

# European Credit Derivatives Returns

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

Data as of COB: 29 Apr 16

## Unfunded CDS indices, options and tranches

Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.

### CDS Indices

	1m	3m	12m
Main	0.21%	1.1%	0.5%
Sen. Fin.	0.35%	0.6%	0.6%
Xover	0.81%	2.7%	0.4%

### iTraxx Main Steepeners (DVO1-weighted)

	1m	3m	12m
3s5s	-0.04%	0.1%	0.4%
5s10s	0.08%	0.3%	0.9%

### Main S9 10y tranches Delta-hedged

	1m	3m	12m
0-3%	-0.6%	-1.3%	-7.2%
3-6%	0.4%	0.8%	1.6%
6-9%	0.2%	0.1%	0.6%
9-12%	0.0%	-0.1%	0.5%
12-22%	0.0%	0.0%	0.3%
22-100%	0.00%	0.01%	0.14%

### Sell Main Straddle Delta-hedged

	1m	3m	12m
1m	#N/A	#N/A	#N/A
3m	#N/A	#N/A	#N/A

The index position is rolled at roll dates.

Curves: Using on-the-run indices and rolling the curve position at roll dates and/or when the trade DVO1 ratio differs more than 5% from the current ratio. P&L as % of the long dated leg notional.

Options: Rolling the options every month to maintain the indicated expiry.

Funding for CDS indices: 5y swaps.

iTraxx IG\*: 60% NonFin, 30% SenFin, 10% SubFin.

## Funded iTraxx IG\* vs. € iBoxx IG Corp.

Return of a long risk position, % of notional.

### Equal notional

	1m	3m	12m
Funded iTraxx IG*	0.0%	1.0%	1.7%
€ iBoxx IG Corp.	0.4%	2.2%	1.0%
Difference	-0.4%	-1.1%	0.7%

### Using a 3m beta-weighted notional for the € iBoxx IG Corp.

Current daily P&L beta: 163%

	1m	3m	12m
Funded iTraxx IG*	0.0%	1.0%	1.7%
€ iBoxx IG Corp.	0.6%	3.3%	2.0%
Difference	-0.6%	-2.3%	-0.3%

+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

## Funded CDS indices, cash bond indices and equities

Return of a long risk position as % of notional traded.

### CDS Indices (tunded)

	1m	3m	12m
Main	-0.1%	1.1%	1.7%
Sen. Fin.	0.0%	0.6%	1.8%
Xover	0.5%	2.7%	1.6%
iTraxx IG*	0.0%	1.0%	1.7%

### iBoxx indices

	1m	3m	12m
€ iBoxx IG Corp.	0.36%	2.2%	1.0%
€ iBoxx Senior Fins	0.23%	1.0%	1.4%
€ iBoxx HY Corp.	2.06%	4.5%	0.6%

### Equity indices

	1m	3m	12m
SX5E	1.5%	1.2%	-12.5%
SX7E	5.4%	5.0%	-28.2%

Data as of COB: 29 Apr 16

## Funded Sen. Fin. vs. € iBoxx Senior Fins

Return of a long risk position, % of notional.

### Equal notional

	1m	3m	12m
Funded Sen. Fin.	0.0%	0.6%	1.8%
€ iBoxx Senior Fins	0.2%	1.0%	1.4%
Difference	-0.2%	-0.4%	0.5%

### Using a 3m beta-weighted notional for the € iBoxx Senior Fins

Current daily P&L beta: 219%

	1m	3m	12m
Funded Sen. Fin.	0.0%	0.6%	1.8%
€ iBoxx Senior Fins	0.5%	2.3%	2.4%
Difference	-0.5%	-1.7%	-0.6%

+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

## Unfunded Main vs. SX5E

Return of a long risk position, % of notional.

### Equal notional

	1m	3m	12m
Unfunded Main	0.2%	1.1%	0.5%
SX5E	1.5%	1.2%	-12.5%
Difference	-1.3%	0.0%	13.0%

### Using a rolling 3m beta-weighted notional for the SX5E

Current daily P&L beta: 12%

	1m	3m	12m
Unfunded Main	0.2%	1.1%	0.5%
SX5E	0.2%	0.3%	-1.0%
Difference	0.0%	0.8%	1.4%

+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

## Unfunded Sen. Fin. vs. SX7E

Return of a long risk position, % of notional.

### Equal notional

	1m	3m	12m
Unfunded Sen. Fin.	0.3%	0.6%	0.6%
SX7E	5.4%	5.0%	-28.2%
Difference	-5.0%	-4.3%	28.8%

### Using a 3m beta-weighted notional for the SX7E

Current daily P&L beta: 9%

	1m	3m	12m
Unfunded Sen. Fin.	0.3%	0.6%	0.6%
SX7E	0.4%	0.4%	-2.4%
Difference	-0.1%	0.2%	3.0%

+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

Source of all charts and tables: Citi Research, Markit, Bloomberg.

## Credit vs. Equity Returns: Main vs. SX5E

### Unfunded Main vs. SX5E

Return of a long risk position, % of notional.

#### Equal notional

	1m	3m	12m
Unfunded Main	0.2%	1.1%	0.5%
SX5E	1.5%	1.2%	-12.5%
Difference	-1.3%	0.0%	13.0%

### Using a rolling 3m beta-weighted notional for the SX5E

Current daily P&L beta: 12%

	1m	3m	12m
Unfunded Main	0.2%	1.1%	0.5%
SX5E	0.2%	0.3%	-1.0%
Difference	0.0%	0.8%	1.4%

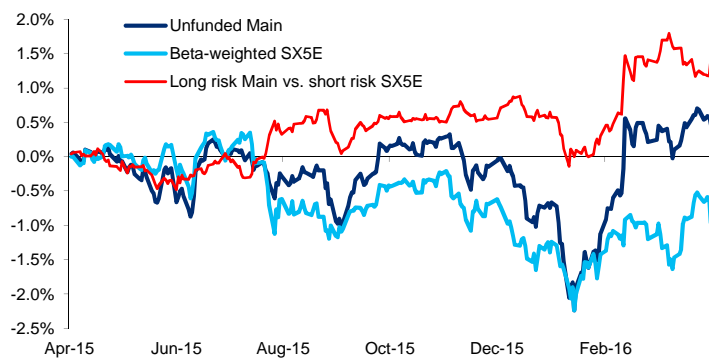
+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

### Unfunded Main vs. beta-weighted SX5E - Cum. Return

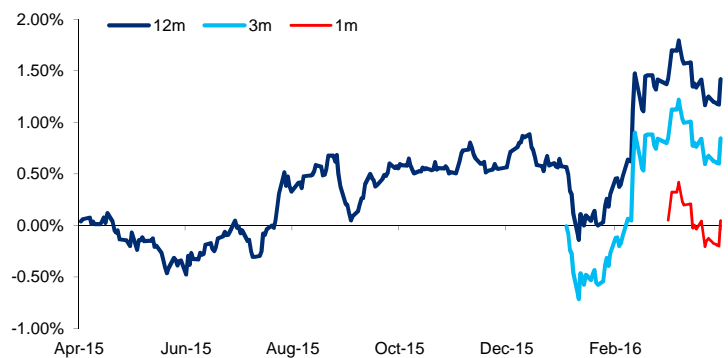
12m

Using a rolling 3m beta-weighted notional for the SX5E. Return of a long risk position, % of notional.



### Long risk Main vs. short risk SX5E (beta-weighted) - Cum. Return

Return as % of Unfunded Main notional. Using a rolling 3m beta-weighted notional for the SX5E.



## Credit vs. Equity Returns: Senior Fins. vs. SX7E

### Unfunded Sen. Fin. vs. SX7E

Return of a long risk position, % of notional.

#### Equal notional

	1m	3m	12m
Unfunded Sen. Fin.	0.3%	0.6%	0.6%
SX7E	5.4%	5.0%	-28.2%
Difference	-5.0%	-4.3%	28.8%

### Using a 3m beta-weighted notional for the SX7E

Current daily P&L beta: 9%

	1m	3m	12m
Unfunded Sen. Fin.	0.3%	0.6%	0.6%
SX7E	0.4%	0.4%	-2.4%
Difference	-0.1%	0.2%	3.0%

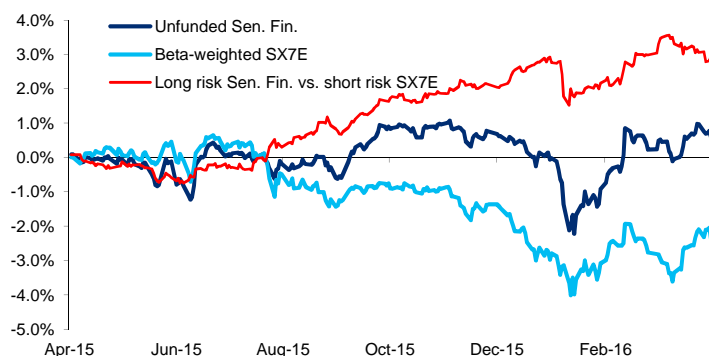
+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

### Unfunded Sen. Fin. vs. beta-weighted SX7E - Cum. Return

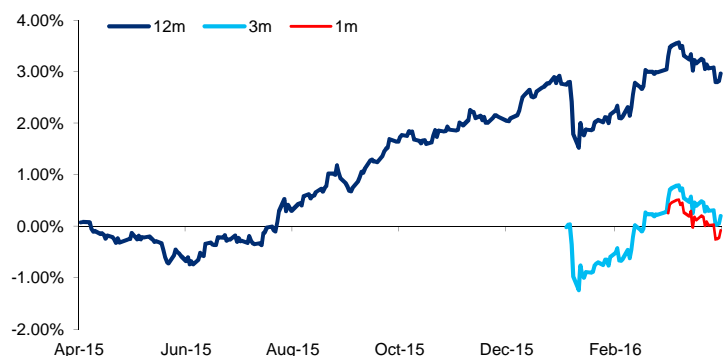
12m

Using a 3m beta-weighted notional for the SX7E. Return of a long risk position, % of notional.



### Long risk Sen. Fin. vs. short risk SX7E (beta-weighted) - Cum. Return

Return as % of Unfunded Sen. Fin. notional. Using a 3m beta-weighted notional for the SX7E.



## CDS Index vs. Cash Bond Index Returns: iTraxx IG\* vs. € IG iBoxx

### Funded iTraxx IG\* vs. € iBoxx IG Corp.

Return of a long risk position, % of notional.

#### Equal notional

	1m	3m	12m
Funded iTraxx IG*	0.0%	1.0%	1.7%
€ iBoxx IG Corp.	0.4%	2.2%	1.0%
Difference	-0.4%	-1.1%	0.7%

iTraxx IG\*: 60% NonFin, 30% SenFin, 10% SubFin.

### Using a 3m beta-weighted notional for the € iBoxx IG Corp.

Current daily P&L beta: 1.63

	1m	3m	12m
Funded iTraxx IG*	0.0%	1.0%	1.7%
€ iBoxx IG Corp.	0.6%	3.3%	2.0%
Difference	-0.6%	-2.3%	-0.3%

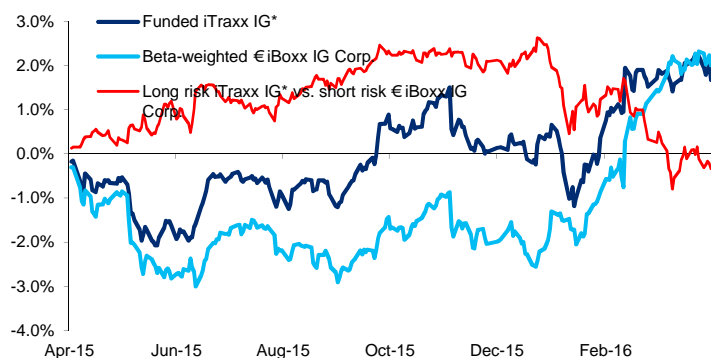
+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

### Funded iTraxx IG\* vs. € iBoxx IG Corp. - Cum. Return

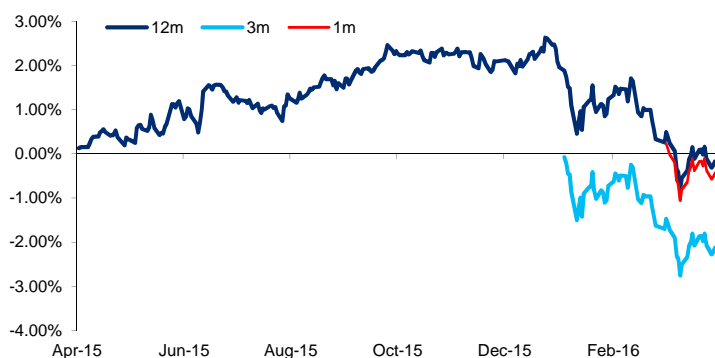
12m

Using a 3m beta-weighted notional for the € iBoxx IG Corp.. Return of a long risk position, % of notional.



### Long risk iTraxx IG\* vs. short risk € iBoxx IG Corp. (beta-weighted) - Cum. Return

Return as % of Funded iTraxx IG\* notional. Using a 3m beta-weighted notional for the € iBoxx IG Corp.



## CDS Index vs. Cash Bond Index: iTraxx SenFin vs. iBoxx SenFin

### Funded Sen. Fin. vs. € iBoxx Senior Fins

Return of a long risk position, % of notional.

#### Equal notional

	1m	3m	12m
Funded Sen. Fin.	0.0%	0.6%	1.8%
€ iBoxx Senior Fins	0.2%	1.0%	1.4%
Difference	-0.2%	-0.4%	0.5%

### Using a 3m beta-weighted notional for the € iBoxx Senior Fins

Current daily P&L beta: 2.19

	1m	3m	12m
Funded Sen. Fin.	0.0%	0.58%	1.81%
€ iBoxx Senior Fins	0.5%	2.31%	2.40%
Difference	-0.5%	-1.7%	-0.6%

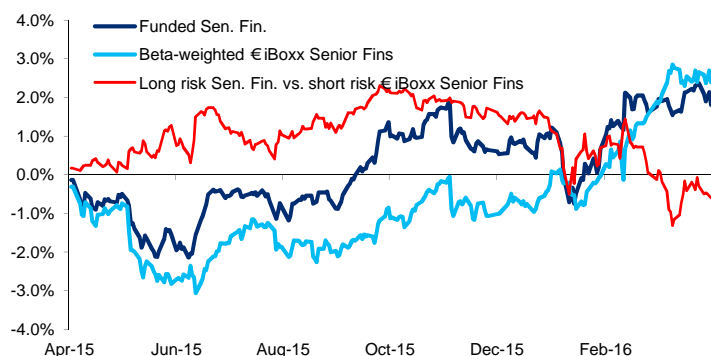
+ve: iTraxx outperforms

Daily beta-hedging using the corresponding (daily P&L) beta for the past 3m.

### Funded Sen. Fin. vs. € iBoxx Senior Fins - Cum. Return

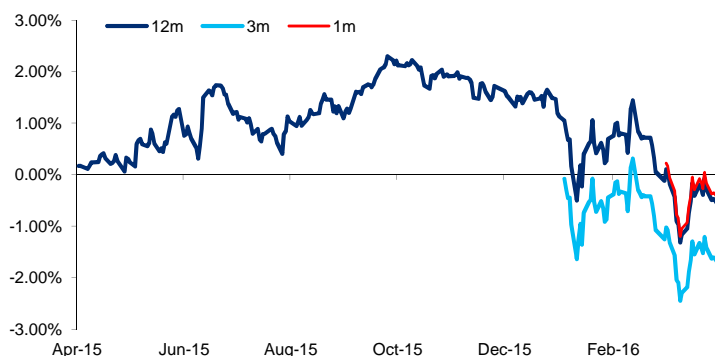
12m

Using a 3m beta-weighted notional for the € iBoxx Senior Fins. Return of a long risk position, % of notional.



### Long risk Sen. Fin. vs. short risk € iBoxx Senior Fins (beta-weighted) - Cum. Return

Return as % of Funded Sen. Fin. notional. Using a 3m beta-weighted notional for the € iBoxx Senior Fins



## Unfunded CDS indices, options and tranches

Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.

### CDS Indices

	1m	3m	12m
Main	0.2%	1.1%	0.5%
Sen. Fin.	0.3%	0.6%	0.6%
Xover	0.8%	2.7%	0.4%

### Sell Main Straddle Delta-hedged

	1m	3m	12m
1m	#N/A	#N/A	#N/A
3m	#N/A	#N/A	#N/A

### iTraxx Main Steepeners (DVO1-weighted)

	1m	3m	12m
3s5s	0.0%	0.1%	0.4%
5s10s	0.1%	0.3%	0.9%

### Main S9 10y tranches Delta-hedged

	1m	3m	12m
0-3%	-0.6%	-1.3%	-7.2%
3-6%	0.4%	0.8%	1.6%
6-9%	0.2%	0.1%	0.6%
9-12%	0.0%	-0.1%	0.5%
12-22%	0.0%	0.0%	0.3%
22-100%	0.0%	0.0%	0.1%

The index position is rolled at roll dates.

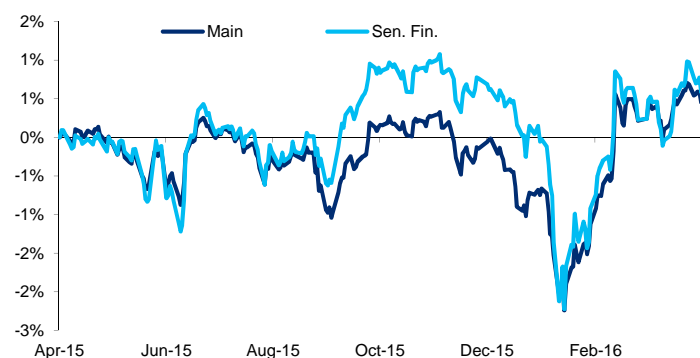
Curves: Using on-the-run indices and rolling the curve position at roll dates and/or when the trade DVO1 ratio differs more than 5% from the current ratio. P&L as % of the long dated leg notional

Options: Rolling the options every month to maintain the indicated expiry.

### Unfunded CDS indices - Cumulative return

Data since: 29-Apr-15

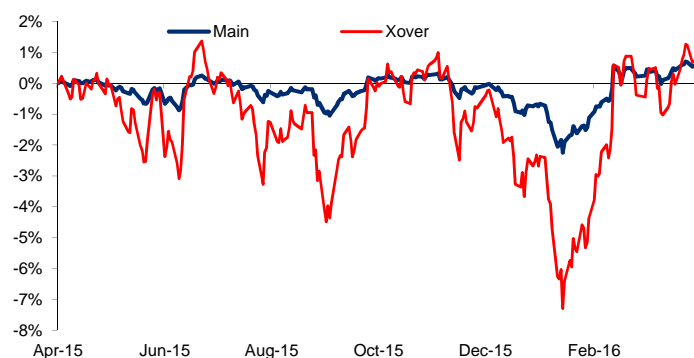
Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.



### Unfunded CDS indices - Cumulative return

Data since: 29-Apr-15

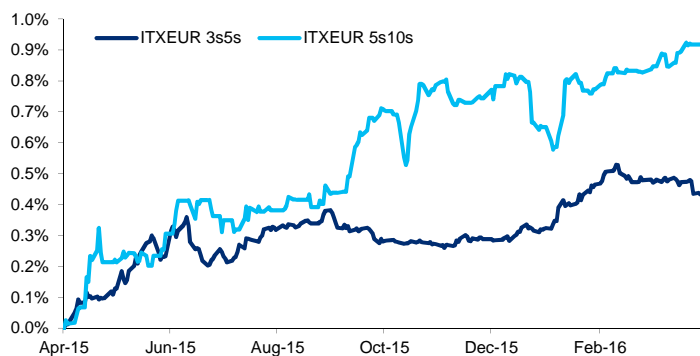
Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.



### Main steepeners: DVO1-weighted - Cumulative return

29-Apr-15

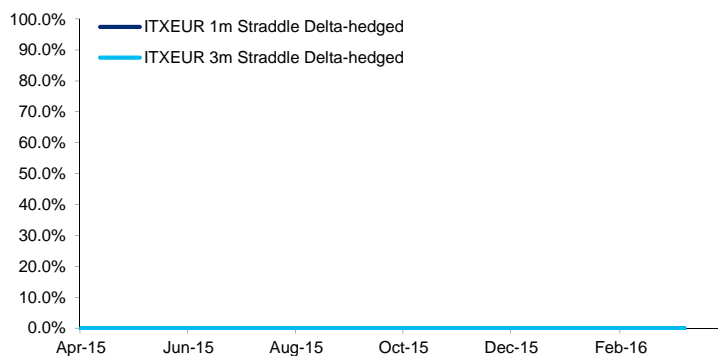
Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.



### Options: selling ATM delta-hedged straddles - Cumulative return

29-Apr-15

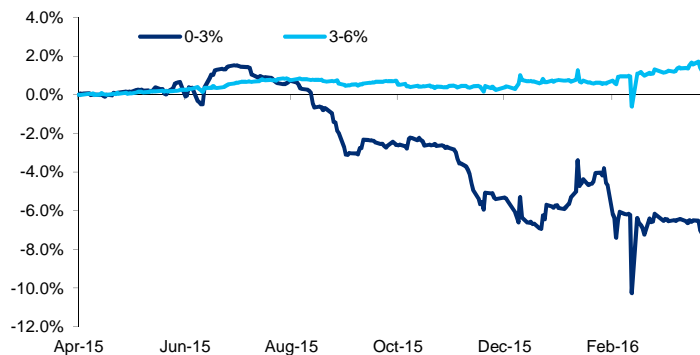
Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.



### Junior tranches: selling delta-hedged prot. - Cumulative return

29-Apr-15

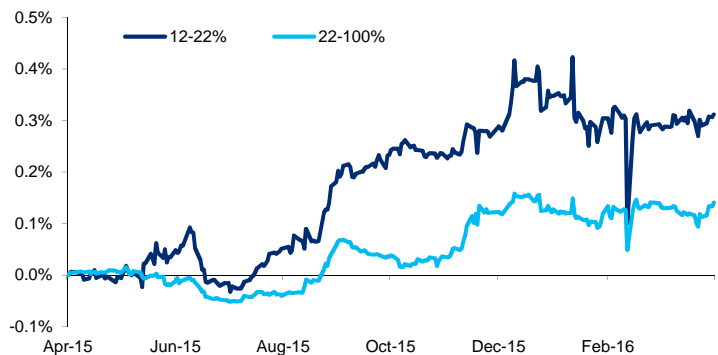
Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.



### Senior tranches: selling delta-hedged prot. - Cumulative return

29-Apr-15

Return of a long risk position as % of notional traded. Daily delta-hedged for options/tranches.





# Appendix A-1

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