

# iTraxx Senior Fins vs. CDX IG via Receivers

## European Credit Derivatives

- **iTraxx Senior Financials trading at wide spreads but low implied vols vs. CDX IG.** iTraxx Senior Financials have underperformed CDX IG year-to-date, with their spread ratio moving from 1.5x (126 vs. 85bp) to ~1.9x (147 vs. 77bp). On the other hand, implied volatility in Senior Financials is now trading, relative to CDX IG implied volatility, at its lowest level since 2011.

- **Where does the spread underperformance of Senior Financials vs. CDX IG in 2013 come from?** From both the underperformance of European relative to US investment grade credit and also from the underperformance of financials relative to corporates.

- **TRADE: Buy iTraxx Senior Financials receivers & sell CDX IG receivers.** The combination of wide spreads and low volatility (of Senior Financials vs. CDX IG) makes this trade attractive pricing-wise.

Figure 1. Trade Details - In EUR equivalent

Index	Type	Strike	Expiry	Price	Position	Notional
SenFin S19 5Y	Receiver	140	16-Oct	52.8c	Buy	100m
CDX IG S20 5Y	Receiver	75	16-Oct	19.1c	Sell	200m

Source: Citi Research. Indicative prices shown.

- **VIEW: in a spread tightening environment, Senior Financials should outperform CDX IG.** Since we are using receiver options, the trade exposure to a generalized spread widening is limited before the options expiry, and null at expiry (both legs will expire worthless).

- We argue that not only does the European economy have higher potential to deliver positive surprises than the US economy, but also leading economic indicators are moving sharply above consensus in Europe vs. converging (downwards) towards consensus in the US.
- In a tightening scenario where Europe outperforms the US, we would expect European financials to be in the driving seat of such outperformance, taking the spread ratio between iTraxx Senior Financials and CDX IG lower.

- **iTraxx Senior Financials has already started outperforming CDX IG, with the spread ratio moving down over the past week. We expect this to continue.**

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

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**Senior Financials spread:  
wide vs. CDX IG**

The spread ratio between iTraxx Senior spreads and CDX IG has remained relatively stable over the past couple of months (Figure 2); however it has increased, from 1.5x to 1.9x, since early January (Figure 3) – i.e. Senior Financials underperforming CDX IG. Currently at 1.9x, the spread ratio is close to the highest levels we've seen this year (in March).

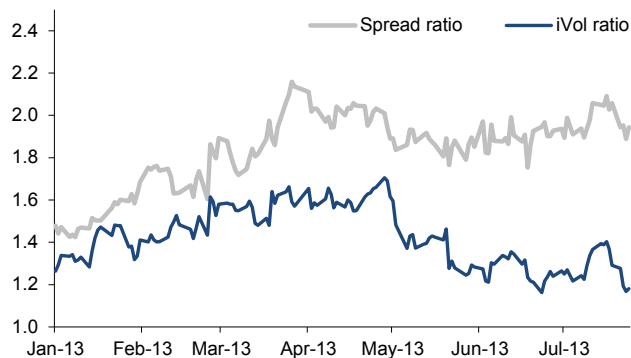
**Senior Financials implied vol:  
low vs. CDX IG**

On the other hand, as Figure 2 and Figure 3 also show, the ratio of implied volatilities between the two indices is, currently below 1.2x, close to its lowest levels since 2011 – i.e. Senior Financials implied vol is low compared to CDX IG vol.

**Pricing-wise, buying Senior Financial receivers and selling CDX IG receivers (i.e. going long risk and long vol Senior Financials vs. CDX IG ) looks an attractive trade.** The trade allows investors to express the view that Senior Financials will outperform CDX IG in a spread tightening scenario (given that we use receiver options).

**Figure 2. Spread and implied volatility ratios – Past 6months**

Senior Fin. divided by CDX IG. 5y on-the-run spreads, 3m ATM implied vol.



Source: Citi Research, Markit.

**Figure 3. Spread and implied volatility ratios – Since 2010**

Senior Fin. divided by CDX IG. 5y on-the-run spreads, 3m ATM implied vol.



Source: Citi Research, Markit. 5 days moving average.

Does the trade also make fundamental (and technical) sense? We think so: we would expect European financials to outperform US credit in a spread tightening environment.

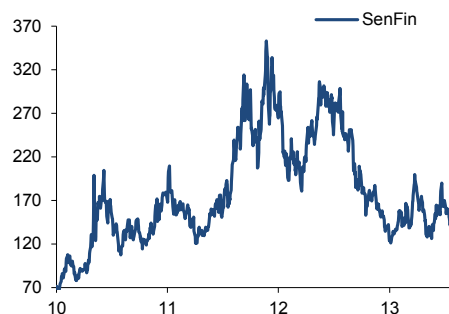
**We believe the European economy has higher potential to deliver positive surprises than the US economy.** If Europe continues posting good economic data, such as the recent PMIs and German Ifo, perceptions about the performance of the European economy should improve from, we would say, much poorer levels than perceptions about the performance of the US economy. Citi Economic Surprise Indices started flagging this in early July, as our Global Macro Strategy team highlighted in a recent [note](#): US leading indicators are converging towards the current growth consensus (suggesting little additional upside on growth expectations as things stand) whereas European leading indicators are sharply higher and diverging to the upside vs. a weak consensus forecast (see CESIUSD and CESIEUR in Bloomberg respectively). Along the same lines, in their latest [Global Economic Outlook and Strategy](#) our economists revised upwards their GDP forecasts for the Eurozone (by 0.1%) while revising downwards their forecasts for global growth (also by 0.1%). Recent data from the July ECB lending survey also shows a reduction in the net percentage of banks tightening lending standards for the second successive quarter.

**Additionally, we would argue that, in a tightening scenario where European credit outperforms US credit, European financials will be in the driving seat of such outperformance.** Compared with CDX IG, which is already at levels not seen since 2008, Senior Financials have more room to continue tightening (see Figure 4

and Figure 5). The spread ratio between iTraxx Senior Financials and CDX IG has historically behaved quite market directionally, and it is currently trading at the wide end of the range given current spread levels as Figure 6 shows.

**Figure 4. Senior Financial Spread**

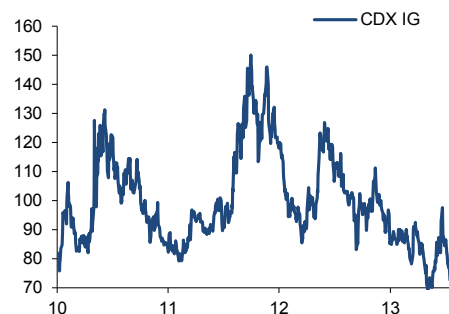
5y on-the-run index spreads, in bp.



Source: Citi Research, Markit.

**Figure 5. CDX IG Spread**

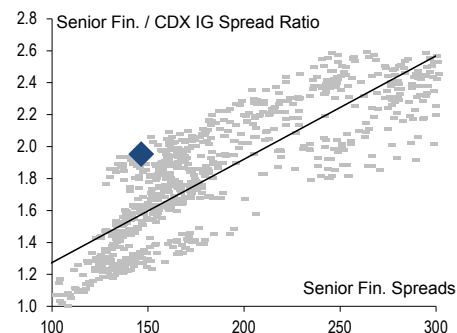
5y on-the-run index spreads, in bp.



Source: Citi Research, Markit.

**Figure 6. Spread ratio vs. Senior Fin. Spreads**

Y-axis: spread ratio; X-axis: Senior Fin spread, bp.



Source: Citi Research, Markit. Data since 2010.

If the run-up to (and results of) the upcoming German elections delivers good news regarding Germany's commitment to Europe (on the political, economic and monetary fronts), we would also expect a tightening where Senior Financials outperform general credit and, particularly, US credit. Financials, in particular those included in iTraxx Series 19, should be the main beneficiaries of better economic and political prospects in Europe.

Last, but not least, any news of ISDA's release of the [new financial CDS contract](#) should put tightening pressure on bank CDS – probably more on subordinated CDS, but also on senior CDS.

**By going long risk Senior Financials vs. CDX IG via receivers, the trade exposure to a generalized spread widening environment is limited** – at expiry both options would expire worthless.

**The largest downside of this trade is in a scenario where US credit tightens and European financials widen at the same time.** However, as we have recently highlighted, we are not expecting any lasting decoupling between European and US credit (regarding the direction of spread movements).<sup>1</sup>

**We believe that the correlation between European and US credit will remain high ... but that if we tighten, European financials will outperform.**

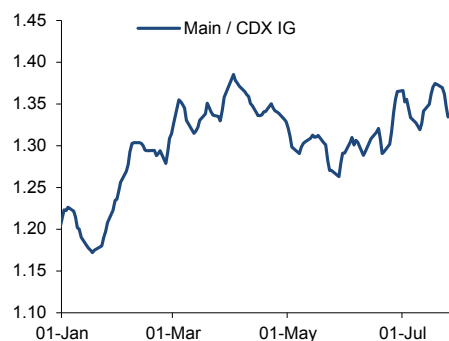
**Where does the spread underperformance of Senior Financials vs. CDX IG in 2013 come from?**

During 2013, as the Figures show, the underperformance of iTraxx Senior Financials relative to CDX IG – Figure 9 – has been driven both by (i) the underperformance of European relative to US investment grade credit – Figure 7 – and also by (ii) the underperformance of financials relative to corporates – Figure 8.

<sup>1</sup> See [European vs. US credit spreads: Decoupling – an Atlantic rift about to open?](#), H. Lorenzen, 23 July.

**Figure 7. Main / CDX IG Spreads**

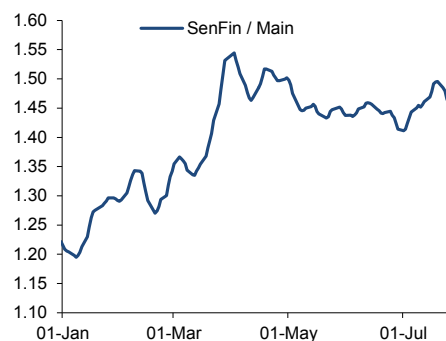
Ratio of 5y on-the-run index spreads.



Source: Citi Research, Markit. 5 days moving average.

**Figure 8. Senior Fin. / Main Spreads**

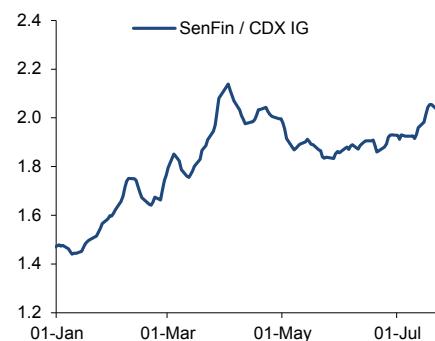
Ratio of 5y on-the-run index spreads.



Source: Citi Research, Markit. 5 days moving average.

**Figure 9. Senior Fin. / CDX IG Spreads**

Ratio of 5y on-the-run index spreads.



Source: Citi Research, Markit. 5 days moving average.

## Trade Idea

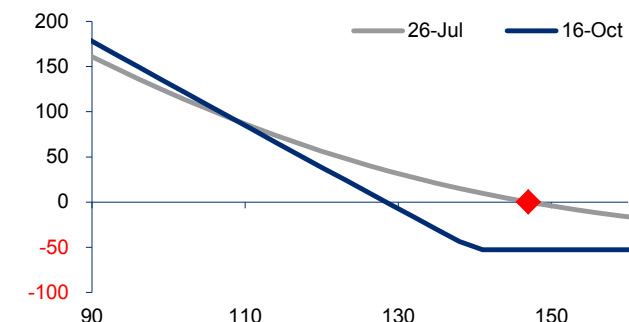
The trade idea involves buying receivers in Senior Financials and selling receivers in CDX IG, both at-the-money and with a 3m (16-October) expiry. We sell 2 CDX IG options for each option we buy in Senior Financials. As Figure 10 shows, this generates a small negative cost of 15 cents (of the Senior Financials receiver notional), which would be the loss on the trade at expiry if both options expire worthless (i.e. Senior Financials and CDX IG spreads are above 140 and 75bp respectively).

**Figure 10. Trade Details - In EUR equivalent**

Index	Type	Strike	Expiry	Price	Position	Notional	Upfront	Delta	Gamma	Theta	Vega	Vol %	Vol (bp/day)
SenFin S19 5Y	Receiver	140	16-Oct	52.8c	Buy	100m	-528,000	-14,876	1,142	-2,862	10,099	59%	5.4
CDX IG S20 5Y	Receiver	75	16-Oct	19.1c	Sell	200m	382,000	31,395	-3,878	2,865	-11,987	47%	2.4
<b>Total</b>							<b>-146,000</b>	<b>16,519</b>	<b>-2,736</b>	<b>2</b>	<b>-1,887</b>		

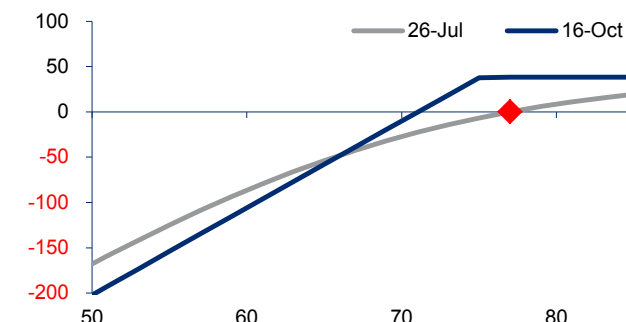
Source: Citi Research. Indicative prices shown. Delta: MtM if index spreads widen 1bp // Change in delta if spreads widen 1bp // Theta: MtM if one day goes by // Vega: MtM if implied vol increases 1%.

**Figure 11. Senior Financials receiver bought - 128bp breakeven at expiry**  
P&L in cents of the Senior Fin option notional in Figure 10.



Source: Citi Research, Markit.

**Figure 12. CDX IG receiver sold - 71bp breakeven at expiry**  
P&L in cents of the Senior Fin option notional in Figure 10.



Source: Citi Research, Markit.

The sizing ratio we have used (2x) is close to the current spread ratio of the indices (1.9x) and the implied beta (2.3x) between the two indices.<sup>2</sup> 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 the spread in Senior Financials tightens more than 2x any CDX IG tightening. We have constructed our spread grid by moving CDX IG

<sup>2</sup> As Figure 10 shows (last column) the daily implied bp volatility on Senior Financials and CDX IG is 5.4 and 2.4bp respectively.

spreads 3bp at a time (rows) and by moving Senior Financials 6bp at a time. As a consequence, spread movements along the two diagonals of the Figure 13 and Figure 14 would imply Senior Financials spreads move 2x more than CDX IG.

The trade generates a long volatility position in Senior Financials and a short volatility position in CDX IG. The current volatility differential between the two indices is close to 9%, much lower than the average volatility difference since 2011 (23.5%). With a vega of around 1 cent (of the Senior Fin receiver notional) on each leg, the trade is around 15 cents cheaper than it would have been if the current implied volatility differential was equal to the average differential. Finally, given that the vega on each leg of the trade is similar, the trade exposure to general movements in volatility is limited.

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

In cents of the iTraxx Senior Financials receiver notional. 100 cents = 1%.

		SenFin											
CDX IG	Spread		105 bp	111 bp	117 bp	123 bp	129 bp	135 bp	141 bp	147 bp	153 bp	159 bp	165 bp
		Change	-42 bp	-36 bp	-30 bp	-24 bp	-18 bp	-12 bp	-6 bp	0 bp	6 bp	12 bp	18 bp
	56 bp	-21 bp	-14	-34	-52	-69	-83	-96	-107	-117	-125	-132	-138
	59 bp	-18 bp	10	-11	-29	-45	-60	-73	-84	-94	-102	-109	-115
	62 bp	-15 bp	30	10	-8	-24	-39	-52	-63	-73	-81	-88	-94
	65 bp	-12 bp	50	29	11	-5	-20	-33	-44	-54	-62	-69	-75
	68 bp	-9 bp	66	46	28	11	-4	-16	-28	-37	-45	-52	-58
	71 bp	-6 bp	81	60	42	26	11	-2	-13	-23	-31	-38	-44
	74 bp	-3 bp	93	73	54	38	23	10	-1	-10	-19	-26	-32
	77 bp	0 bp	103	83	65	48	34	21	10	0	-8	-15	-21
	80 bp	3 bp	112	92	73	57	42	29	18	8	0	-7	-13
	83 bp	6 bp	119	99	80	64	49	36	25	16	7	0	-5
	86 bp	9 bp	125	104	86	70	55	42	31	21	13	6	0

Source: Citi Research.

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

In cents of the iTraxx Senior Financials receiver notional. 100 cents = 1%.

		SenFin										
CDX IG	Spread	105 bp	111 bp	117 bp	123 bp	129 bp	135 bp	141 bp	147 bp	153 bp	159 bp	165 bp
	Change	-42 bp	-36 bp	-30 bp	-24 bp	-18 bp	-12 bp	-6 bp	0 bp	6 bp	12 bp	18 bp
	56 bp	-21 bp	-36	-64	-92	-120	-147	-174	-197	-197	-197	-197
	59 bp	-18 bp	-8	-35	-63	-91	-118	-145	-168	-168	-168	-168
	62 bp	-15 bp	21	-7	-34	-62	-89	-117	-139	-139	-139	-139
	65 bp	-12 bp	50	22	-6	-33	-61	-88	-111	-111	-111	-111
	68 bp	-9 bp	79	51	23	-4	-32	-59	-82	-82	-82	-82
	71 bp	-6 bp	107	79	52	24	-3	-31	-53	-53	-53	-53
	74 bp	-3 bp	136	108	80	53	25	-2	-25	-25	-25	-25
	77 bp	0 bp	146	118	91	63	36	8	-15	-15	-15	-15
	80 bp	3 bp	146	118	91	63	36	8	-15	-15	-15	-15
	83 bp	6 bp	146	118	91	63	36	8	-15	-15	-15	-15
	86 bp	9 bp	146	118	91	63	36	8	-15	-15	-15	-15

Source: Citi Research

## Trade Recommendations Summary

This section provides details of the trade ideas recommended in our published research.

We are adding the Senior Fin. vs. CDX IG receiver trade to our model portfolio.

Figure 15. Open trades – Summary and P&L

Trade Description	Leg	Format	Direct.	Notnl.	Entry Upfront	Entry Spread	Entry Coupon	Current Upfront	Current Spread	P&L* Total	P&L* Month**
Series 9 vs. Series 19 equity 05-Jun-13	iTraxx Main S9 0-3% Jun-18 (10y)	Prot.	Buy	1	46.25%	1,720	500	43.73%	1,814	-3.21%	4.21%
	iTraxx Main S9 Index Jun-18 (10y)	Prot.	Sell	5	-2.1%	132	175	-2.1%	130	1.27%	-5.08%
	iTraxx Main S19 0-3% Jun-18 (5y)	Prot.	Sell	1	31.75%	1,227	500	30.6%	1,340	1.87%	-6.56%
	iTraxx Main S19 Index Jun-18 (5y)	Prot.	Buy	6.2	0.4%	108	100	0.2%	103	-2.27%	5.46%
										<b>Total</b>	<b>-2.35%</b>
S19 Jun-16 3-6% vs. S9 Jun-18 Index 09-Jul-13	iTraxx Main S19 3-6% Jun-16 (13y)	Prot.	Sell	1	-3.59%	375	500	-5.16%	315	1.79%	0.75%
	iTraxx Main S9 Index Jun-18 (10y)	Prot.	Buy	2.5	-1.58%	138	175	-2.1%	130	-1.41%	-0.80%
										<b>Total</b>	<b>0.39%</b>
Senior Fin vs. CDX IG Receivers 26-Jul-13	SenFin October 140bp receiver	Price	Buy	1	0.528%						
	CDX IG October 75bp receiver	Price	Sell	2	0.191%						
										<b>Total</b>	

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.

Figure 16. Open and closed trades summary statistics

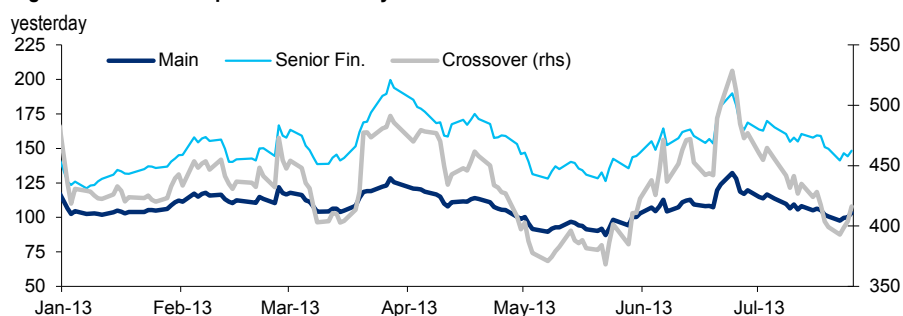
Number	Open	Closed*	Percentage	Open	Closed*
In profit	1	1	In profit	50%	100%
In loss	1	0	In loss	50%	0%
	2	0			

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

### Representative Market Conditions

Figure 17. Historical spreads – iTraxx 5y on-the-run indices

Period: 1-Jan-13 – COB



Source: Citi Research, Markit. In bp.

Figure 18. Closed trades since Jun-13 – Summary and P&L

Trade Description	Leg	Format	Direct.	Notnl.	Entry Upfront	Entry Spread	Entry Coupon	Closing Upfront	Closing Spread	P&L* Total
Main July Receiver Fly	105bp Receiver	Price	Buy	1	0.2450%			0.2342%		-0.01%
Opened: 18-Jun-13	90bp Receiver	Price	Sell	2	0.0350%			0.0000%		0.07%
Closed: Expiry	75bp Receiver	Price	Buy	1	0.0024%			0.0000%		0.00%
										<b>Total</b>

Source: Citi Research. Spreads and coupons in bp. \* P&L expressed as % of the leg with notional equal to 1.

Notes: The list of open trades reflects our current views; we have no plans to provide regular coverage or updates to these trades. P&L on trade ideas includes carry and roll costs but not trading commissions/costs. Results should not, and cannot, be viewed as an indicator of future performance.

## Recent Trade Ideas

**Figure 19. Published Trade Ideas** – reverse chronological order.

Trade Ideas	Date
<a href="#">Sell Jun-16 3-6% Series 19 protection vs. Buy Jun-18 Series 9 index protection</a>	9 Jul 2013
<a href="#">Option trades ahead of the FOMC</a>	18 Jun 2013
<a href="#">iTraxx Series 9 vs. Series 19 Jun-18 equity tranches</a>	5 Jun 2013
<a href="#">Hedging via Crossover Bearish Ladders</a>	16 May 2013
<a href="#">Buy Main straddles; sell CDX IG straddles</a>	1 May 2013
<a href="#">Views &amp; Trades on iTraxx Series 9 Tranches</a>	18 April 2013
<a href="#">Beware of retail and food releveraging – short risk retailers &amp; food vs. Main Non-Financials</a>	18 April 2013
<a href="#">Receiver 1x2s – Mind the tail if going long</a>	2 Apr 2013
<a href="#">Hedging menu: payer spreads, 3s5s flatteners and Jun 15/18 equity tranche flatteners</a>	28 Mar 2013
<a href="#">Long insurers vs. short premium autos</a>	19 Mar 2013
<a href="#">Flatteners in iTraxx Equity Tranches</a>	6 Mar 2013
<a href="#">Long risk 3-6% vs. short risk 0-3% - Jun-15 iTraxx Series 9 tranches</a>	12 Feb 2013
<a href="#">Long risk Main vs. Crossover via indices and receiver options</a>	12 Feb 2013
<a href="#">iTraxx Main payer ladders</a>	3 Jan 2013
<a href="#">iTraxx Main 3s5s duration weighted flatteners</a>	3 Jan 2013
<a href="#">Long risk iTraxx Main vs. short risk iTraxx Crossover</a>	3 Jan 2013
<a href="#">Long risk CDX IG vs. short risk iTraxx Main</a>	3 Jan 2013

Source: Citi Research.

### Risks

When buying calls and puts (or receivers and payers) the maximum loss is the premium paid. When selling calls (or receivers), the maximum potential loss would occur as the index spread decreases but is limited by the index spread being floored at zero. For puts (or payers), the maximum potential loss (amount below the strike) would eventuate should the index price fall to zero. Sector index options are cash settled. The above calculations do not include any additional fees or transaction costs. Note that ratio writing would leave the writer uncovered in one leg of the trade.

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For a more complete description on the uses and risks of options, please see the document titled Characteristics and Risks of Standardized Options. If you would like an additional copy of this document please contact Citigroup Global Markets Inc., Options Department, 390 Greenwich Street, New York, NY 10013 or from your Morgan Stanley Smith Barney Financial Advisor. Options are not suitable for all investors. Before entering into any transaction using listed options, investors should read and understand the current Options Clearing Corp. Disclosure Document (Characteristics and Risks of Standardized Options) at <http://www.theocc.com/about/publications/character-risks.jsp>, [http://www.theocc.com/components/docs/May\\_2010\\_ODD\\_Definitive\\_Supplement.pdf](http://www.theocc.com/components/docs/May_2010_ODD_Definitive_Supplement.pdf) and [http://www.theocc.com/components/docs/January\\_2011\\_ODD\\_Definitive\\_Supplement.pdf](http://www.theocc.com/components/docs/January_2011_ODD_Definitive_Supplement.pdf). Investing in options other than Standardized Options may entail additional risks. Appendix A-1

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