

Eurex EURO STOXX 50[®] Corporate Bond Index Futures – efficient access to European corporate bond market beta and generating alpha

By **Byron Baldwin**, Deputy Global Head, Fixed Income and FX Derivatives Trading & Clearing Sales at Eurex
Published: INSIDEADVANTAGE Fall 2017

“Banks under the traditional broker-dealer model are less willing to intermediate and hold risk on their balance sheet. Instead, they are moving towards a more riskless type of business model, where they get compensated for facilitating trades, often referred to as agency trading. Under this regime, low and stable bid ask spreads are becoming less meaningful as a liquidity metric, given that investors typically have to sacrifice immediacy and delay the trade until the broker-dealer has found the other side of the market.”

Vasiliki Pachatouridi, BlackRock, “Addressing market liquidity: a broader perspective on today’s Euro corporate bond market” [1]

Introduction

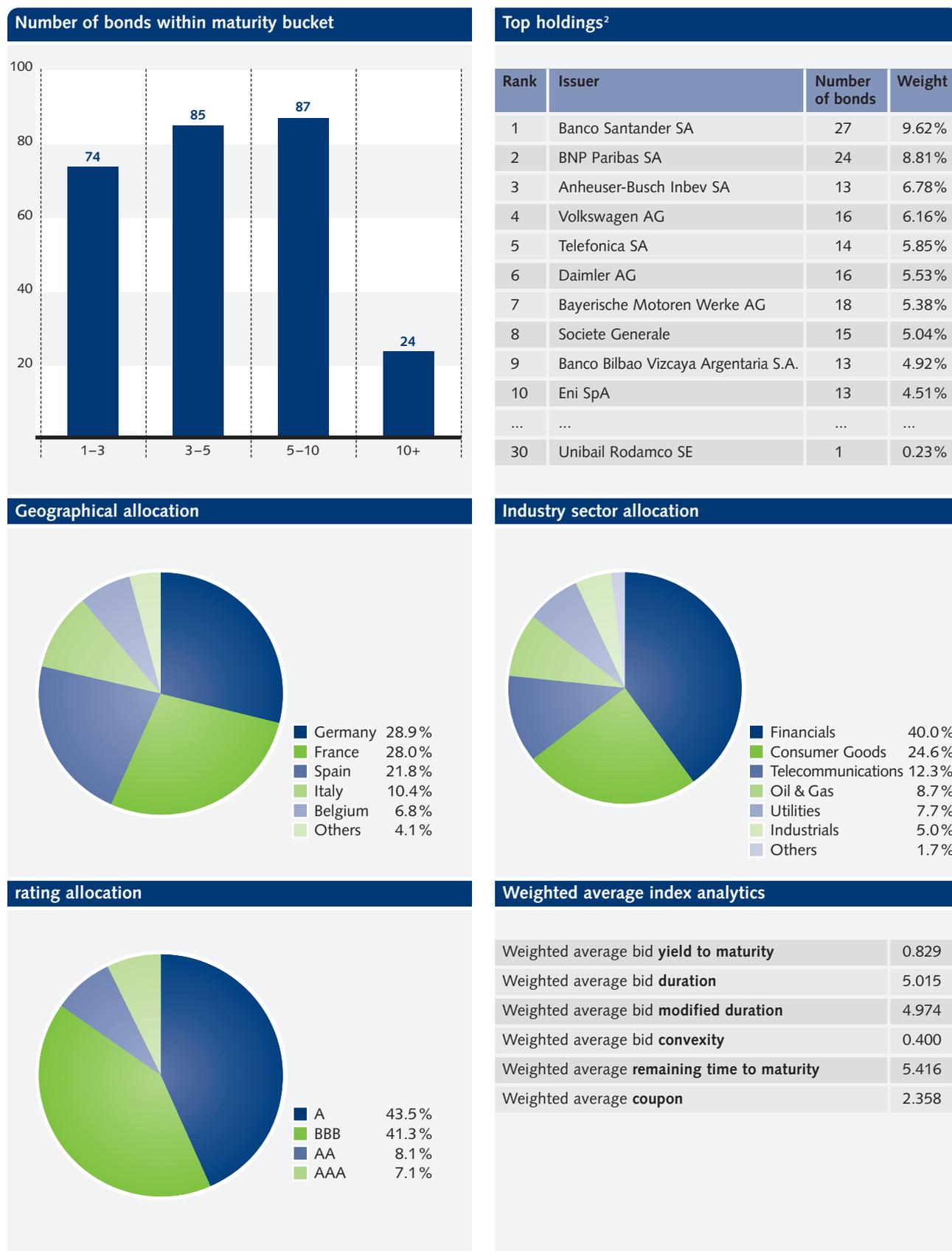
In September 2017, Eurex launched the innovative EURO STOXX 50[®] Corporate Bond Index Futures (CBIFs). [2] Based on the EURO STOXX 50[®] Corporate Bond Index [3], it is the world’s first exchange-traded corporate bond index derivative. With the new capital regulatory requirements reducing banks’ inventory of cash corporate bonds for market-making purposes, the new Eurex EURO STOXX 50 CBIF give both the buy side and the sell side a very capital-efficient tool [4] as well as leveraged access to European corporate bond market beta while creating new opportunities to generate alpha.

30 companies make up the index. To be included in the index, corporate bonds have to be EUR-denominated, have a fixed or zero coupon, and been classified as investment grade (consolidated rating of BBB or higher) with at least fifteen months to maturity, measured from the respective rebalancing date with a minimum outstanding of EUR 750 million. The index is calculated every minute in real time between 9:00 and 17:15 CET. Index weights are calculated according to the market cap of the bonds, capped per issuer (20%) and by industry sector (40%).

EURO STOXX 50[®] Corporate Bond Index – an overview

STOXX launched the EURO STOXX 50[®] Corporate Bond Index in April 2016. The index is based on the corporate bond issuance of the companies that constitute the EURO STOXX 50[®] Index. Currently, 270 corporate bonds from

Diagram 1: EURO STOXX 50® Corporate Bond Index – an overview¹



¹ Data as of 2 October 2017

² Data as of 2 October 2017; weightings based on capped market capitalization

Diagram 2: Contract specifications

EURO STOXX 50 [®] Corporate Bond Index Futures	
Contract standard	EURO STOXX 50 [®] Corporate Bond Index (price index, EUR), corporate bonds from companies that are constituent of the EURO STOXX 50 [®] index at the time of rebalancing.
Product code	FCBI
Contract value	EUR 1,000 per index point (about EUR 100,000 in notional)
Price quotation / tick size / tick value	In points with two decimal places / 0.01 points = EUR 10
Contract months	The three nearest quarterly months of March, June, September and December cycle
Settlement	Cash settlement, payable on the first exchange day after following the expiration day
Last trading day	The third Friday of each maturity month if this is an exchange day at Eurex; otherwise the exchange day immediately preceding that day; close of trading in the maturing futures on the last trading day is 19:00 CET.
Final settlement day/expiration day	Final settlement day is the exchange day immediately following the last trading day.
Final settlement price	Based on EURO STOXX 50 [®] Corporate Bond Index (price index, EUR) closing level on the last trading day
Daily settlement price	Determined from the volume weighted average of all transactions during the minute before 17:15 CET (reference point), provided that more than 5 trades are transacted within this period.
Trading hours	Order book 08:00 – 19:00 CET Off-book 08:00 – 19:00 CET (Eurex T7 Entry Services)
Market Making	09:00 – 17:15 CET
Block Trading	Allowed. Minimum Block Trade size: 100 lots

The Eurex EURO STOXX 50 CBIF is a cash-settled index future with quarterly expiry based on the EURO STOXX 50[®] Corporate Bond Price Index. Currently, (see diagram 1, page 2), at the timing of writing the underlying index had a weighted average duration of 4.97 years which translates to a BPV of 0.0531 and a weighted time to maturity of 5.41 years. Compare this to the December 2017 Euro-Bobl Future CTD, currently the DBR 1.75% July 2022, of just under five years and a BPV for the December 2017 Euro-Bobl Future of 0.06199. The Eurex EURO STOXX 50 CBIF has a contract value (index futures price × EUR 1,000) close to EUR 100,000 – similar to the notional value of Euro-Bobl Futures – and it has a minimum trade size of 100 lots for the block trade facility to trade off exchange. As it has the structure of a standard Eurex index future, the EURO STOXX CBIF can be easily added to the existing risk and trading infrastructure of the buy side and the sell side.

Generating alpha

The launch of the EURO STOXX 50 CBIF opens up a new relative value alpha generating trading opportunity as a credit trade (see diagram 3, page 4) for the EURO STOXX 50[®] Corporate Bond Index versus Front Month Eurex Euro-Bobl Future). The maturities of the two contracts are very similar – the December 2017 Euro-Bobl Future currently has

a CTD of the DBR 1.75% July 2022, i.e. just under five years, while the EURO STOXX 50[®] Corporate Bond Index has a weighted maturity of 5.41 years. The Euro-Bobl Future/EURO STOXX 50[®] Corporate Bond Index Future credit spread can be structured and executed off exchange using Eurex's T7[®] Trade Entry Services "Block Trade" [5] and "Exchange for Physical (EFP) – FI facilities" [6]. The EURO STOXX 50 CBIF has a minimum block trade size of 100 contracts – so executing the CBIF via the Block Trade Service becomes the qualifying transaction against which to execute the Eurex Euro-Bobl Future in the EFP-FI facility.

The Eurex Euro-Bobl Future / Corporate Bond Index Future credit spread trade should be structured in terms of the ratio of the BPV of the two respective contracts.

For example, assuming the BPV of the December 2017 Euro-Bobl Future is currently 0.06199, or EUR 61.99 in monetary terms, and assuming a present BPV of the CBIF to be 0.0531, or EUR 53.10 in monetary terms, **the BPV-weighted structure for the Euro-Bobl Future / EURO STOXX 50[®] Corporate Bond Index Future credit spread trade would be 1 Euro-Bobl Future : 1.17 EURO STOXX 50 CBIFs³.**

³ As yield levels change, so will values of BPV. Accordingly, the BPV ratio needs to be constantly managed and monitored.

Diagram 3: Front month Euro-Bobl Future versus EURO STOXX 50® Corporate Bond Index

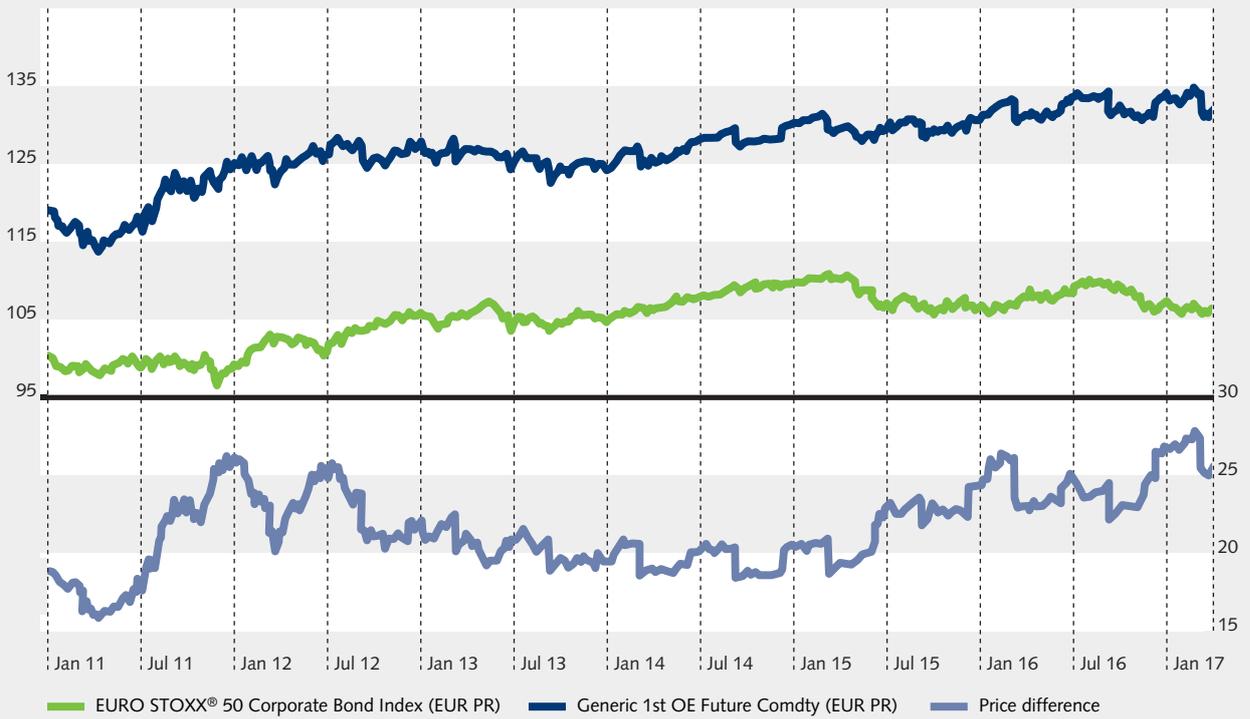


Diagram 4: EURO STOXX 50® Corporate Bond Index versus EURO STOXX 50® Index



Another alpha-generating trading opportunity exists as correlation trade of the EURO STOXX 50 CBIF versus the Eurex EURO STOXX 50® Index Future (see diagram 4).

Eurex's T7 Entry Services "Block Trade" and "EFP-index facilities" [7] can be used to structure and execute the Corporate Bond Index Future/EURO STOXX 50® Index Future correlation trade off exchange. The minimum block size for the CBIF is 100 lots – one can execute the EURO STOXX 50 CBIF on the block facility which then becomes the qualifying transaction against which to execute the EURO STOXX 50® Index Future on the EFP-index facility. To structure the EURO STOXX 50 CBIF/EURO STOXX 50® Index Future spread, one approach would be a structure in terms of the value of the price risk of the two respective futures contracts.

For example, if the 20-day historical price volatility for the EURO STOXX 50 CBIF was 4% and for the EURO STOXX 50® Index Future was 11%:

EURO STOXX 50® Corporate Bond Index Future – value of price volatility (20-day historical volatility) : $106.44 \times 4\% = 4.2576 = \text{EUR } 4,257.6$

EURO STOXX 50® Index Future – value of price volatility (20-day historical volatility) : $3,489.00 \times 11\% = 383.79 = \text{EUR } 3,837.9$

This would suggest a **ratio of 1 EURO STOXX 50 CBIF : 1.11 EURO STOXX 50® Index Futures.**

Efficient portfolio management

The Eurex EURO STOXX 50 CBIF will also increase the efficiency of fixed income (FI) portfolio management. A fixed income portfolio manager will be able to change the composition of his portfolio in European corporate bonds

quickly and efficiently without disrupting the existing bond portfolio: For example, a fixed income fund manager has a portfolio of European government bonds and wants to decrease their exposure to five year French government bonds (OATs) and switch to an exposure in five year European corporate bonds. By using a portfolio overlay strategy – selling Eurex Euro-OAT Futures / buying Eurex CBIFs [8], the portfolio manager is able to quickly switch the exposure from French short-term government bonds to a European corporate bond exposure whilst leaving the existing portfolio intact (see diagram 5). Once the outperformance of corporate bonds is considered to be complete by the portfolio manager, the long CBIF / short Euro-OAT Futures overlay position is unwound.

Synthetic European corporate bond investment and duration targeting /adjustment

Eurex EURO STOXX 50 CBIF can also be used to create a synthetic European corporate bond cash investment exposure with a specific duration target. Using the formula

(Modified Duration × Investment × 0.0001) / BPV Corporate Bond Index Future

will generate the appropriate position in Eurex EURO STOXX 50 CBIF to create the synthetic European corporate bond cash investment exposure [9]. In addition, Eurex' CBIF can be used to quickly change the duration of a European corporate bond portfolio by buying/selling Eurex CBIFs to an existing European corporate bond portfolio. For example, looking at quickly increasing portfolio duration:

$(\text{Target portfolio duration} \times \text{Investment} \times 0.0001) - (\text{Current portfolio duration} \times \text{Investment} \times 0.0001) / \text{BPV Eurex Corporate Bond Index Future.}$

This will generate the appropriate number of CBIFs required to quickly increase duration within the portfolio.

Diagram 5: Portfolio overlay using Corporate Bond Index Futures



Conclusion

Eurex's innovative EURO STOXX 50® Corporate Bond Index Futures – the world's first exchange-traded corporate bond futures contract – will give asset managers an efficient leveraged access to European corporate bond market beta in terms of portfolio overlay and allow them to quickly add and subtract European corporate bond exposure to a multi-asset / GTAA portfolio. For relative value hedge funds, the Eurex CBIF opens up new alpha generating opportunities in trading CBIFs versus Eurex' Euro-Bobl Future as a credit

trade and against the Eurex EURO STOXX 50® Index Future as a correlation trade. For banks' corporate and credit desks, it offers a valuable hedging and trading vehicle at a time when banks' holdings of corporate bonds have declined due to the new regulatory capital requirements.

CBIFs are a versatile, innovative new exchange-traded derivatives instrument that meets the needs of a range of market participants in the new regulatory capital and market infrastructure environment.

References and further reading

- [1] Vasiliki Pachatouridi, Assessing Market Liquidity: A Broader perspective on today's Euro Corporate bond market: <https://www.world-exchanges.org/focus/index.php/features/news-views/30-addressing-market-liquidity-a-broader-perspective-on-today-s-euro-corporate-bond-market> and: <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-addressing-market-liquidity-euro-corporate-bond-market-2016.pdf>
- [2] Eurex Clearing Circular 062/17: Bond Index Derivatives: Introduction of Futures on the EURO STOXX® Corporate Bond Index: <https://www.eurexclearing.com/clearing-en/resources/circulars/Bond-index-derivatives--Introduction-of-futures-on-the-EURO-STOXX-50--Corporate-Bond-Index/3091862>
- [3] STOXX, EURO STOXX 50® Corporate Bond Index: <https://www.stoxx.com/index-details?symbol=SX5BTR> (last check on 6 Oct 2017) and STOXX Bond Index Guide: https://www.stoxx.com/document/Indices/Common/Indexguide/bond_index_guide.pdf
- [4] There are benefits to banks impacted by the new capital regulatory requirements for Corporate Bond Futures with the potential future exposure (PFE), a notional add-on based on the current-exposure method (CEM) for interest rate futures being 0% (could change on a move to standardised approach for counterparty credit risk (SA-CCR) method): PFE for derivatives
- [5] Link to block trade facility: <http://www.eurexchange.com/exchange-en/trading/eurex-t7-entry-services/block-trades>
- [6] Link to EFP-FI facility: <http://www.eurexchange.com/exchange-en/trading/eurex-t7-entry-services/exchange-for-physicals>
- [7] Link to EFP-index facility: <http://www.eurexchange.com/exchange-en/trading/eurex-t7-entry-services/exchange-for-swaps>
- [8] Need to structure the portfolio overlay strategy in terms of the appropriate number of Eurex OAT Futures to hedge/neutralize the French government bond holding and create the same duration exposure in European Corporate Bonds using the Eurex EURO STOXX 50® Corporate Bond Index Futures. See my article on LinkedIn Pulse which covers this topic: The "Future of Fixed Income Investing in a Capital Constrained World": <https://www.linkedin.com/pulse/future-fixed-income-investing-capital-constrained-world-byron-baldwin>
- [9] As rates change, BPV values will change. Thus, the appropriate number of Corporate Bond Index Futures needs to be constantly managed and monitored.

On Bloomberg, the code for the EURO STOXX 50® Corporate Bond Index Future is CBIA Index – for a contract description for the December 2017 delivery month type CBIZ7 Index DES, see below:

Byron Baldwin, Deputy Global Head, Fixed Income Trading & Clearing Sales, Eurex

For further information please contact

Eurex Sales

Vassily Pascalis T +44-20-78 62-72 11
vassily.pascalis@eurexchange.com

Byron Baldwin T +44-20-78 62-72 66
byron.baldwin@eurexchange.com

Eurex Product Development

Jutta Frey-Hartenberger T +49-69-211-1 49 88
jutta.frey-hartenberger@eurexchange.com

ARBN Number: Eurex Frankfurt AG ARBN 100 999 764

Neither Eurex Frankfurt AG (Eurex), nor its servants nor agents, is responsible for any errors or omissions contained in this publication which is published for information only and shall not constitute an investment advice. Any information herein is not intended for solicitation purposes but only for the use of general information. Eurex offers services directly to members of the Eurex market. Those wishing to trade in any products available on the Eurex market or to offer and sell any such products to others should consider both their legal and regulatory position in the relevant jurisdiction and the risks associated with such products before doing so.