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iBoxx CoCo Indices

New converts find new sources of return

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Coming of Age of Regulatory Capital

Contingent Convertible bonds, otherwise known as CoCos, are issued by banks where the regulatory regime has chosen to make CoCo securities Core Tier 1 eligible and can therefore be used to meet capital requirements set by regulators. CoCos are meant to reduce the risk to the financial system while at the same time limiting the financial risk faced by taxpayers via bail-in provisions. Rather than tax payers providing money to ailing banks to help them pay their debts as occurred in the wake of the financial crisis, bail-ins provide banks a safety mechanism whereby their debts can be erased or lessened if under duress. Firm duress is typically measured by capital ratios, with the measure of debt being 'contingent' on a given risk ratio being exceeded. If exceeded, CoCo bonds are then converted in common equity or completely or partially written down.

CoCos exist to reduce the risk to the financial system while at the same time limiting the financial risk faced by taxpayers via bail in provisions.

Markit iBoxx Contingent Convertible Indices

The Markit iBoxx Contingent Convertible family was launched November 31st, 2014, in response to strong growth and investor interest in the asset class. The index family provides broad representation of the developed and emerging market bank CoCo issuance in GBP, EUR and USD, including both AT1 and T2 capital tier debt. The indices include Basel III compliant CoCos that have an objective, pre-specified trigger or write-down mechanism. Bonds included in the indices must be rated by at least one of Moody's, S&P or Fitch. The respective currency amount outstanding minimums are GBP 350m, USD 400m and EUR 250m. The inception date for the indices is December 31st, 2013. A detailed methodology guide can be found on the iBoxx documentation website.

Contingent Convertible characteristics

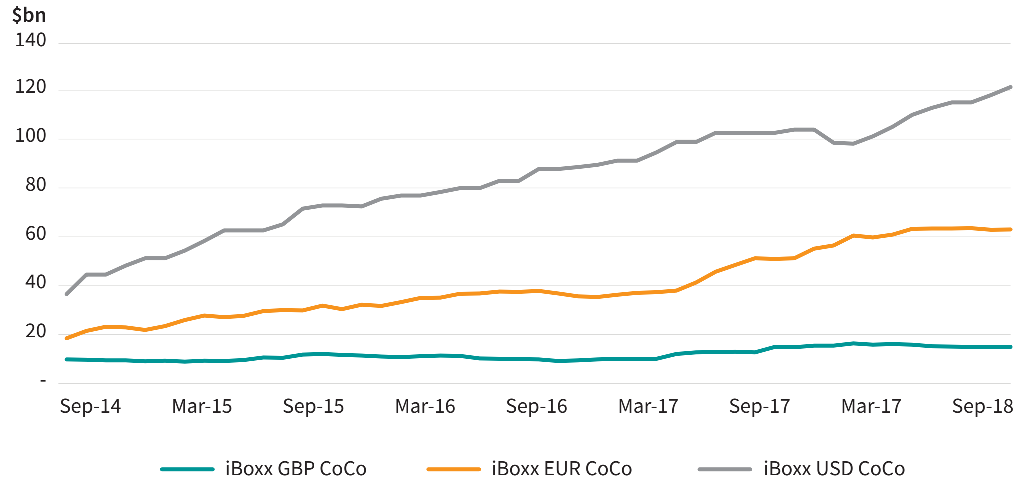
Market growth

With regulatory pressures to issue this type of capital along with investor demand for additional yield, the market for CoCos has seen strong growth since the initial roll out of Basel III principles.

Contingent convertible issuance has rapidly expanded over the past four years across currencies. Looking at amount outstanding of the iBoxx EUR, GBP and USD CoCo Indices based in USD, issuance of CoCos have increased by 222.09%, 43.45% and 221.49%, respectively (Figure 1).

Contingent convertible debt is a growing asset class that has caught investor interest.

Figure 1: iBoxx CoCo Indices - Amount Outstanding by Currency



CoCo capital structure

CoCos inhabit the capital structure between banks' equity and their debentures without trigger provisions, which are thereby higher in the capital structure.

Historically, CoCos were issued as either of two seniority types - Additional Tier 1 (AT1) or Tier 2 (T2) capital, which are specific capital types subscribing to regulatory criteria. To note, Tier 2 (T2) bonds tend to be classified as CoCos if they have an observable trigger. AT1 capital is now the predominant form of bank CoCos being issued in the market and is situated above common equity and below T2 securities within a firm's capital structure. In Europe T2 issuance has been replaced by a new tier of bank senior subordinated debt commonly referred to as senior non-preferred.

While both security types are subject to conversion triggers, T2 securities have lower trigger points than AT1 securities, making them less costly for the issuing bank, though also less loss-absorbing under times of stress. CoCos denominated in GBP have only been issued as AT1, while CoCo bonds issued in EUR and USD have been comprised of both AT1 and T2, though predominantly the AT1 variety.

The breakdown in the iBoxx CoCo Indices between these two CoCo-specific capital types were as shown in Figure 2 and Figure 3 below.

AT1 capital is now the only form of CoCos being issued in the market and is situated above common equity and below T2 securities within a firm's capital structure.

Figure 2: iBoxx USD CoCo historical seniority weights

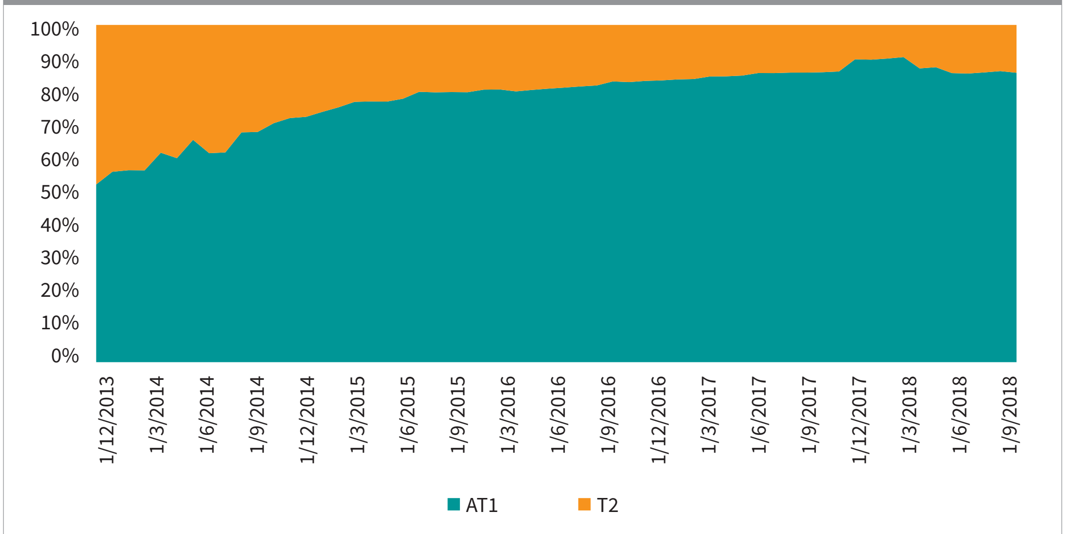
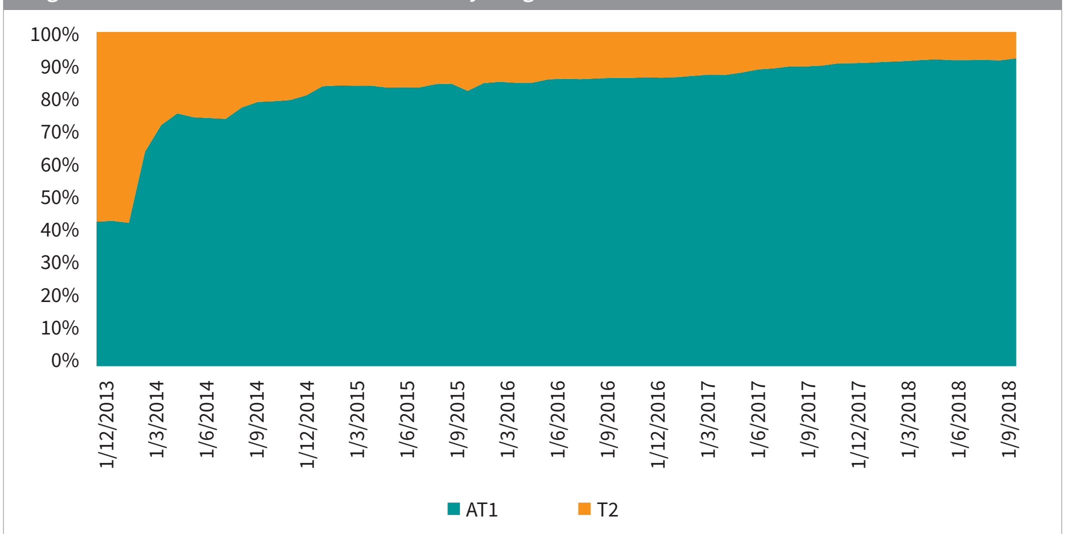


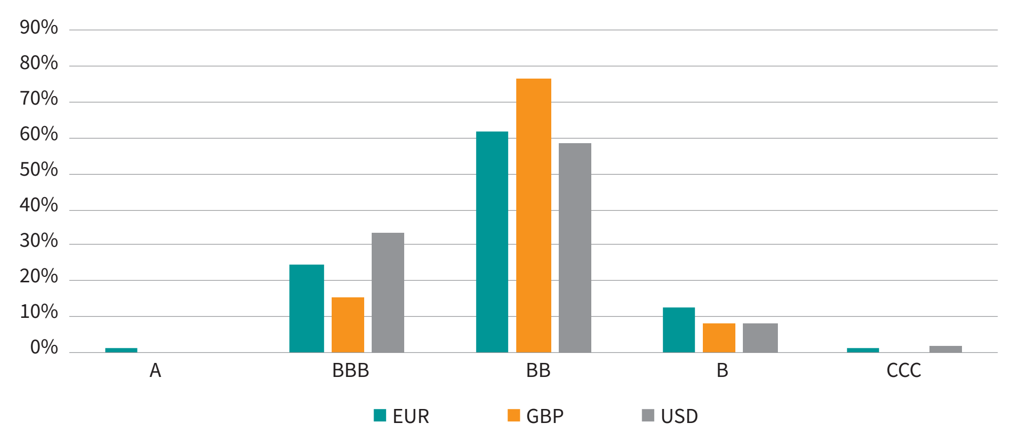
Figure 3: iBoxx EUR CoCo historical seniority weights



CoCo credit risk

Due to being the most subordinated debt a bank carries and together with the conversion features, CoCo bonds are typically high yield rated, with most ratings equal to BB. There are a few BBB-rated issues found within the CoCo universe. The current ratings breakdown of the iBoxx CoCo Indices as of the end of September 30th, 2018 as can be seen in Figure 4.

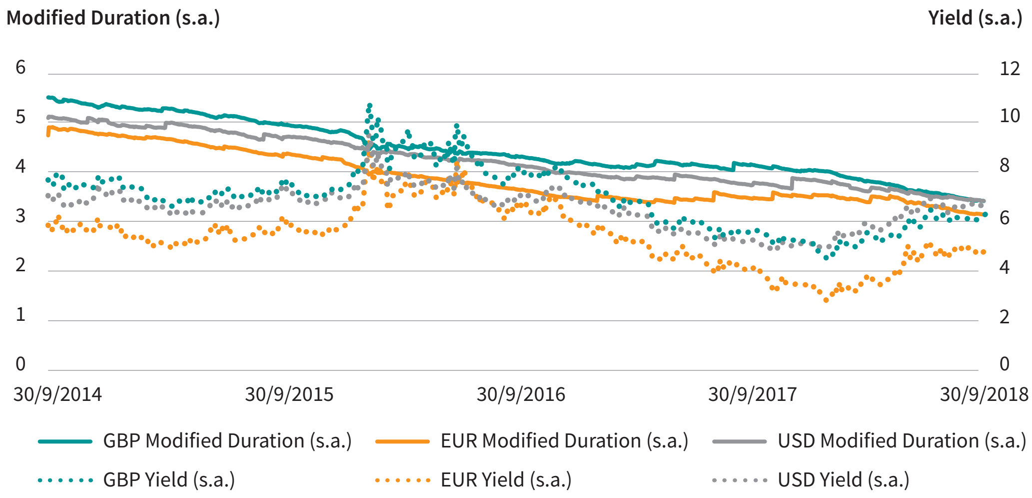
Figure 4: CoCo Rating Distribution (30 September 2018)



Duration and yield

AT1 instruments are by definition, perpetual without a set maturity date, though are subject to being called. T2 bonds tend to have final maturity dates while also being subject to call. Since market inception, durations have been trending lower, and are now all roughly around 3.5 years (Figure 5).

Figure 5: CoCo Duration versus Yield



Top issuers

Issuer exposure in the CoCo market is concentrated to a limited number of banks, with the greatest concentration found in the GBP-denominated debt market. There are no US banks with CoCo issuance as US banks issue preferred shares to meet their capital requirements in place of AT1 debt.

Over a quarter of all EUR-denominated CoCos outstanding were issued by Santander, BBVA and Rabobank (Table 1).

Table 1: iBoxx EUR CoCo Index - 10 Largest Issuers (30 September 2018)

Issuer	% Weight
Banco Santander SA	10.31
Banco Bilbao Vizcaya Argentaria SA	9.52
Cooperatieve Rabobank UA	6.66
HSBC Holdings Plc	6.50
Intesa Sanpaolo SpA	5.67
UniCredit SpA	5.27
KBC Groep NV	3.91
CaixaBank SA	3.72
UBS AG	3.68
Barclays Plc	3.67
Total:	58.91

HSBC, Credit Suisse and Societe Generale accounted for a quarter of USD-denominated CoCos (Table 2). Issuer concentration of EUR and USD denominated CoCos were comparable, with the ten largest issuers accounting for 58.01% and 53.59% of their overall markets, respectively.

Table 2: iBoxx USD CoCo Index - 10 Largest Issuers (30 September 2018)

Issuer	% Weight
HSBC Holdings PLC	10.62
Credit Suisse Group AG	8.15
Societe Generale SA	7.02
Barclays PLC	5.91
UBS Group AG	5.71
Standard Chartered PLC	4.23
Credit Agricole SA	3.62
Banco do Brasil SA/Cayman	3.03
ING Groep NV	2.67
Royal Bank of Scotland Group PLC	2.63
Total:	53.59

There are only thirteen issuers that have outstanding CoCos denominated in GBP, with approximately 55% of outstanding debt coming from just Barclays and Lloyds (28.31% and 26.49%, respectively) (Table 3). The top ten issuers in GBP account for over 90% of the market.

Table 3: iBoxx GBP CoCo Index - Largest Issuers (30 September 2018)

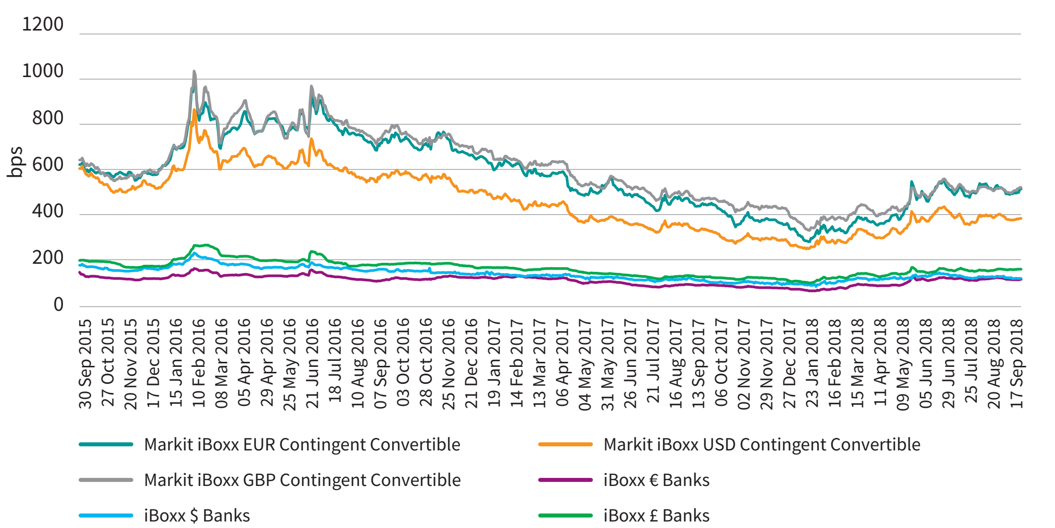
Issuer	% Weight
Barclays Plc	28.31
Lloyds Banking Group Plc	26.49
Santander UK Group Holdings Plc	8.68
Nationwide Building Society	6.91
HSBC Holdings Plc	6.69
Deutsche Bank AG	4.24
Credit Agricole SA	3.68
CYBG Plc	3.14
Phoenix Group Holdings	3.04
Coventry Building Society	2.78
Total:	93.97

Contingent convertible vs. corporate bank debt

Comparing contingent convertible securities against banking corporate debt higher in the capital structure, CoCos exhibit certain advantages in terms of risk metrics as well as historical performance. The Option-adjusted spread on CoCos is significantly riskier than bank debt in the same currency, indicating one can pick up healthy incremental yield for a willingness to venture lower in the capital stack. While the spread difference has been narrowing since mid-2016, CoCos still collects risk premiums of 391, 259 and 353 basis points in EUR, USD and GBP, respectively (Figure 6).

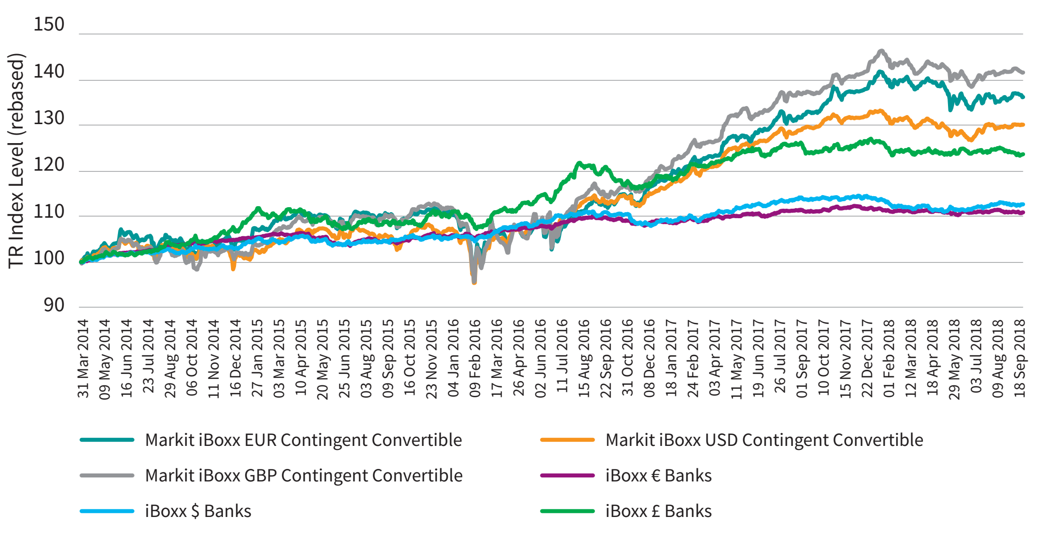
CoCos exhibit certain advantages in risk metric as well as historic performance versus banking corporate debt higher in the capital structure.

Figure 6: CoCo vs. Corp Bank OAS



Looking at the total return performance, CoCos have outperformed concurrent with their relative spread compression versus bank corporate debt (Figure 7). The CoCo market was tested in early June of 2017 when Spanish lender Banco Popular completely wrote down their CoCo securities. The broader CoCo market absorbed the event without negative impact to the asset class, with spreads maintaining their tights and returns continuing their upward trend. This shock without contagion was viewed as positive for overall CoCo market efficacy.

Figure 7: CoCo vs. Corp Bank total return



While CoCos have outperformed corporate bank debt across currencies, volatility has also been higher, as has the maximum drawdown. However, given their relative outperformance coupled with their low correlation to banking debt higher in the capital structure, CoCos can serve an important diversification and risk-return profile enhancement function (Table 4).

Table 4: Risk ratios & correlations (31 March 2014 – 30 September 2018)

	EUR CoCo	USD CoCo	GBP CoCo	€ Banks	$ Banks	£ Banks
Total Return Period (%)	35.992	29.962	41.353	10.847	12.587	23.522
Annualised Total Return (%)	7.350	6.233	8.312	2.404	2.773	4.994
Investment of 10,000 CCY	13,599.24	12,996.22	14,135.34	11,084.67	11,258.69	12,352.16
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Vol Annualised (%)	6.997	5.608	7.200	1.694	2.466	3.807
Sharpe Ratio (0 rates)	1.050	1.111	1.154	1.419	1.124	1.312
Maximum Drawdown (%)	-13.947	-11.802	-15.173	-2.651	-3.094	-4.658
Maximum Drawdown Date	11-Feb-16	11-Feb-16	11-Feb-16	10-Jul-15	17-May-18	18-Nov-16
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Correl: EUR CoCo (%)	100.000	89.410	86.296	27.673	10.315	9.309
Correl: USD CoCo (%)	89.410	100.000	82.534	27.646	13.080	7.327
Correl: GBP CoCo (%)	86.296	82.534	100.000	26.867	9.187	11.187
Correl: € Banks (%)	27.673	27.646	26.867	100.000	53.289	67.402
Correl: $ Banks (%)	10.315	13.080	9.187	53.289	100.000	58.889
Correl: £ Banks (%)	9.309	7.327	11.187	67.402	58.889	100.000

iBoxx CoCo Liquid AT1 Indices

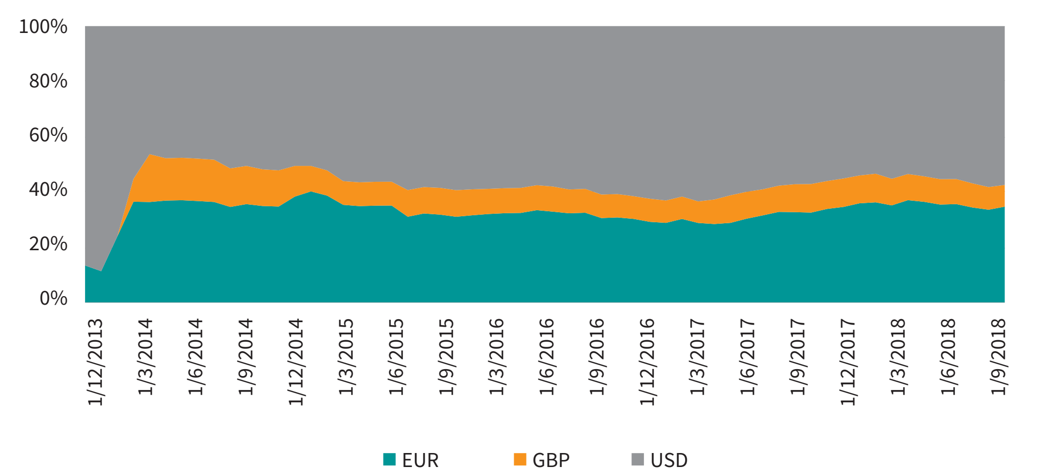
iBoxx CoCo Liquid Developed Europe AT1 Index

AT1 securities have become the predominant form of CoCo issuance. While always the only form of issuance in GBP, the last time new T2 issuance entered the EUR CoCo benchmark index was in November 2015. Besides a few USD T2 bonds issued in early 2018, no meaningful T2 issuance occurred in USD since 2014. In Europe T2 issuance has been replaced by a new tier of bank senior subordinated debt commonly referred to as senior non-preferred.

European, developed market issuers have been the largest issuers in the CoCo market, for which Markit launched the iBoxx Contingent Convertible Liquid Developed Europe AT1 Index to reasonably represent the global, multi-currency CoCo market. The index tracks AT1 CoCo debt issued in EUR, USD and GBP by financial institutions with a European country of risk as defined by the iBoxx Country Classifications. Selected bonds must be rated by at least one of S&P, Moody's and Fitch. Currently, this list includes Austria, Belgium, Denmark, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. To focus on the most liquid set of CoCo AT1 securities, individual bond and overall issuer amount outstanding minimums are 700million and 1billion, respectively, across the three currencies included in the index. These liquidity provisions make the index a well-suited benchmark for global asset managers focused on the liquid set of CoCo AT1 names across markets.

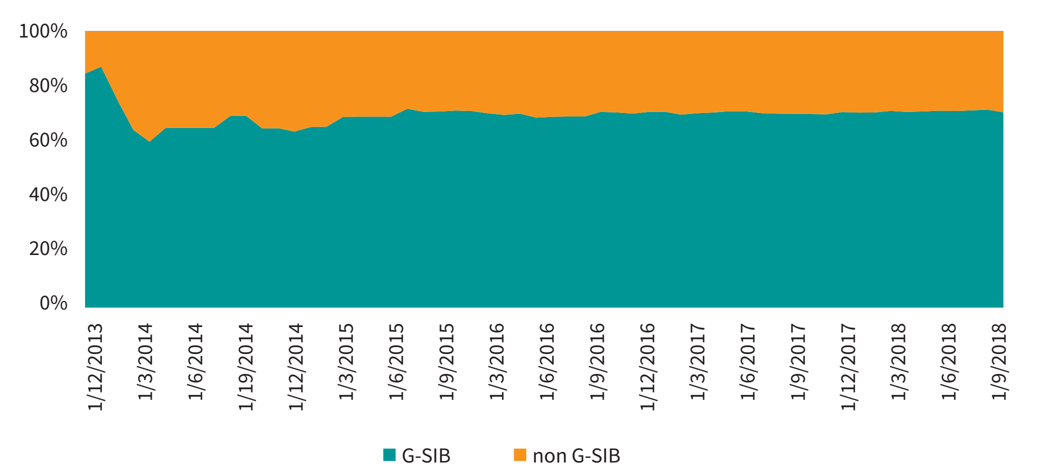
As of September 30th, 2018, the overall composition of the index is 57.44% USD, 34.67% EUR and 7.89% GBP (Figure 8).

Figure 8: iBoxx CoCo Lq DM Europe AT1 index currency breakdown



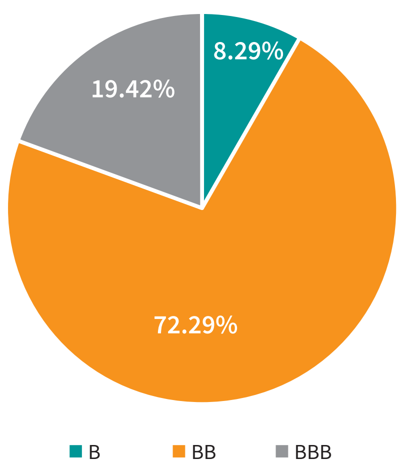
Global systemically important banks (G-SIBs) account for the lion's share of the investible universe, having averaged roughly 70% market weight since the index inception (Figure 9).

Figure 9: G-SIB share iBoxx CoCo Liquid DM Europe AT1



As of September 30th, 2018, 72.29% of the index was composed of BB-rated securities, 19.42% of BBB and 8.29% B-rated, highlighting the crossover-like characteristic of the asset class.

Figure 10: iBoxx CoCo Liquid DM Europe AT1 rating (30 September 2018)



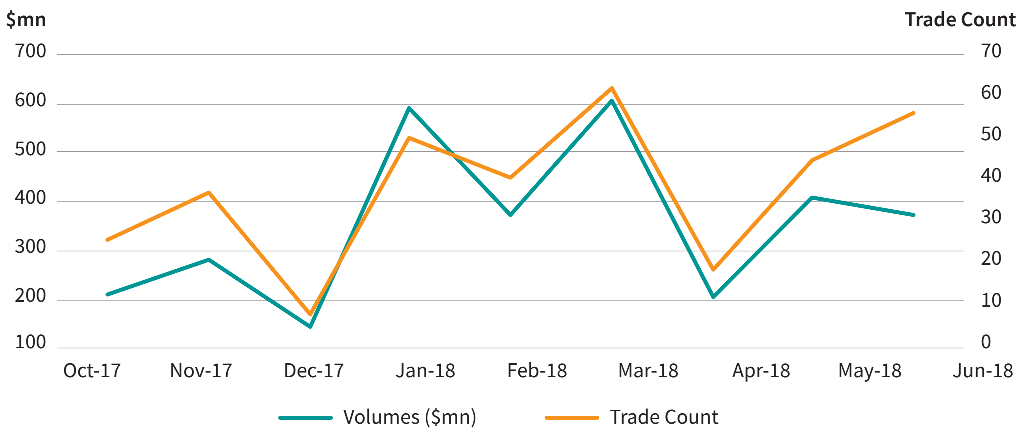
iBoxx CoCo tradable products

The growth of the CoCo market along with increasing demand for exposure meant market participants wanted an efficient means to trade the asset class. A suite of tradable products has developed around the iBoxx CoCo indices. ETFs tracking iBoxx CoCo indices enable for fully funded access to the market, exchange trading, the ability to short the market as well as providing price transparency. A healthy Total Return Swap market has also developed utilizing the standardized iBoxx TRS framework. iBoxx TRS provide standardized terms to trading TRS, as well as liquidity via the 9 dealers who are actively making markets across indices.

A suite of tradable products has developed around the iBoxx CoCo indices.

In October 2017, iBoxx TRS began trading on the EUR and USD iBoxx Contingent Convertible Liquid AT1 indices. $209 million in volume traded in the first month alone, with the monthly volume peaking at $605 million in March 2018 (Figure 11). In June, $375 million in notional volumes were traded on iBoxx CoCos.

Figure 11: iBoxx CoCo AT1 TRS Monthly Volumes



Looking at CoCo bond liquidity, liquidity is reflective of the rating of the bond, displaying liquidity on par with the crossover nature of the market. This is shown by comparing USD and EUR CoCo bid-ask spreads to investment grade and high yield debt, with bid-ask spread expressed as the ask price minus the bid price divided by the ask price to see the round-trip trading cost as a per cent of price. The trading cost defined in this way is generally in the middle of IG and HY rated debt of their respective currencies (Figure 12 and Figure 13).

Figure 12: USD Bid-Ask Spread (%)

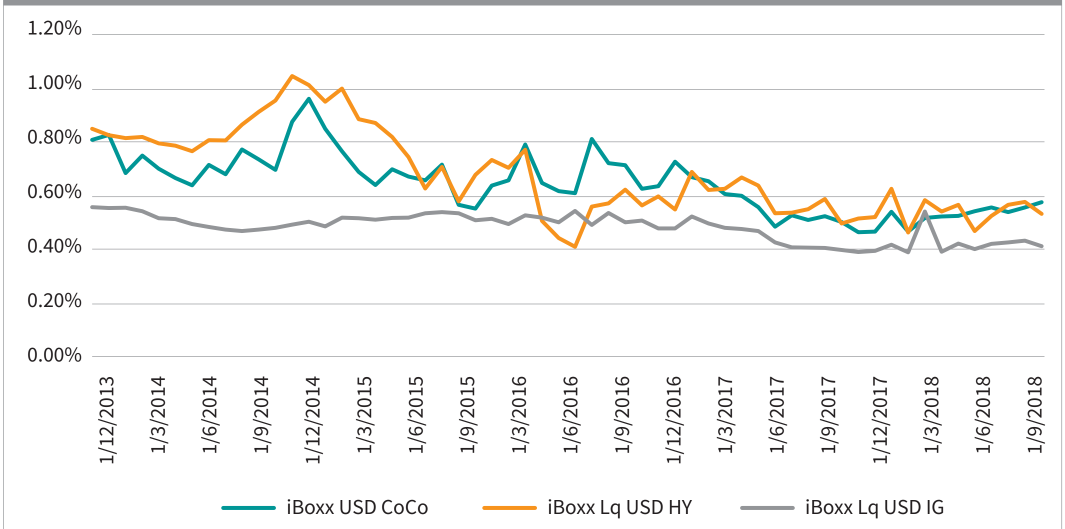
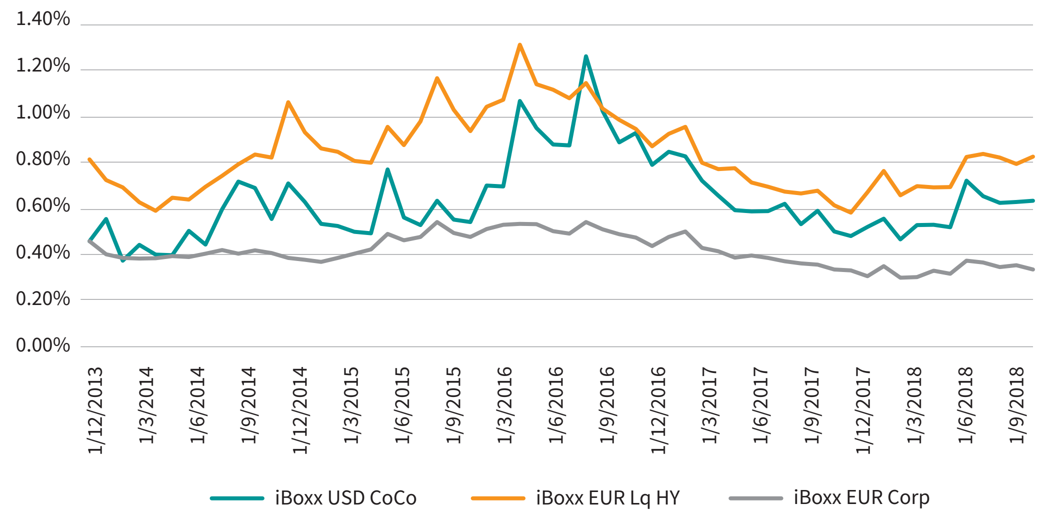


Figure 13: EUR Bid-Ask Spread (%)



Conclusion

Contingent convertible debt is a growing asset class that has caught investor interest. CoCos provide an important mechanism for banks to ensure their financial health by providing a capital buffer if and when necessary. While forming a riskier slice of banks' capital structure, performance in the asset class has been strong, investor demand high and correlations low to other tiers of bank debt and broader fixed income markets. As evidenced by the Banco Popular Espanol SA write-down, the market has been able to withstand issuer write-downs without contagion spreading to the broader market, rewarding investors holding a broad basket of CoCo securities. Efficient trading tools have emerged to access a broad portfolio of CoCos, in the form of CoCo ETFs tracking the iBoxx CoCo indices as well as iBoxx TRS on the market. Investors who are aware of the risks inherent to CoCos can gain incremental yield while lowering their overall portfolio risk.

For more information visit ihsmarkit.com/iBoxx or contact us on sales@ihsmarkit.com

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