

Beta of European Financials to US corporates looks underpriced

Buy straddles in Senior Financials and sell them in CDX IG

■ **We expect Senior Financials to underperform CDX IG if we widen but to outperform it if we tighten:**

- Fundamentally, we believe investors will favor shorts in European financials in any further EM sell-off. CDX IG is an attractive way to fund it, in our view.
- Conversely, if spreads tighten, we believe European financials will outperform (both European and US) corporates. We remain overweight financials over corporates.

■ **Essentially, we like buying volatility in iTraxx Senior Financials, funded by selling volatility in CDX IG.** The recent outperformance, vol-wise, of Senior Financials vs. CDX IG provides a good entry point for the trade.

■ **Trade: Buy June ATM straddles in Senior Financials and sell them in CDX IG, no-delta.** We size the trade to have a zero upfront. Figure 1 shows the trade details.

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Figure 1. Trade details in EUR equivalent. Index Refs: 88 / 64bp SenFin / CDX IG.

Index	Type	Strike	Expiry	Price	Position	Notional (m)	Upfront (€m)
SenFin S20 5Y	Straddle	90	18-Jun	97.1c	Buy	€100	-0.97
CDX IG S21 5Y	Straddle	65	18-Jun	51.1c	Sell	€190 / \$264*	0.97
Total							0

Source: Citi Research. Indicative prices shown. * Using a 1.394 FX rate.

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

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We were surprised that Senior Financials did not underperform CDX IG during the recent EM-led widenings – the spread ratio between the two indices has remained relatively stable since the beginning of the year as Figure 2 and Figure 3 show. Fundamentally, we would expect:

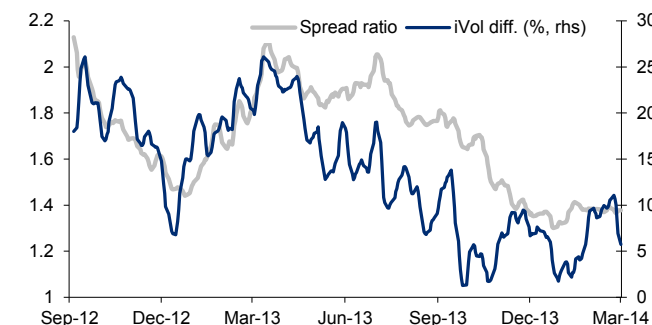
- **European banks to underperform US corporates during EM-led widenings** – given the larger exposure of European banks to EM. We are sympathetic to the views we've heard arguing that iTraxx Senior Financials is the best "liquid" way to position for EM weakness. Moreover, if part of the EM weakness has been caused by the loose US monetary policy, we would also argue that CDX IG is a good way to fund an EM short. Our US colleagues already suggested a long risk CDX IG vs. Main trade to position for EM weakness on the back of the higher share of revenues coming from EM for European companies.¹ European banks have larger exposures to Ukraine in particular and EM in general than US banks, as we highlighted in a recent [European Credit Weekly](#)² and as the latest [Global Economics View](#)³ from our economists suggests, respectively. BIS data shows that European banks have ~\$3.4bn of EM loans, more than four times the exposure of US banks.
- **European financials to underperform corporates if we move tighter** – As investors adjust to a new world of tight spreads, where every basis point counts, we expect them to favor financials over corporates given the wider spreads on the financial side. As we highlighted in our [2014 Outlook](#) and in our latest [Credit Sector Recommendations](#), we expect financials to outperform non-financials further, and we remain overweight both banks and insurance companies.

Buy Senior Financials straddles and sell CDX IG straddles

Thus, we would expect Senior Financials to underperform CDX IG if we widen but to outperform it if we tighten. Buying Senior Financials straddles and selling them in CDX IG looks an attractive way to position for this.

Figure 2. Spread ratio and implied vol difference – 2y history

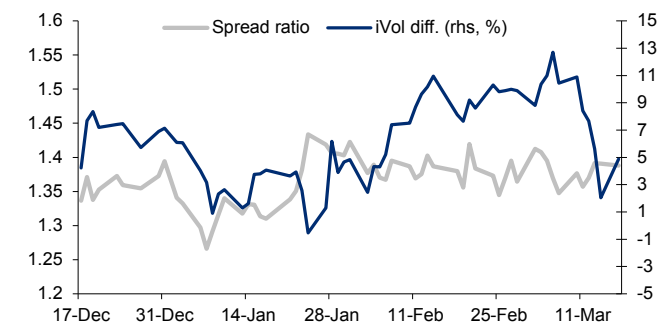
RHS: SenFin spread / CDX IG spread. LHS: SenFin vol – CDX IG vol.



Source: Citi Research, Markit. 5d moving average. 5y on-the-run indices.

Figure 3. Spread ratio and implied vol difference – 3m history

RHS: SenFin spread / CDX IG spread. LHS: SenFin vol – CDX IG vol.



Source: Citi Research, Markit. 5d moving average. 5y on-the-run indices.

Good entry point vol-wise

What did move during the EM-led weakness last week was the implied volatility difference between Senior Financials and CDX IG, with Senior Financials clearly outperforming CDX IG – see Figure 2 and Figure 3. Whereas CDX IG implied volatility was the biggest underperformer (+8% over the week), volatility in Senior Financials barely moved (in fact it went down 1%). As a consequence, the entry point of the trade we fundamentally favor (buy Senior

¹ See [EM, pretext or precursor?](#), J. Shoup and S. Pokwal, 31-Jan.

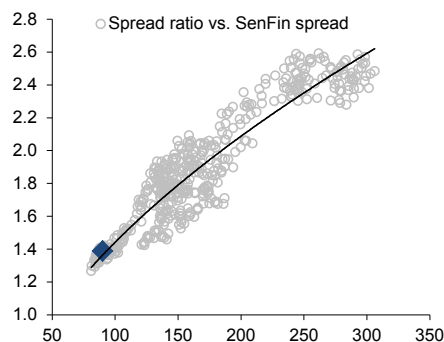
² Why Ukraine matters more than you think, M. King, 28-Feb.

³ Global Economics View: How Could The EM Turmoil Affect The Advanced Economies?, 17-Mar.

Financials straddles and sell CDX IG straddles) currently looks attractive. Our [cross-asset volatility report](#) (p. 7) also shows that volatility in Senior Financials has also recently outperformed SX7E volatility.

Figure 4. Spread ratio vs. SenFin spreads

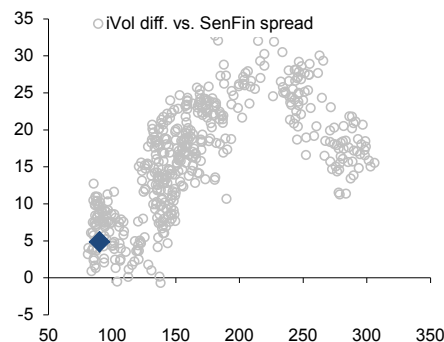
Y-axis: SenFin / CDX IG spread. X-axis: SenFin spread (bp).



Source: Citi Research, Markit. 5y on-the-run indices. Daily data for the past 2y.

Figure 5. iVol. diff. vs. SenFin spreads

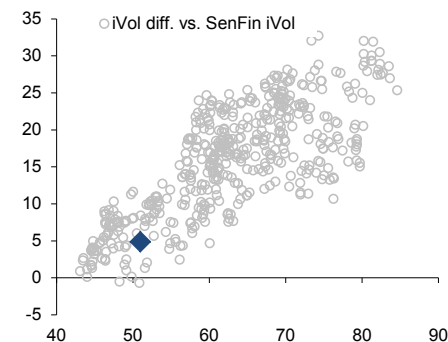
Y-axis: SenFin - CDX IG iVol (%). X-axis: SenFin spread (bp).



Source: Citi Research, Markit. 5y on-the-run indices. Daily data for the past 2y.

Figure 6. iVol. diff. vs. SenFin iVol.

Y-axis: SenFin - CDX IG iVol (%). X-axis: SenFin iVol (%).



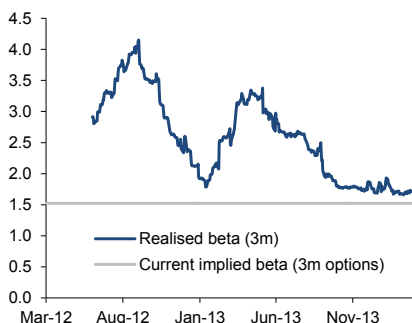
Source: Citi Research, Markit. 5y on-the-run indices. Daily data for the past 2y.

Essentially, this trade involves positioning for:

- The **spread** ratio between Senior Financials and CDX IG to decrease if we tighten and increase if we widen, respectively – Figure 4 shows the historical spread ratio. Essentially, we expect Senior Financials to move (relative to CDX IG) more than what the beta currently implied in the options market suggests (~1.5x)⁴, irrespective of the market direction. Figure 7 shows the current implied spread beta vs. the realised on over the past 1.5y.
- The **implied volatility** of Senior Financials to increase relative to CDX IG volatility – Figure 5 and Figure 6 show the historical spread differential vs. both spreads and implied vols.

Figure 7. SenFin to CDX IG Spread Betas

3m historical realised vs. current implied by 3m options.



Source: Citi Research, Markit. 5y on-the-run indices. Implied beta computed as the ratio of implied daily bp spread movements for the two indices.

⁴ We compute the implied daily bp movement for each index (~3bp and ~2bp for SenFin and CDX IG respectively) and take their ratio. We compute the implied daily bp movement as ATM implied vol x ATM spread / sqrt(252).

Buy SenFin straddles vs. sell CDX IG straddles

We use no-delta ATM straddles with June expiry in both indices and size the trade to be zero cost (which involves trading a higher notional in the CDX IG leg, ~1.9x), as Figure 8 shows. The sizing ratio we have used is close to the 3m realised beta between the two indices (~1.7x).

Figure 8. Trade Details – EUR equivalent. Index Refs: 88 / 64bp SenFin / CDX IG.

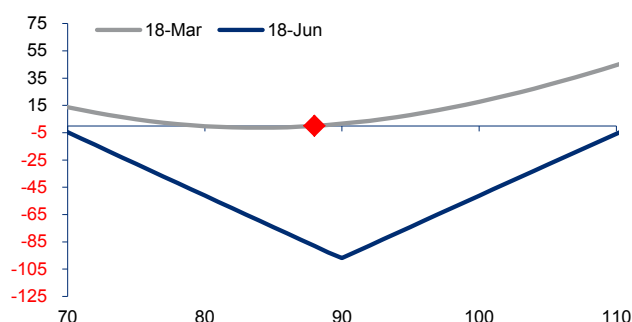
Index	Type	Strike	Expiry	Price	Position	Notional	Upfront	Delta	Gamma	Theta	Vega	Vol %	Vol (bp/day)
SenFin S20 5Y	Straddle	90	18-Jun	97.1c	Buy	100,000,000	-971,000	6,452	1,503	-5,497	14,041	50%	2.8
CDX IG S21 5Y	Straddle	65	18-Jun	51.1c	Sell	190,000,000	970,900	-20,665	-4,769	5,362	-20,329	42%	1.8
Total							-100	-14,213	-3,266	-135	-6,288		

Source: Citi Research. Indicative prices shown. Delta: MtM if index spreads widen 1bp // Change in delta if spreads widen 1bp // Theta: MtM if one day goes by // Vega: MtM if implied vol increases 1%.

Source: Citi Research

Figure 9. SenFin straddle bought – 69/111bp breakevens at expiry

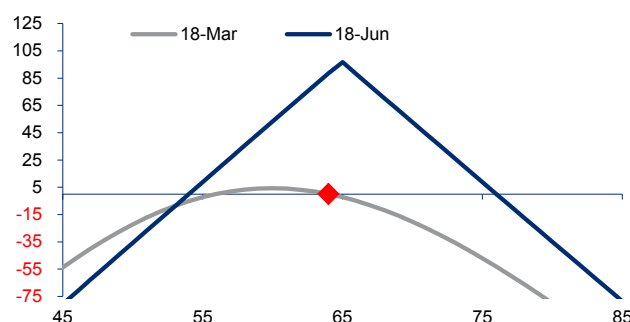
P&L in cents of the SenFin straddle notional in Figure 8.



Source: Citi Research, Markit.

Figure 10. CDX IG straddle sold – 54/76bp breakevens at expiry

P&L in cents of the SenFin straddle notional in Figure 8.

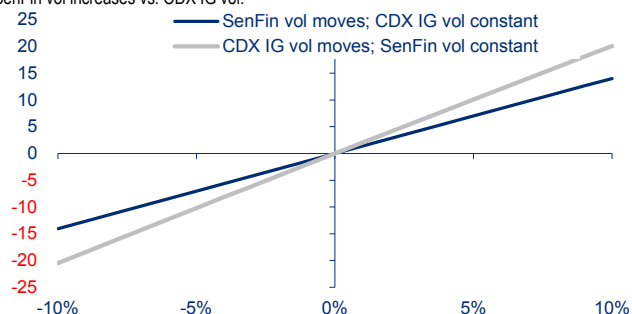


Source: Citi Research, Markit.

Volatility-wise, the trade profits from implied volatility in Senior Financials increasing relative to CDX IG (see Figure 11). For each 1% that the difference increases, the trade makes ~1.7c (of the SenFin notional); thus, if the current difference of 8% goes back to the average difference over the past 2y (16%), we would expect the trade to make around 14c.⁵ The trade is slightly short vega if implied volatility in both indices moves by the same amount (Figure 12).

Figure 11. P&L for changes in the volatility difference

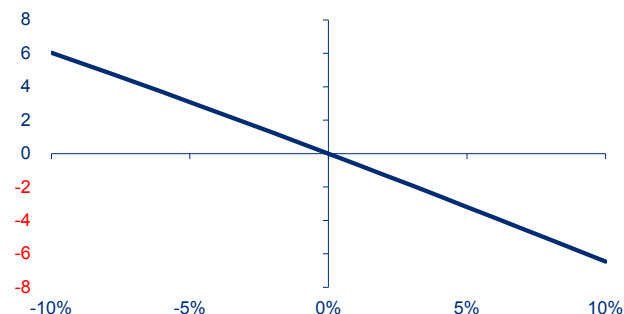
P&L in cents of the SenFin straddle notional in Figure 8. Positive change in the vol difference: SenFin vol increases vs. CDX IG vol.



Source: Citi Research, Markit.

Figure 12. P&L for volatility changes in both indices (same change)

P&L in cents of the SenFin straddle notional in Figure 8.



Source: Citi Research, Markit.

⁵ Conversely, for each 1% that the difference decreases, the trade loses ~1.7c

Spread-wise, it can be shown (see Figure 13 and Figure 14) that, roughly, both instantaneously and at expiry, **the trade has a positive P&L as long as:**

- **Senior Financials underperform CDX IG if we widen** (i.e. the spread ratio increases), and
- **Senior Financials outperform CDX IG if we tighten** (i.e. the spread ratio falls).

We have constructed our spread grid by moving CDX IG spreads 5bp at a time (rows) and by moving Senior Financials spreads 6.9bp at a time (columns). As a consequence, spread movements along the diagonal (top-left to bottom-right) of Figure 13 and Figure 14 would imply Senior Financials spreads move 1.38x (the current spread ratio) more than CDX IG. Figure 15 shows the changes in the spread ratio resulting from different movements in spreads.

Figure 13. Trade P&L for different INSTANTANEOUS spread movements

In cents of the SenFin straddle notional. 100 cents = 1%.

		SenFin										
Spread		54 bp	61 bp	67 bp	74 bp	81 bp	88 bp	95 bp	102 bp	109 bp	116 bp	122 bp
	Change	-34.4 bp	-27.5 bp	-20.6 bp	-13.8 bp	-6.9 bp	0.0 bp	6.9 bp	13.8 bp	20.6 bp	27.5 bp	34.4 bp
CDX IG	39 bp	-25 bp	-69	-69	-82	-96	-102	-101	-94	-80	-61	-47
	44 bp	-20 bp	-29	-29	-41	-55	-62	-61	-53	-39	-21	-7
	49 bp	-15 bp	4	4	-8	-22	-28	-20	-6	13	26	26
	54 bp	-10 bp	27	27	15	1	-6	-5	3	16	35	49
	59 bp	-5 bp	36	36	24	10	3	4	12	26	44	58
	64 bp	0 bp	32	32	20	6	-1	0	8	22	40	54
	69 bp	5 bp	16	16	4	-10	-17	-16	-8	6	24	38
	74 bp	10 bp	-9	-9	-21	-35	-42	-41	-33	-19	-1	13
	79 bp	15 bp	-41	-41	-53	-67	-74	-73	-65	-51	-33	-19
	84 bp	20 bp	-77	-77	-90	-103	-110	-109	-102	-88	-69	-55
	89 bp	25 bp	-117	-117	-129	-143	-149	-149	-141	-127	-108	-94

Source: Citi Research, Markit.

Figure 14. Trade P&L for different spread movements AT EXPIRY

In cents of the SenFin straddle notional. 100 cents = 1%.

		SenFin										
Spread		54 bp	61 bp	67 bp	74 bp	81 bp	88 bp	95 bp	102 bp	109 bp	116 bp	122 bp
	Change	-34.4 bp	-27.5 bp	-20.6 bp	-13.8 bp	-6.9 bp	0.0 bp	6.9 bp	13.8 bp	20.6 bp	27.5 bp	34.4 bp
CDX IG	39 bp	-25 bp	-106	-106	-127	-159	-191	-223	-209	-178	-146	-127
	44 bp	-20 bp	-61	-61	-82	-114	-146	-178	-164	-133	-101	-82
	49 bp	-15 bp	-17	-17	-37	-69	-101	-133	-119	-88	-57	-37
	54 bp	-10 bp	28	28	8	-24	-56	-88	-75	-43	-12	8
	59 bp	-5 bp	73	73	52	20	-12	-44	-30	1	32	52
	64 bp	0 bp	117	117	96	64	32	1	14	45	77	96
	69 bp	5 bp	90	90	69	37	5	-27	-13	18	50	69
	74 bp	10 bp	46	46	25	-7	-39	-71	-57	-26	6	25
	79 bp	15 bp	2	2	-19	-51	-83	-114	-101	-69	-38	-18
	84 bp	20 bp	-42	-42	-62	-94	-126	-158	-144	-113	-82	-62
	89 bp	25 bp	-85	-85	-106	-138	-170	-201	-188	-156	-125	-105

Source: Citi Research, Markit.

Figure 15. Change in the SenFin / CDX IG spread ratio

		SenFin											
CDX IG	Spread	54 bp	61 bp	67 bp	74 bp	81 bp	88 bp	95 bp	102 bp	109 bp	116 bp	122 bp	
	Change	-34.4 bp	-27.5 bp	-20.6 bp	-13.8 bp	-6.9 bp	0.0 bp	6.9 bp	13.8 bp	20.6 bp	27.5 bp	34.4 bp	
	39 bp	-25 bp	0.00	0.18	0.35	0.53	0.71	0.88	1.06	1.23	1.41	1.59	1.76
	44 bp	-20 bp	-0.16	0.00	0.16	0.31	0.47	0.63	0.78	0.94	1.09	1.25	1.41
	49 bp	-15 bp	-0.28	-0.14	0.00	0.14	0.28	0.42	0.56	0.70	0.84	0.98	1.12
	54 bp	-10 bp	-0.38	-0.25	-0.13	0.00	0.13	0.25	0.38	0.51	0.64	0.76	0.89
	59 bp	-5 bp	-0.47	-0.35	-0.23	-0.12	0.00	0.12	0.23	0.35	0.47	0.58	0.70
	64 bp	0 bp	-0.54	-0.43	-0.32	-0.21	-0.11	0.00	0.11	0.21	0.32	0.43	0.54
	69 bp	5 bp	-0.60	-0.50	-0.40	-0.30	-0.20	-0.10	0.00	0.10	0.20	0.30	0.40
	74 bp	10 bp	-0.65	-0.56	-0.46	-0.37	-0.28	-0.19	-0.09	0.00	0.09	0.19	0.28
	79 bp	15 bp	-0.70	-0.61	-0.52	-0.44	-0.35	-0.26	-0.17	-0.09	0.00	0.09	0.17
	84 bp	20 bp	-0.74	-0.65	-0.57	-0.49	-0.41	-0.33	-0.25	-0.16	-0.08	0.00	0.08
89 bp	25 bp	-0.77	-0.70	-0.62	-0.54	-0.46	-0.39	-0.31	-0.23	-0.15	-0.08	0.00	

Source: Citi Research, Markit.

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
Curves	iTraxx Curve P&L Report	Indices	CDS Indices Positioning Report CDS Indices Trading Volumes Report

Source: Citi Research.

Recent Trade Ideas

Single names vs. Index	Releveraging Trade	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
Tranches -	Long risk S19 Jun-18 (5y) 3-6% vs. 5y S20 Crossover	26 Sep 2013
Tranches -	Long risk iTraxx S9 Jun-18 (10y) super senior vs. short risk CDX IG S9 Dec-17 (10y) super senior	26 Sep 2013
Indices -	Equal Notional 3s5s Flatteners: Adding cautious longs by selling forward protection	5 Sep 2013
Single Names -	Sub/Senior compression trades in European banks	13 Aug 2013
Options -	iTraxx Senior Financials vs. CDX IG via Receivers	7 Aug 2013
Tranches -	Sell Jun-16 3-6% Series 19 protection vs. Buy Jun-18 Series 9 index protection	9 Jul 2013

Source: Citi Research.

Latest “European Credit Derivatives Views & Trades” Investor Presentation: [Slow grind tighter from here - What are the best carry trades?](#)

Other publications

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
Financial CDS to get a re-vamp	7 Aug 2013
Hedging menu: payer spreads, 3s5s flatteners and Jun 15/18 equity tranche flatteners	28 Mar 2013
What bail-in means for CDS	11 Feb 2013

Source: Citi Research.

Trade Recommendations Summary

We are opening the trade recommended in this report and not closing any of our open trades.

Figure 16. Open trades – Summary and P&L

Trade Description	Leg	Format	Direct.	Notnl.	Entry Upfront	Entry Spread	Coupon	Current Upf.	Current Spread	P&L*
Sell 1m Main straddles *** 09-Jan-14	Sell 1m Main straddles	Price	Buy	1.00	0.00%			0.45%		0.45%
									Total	0.45%
Payer spread vs. index long *** 09-Jan-14	Buy 3m 25-60% pay spread Sell index prot.	Price	Buy	1.00	0.00%			0.00%		0.00%
		Price	Buy	1.00	0.00%			0.01%		0.01%
									Total	0.01%
SenFin vs. Xover Recs *** 09-Jan-14	Buy 3m SenFin Recs Sell 3m Xover Recs	Price	Buy	1.00	0.00%			-0.17%		-0.17%
		Price	Buy	0.29	0.00%			-0.60%		-0.18%
									Total	-0.34%
Flattener vs. OTM payer *** 13-Feb-14	3s5s flattener Main Sell 3m 120bp Main payer	Price	Buy	1.00	0.00%			0.07%		0.07%
		Price	Buy	0.75	0.00%			0.03%		0.03%
									Total	0.10%
Equity tranche vs. straddle *** 20-Feb-14	Sell Jun-18 S9 equity prot., DH Sell 1m Main straddles, DH	Price	Buy	1.00	0.00%			-0.36%		-0.36%
		Price	Buy	0.50	0.00%			0.07%		0.03%
									Total	-0.32%
Equity tranche vs. straddle *** 20-Feb-14	Buy Jun-18 S9 9-12% prot., DH	Price	Buy	0.03	0.00%			0.03%		0.00%
	Buy Jun-18 S9 12-22% prot., DH	Price	Buy	0.10	0.00%			0.09%		0.01%
	Buy Jun-18 S9 22-100% prot., DH	Price	Buy	0.78	0.00%			-0.03%		-0.03%
									Total	-0.02%
Mezz tranche long *** 20-Feb-14	Sell Jun-18 S9 3-6% prot., DH	Price	Buy	1.00	0.00%			-0.20%		-0.20%
									Total	-0.20%
Releveraging trade (H. Lorenzen) 24-Feb-14	Basket of low spread/leverage CDS Main NonFins	Prot.	Buy	1.00	-3.14%	35	100	-3.13%	35	-0.05%
		Prot.	Sell	0.50	-1.54%	67	100	-1.40%	70	-0.04%
									Total	-0.08%
Senior Fin vs. CDX IG straddle 18-Mar-14	SenFin Jun-14 90bp straddle CDX IG Jun-14 65bp straddle	Price	Buy	1.00	0.97%					
		Price	Sell	1.90	0.51%					
									Total	

Source: Citi Research. Spreads and coupons in bp. * P&L expressed as % of the leg with notional equal to 1. ** Over the last month. Prices as of COB yesterday. *** We track the trade P&L by using an initial 0% upfront and a current upfront equal to the trade P&L in %. DH = delta hedged.

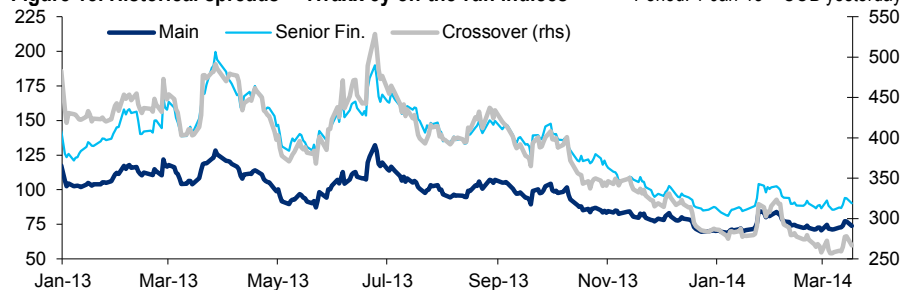
Figure 17. Open and closed trades summary statistics

Number	Open	Closed*	Percentage	Open	Closed*
In profit	3	16	In profit	38%	76%
In loss	5	5	In loss	63%	24%
	8	21			

Source: Citi Research. * Since 1-Jun-13. Excluding the trade ideas opened in the current publication.

Representative Market Conditions

Figure 18. Historical spreads – iTraxx 5y on-the-run indices



Source: Citi Research, Markit. In bp.

Figure 19. Closed trades since Oct-13 – Summary and P&L

Trade Description	Leg	Format	Direct.	Notnl.	Entry Upfront	Entry Spread	Coupon	Final Upfront	Final Spread	P&L* Total
Commerzbank sub/senior compr.	Sub CDS	Prot.	Sell	1.00	-5.65%	375	500	-8.03%	327	3.24%
Opened: 13-Aug-13	Senior CDS	Prot.	Buy	2.51	2.37%	150	100	1.95%	140	-1.49%
Closed: 14-Oct-13									Total	1.75%
RBS sub/senior compr.	Sub CDS	Prot.	Sell	1.00	-7.71%	339	500	-11.10%	254	4.25%
Opened: 13-Aug-13	Senior CDS	Prot.	Buy	2.02	2.80%	168	100	1.77%	139	-2.43%
Closed: 14-Sep-13									Total	1.82%
BNP sub/senior compr.	Sub CDS	Prot.	Sell	1.00	-14.42%	198	500	-16.21%	168	2.65%
Opened: 13-Aug-13	Senior CDS	Prot.	Buy	1.68	0.86%	118	100	0.26%	105	-1.30%
Closed: 14-Oct-13									Total	1.36%
S19 3-6% vs. S20 Crossover	Main S19 3-6% Jun-18	Prot.	Sell	1.00	-3.25%	422	500	-5.70%	366	2.99%
Opened: 26-Sep-13	Crossover S20 Dec-18	Prot.	Buy	1.00	-5.18%	386	500	-6.96%	343	-2.32%
Closed: 14-Oct-13									Total	0.67%
iTraxx vs. CDX IG super senior	Main S9 22-100% Jun-18	Prot.	Sell	1.00	0.60%	37	25	0.34%	32	0.29%
Opened: 26-Sep-13	CDX IG S9 30-100% Dec-17	Prot.	Buy	1.00	-3.54%	13	100	-3.43%	16	0.00%
Closed: 4-Nov-13									Total	0.29%
Senior Fin vs. Xover straddle	Xover Dec-13 400bp straddle	Price	Sell	1.00	2.64%			2.63%		0.00%
Opened: 9-Oct-13	SenFin Dec-13 140bp straddle	Price	Buy	2.05	1.29%			1.48%		0.40%
Closed: 15-Nov-13									Total	0.40%
325-350-375 Nov. Crossover Receiver Ladder	325 Xover Nov Rec	Price	Sell	2.00	0.18%			0.02%		0.32%
Opened: 23-Oct-13	350 Xover Nov Rec	Price	Sell	1.00	0.61%			0.47%		0.14%
Closed: 15-Nov-13	375 Xover Nov Rec	Price	Buy	1.00	1.45%			1.46%		0.01%
									Total	0.47%
CDX IG vs. Main Receivers	CDX IG S21 Nov 85 Receiver	Price	Buy	1.00	0.47%			0.62%		0.15%
Opened: 15-Oct-13	Main S20 Nov 100 Receiver	Price	Sell	1.00	0.52%			0.91%		-0.39%
Closed: Expired 20-Nov-13									Total	-0.24%
S19 Jun-16 0-3% vs. 3-6%	Main S19 0-3% Jun-16	Prot.	Sell	1.00	8.00%	839	500	3.88%	725	5.11%
Open: 26-Sep-13	Main S19 3-6% Jun-16	Prot.	Buy	2.00	-7.00%	234	500	-9.75%	132	-7.47%
Closed: 9-Dec-13									Total	-2.36%
SenFin vs. Main	Senior Fin. 5y S20	Prot.	Sell	1.00	0.60%	112	100	0.07%	102	0.61%
Open: 26-Sep-13	Main 5y S20	Prot.	Buy	1.35	-0.79%	84	100	-0.94%	81	-0.32%
Closed: 9-Dec-13									Total	0.29%
S9 super senior vs. light delta	Main S9 22-100% Jun-18	Prot.	Sell	1.00	0.18%	30	25	0.03%	26	0.19%
Open: 15-Nov-13	Main S9 index Jun-18	Prot.	Buy	0.33	-3.65%	93	175	-4.24%	77	-0.29%
Close: 14-Jan-14									Total	-0.10%
75-85 Main January strangle	75bp Jan Main receiver	Price	Sell	1.00	0.08%			0.19%		-0.11%
Open: 9-Dec-13	85bp Jan Main Payer	Price	Sell	1.00	0.13%			0.00%		0.13%
Close: 14-Jan-14									Total	0.02%
Sell Crossover Receiver	275bp Feb. Receiver	Price	Sell	1.00	0.32%			0.17%		0.15%
Open: 9-Jan-14									Total	0.15%
Close: 13-Feb-14										
iTraxx Main Eq. Notional Flattener	Main S19 3y	Prot.	Buy	1.00	-0.97%	65	100	-1.57%	33	-1.04%
Open: 5-Sep-13	Main S19 5y	Prot.	Sell	1.00	0.24%	105	100	-1.47%	65	2.15%
Close: 13-Feb-14									Total	1.11%
S9 6-9% vs. S20 Crossover	Main S9 6-9% Jun-18	Prot.	Sell	1.17	-0.25%	294	300	-3.19%	223	4.37%
Open: 15-Nov-13	Crossover S20 Dec-18	Prot.	Buy	1.00	-7.07%	344	500	-9.80%	274	-4.06%
Close: 19-Feb-14									Total	0.31%
3-6% vs. super senior	Main S9 3-6% Jun-18	Prot.	Sell	1.00	-5.50%	366	500	-5.34%	367	0.34%
Open: 14-Jan-14	Main S9 22-100% Jun-18	Prot.	Buy	9.00	0.03%	26.625	25	0.12%	28	0.60%
Close: 19-Feb-14									Total	0.94%
Main vs. SenFin vol ***	Sell Feb 70 Main straddles, DH	Price	Buy	1.00	0.00%			-0.02%		-0.02%
Open: 21-Jan-14	Buy Feb 80 SenFin straddles, DH	Price	Buy	0.50	0.00%			0.02%		0.01%
Close: Expired									Total	-0.01%

Source: Citi Research. Spreads and coupons in bp. * P&L expressed as % of the leg with notional equal to 1. *** We track the trade P&L by using an initial 0% upfront and a final upfront equal to the trade P&L in %.

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Appendix A-1

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