

The Credit Index Call

Long Junior Risk Without The Widest Names



30 May 2012

Heading into a summer heavy with events, sporting fixtures and holidays, one would normally expect implied volatility to plummet as investors are distracted. However, European tensions remain high with Spanish banks, Irish referendums, ECB initiatives, bank downgrades and Greek elections likely to dominate headlines over the next few weeks. We think the market is overly relaxed about some of these risks.

Given all this, absolute levels of volatility seem quite low. In the last few weeks European implied volatility has remained stable even though indices are trading not very far from their wides. In a longer-term picture, European index volatility is slightly below the middle of its historic trading range with iTraxx IG 3m ATM vol trading at 70%, Crossover at 60% and Financials at 80%.

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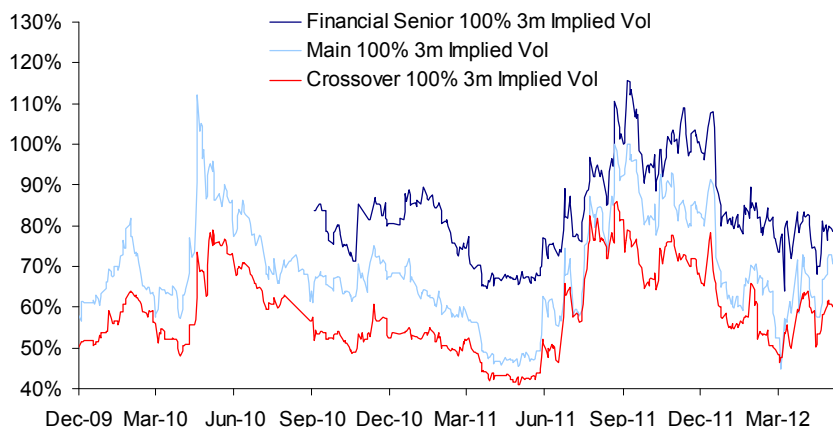
INVESTMENT OVERVIEW

GLOBAL

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Figure 1: Volatility rising following the widening since April

5y iTraxx IG, Crossover and Senior Financials ATM 3m Implied Vol, %



Source: Citi

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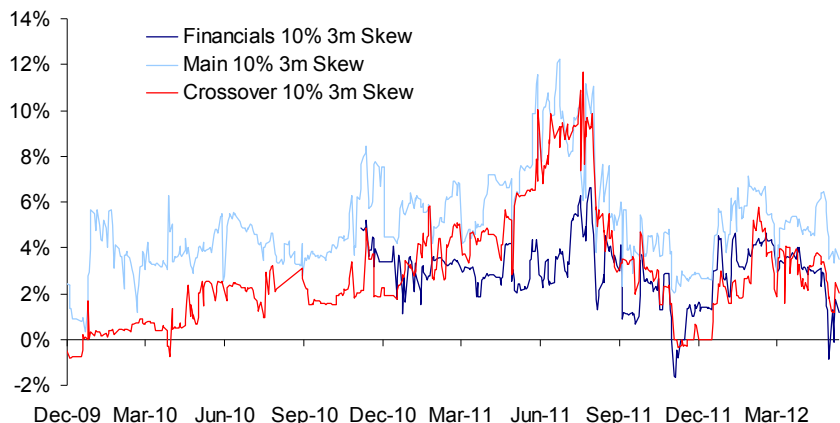
Option markets are increasingly pricing in a higher probability of a rally. Index volatility skew (implied vol difference between OTM payers and OTM receivers) has dropped recently as investors have bid-up OTM receivers relative to OTM payers. Receivers tend to get bid up at the widest point of an established range but we don't think this reflects the potential dangers ahead. The June expiry

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seems particularly vulnerable expiring only a few days after the Greek elections on the 17th June. Therefore, we think selling payers could prove to be a painful trade.

Figure 2: Skew 5y 110% Strike Payer – 90% Strike Receiver, %

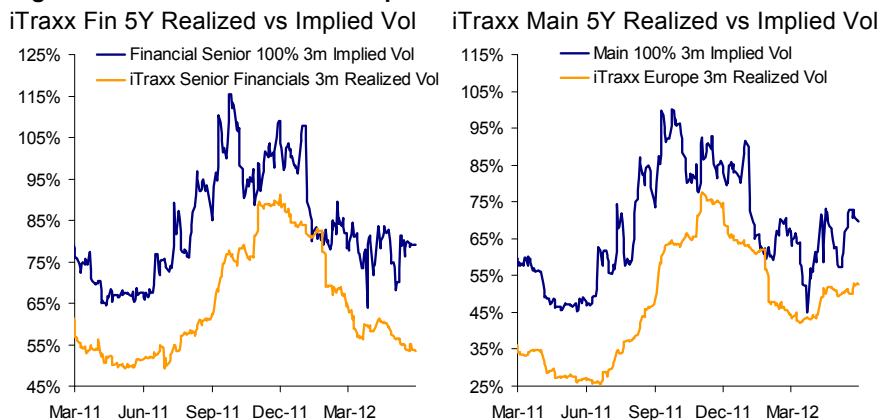


Source: Citi

While the skew was flat, albeit briefly, investors found it interesting to trade 1x2 payer spreads (funding OTM payers by selling half notional in ATM payers) and sell payer spreads. Investor activity caused the skew to rebound somewhat in the last day or two and we think it might elevate more in the next few weeks.

For the time being, implied volatility remains significantly higher than realized (Figure 3), especially in the Senior Fins. iTraxx financial receivers have been particularly active, with some investors happy to enhance the yield on their portfolios by selling 'covered' receivers, taking advantage of the high implied vol relative to realized. Others are convinced that the threat of downgrades is overdone and have been going outright long.

Figure 3: Fin Senior and CDX Implied vol vs realized



Source: Citi

Tranche markets

There has been a flurry of activity in short-dated tranches. In particular, investors have been keen to sell protection on 5y iTraxx (maturing June 2013) in the 3-22% range with the 3-6% and the 6-9% being perceived as the juiciest, on a risk reward basis, relative to the rest of the capital structure. We explore this more fully in our trade idea this week.

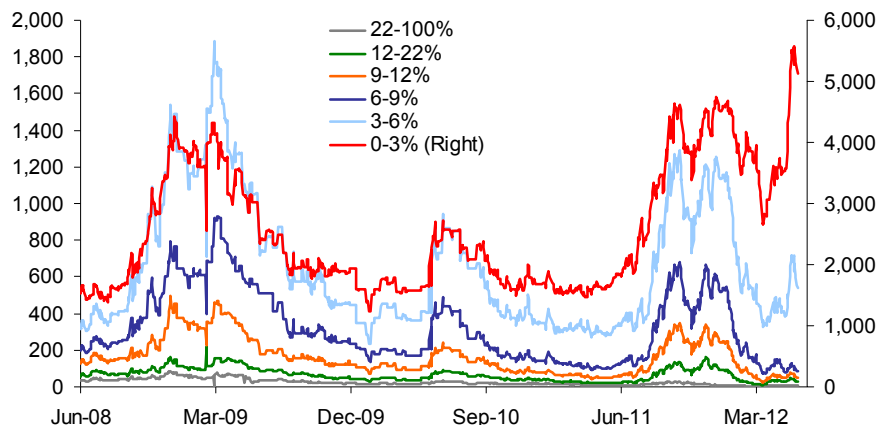
Figure 4: iTraxx S9 5Y (1Y remaining) All-Running Spreads

0-3%	3-6%	6-9%	9-12%	12-22%	22-100%
5,124	539	84	49	27	8

Source: Citi

Some investor buying interest remains on the longer dated tranches with the 10y iTraxx 22-100 the most popular with systemic hedge buyers.

Figure 5: iTraxx S9 5Y (1Y remaining) All-Running Spreads, (bp,bp)

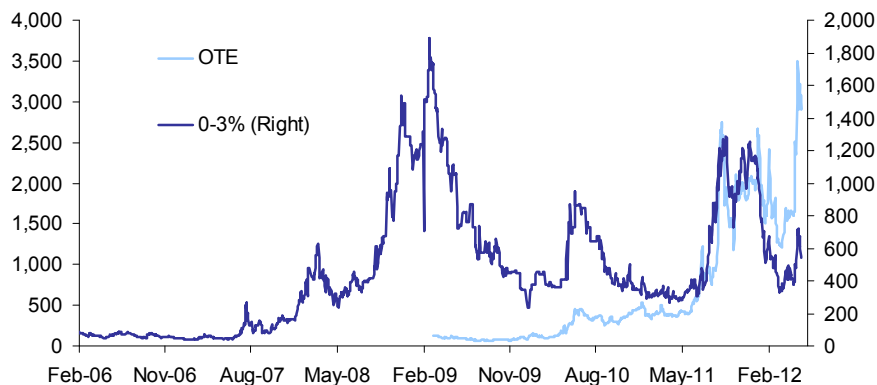


Source: Citi

There are a lot of investors trading the difference between OTE CDS and the iTraxx equity tranche. Hellenic Telecommunications ('OTE') is in iTraxx IG indices up to series 14 and Crossover from series 15 to the on-the-run. In particular, it is a dominant credit in the series 9 index tranches, with the 1y CDS currently trading 36% up-front. OTE is also the most liquid Greek CDS name left trading now that the sovereign has triggered. This means it is used as a proxy by investors wanting to short Greece or take a view on Greek Euro exit.

These technicals mean that many consider OTE's wide current trading levels disconnected from the fundamentals of the company, default probability and, in particular, indices and index tranches in which it is a constituent. The silo based nature of trading mean that HY cash investors, cash-CDS basis traders, hedge funds that trade indices and tranche specialists have been acting out of synch, providing potential opportunity. Given the close proximity of Greece's potential exit, trading has been particularly concentrated on the December 2012 and June 2013 maturity.

Figure 6: iTraxx S9 5Y 0-3% vs OTE CDS spread



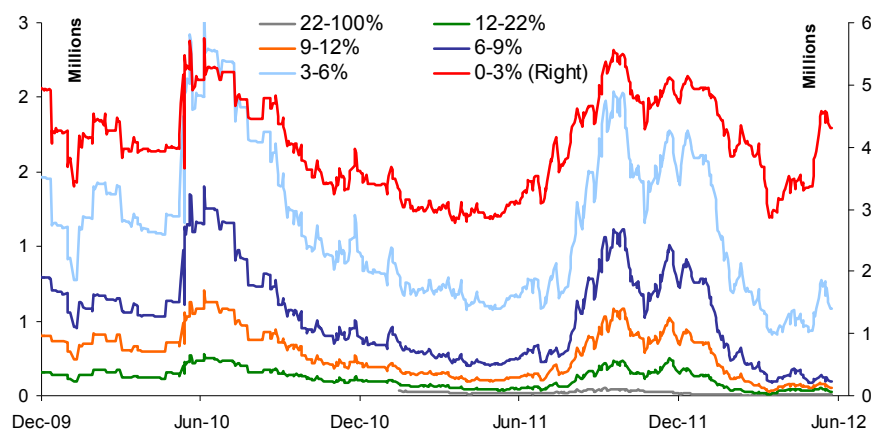
Source: Citi, Markit

Trade idea – Long equity with idiosyncratic risks hedged

All this activity on OTE has squeezed a lot of spread into 5y iTraxx equity tranches and by implication out of the rest of the capital structure, i.e. 3-100% tranches. We suggest taking advantage of this wide equity in three possible ways. The first involves going long equity and using this to fund longer dated senior tranches. The second involves an outright equity position but hedging some the riskier names and the third is a straight roll-down trade of mezzanine tranches.

So firstly, we think it might be interesting to fund some longer-term systemic risk hedges in the senior part of the capital structure by selling some junior tranches. Given the precarious position of OTE we would suggest combining this with a single name CDS hedge on OTE as well.

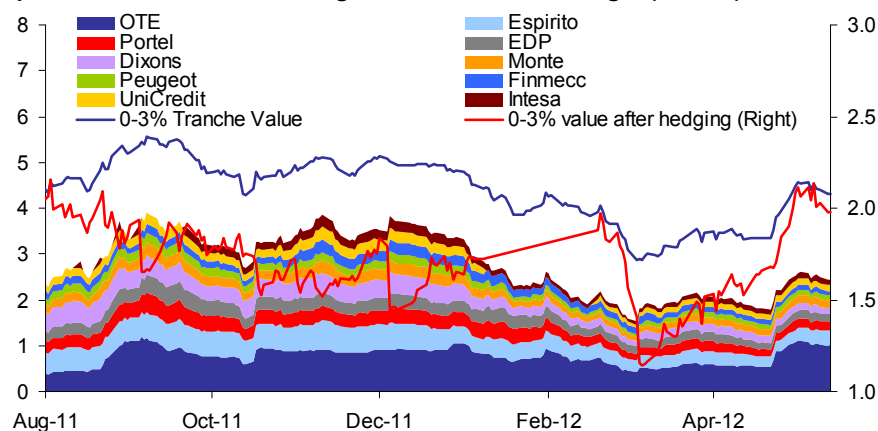
Figure 7: 5y iTraxx IG9 (June 2013) Roll-down value per €10m portfolio, (€m,€m)



Source: Citi

In our second idea, investors might also find value in going long junior tranches and holding them to maturity (20-June-2013), and hedging names they don't like. With spreads currently quite elevated there is quite a lot of value in the tranches. On a €10m notional, the 0-3% tranche still holds €4.2m (Figure 6) of roll-down value. Preferably some of this value can be used to hedge single-name exposure. €2.66m ($(10m \times 100\%) / (125 \times 3\%)$) notional of CDS is required per name for every €10m notional of 0-3% tranche.

Figure 6: iTraxx S9 5Y (1Y remaining) 0-3% €10m All-Upfront Value vs All-upfront cost of 10 widest single-names in index hedge, (€m,€m)



Source: Citi

Figure 6 illustrates how much, in all-upfront terms, it would cost to hedge each of the 10 widest names in the S9 with €2.66m notional. The red line is the remaining upfront value of the €10m 0-3% after hedging all 10 of these names. The upfront value in such a trade would normally trend downward converging to 0. This can be seen in the chart as the red line trends towards zero preceding the recent sell-off that started in March 2012.

Figure 6: €2.66m single-name hedge for 10m 0-3% tranche, All-Upfront - €000s

OTE	Espir	Portel	EDP	Dixons	Monte	Peugeot	Finmec	UniCre	Intesa
1,015	310	192	185	135	165	93	96	134	116

Source: Citi, Markit

The strategy is not risk free as there are still single names that remain unhedged and that any of these could default causing loss. In terms of risk/reward, we think the balance is quite attractive.

But for those who feel that the strategy is a little too complex, there remains the third alternative of just outright selling protection on 3-6% or 6-9% tranches without additional single name hedges. A €10m notional portfolio in the 3-6% tranche can be sold for €540,000 and the relatively safe 6-9% tranche given the close maturity yields almost €60,000 (0.6% of notional). (Figure 7)

Figure 7: iTraxx S9 5Y (1Y remaining) Roll-down value per €10m, €000s

	0-3%	3-6%	6-9%
Upfront Received	3,787	12	-262
Coupon Received	500	500	300
Total Value	4,200	540	59

Source: Citi

Loss scenarios for the 0-3% tranche

An analysis of the impact of unhedged defaults on the equity tranche gives a breakeven on our strategies of about 3 defaults in the case of the equity tranche. This is illustrated in Figure 7 which shows an example with €10m tranches and assuming a recovery rate of 40% for all defaults. A single unhedged default in the portfolio would result in $(10,000,000 \times 0.6 \times 100\% / 125) / 0.03 = 1.6\text{m}$ loss.

Figure 7 shows that the 0-3% tranche is implying 2 to 3 losses in the portfolio under our 40% recovery assumption. This means that the trade will still make money as long as the number of defaults is below 3. Similarly, the 3-6% and 6-9% will make money as long as the number of defaults remains below 7 and 13 respectively.

Figure 7: iTraxx S9 5Y (1Y remaining) Roll-down profit including number of loss per €10m, €

	0-3%	3-6%	6-9%
Upfront Received	3,787,500	12,500	-262,500
Coupon Received	500,000	500,000	300,000
Total Profit (Upfront + Coupon PV)	4,200,990	538,946	58,805
with 1 Unhedged Default	2,600,990	538,946	58,805
with 2 Unhedged Defaults	1,000,990	538,946	58,805
with 3 Unhedged Defaults	-599,010	538,946	58,805
with 4 Unhedged Defaults	-2,199,010	538,946	58,805
with 5 Unhedged Defaults	-3,799,010	538,946	58,805
with 6 Unhedged Defaults	-5,399,010	538,946	58,805
with 7 Unhedged Defaults	-5,799,010	-661,054	58,805

with 8 Unhedged Defaults	-5,799,010	-2,261,054	58,805
with 9 Unhedged Defaults	-5,799,010	-3,861,054	58,805
with 10 Unhedged Defaults	-5,799,010	-5,461,054	58,805
with 11 Unhedged Defaults	-5,799,010	-7,061,054	58,805
with 12 Unhedged Defaults	-5,799,010	-8,661,054	58,805
with 13 Unhedged Defaults	-5,799,010	-9,461,054	-741,195
with 14 Unhedged Defaults	-5,799,010	-9,461,054	-2,341,195
with 15 Unhedged Defaults	-5,799,010	-9,461,054	-3,941,195
with 16 Unhedged Defaults	-5,799,010	-9,461,054	-5,541,195
with 17 Unhedged Defaults	-5,799,010	-9,461,054	-7,141,195
with 18 Unhedged Defaults	-5,799,010	-9,461,054	-8,741,195
with 19 Unhedged Defaults	-5,799,010	-9,461,054	-9,941,195

Source: Citi

*This calculation is simplistic and assumes a 40% recovery rate.

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Appendix A-1

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