTC by DTCC through its Trade Information Warehouse (TIW). The TIW database was introduced around the financial crisis to provide regulatory authorities a summary of risk holdings and distributions in a previously opaque market segment. At inception, data in the TIW was reported by the largest swap market dealers; since then, the universe of reporters have expanded - first to smaller dealers and more recently to some buy-side institutions. The data set provided to the CFTC comprises U.S. reporting entities and their counterparties. For a given reporting entity, we are given a set of information on their held positions as of a given date: the counterparty to the position (e.g. the clearinghouse in the case of cleared trades), the size and direction of the position, and the underlying reference entity/index. We use weekly versions of these files (representing positions as of Fridays), spanning dates from Aug 2, 2014 to July 20, 2019 - a roughly five-year period. This data set has been used for a number of recent studies of CDS market trends, including the ISDA review of credit markets highlighted above.

We enhance this data set in a few different ways. First, using a classification methodology matching that used in our Entity-Netted Notionals³ reports, we assign to each counterparty a sector classification. Using this classification, each party is placed in one of the following buckets: Dealer, Bank, Hedge Fund, Asset Manager, Insurance, Pension Fund, or Other.⁴ In addition, single-name positions are in some charts below divided into corporate and sovereign sub-components. We have added this assignment to the TIW file.

Analysis:

We begin our analysis with a very high level picture of the size of credit markets in the five year period of interest. Figures 1 and 2 provide a high level overview of gross notional levels, broken down by counterparty type and clearing status. Figure 1 provides a summary of standard index positions, while Figure 2 provides the same for single-name positions.⁵ In each chart, the two lighter areas represent dealer positions, with the light purple area representing uncleared positions and the light green representing cleared positions. A similar coloring is used for client positions, shown as the dark purple and dark green areas. These high-level aggregates match the trends identified in the earlier analytic work, such as the BIS and ISDA studies. Generally, aggregate positions have fallen, in some cases dramatically, over the five years covered. These reductions have mostly been isolated to the single-name market, though there was some reduction in the notional of index positions in late 2014 and early 2015; this difference in timing of the reductions may roughly coincide with differences in the speed of clearing for these two markets. More specifically, the reductions that have occurred have almost exclusively been restricted to the bilateral inter-dealer market. In Figure 2, which represents single-name CDS positions, the notional associated with the other three categories is roughly flat during the period of interest, a strong contrast to the falling inter-dealer uncleared trend.

In addition to the decrease in gross notional for single-name CDS positions, decreases have also been seen for both the number of active position holders in that market as well as the number of active reference names. These two counts are shown represented by the two lines in Figure 2; the lines are normalized relative to the counts as of early January 2015. Since that period, the number of position holders (dealer + clients) has fallen by around 15 percent; the number of active reference names has fallen even more significantly, by over 30 percent. As in the case of the notional trend, the time series

³ ENNs reports are available on the Reports of the Office of the Chief Economist homepage: <https://www.cftc.gov/About/EconomicAnalysis/ReportsOCE/index.htm>

⁴ Note that the "Dealer" category is prioritized over all others. Therefore, if an entity is a registered swap dealer, it is placed into this category, even if that entity also falls into a second category like "Bank".

⁵ "Standard" indices are defined as those that fall under the clearing mandate (e.g. some CDX and iTraxx indices)

of active reference entities shows seasonality, with reductions occurring almost exclusively in June and December of each year. These dates coincide with the standard credit index expiration dates; given the discontinuities in reference entity counts, it appears that entities allow credit protection positions to expire in certain names and then choose not to replace them with new positions.

The three charts following these aggregate summaries (Figures 3 through 5) provide a more detailed look into the corporate single name market. In each chart, single name reference entities are bucketed into one of four groups, determined by the notional outstanding in that name for the given week. For example, the highest liquidity bucket (shown in orange in the three charts) is defined as those reference names with between \$10 and \$100bn of gross outstanding notional in that week. Using this classification system, Figure 3 shows that the decrease in single-name positions has been highly concentrated in the highest liquidity buckets, with the amount of gross notional in the most active bucket falling around 90 percent over the five year period. Part of this decrease is due to the significant reduction in the number of reference entities that fall into this bucket (Figure 4). Where over 75 corporate reference names fell into the \$10-100bn bucket in late 2014, by the summer of 2019 just under 10 remained in this liquidity tranche.

Shifts to clearing were seen at the aggregate level for both index and single-name positions (Figures 1 and 2). These shifts are still visible at more granular levels. Figure 5 shows clearing rates for the corporate single name market during the five-year period broken down into the four liquidity buckets. For all four groups, clearing rates in 2019 exceed those in 2014; in general, the more liquid the single-name reference entity, the more likely the associated position will be cleared (though this relationship is not fully one-to-one). Similar analysis of single-name sovereign positions shows very similar trends, with the number of reference entities in the highest liquidity buckets falling and clearing rates on average correlated with liquidity levels.

Some variation in these overarching trends can be seen after breaking CDS positions by market participant category. For these figures, each counterparty is assigned to one of seven buckets: swap dealer, bank, asset manager, hedge fund, insurance company, pension fund, or other. The resulting Figures 6 through 9 provide a set of summary charts which show various aggregate cuts of CDS holdings by participant category. In figures 6 and 7, cleared and uncleared positions are displayed separately, but only three participant categories are included (asset managers, hedge funds, and other); in figures 8 and 9, all categories are shown, but cleared and uncleared positions are aggregated together.

A few trends both across categories, as well as within categories, can be seen here. First, clearing rates have increased across most participant types, though at different rates. For example, by the middle of 2019, almost all of hedge fund index positions were cleared; in contrast, a non-negligible subset of asset manager index positions remains uncleared even in recent months, though some increase did occur. Similarly, the positions of the “other” category in Figure 6 are almost half uncleared, representing the aggregate clearing decisions of a broad, diversified group of market entities. Clearing rates for single names are lower for all categories, though they do represent at least a quarter of current outstanding positions for both hedge funds and asset managers.

Finally, the last set of charts (Figures 10 through 13) provide a more detailed look at the behavior of individual participant groups. In each chart, gross notional positions are shown in the area charts, while net notional positions are shown in the overlaid line charts (blue representing single name positions and orange index positions).⁶ Note that the notional netting does not take position duration into

⁶ Positions are netted using the following definitions: long positions represent open swaps where the counterparty has sold credit protection, whereas short positions represent open swaps where the counterparty has purchased credit protection.

consideration, so the net positions in the chart may not fully match risk-adjusted netting values. With this (potentially significant) caveat, we note a few trends for the shown participant groups:

- Trends in aggregate gross notionals differ significantly across the four groups. Where the gross holdings of asset managers and insurance companies have been relatively flat over the last five years, holdings have fallen for banks as well as hedge funds during the same period.
- All four participant groups hold positions in both index and single-name CDS. However, where three of the groups were relatively balanced between the two classes (Asset Managers, Hedge Funds and Insurance), Bank positions were highly skewed to single names.
- Further differences appear after position netting. While both banks and insurance companies are net protection sellers of single-name CDS, hedge funds are net protection buyers. To highlight one of the categories, insurance companies can sometimes sell protection to synthetically replicate a bond position – this matches the net aggregate we see in Figure 13.
- The net directionality can differ between single name and index positions. While hedge funds are net protection purchasers for single names, they are currently net protection sellers at the level of the index. Hedge funds can often arbitrage price differences between an index and the underlying portfolio of single names, requiring offsetting positions in both. However, netting patterns can be volatile. Though hedge funds are currently net long credit indices, earlier in the panel they were net short. The same trend is seen in bank positions, with banks now net long credit indices, though short in earlier weeks.

We conclude by again noting that in the last five years regulatory change does appear to have coincided with changes in the composition, and distribution, of both index and credit positions. Clearing rates have increased for both market segments, though the single name market began from a much lower base and still lags that of standard indices. Clearing rates generally correlate both the level of liquidity of a given product, as well as the type of entities most active in that product. For instance, where products are more commonly traded by hedge funds, clearing rates seem higher; in contrast, products held by institutions with longer holding periods, like insurance and pension funds, traditionally see lower clearing frequencies. We will continue to monitor both of these market segments as regulatory and market change continues over the next few years.

Appendix:

Fig. 1: Standard* Index CDS Positions by Trading Relationship and Counterparty Count

Weekly data, August 2014 - July 2019, Notional in trillions of USD

*Includes CDX IG and HY, iTraxx Europe and Crossover

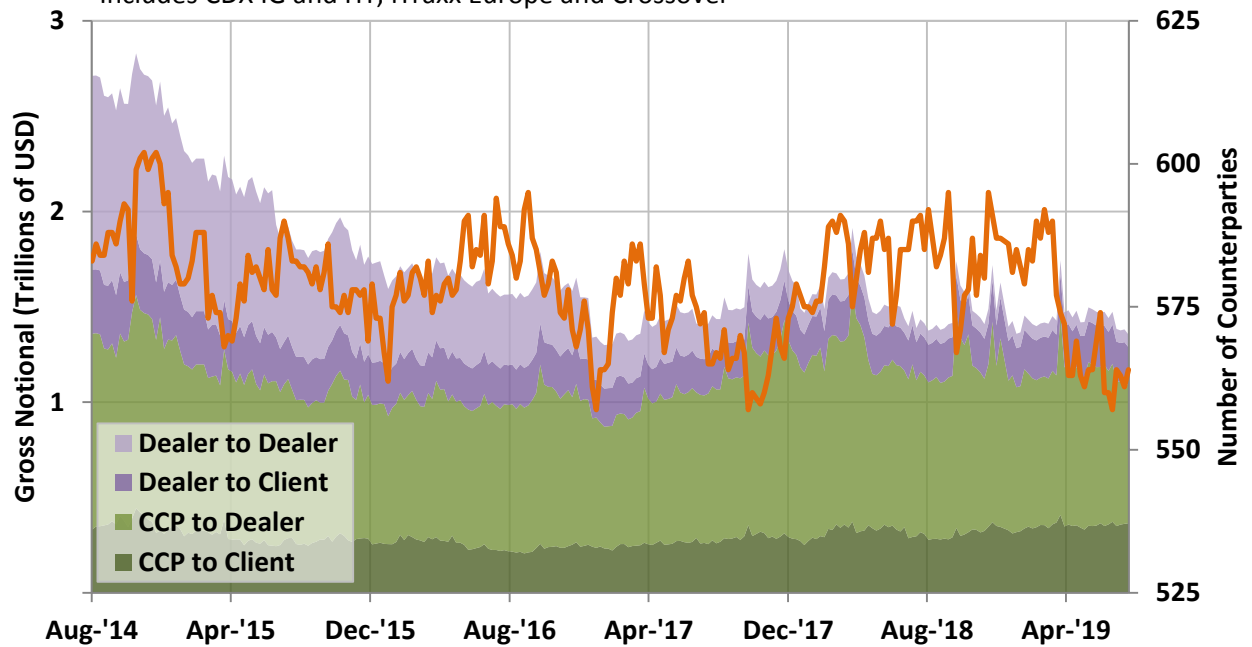


Fig. 2: Single Name CDS Positions by Trading Relationship and Count of Reference Entities
 Weekly data, August 2014 - July 2019, Notional in trillions of USD
 Counterparty and reference entity counts indexed to January 3, 2015

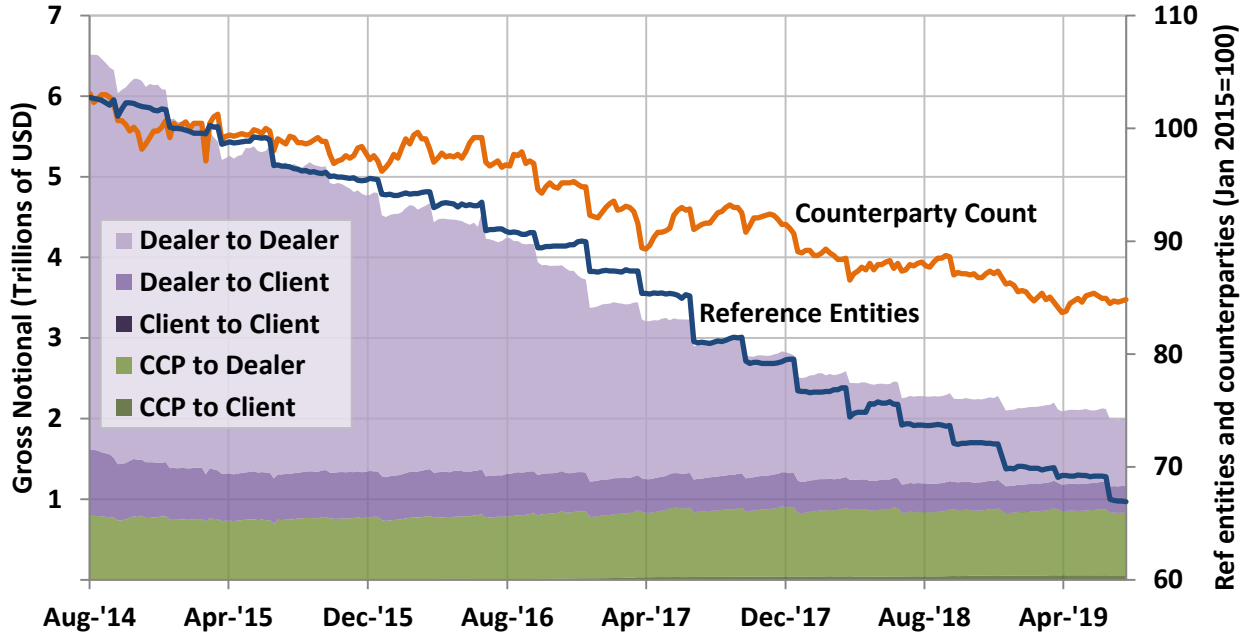


Fig. 3: Single Name Corporate CDS Positions by Liquidity Buckets
 Weekly data, Aug 2014 - Jul 2019, Notional in Trillions of USD

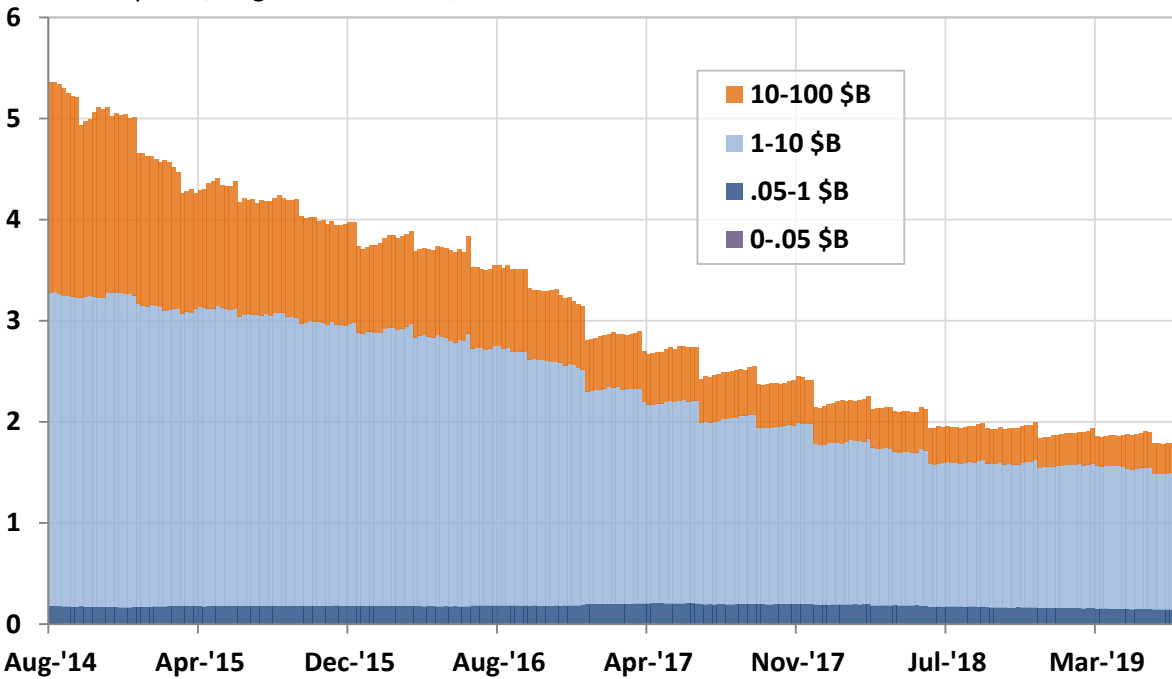


Fig. 4: Single Name Corporate CDS Number of Reference Entities by Liquidity Buckets

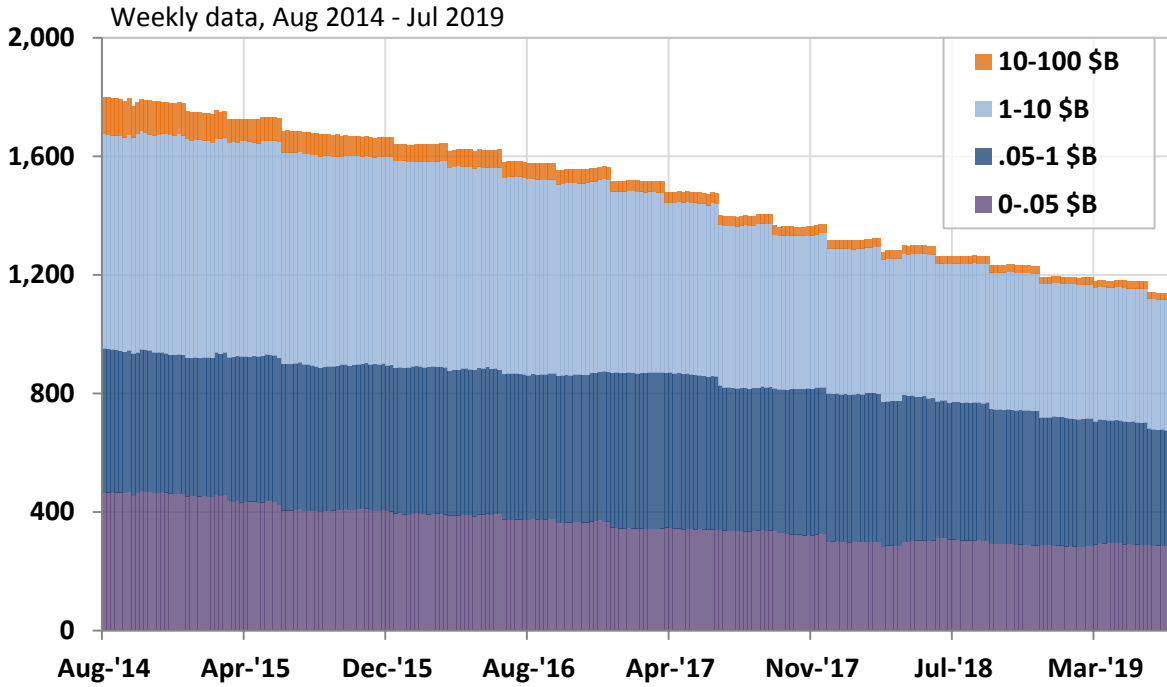


Fig 5: Single Name Corporate CDS Clearing Percentage by Liquidity Buckets

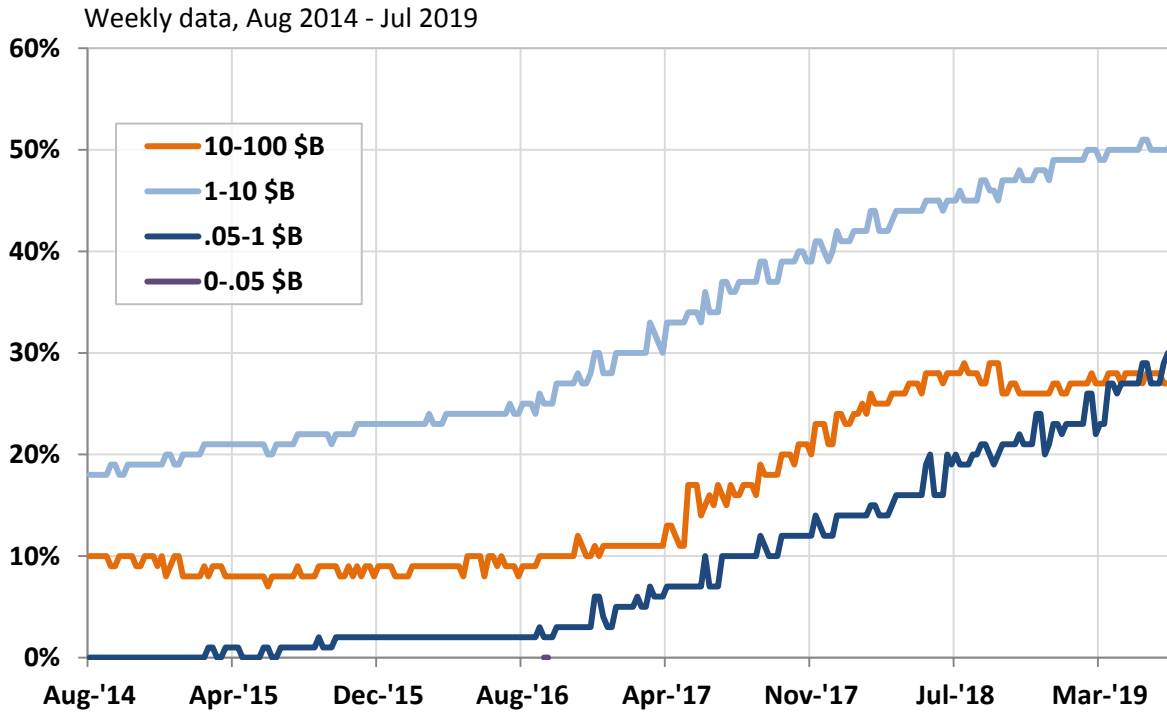


Fig. 6: Standard* Index CDS Positions by Major Participant Type and Clearing Status

Weekly data, Aug 2014 - Jul 2019, Notional in Billions of USD

*Includes CDX IG and HY, iTraxx Europe and Crossover

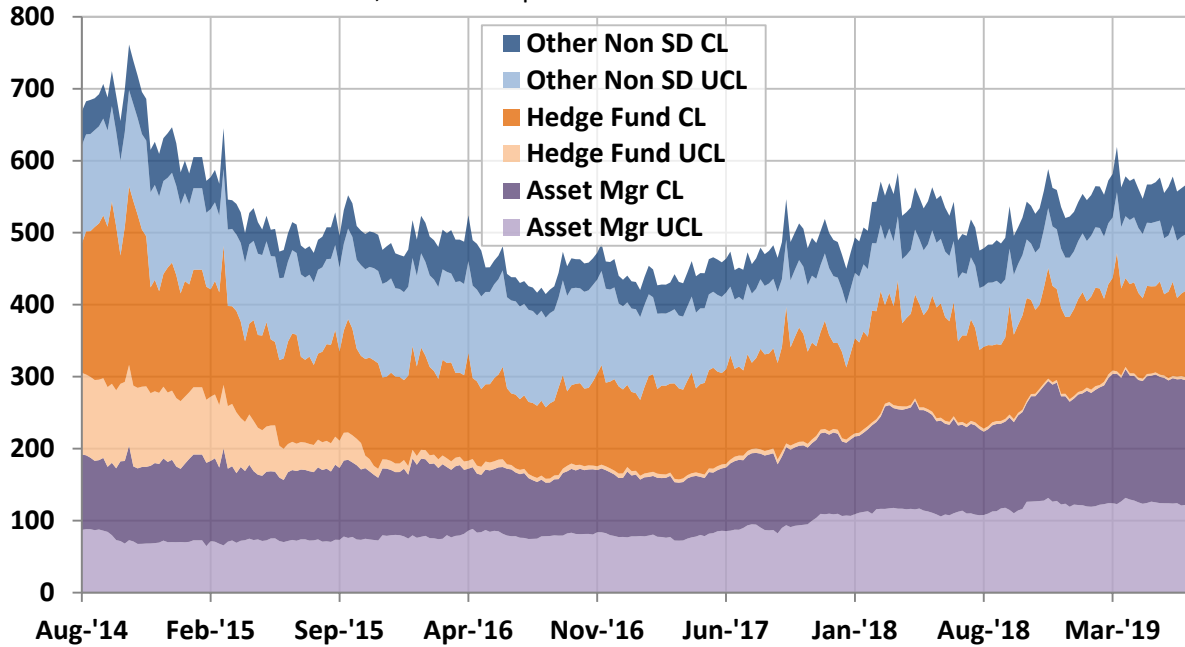


Fig. 7: Single Name CDS Positions by Major Participant Type and Clearing Status

Weekly data, Aug 2014 - Jul 2019, Notional in Billions of USD

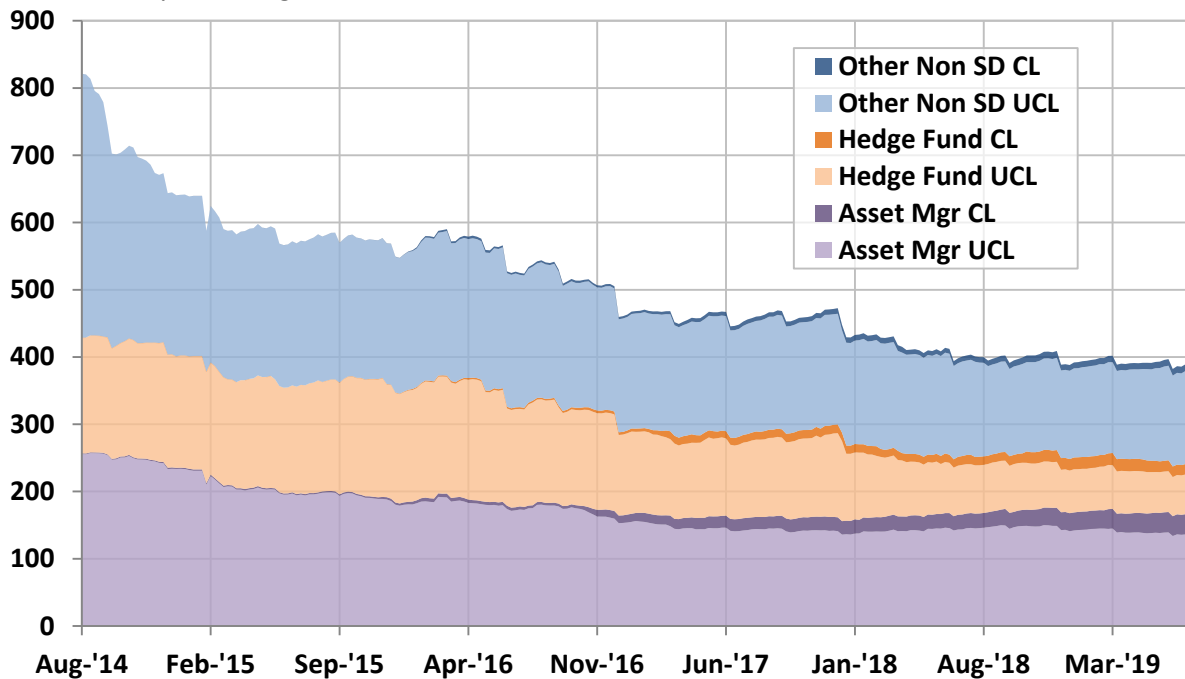


Fig. 8: Standard* Index CDS Positions by Major Participant Type (gross positions)

Weekly data, Aug 2014 - Jul 2019, Notional in Billions of USD

*Includes CDX IG and HY, iTraxx Europe and Crossover

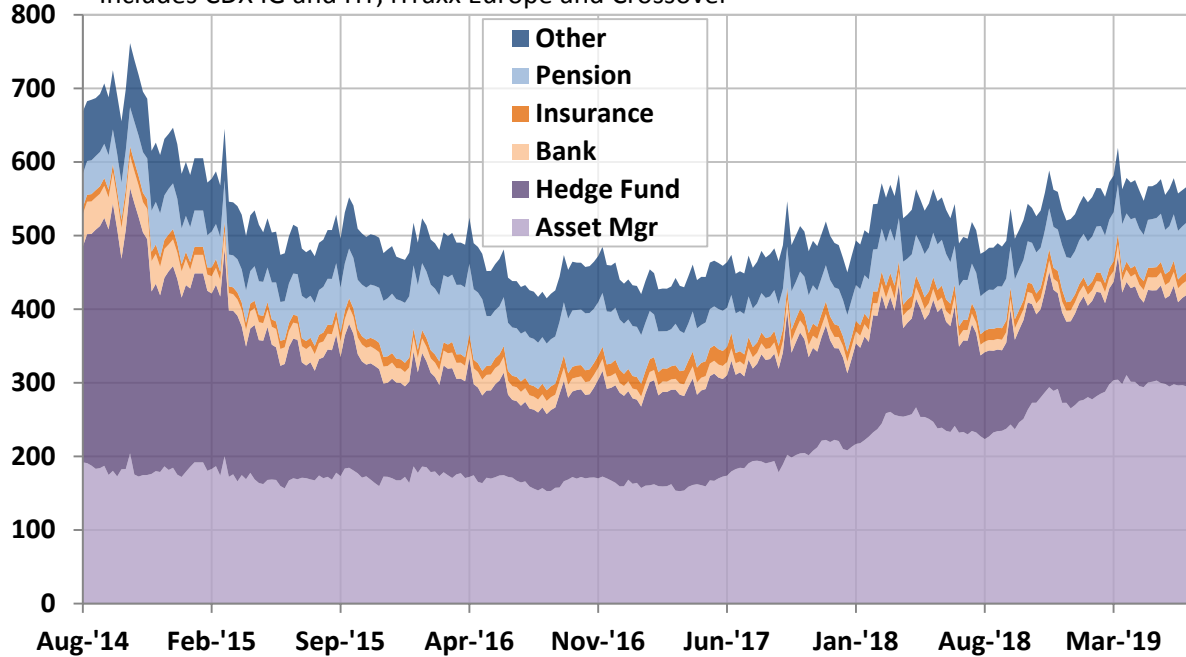


Fig. 9: Single Name CDS Positions by Major Participant Type (gross positions)

Weekly data, Aug 2014 - Jul 2019, Notional in Billions of USD

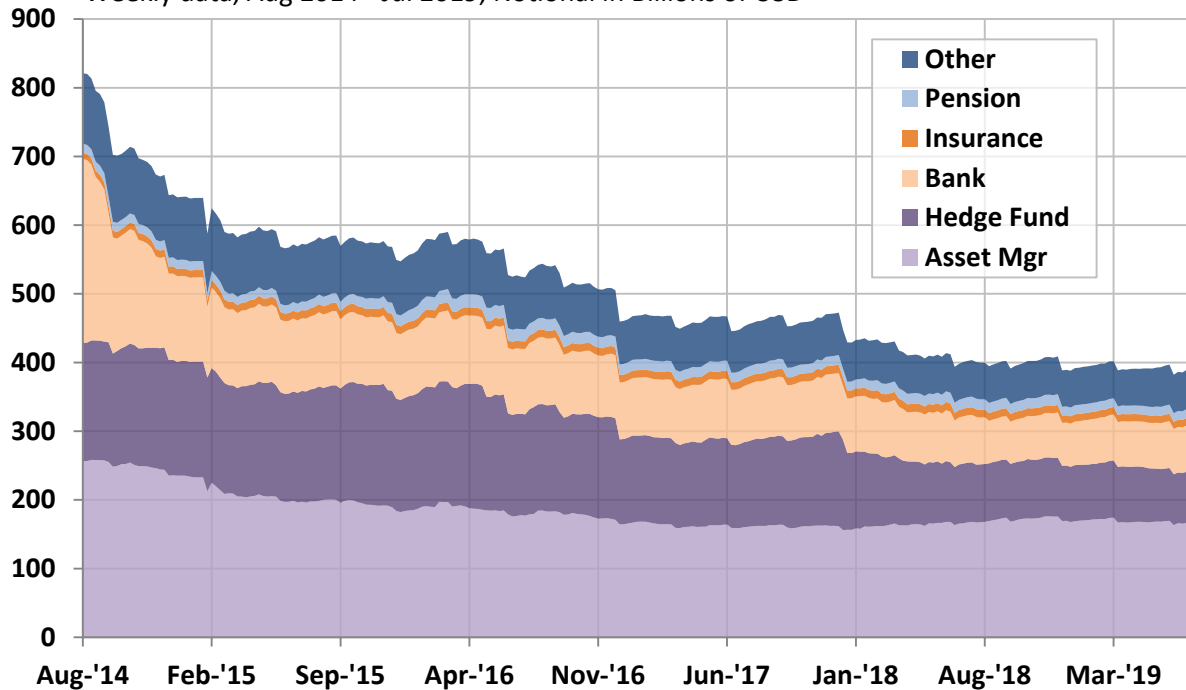


Fig. 10: Asset Managers Gross and Net Positions, Single Name and Standard Index
 Weekly Data, August 2014 - July 2019, Notional in Billions of USD

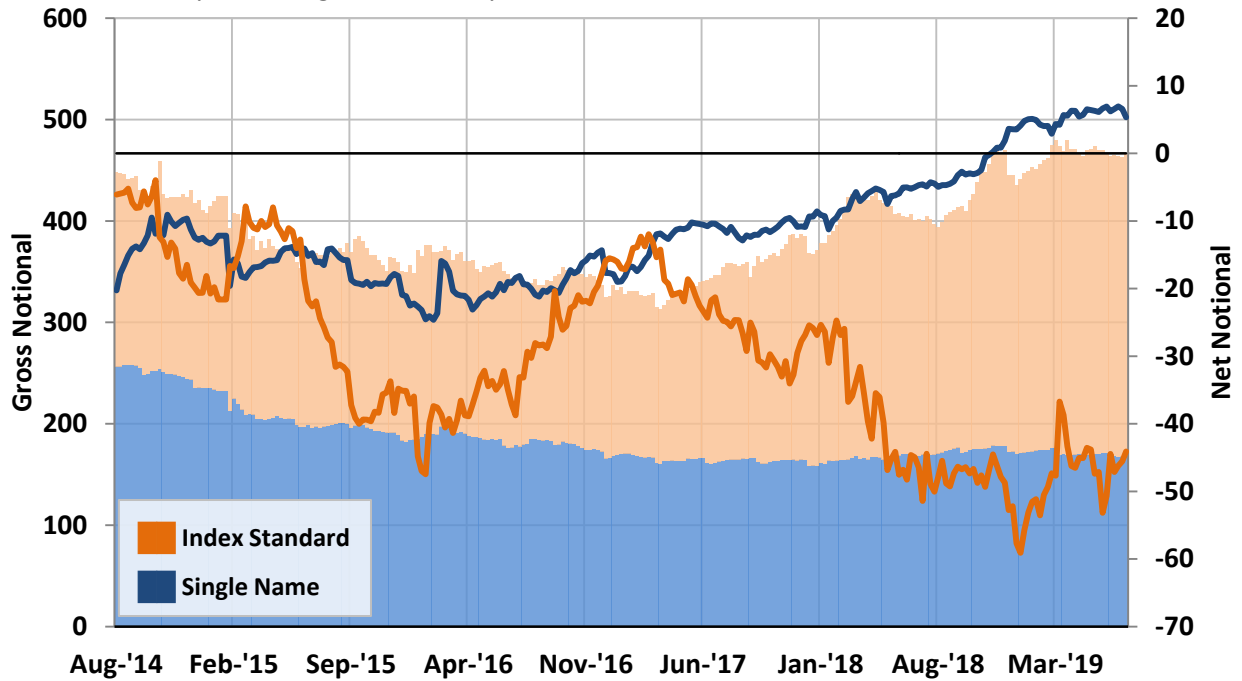


Fig. 11: Hedge Funds Gross and Net Positions, Single Name and Standard Index
 Weekly Data, August 2014 - July 2019, Notional in Billions of USD

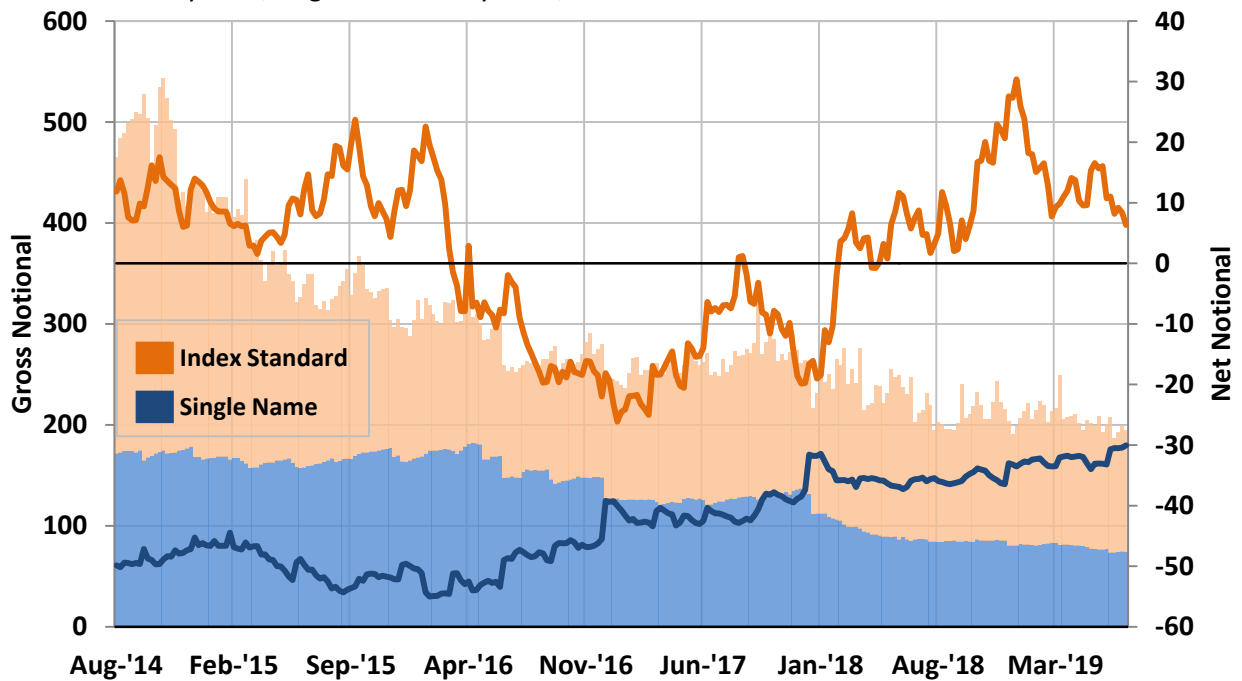


Fig. 12: Banks Gross and Net Positions, Single Name and Standard Index
 Weekly Data, August 2014 - July 2019, Notional in Billions of USD

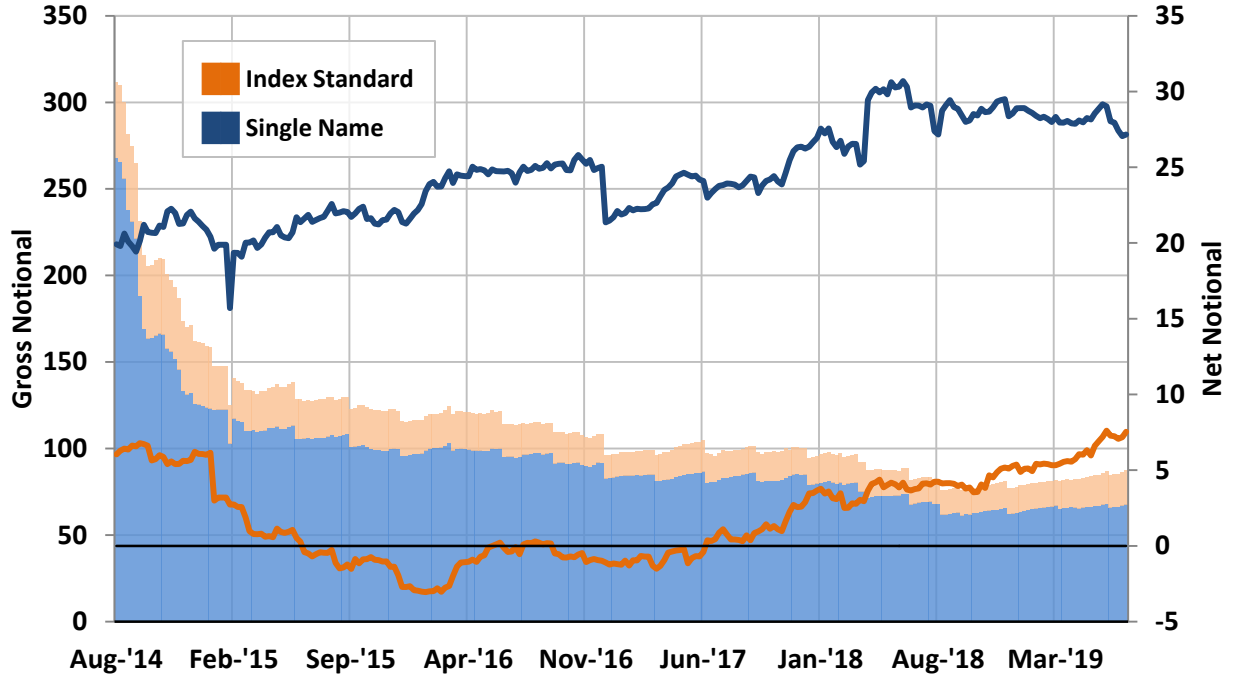


Fig. 13: Insurance Companies Gross and Net Positions, Single Name and Standard Index
 Weekly Data, August 2014 - July 2019, Notional in Billions of USD

