

Trading volumes in European credit

Large decline in CDS indices and bonds vs. large increase in options & a resurgence of the bespoke tranche market

- **“Delta-one” products suffer a large drop in trading volumes: CDS indices are down 30-50% and cash bonds are down 10-20%.** The drop in volumes in credit “delta-one” products is not surprising, it is a phenomenon visible across most asset classes as we highlighted in [Who stole the markets' mojo?](#); driven mainly by lower volatility and more stringent regulations.
 - **The drop in CDS index volumes is surprisingly large though. We believe the “extra” reduction in index volumes comes from the success of the options market in “stealing” a substantial amount of hedging activity from the index market.** In a sense, the options market is “biting the hand that feeds it” by reducing the large liquidity in the index market, one of the main reasons why options have been so successful in the first place.
 - **In cash bonds, the higher than usual reliance on primary markets has probably contributed to lower secondary trading volumes.** This exacerbates the trend of high uncertainty and low conviction which was also evident last year, and which pushed investors to trade less around their bond positions, keeping higher cash balances and using index longs to make up for the lost carry.
 - **Single name CDS volumes have managed to stay constant/slightly increase this year;** although DTCC methodology issues make the analysis hard to interpret.
- **Volumes continued growing strongly in the index- and portfolio-based derivatives market, particularly in CDS index options (~40% YtD vs. 2013) and on bespoke tranches.**
 - Traditional credit investors continue migrating hedges from the index to the options market, which is also benefiting from organic demand as its depth increases and the ability to trade relative value across credit indices and across asset classes improves.
 - In the tranche market, volumes in iTraxx standard tranches are stable/slightly up vs. last year. However, the most important development is a large uptick in the volumes of new issue bespoke synthetic tranches. We expect the tranche market, both standard and bespoke, to continue growing if spreads remain stable or tighten, as investors will continue reach out for levered synthetic longs. Additionally, the potential launch of Crossover standard tranches in September opens a large avenue of growth.
- **We use data up to the end of July 2014.**

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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CDS Indices¹

See our monthly [CDS Index Trading Volumes](#) in Citi Velocity for a more granular analysis of index trading volumes.

Markit data for on-the-run CDS indices indicate that trading volumes in 2014 YtD are significantly lower across iTraxx indices, compared to the same period in 2013: 44% lower in iTraxx Main, 28% in Crossover and 45% in Senior Financials. Sub Fins and CDX IG volumes are also substantially less: 64% and 57% respectively. The larger drop in Sub Financials volumes (68%) can be attributed to the [change in CDS definitions](#) next September. Figure 1 shows 2014 trading volumes year-to-date (YtD) vs. the two previous years. Figure 5 to Figure 9 on the next page show, for each index, cumulative trading volumes over each of the past 3 years, together with total trading volumes over the year and YtD.

Figure 1. 2014 volumes vs. previous years
Change in cumulative trading volumes YtD.

	2012	2013
Main	-28%	-44%
Crossover	-28%	-28%
Senior Fin	-46%	-45%
Sub Fin	-74%	-64%
CDX IG	-64%	-57%

Source: Citi Research, Markit. On-the-run indices.

Figure 2. Trading volumes vs. iTraxx Main

	2012	2013	2014 YtD
Crossover	28%	23%	29%
Senior Fin	24%	19%	20%
Sub Fin	4%	2%	2%

Source: Citi Research, Markit. On-the-run indices.

Figure 3. Average daily trading volumes
In local currency billions.

	2012	2013	2014 YtD
Main	10.8	11.9	8.2
Crossover	3.0	2.8	2.4
Senior Fin	2.6	2.3	1.7
Sub Fin	0.4	0.3	0.2
CDX IG	16.8	11.9	6.6
CDX HY	3.2	2.7	1.9

Source: Citi Research, Markit. On-the-run indices.

Crossover volumes have suffered the least: 28% YtD vs. ~45% in Main and Senior Financials

What's behind the large drop in index trading volumes? It's not entirely clear to us, to be honest. Although there may be some medium-term structural reasons reducing trading volumes across all markets, the volume drop in CDS indices seems too large to be explained by those reasons alone. The only plausible reason we can think of, and which is in-line with what investors tell us, is a large **transfer of hedging activity from indices to options across credit market participants; especially among real money investors and bank trading desks**. When investors move their hedges from indices to options they tend to keep the notional of the hedge constant (e.g. they substitute a 100m index short by a 100m OTM no-delta payer bought). Given that the delta of the option hedge is lower than 50%, the amount of index traded (generally by the option market maker) on the back of that option trade is much lower than the option notional, and as a consequence than the index notional the option hedge is replacing.² This "theory" becomes more credible to us when we look at the ever-growing volumes in the options market (see later section). Without being sensationalist, **one wonders whether the options market is somehow "cannibalizing" the liquidity in the index market**. In any case, given that most of the credit investor base is already using options, we don't think that the process we just described, if true, has much further to go.

In Europe, iTraxx Main accounts for the majority of total index trade volumes, with Crossover and Senior Financials trading only around 30% and 20% of what Main trades respectively. Sub Financials trade just 2% of what Main trades (see Figure 2). Crossover volumes, as a % of Main, have risen from 23% last year to 29% in 2014 YtD. Relative trading volumes in Senior and Sub Financials indices have generally decreased in preceding years.

¹ Figure 29 includes a brief summary of the data sources used when putting together the trading volume data for CDS indices and single name CDS.

² In our 100m example, if one assumes the investor buys a 30% delta payer to hedge, the option market maker will trade 30m of index to hedge his position initially plus whichever index notional he/she needs to trade going forward in order to keep the position delta-hedged as the delta of the option changes.

The average daily trading volume for iTraxx Main and Crossover during 2014 has been around €8.2bn and €2.4bn respectively as Figure 3 shows; significantly lower than 2013. In the US, CDX IG has traded an average of \$6.6bn per day. Senior Financials have traded €1.7bn per day on average.

Figure 4. Daily risk transfers: "Main-equivalent" 2014 average daily traded volumes - €bn

2014 YtD	Average daily volume	Beta * to Main	"Main equiv." volume
Main	8.2	1.0	8.2
Crossover	2.4	3.8	9.3
Senior Fin	1.7	1.4	2.4
Sub Fin	0.2	2.3	0.4

Source: Citi Research, Markit. * Daily spread changes past 6m.

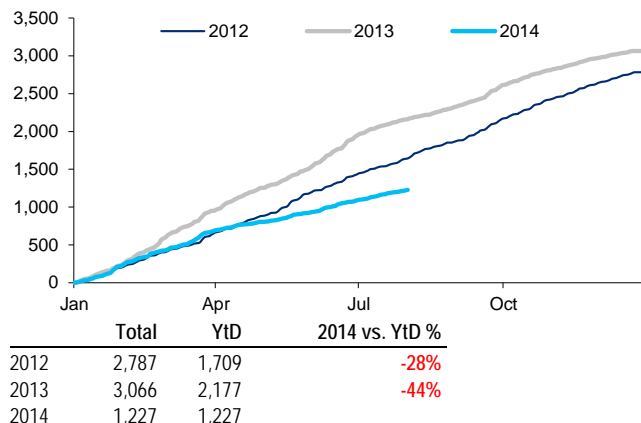
"Risk Transfer" – In order to analyse the "MtM-risk" generated by the trading volumes on each index we adjust trading volumes in 2014 by their spread betas (to Main)³ – see Figure 4. **Crossover is the index which generates the highest "transfers of risk", closely followed by iTraxx Main.**

³ Assuming the duration on all indices is roughly similar.

CDS Indices – Trading Volumes

Figure 5. iTraxx MAIN – Cumulative trading volumes

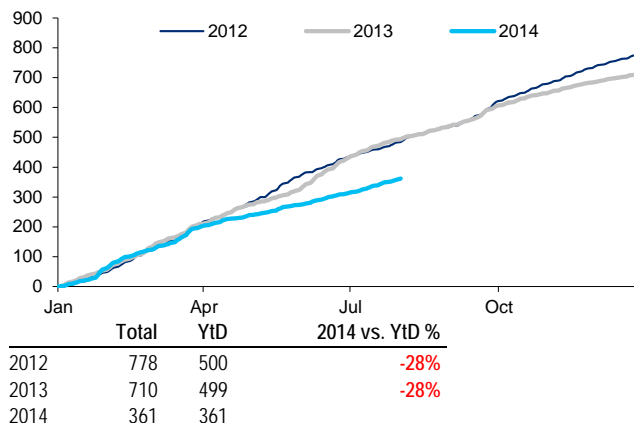
In €bn. On-the-run index.



Source: Citi Research, Markit.

Figure 6. iTraxx CROSSOVER – Cumulative trading volumes

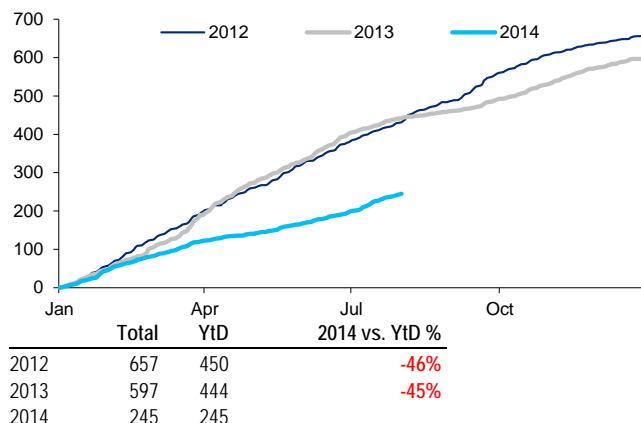
In €bn. On-the-run index.



Source: Citi Research, Markit.

Figure 7. iTraxx SENIOR FINANCIALS – Cumulative trading volumes

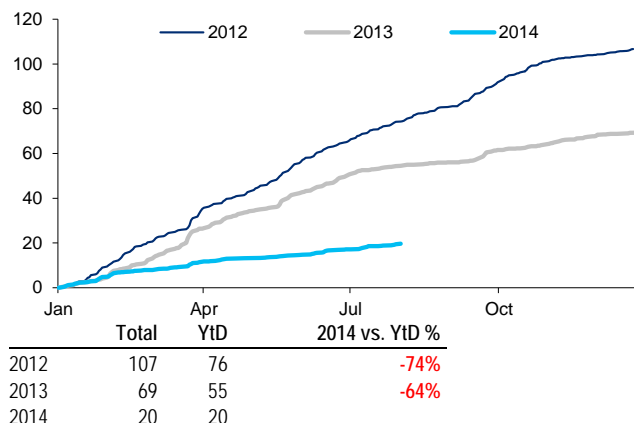
In €bn. On-the-run index.



Source: Citi Research, Markit.

Figure 8. iTraxx SUB FINANCIALS – Cumulative trading volumes

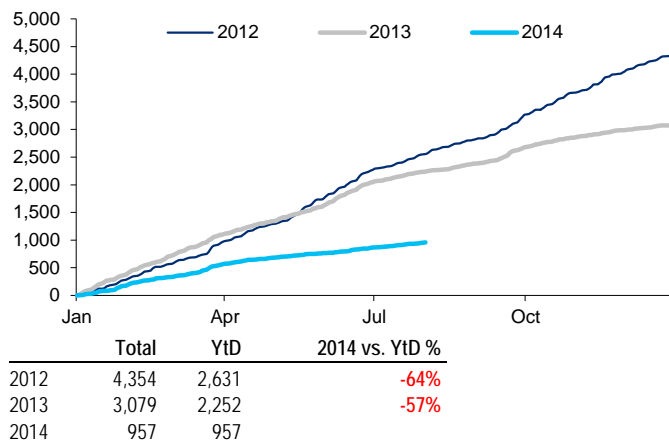
In €bn. On-the-run index.



Source: Citi Research, Markit.

Figure 9. CDX IG – Cumulative trading volumes

In \$bn. On-the-run index.

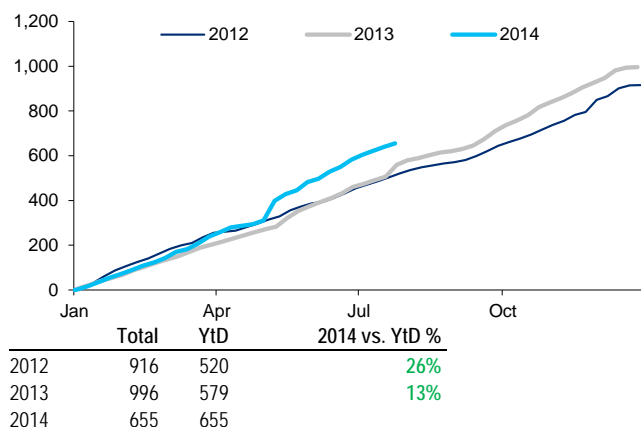


Source: Citi Research, Markit.

Single Name CDS⁴

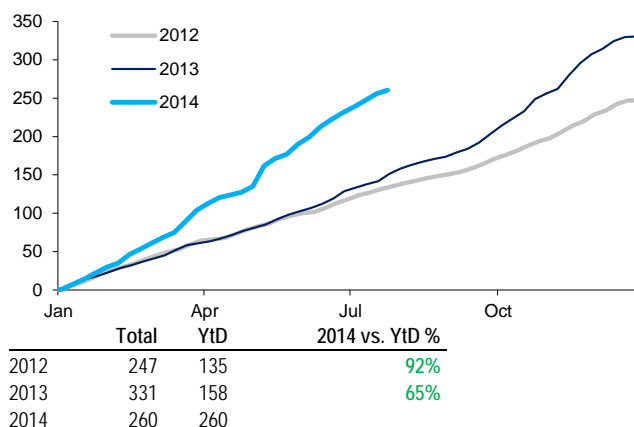
Reported trading volumes in single name CDS look unchanged (Main) or slightly higher (Crossover), although methodology problems make the calculations not straightforward – according to DTCC's figures for the constituents of the iTraxx Main and Crossover on-the-run indices.⁵ Figure 10 and Figure 11 show cumulative trading volumes over each of the past 3 years, together with total trading volumes over the current year.

Figure 10. Constituents of iTraxx MAIN – Cumulative trading volumes
In €bn. Aggregated volumes for on-the-run index constituents.



Source: Citi Research, DTCC.

Figure 11. Constituents of iTraxx XOVER – Cumulative trading volumes
In €bn. Aggregated volumes for on-the-run index constituents.



Source: Citi Research, DTCC.

The very large increase in Crossover single name reported trading volumes is mainly due, in our view, to a change in DTCC methodology back in July 2013.

A DTCC methodology change in July 2013 makes the analysis of changes in trading volumes of single name CDS constituents more difficult – particularly in Crossover. The surge in trading volumes for the single name CDS constituents since July 2013 for the Crossover index that can be seen in Figure 11 is, we believe, mostly due to a change in the methodology DTCC uses to compute single name trading volumes. Prior to July 2013, DTCC volumes methodology did not include trading volumes stemming from index “arb” trades⁶ in their weekly reported CDS trading volumes. The inclusion of single name trading volumes coming from index “arb” trades since July 2013 has substantially increased the DTCC reported trading volumes in Crossover constituents, given that (i) most of the “arb” trades are done in Crossover, not Main, and (ii) the percentage of trading volumes in Crossover names which “arb” trades represent is substantial. The impact of this methodology change in the trading volumes for the constituents of iTraxx Main is much less significant. From our calculations, the average aggregated weekly trading volumes of all the constituents of Crossover in H2 2013 was 50% higher than in H1 2013; for Main it was only 10%.

⁴ Figure 29 includes a brief summary of the data sources used when putting together the trading volume data for CDS indices and single name CDS.

⁵ We aggregate the trading volumes for all the constituents of the on-the-run indices reported by DTCC. As we explain in Figure 29, DTCC does report trading volumes for the majority, but not all, of the index constituents.

⁶ An Index “arbitrage” trade refers to the case where an investor takes a position in the index and the opposite position in the underlying single names to “capture” the difference between the index traded price and its theoretical one (based on the price of the underlying single name CDS).

What happens if we make an “adjustment” for that methodology change? The resulting growth in 2014 YtD vs. 2013 YtD is 9% and 1% for Crossover and Main single name constituents, respectively. We obtain this by increasing H1 2013 single name trading volumes both Crossover and Main by 50% and 10% respectively.

Figure 12. Index vs. constituents single name CDS trading volumes

Ratio of index volume vs. total single name CDS.

	2012	2013	2014YtD
Main+Fins*	3.9x	3.7x	2.3x
Crossover	3.1x	2.1x	1.4x

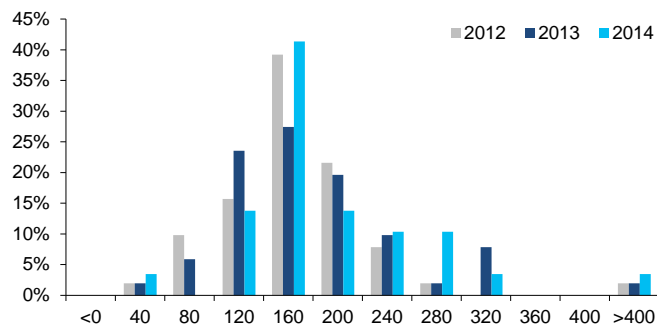
Source: Citi Research, Markit, DTCC. On-the-run indices. * Index trading volumes include Main + Senior + Sub Financials.

Comparing index trading volumes vs. the aggregated trading volumes in their single name constituents, Figure 12 shows that **indices trade between 1.4x (in Crossover) and 2.1x (in Main) more than their underlying single name CDS.** There has been a large reduction in the ratio between index and single name trading volumes, reflecting the reduced trading volumes on index, whilst single name volumes have remained similar to a comparable period in 2013.

The average single name in iTraxx Main trades around €13m per week (€43m per day) vs. €204m per week (€41m per day) for the average single name in Crossover – using DTCC data for Series 21 constituents since index launch date. Figure 13 and Figure 14 show the distribution of average weekly trading volumes for Main and Crossover on-the-run constituents over the past 3 years. Using data for Series 21 index constituents, Figure 15 and Figure 16 show the top 20 trading single name CDS in both indices and Figure 17 and Figure 18 show the distribution of average daily trading volumes per name. Financial names are the most heavily traded credits in iTraxx Main.

Figure 13. iTraxx Main – Distribution of weekly trading volumes for the “average” CDS

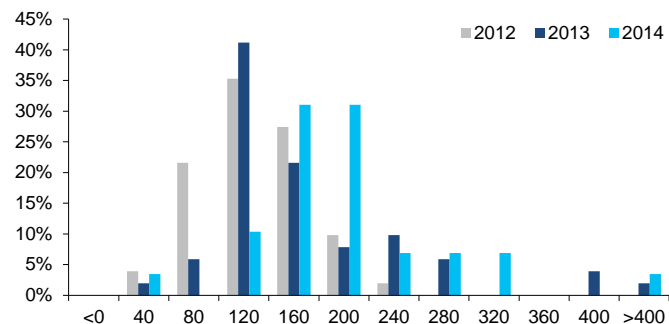
In €m. On-the-run index.



Source: Citi Research, DTCC.

Figure 14. iTraxx Xover – Distribution of weekly trading volumes for the “average” CDS

In €m. On-the-run index.



Source: Citi Research, DTCC.

Single Name CDS – Trading Volumes Cont.

Figure 15. iTraxx Main Series 21 Top Traded Names

Average daily trading volume since series launch date.

	Name	Av. Daily traded volume (€m)	iTraxx Sector
1	Royal Bk Of Scotland Pub Ltd Co	154	Financials
2	Societe Generale	132	Financials
3	Unicredit Spa	131	Financials
4	Intesa Sanpaolo Spa	128	Financials
5	Barclays Bk Plc	127	Financials
6	Commerzbank Ag	121	Financials
7	Telefonica S A	115	TMT
8	Bco Santander Sa	115	Financials
9	Deutsche Bk Ag	114	Financials
10	Cr Agricole Sa	106	Financials
11	Bnp Paribas	105	Financials
12	Bco Bilbao Vizcaya Argentaria S A	99	Financials
13	Glencore Intl Ag	93	Autos & Industrials
14	Lloyds Tsb Bk Plc	93	Financials
15	Std Chartered Bk	90	Financials
16	HSBC Bk plc	82	Financials
17	Deutsche Telekom Ag	80	TMT
18	Axa	79	Financials
19	Swiss Reins Co Ltd	67	Financials
20	Enel S P A	64	Energy

Source: Citi Research, DTCC.

Figure 16. iTraxx Crossover Series 21 Top Traded Names

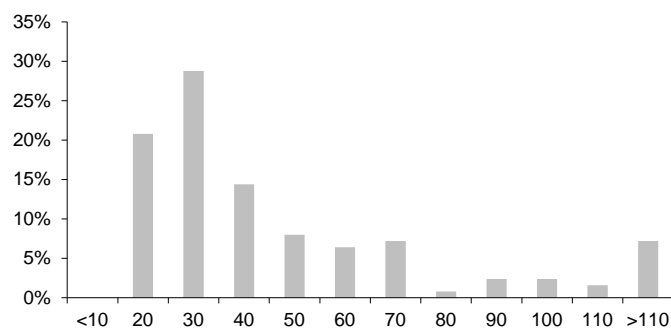
Average daily trading volume since series launch date.

	Name	Av. Daily traded volume (€m)	iTraxx Sector
1	Telecom Italia Spa	114	TMT
2	Arcelormittal	97	Autos & Industrials
3	Peugeot Sa	91	Autos & Industrials
4	Fiat S P A	82	Autos & Industrials
5	Lafarge	72	Autos & Industrials
6	Portugal Telecom Intl Fin B V	69	TMT
7	Thyssenkrupp Ag	67	Autos & Industrials
8	Alstom	64	Autos & Industrials
9	Stora Enso Corp	63	Autos & Industrials
10	Heidelbergcement Ag	57	Autos & Industrials
11	Wind Acquisition Fin Sa	57	TMT
12	Norske Skogindustrier Asa	56	Autos & Industrials
13	Dixons Retail Plc	53	Consumers
14	Wendel	51	Autos & Industrials
15	Edp Energias De Portugal Sa	51	Energy
16	Upm Kymmene Corp	50	Autos & Industrials
17	Rallye	48	Consumers
18	Unitymedia KabelBW GmbH	48	TMT
19	Alcatel Lucent	48	TMT
20	Brit Awys Plc	44	Consumers

Source: Citi Research, DTCC.

Figure 17. iTraxx Main Series 21 – Average daily trading volume per name

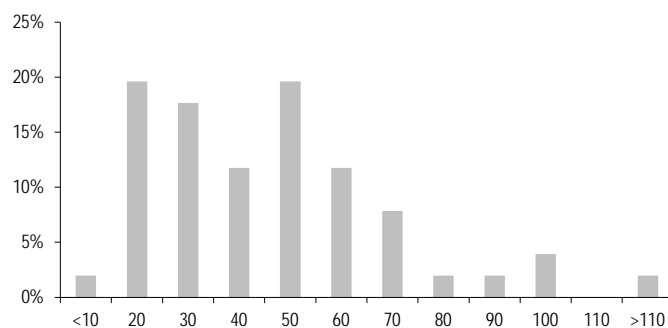
X-axis: daily trading volume, in €m. Y-axis: % of names. Average number of names for which DTCC reports weekly data: 122.



Source: Citi Research, DTCC. Data since series launch date.

Figure 18. iTraxx Main Series 19 – Average daily trading volume per name

X-axis: daily trading volume, in €m. Y-axis: % of names. Average number of names for which DTCC reports weekly data: 49.



Source: Citi Research, DTCC. Data since series launch date.

Investment Grade Cash Bonds

See our [iBoxx Turnover Report](#) in Citi Velocity for a more granular analysis of trading volumes in €iBoxx and £ iBoxx; the report is updated monthly.

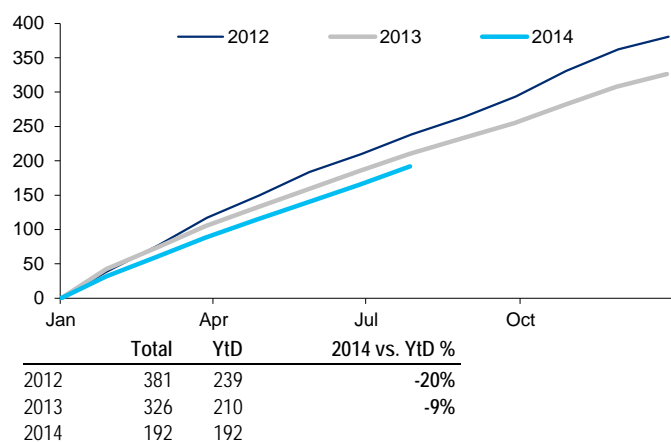
Total Trading volumes during 2014 YtD in the €iBoxx bond universe have declined 9% as compared to a similar period in 2013. Meanwhile, the average amount traded per bond fell by 19%, relative to the comparable 7m period in 2013.

In £ space, the £ iBoxx bond index has seen a 19% fall in total traded volumes during 2013, and a 14% decrease in the average amount traded per bond relative to the equivalent 7m period in 2013.

The decline in aggregate and average trading volumes in both £ and € space is reflective of some of the key trends seen in cash markets this year. In 2014, markets have generally been characterized by low volatility. The general lack of catalysts has provoked an environment where trading volumes have been low. As investors tried to profit from the new issue premium, the strong demand in primary markets didn't help secondary trading volumes. Moreover, flat cash spread curves have depressed the amount of curve "switches". Finally, in £ space (financials mostly), changes in UK pensions regulations in March greatly reduced annuity demand and we have seen a major drop-off in market activity.

Figure 19. € iBoxx IG – Cumulative trading volumes

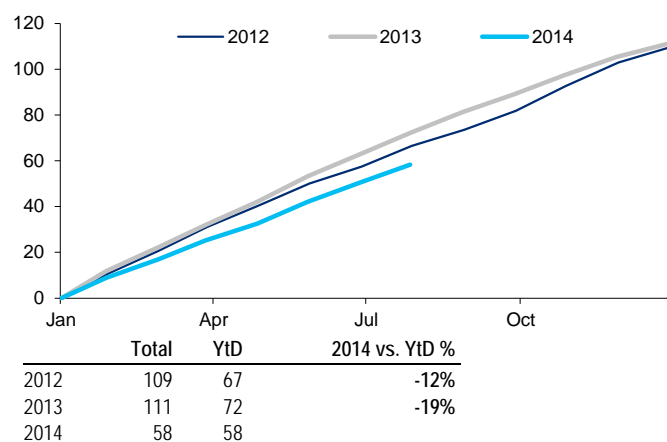
In €bn. Aggregated volumes index constituents.



Source: Citi Research, ISMA.

Figure 20. £ iBoxx IG – Cumulative trading volumes

In €bn. Aggregated volumes index constituents.



Source: Citi Research, ISMA.

iTraxx Index Options

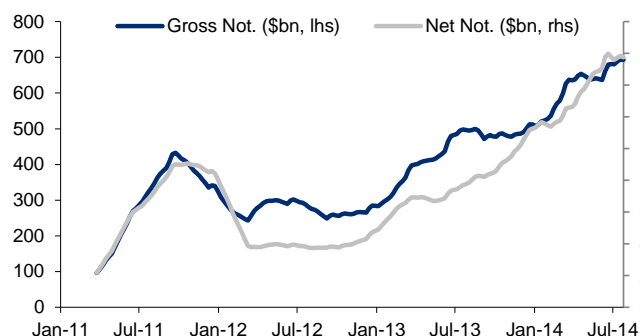
Trading volumes in CDS index options continued growing strongly this year. We believe that volumes are up ~ 40% YtD vs. the same period last year. Index-wise, the largest growth in trading volumes has been in Senior Financials, and client-wise among real money investors. As the options market continues maturing, we still think it has another one or two years of solid growth as both the traditional credit investor base as well as the cross-asset volatility investor base continue embracing the product.

The biggest risk for the liquidity of the credit options market is a potential continuation of the large drop of index trading volumes recently (partly coming from the “success” of the options market).

Although market-wide information for index options volumes is available through DTCC, the reported data is not entirely satisfactory. First, the data aggregate volumes for all options: across strikes, tenors and on different indices (including iTraxx and CDX indices). Second, DTCC only reports gross and net outstanding volumes, not trading volumes. Hence, through DTCC data, it is only possible to get a very basic idea of volumes across the entire credit options market. Figure 21 shows the 3-month average aggregated net and gross notional outstanding amounts across all indices. Despite the lack of data granularity the upward trend of net notional options positions outstanding clearly points to increasing trading volumes across indices. The relationship between net/gross outstanding notionals and trading volumes should be much higher for options than for any other credit product, given the short dated nature of credit index options.

Figure 21. Outstanding Volumes - CDS Index Options

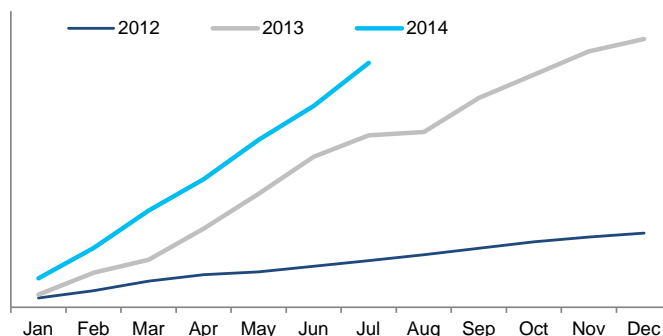
\$bn, 3m MA Gross/Net Notional Outstanding.



Source: Citi Research, DTCC.

Figure 22. Citi Cumulative Credit Index Option Trading Volumes

iTraxx Main equivalent notionals *.



Source: Citi. * Includes options across all indices. We use the following betas to compute “Main equivalent” volumes: 4x for Crossover, 1.5x for Senior Fin. iTraxx options only.

The increase in global option trading volumes which DTCC data suggest is corroborated when we analyse Citi data for iTraxx index options. Figure 22 shows the total cumulative notional amount traded in Main-equivalent terms aggregated for the three main indices: **volumes more than doubled from 2012 to 2014 and they are up ~40% in 2014 vs. the same period in 2013.**

The lion's share of the growth in options trading volumes comes from the real money investor base, who are clearly using options for hedging purposes – something they used to do with indices in the past; something similar is true for bank trading desks. This, together with the decline in index trading volumes, gives credibility to the theory that the growth in options trading volumes is partly responsible for the decline in index trading volumes. Consider an investor hedging a €1bn of bonds. Instead of purchasing €1bn notional of protection using CDS indices, the investor hedges using, say, a 40-delta OTM payer option. The dealer, now short a payer, buys €400mn worth of index protection to delta-hedge his

exposure. The net result is a decline in index traded volumes and an increase in options volumes.⁷

Using Citi data, we can provide a more granular analysis of option trading volumes in 2014 YtD vs. the same period in 2013. Figure 23 highlights the continuing growth in volumes seen in 2014 across all 3 indices; most particularly for **Senior Financials** options, where volumes have risen 3-fold. This is symptomatic of the popular long European financials trades this year; with investors generally piling investment into AT1s and subordinated debt. As a result of this greatly increased exposure, investors have increasingly looked to Senior Financials options to hedge. From Figure 24, we can see that this increase was predominantly caused by increased demand from **real money accounts**, where volumes increased by 105%. Flow attributable to hedge funds rose 50%, which offset the decline in flows from CVA desks. As has been the case in the credit options market since inception, the majority of the volume is in payer options, which have accounted for 70% of trades year to date – i.e. it **still mostly a hedging driven market**. Finally, Figure 25 shows the percentage of total volumes by index: Senior Financials is seeing a higher share of the volumes, with Main still accounting for more than half of the trading volumes.

Figure 23. Options volume growth by index

2014 YtD vs. same period in 2013. iTraxx.

Main	20%
Crossover	36%
SenFin	312%
Main Equiv.	42%

Source: Citi.

Figure 24. Options volume growth by investor

2014 YtD vs. same period in 2013. iTraxx.

All	42%
Hedge funds	50%
CVA	-53%
Real money	105%

Source: Citi.

Figure 25. Volumes split by index

Year	Main	Crossover	SenFin
2012	74%	12%	14%
2013	65%	29%	5%
2014	53%	30%	17%

Source: Citi. % of trading volumes per iTraxx index, adjusting for beta to Main. We use the following betas to compute "Main equivalent" volumes: 4x for Crossover, 1.5x for Senior Fin. iTraxx options only.

⁷ The decline in the index trading volume, however, will be lower than 60% because the option market makers will delta hedge this trade dynamically; but still ...

Synthetic Tranches: standard iTraxx & bespoke

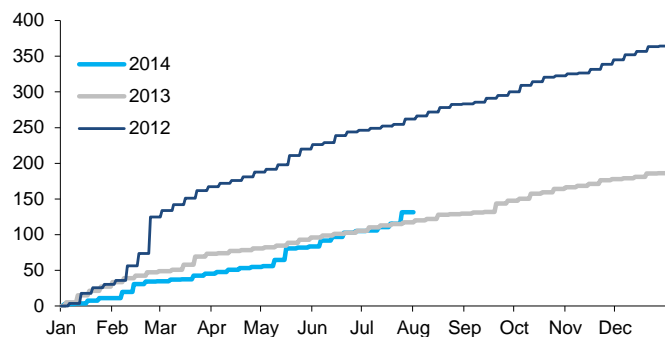
Volumes in standard iTraxx tranches are ~10% up YtD vs. the same period last year, with iTraxx Main Series 9 still accounting for the majority of the volume. We expect liquidity in the new Series to pick up given the higher interest among investors in levering up new and “clean” investment grade portfolios. Moreover, tranche volumes will be helped by the launch of Crossover tranches in the September roll.

Large increase this year in non-standard (bespoke) tranches and other index-based products

We have a relatively bullish view on the use of synthetic products in general, and tranches in particular, going forward as spreads tighten and investors struggle to meet target returns. Although we haven't seen an uptick in iTraxx standard tranche volumes on the back of this yet, **we have seen a large increase in non-standard (bespoke) tranches and other index-based products**. Most of the tranche bespoke trading volumes is in new-issue bespokes, in contrast with the legacy bespokes which traded actively after the credit crisis. Although the client-base for these new bespokes is skewed to hedge funds, we believe real money investors will eventually get involved: either directly or indirectly (e.g. via investing in hedge funds which invest in bespokes).

Market-wide available data on standard index tranche volumes is only available, as far as we know, via DTCC. We always hesitate to read too much into DTCC's volumes for tranches (and options) given that the reported volumes are, we believe, not delta-adjusted (and 1bn of equity risk is not exactly the same as 1bn of super senior risk). For tranches, the data aggregate total volumes on each series, regardless of tranche seniority and tenor. Although this lack of granularity means we may miss some important trends, the data is still informative. These volumes also exclude bespoke trades, which likely represent a significant portion of current trading activity.

Figure 26. iTraxx Main S9, 15, 19, 21 tranches – Cum. trading volumes In \$bn. Non-delta-adjusted notional.



Source: Citi Research, DTCC.

Figure 27. iTraxx Main S9, 15, 19, 21 tranches – Cum. trading volumes In \$bn. Non-delta-adjusted notional

	Total	YtD	2014 vs. YtD
2012	364	262	-50%
2013	185	117	12%
2014	115	131	

Figure 28. iTraxx S9, 15, 19, 21 tranches - % of volumes by series

Series	S9	S15	S19	S21
April 2014 - Current	92%	2%	1%	6%
April 2013- 2014	88%	7%	5%	-

Source: Citi Research, DTCC.

Figure 26 aggregates annual trading volumes across the four iTraxx Main series for which there has been tranche trading volume since 2012: Series 9, 15, 19 and 21. Total iTraxx index tranche trading volumes in 2014 YtD are similar than in 2013. We have seen a pick-up in activity during the summer months; reflecting the wider ‘search for yield’ we have seen in the market over this year, with many investors increasingly looking to tranches as a way to lever up investment grade risk. Trading volumes also picked up in July off the back of headlines stemming from BES, which has boosted activity in S9 in particular. Volumes are still significantly below what was seen in 2012; which was a relatively active year due to dislocations caused by the ‘London Whale’ story.

Figure 28 shows the split of tranche trading volumes across series: most of the volumes still come from Series 9 tranches. That being said, Series 21 tranches have started to attract demand, with trading volumes picking up in the early part of the year.

Figure 29. Source of index and single name CDS trading volume data

Markit trading volume data for CDS indices:

- Markit publishes daily trading volumes for CDS indices.
- According to Markit's website: "The MarkitSERV volumes represent daily traded index trade volumes for all untranching credit derivatives transactions that are either a new trade, a termination, or an assignment, including cleared transactions. The counts exclude: compression, netting, credit event processing, and intercompany trades. PB and FCM trades are single counted (offsetting trade is excluded) so as to reflect true market activity."
- The data is reported per index series and tenor.
- The reported data excludes instruments (combination of index series and tenor) with 5 or less trades per day. Given the low liquidity in indices outside the 5y tenor, there will likely be days when other tenors (i.e. 3/5/7y) have 5 or less trades; if that's the case, Markit's reported data will ignore the trading volumes for that tenor on that particular day.
- According to Markit: (i) The published data captures the totality of booked warehouse transactions, i.e. this will capture all dealers and buy-side investors, (ii) Cleared trades are not double counted.
- We use on-the-run indices for all the analysis in this report.

DTCC trading volume data for single name CDS:

- DTCC publishes weekly trading volumes ("Market Risk Transaction Activity") for single name CDS.
- According to DTCC's website: "The transaction types include new trades between two parties, a termination of an existing transaction, or the new leg of an assignment representing the trade between the step-in party and the remaining party. Section IV excludes transactions which did not result in a change in the market risk position of the market participants, and are not market activity."
- Conversations with DTCC suggest that the reported trading volumes exclude "backloaded cleared trades" but include (i.e. double count) "same day cleared trades". Backloaded cleared trades are defined in DTCC's website as "previously bilaterally executed, terminated by a CCP, and re-booked as new trades", and same day cleared trades as "first instance of a trade facing a CCP".
- Another potential pitfall of DTCC trading volumes for single name CDS is that although they exclude, as far as we are aware, "vendor initiated" compression trades (e.g. through TriOptima or Markit), they include bilateral compression trades.
- DTCC only reports weekly trading volumes for a list of 1,000 single name CDS – the 1,000 single name CDS with the highest Gross Notional Outstanding globally. As a consequence, trading volumes for companies outside that list will not be reported. For example, DTCC has not reported any trading volumes for some Crossover Series 20 single name CDS (e.g. New Look, Trionista, Unilabs, Cerved, Smurfit Kappa Acquisitions and Techem) since Series 20 started trading. On average and since Series 20 indices were launched, DTCC has reported weekly trading volumes for 44 out of the 50 Crossover constituents and for 124 out of the 125 Main constituents. In the analysis in this report we only consider the trading volumes reported by DTCC, i.e. do not adjust for the non-reported trading volumes.

Source: Citi Research, Markit, DTCC.

Analytics, Past Trade Ideas & Publications

Analytics – Available at Citi Velocity

Options	iTraxx Volatility Report CDX Volatility Report European Cross-Asset Volatility Report Volatility P&L Report – Credit Indices	Tranches	iTraxx Series 9 Tranche Report iTraxx Series 19 Tranche Report iTraxx Series 21 Tranche Report
Curves	iTraxx Curve P&L Report	Indices	Main Report Crossover Report CDS Indices Positioning Report CDS Indices Trading Volumes Report
Returns	European Credit Derivatives Returns		

Recent Trade Ideas

Options -	Sell Xover receivers	1-Aug-14
Tranches -	Long risk super senior tranches	21-Jul-14
Options -	Main receiver 1x2s	13-Jun-14
Options -	Main bearish risk reversal	13-Jun-14
Curves -	5s10s Senior Fin flattener (J. Faith)	30-May-14
Options -	European vs. US credit vol	28-May-14
Tranches -	Sell 0-3% Jun-15 S9 protection: outright, vs. CDX IG 5y or vs. SX5E	21-May-15
Indices -	Sub/Senior Financials compression (J. Faith)	20-May-15
Curves -	5s10s Main Flatteners	25-Apr-14
Options -	Main 70-75 May Receiver 1x2	2 Apr 2014
Options -	Buy SenFin vs. Sell CDX IG straddles	18 Mar 2014
Single names vs. Index	Releveraging Trade (H. Lorenzen)	24 Feb 2014
Tranches vs. Options -	Sell protection and monetize the positive convexity by selling straddles	20 Feb 2014
Tranches -	Buy 9-100% S9 Jun-18 protection, delta-hedged	20 Feb 2014
Tranches -	Sell 3-6% S9 Jun-18 protection, delta-hedged	20 Feb 2014
Options vs. Curves -	Flatteners vs. OTM payers	13 Feb 2014
Options -	Sell Main vol, buy SenFin vol	21 Jan 2014
Tranches -	More mezz, less seniors - 3-6% vs. super senior	15 Jan 2014
Options -	SenFin vs. Xover Recs	9 Jan 2014
Options -	Payer spread vs. index long	9 Jan 2014
Options -	Sell 1m Main straddles	9 Jan 2014
Options -	Sell Crossover Receiver	9 Jan 2014
Options -	Sell strangles and go on holidays: Position for spreads to stay in the recent range in mid-January	9 Dec 2013
Tranches -	Sell S9 Jun-18 6-9% protection vs. Xover 5y S20	15 Nov 2013
Tranches -	Sell S9 Jun-18 22-100% protection vs. light delta	15 Nov 2013
Indices -	Long risk Senior Fins. vs. short risk Main	5 Nov 2013
Options -	Crossover receiver ladders	23 Oct 2013
Options -	Long risk CDX IG vs. Main via Receivers	15 Oct 2013
Options -	Buy Senior Financials straddles vs. sell Crossover straddles	9 Oct 2013
Tranches -	Long risk equity vs. short risk 3-6% in S19 Jun-16 (3y)	26 Sep 2013

"European Credit Derivatives Views & Trades" Investor Presentation

Teach-in presentations: [Options](#) / [Tranches](#)

Other publications

iTraxx Roll - Potential Changes: Crossover to be expanded to 75 names	1-Aug-14
Smart Ways to Sell Credit Volatility (A. Basu)	24 Jul 2014
2014 CDS Definitions getting closer II: Update on protocol and CoCo supplement	11-Jul-14
Hedging the tail – Why real money should consider all options (with H. Lorenzen)	1 Jul 2014
Lazy longs for July	23 Jun 2014
Where do we expect iTraxx rolls to trade?	19 Mar 2014
Our preferred carry trades in indices, options and tranches	11 Mar 2014
New 2014 CDS Definitions - What's new? What's changing? Why? When? How?	26 Feb 2014
iTraxx Roll - Potential Changes: Crossover number of constituents will increase to 60 names	10 Feb 2014
2014 European Credit Outlook: Strategy // Positioning and Trades	13 Jan 2014
Global Structured Credit Outlook: A Rockier Ride (R Roy, A Basu, K Malhotra, R Brauchler)	20 Dec 2013
2013 Trading Volumes in European Credit: CDS Indices, Single Name CDS and IG Bonds	5 Dec 2013
Credit Options - What did investors do in 2013? What will they do in 2014? (2013 European Credit Conference Presentation)	4 Dec 2013
Credit Index Options 1-0-1: Launching our option pricing tool @ CitiVelocity (2013 European Credit Conference Presentation)	2 Dec 2013
Europe Returns: Assessing value across flow and structured credit assets	22 Nov 2013
iTraxx Tranches Views & Trades: Mezz may be back next year	15 Nov 2013

Please click the links to see the complete trade ideas and rationales and pricing at time of recommendation.
Source: Citi Research.

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Appendix A-1

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