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HSBC Global Research

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Contingent Capital Primer III

The first big test

Contingent capital securities have come a long way in the past seven years…

…but they are currently facing an unprecedented correction

We take the view that the Coco market is here to stay

Play interview with
Ivan Zubo and Jason Kepaptsoglou

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Cocos under the microscope

- Contingent capital securities have come a long way in the past seven years from a concept to an almost EUR120bn market
- But they are currently facing a correction unprecedented in their seven year history
- We think the current market turbulence has little to do with fundamentals and remain of the view that the Coco market is here to stay and grow in line with our forecasts

The Coco market is coming under unprecedented scrutiny…

This is the third edition of our Contingent Capital primer and - by coincidence - it is being published at a time when the market is coming under unprecedented scrutiny. This is because Contingent Capital securities (Cocos) have been caught up in the broader market turbulence, and so are facing the first real sell-off since the market was born seven years ago. In addition, there has been a focus on the Cocos issued by specific European banks amid market fears that the coupons on their Coco bonds might not be paid.

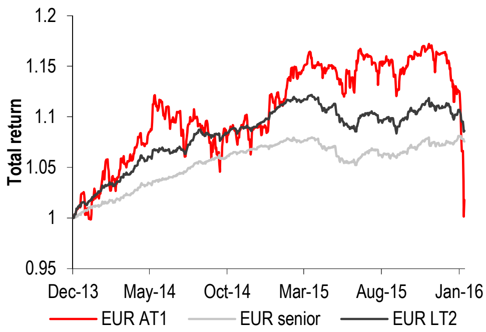
We think the recent market volatility has little to do with fundamentals. Coco bonds pay higher yields than other debt or equity instruments - and one reason for that is precisely because the issuer has an option to suspend coupons (this is not the same as a default!). In practice no European bank that we are aware of has ever suspended coupons on a Coco, and nor has a Coco been forcibly converted to equity or written down. But even if there were to be a coupon skip assuming it is caused by an issue specific to a particular bank (e.g. unforeseen loss), we do not see any logical basis for why this should be extrapolated to the entire Coco universe. For these reasons, and others as explained below, we think the Coco market is here to stay.

…but we expect it to keep growing for years to come

We also expect the market to keep growing. This is a market that has tripled in size over the last two years to EUR120bn, and we expect Additional Tier 1 Coco issuance of roughly the same amount over the next four years. That said in the short term the market volatility will need to stabilise before banks bring new deals to the market and this may impact supply for 2016 to the downside.

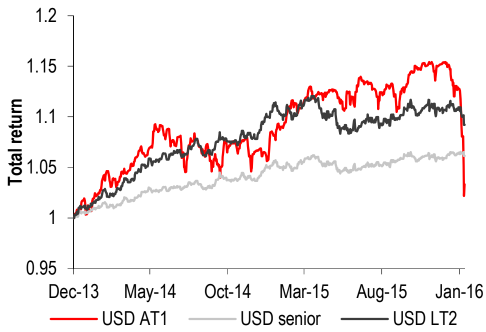
In this primer, we have expanded our valuation section, in particular zeroing in on comparing the Additional Tier 1 (AT1) securities to the equities of the same issuer, also utilising the expertise of our colleagues in equity research. Furthermore we also discuss at length the latest developments related to the Pillar II and the Combined Buffer Requirement (CBR) and the impact these will have on AT1 Cocos going forward. We hope you find this update useful and, as always, look forward to hearing your feedback.

EUR AT1 return vs. iBoxx senior and LT2



Source: HSBC calculations, Bloomberg and Markit

USD AT1 return vs. iBoxx senior and LT2



Source: HSBC calculations, Bloomberg and Markit

First a word on recent performance

While 2014 and 2015 were Cocos'[1] years in the sun, throughout which they performed well even during periods of market volatility, in 2016 Cocos have been drenched in rain. While we are very much of the view this was triggered by sentiment that has nothing to do with European banks and mainly to do with concerns about the state of the global economy, there are a few factors which may have initiated the negative feedback loop. We list some of them below:

There are fears about coupon payment ability…

- The fears about coupon payment ability of some institutions we believe began in earnest after the European Banking Authority (EBA) published a document stating its opinion on the interaction of Pillar I, Pillar II and combined buffer requirements (CBR) on restrictions and distributions on 18 December 2015. In a nutshell, the EBA said it perceives both Pillar I, II and the CBR as not only the de-facto but also the de-jure minima, the breach of which should automatically lead to capital conservation measures. These are primarily defined in Article 141 of the Capital Requirements Directive IV (CRD IV), which prevents institutions from making distributions in connection with CET1 capital should this result in a CET1 capital level in breach of the CBR. The EBA argued for some flexibility with regards to coupon suspension driven by the Maximum Distributable Amount (MDA) but this in its view should only be granted in exceptional circumstances. The ECB followed up in early January expressing broad agreement with EBA's position. We covered this point in more detail in our recent publications *No Holidays for Regulators* and *Margin of Safety* but we think this may have increased the visibility of coupon risk, particularly for those institutions, whose capital ratios have less of a buffer before breaching the newly disclosed SREP/Pillar II requirements.

European bank equity prices have been very volatile…

- European bank equity prices have been very volatile since the beginning of the year. Large restructuring expenses reported by the likes of Deutsche Bank and Credit Suisse have not helped sentiment. We don't mean to sound complacent and we discuss the general market concerns later in the report, but we find it difficult to believe that market was completely taken by surprise by large one-offs in Q4 results given that a number of European banks had recent management change and so some impact on results was to be expected from restructuring. We also think that the market is not necessarily differentiating between the credit and the equity story. It may very well be difficult to project earnings of institutions which are undergoing substantial changes in their future business model and as a result the share price may be quite volatile, especially when adding an already difficult market backdrop into consideration. But this is a small minority of large European banks, most of which are experiencing evolution, not revolution.

1 Cocos abbreviation is also used for 'contingent convertible' although we are reluctant to use the term 'convertible' as it implies conversion into equity, whereas some Cocos are not converted but rather temporarily or permanently written down.

Some people are confused about what non-payment means

- We also think it is possible some investors and market participants are confused about what a non-payment of an AT1 coupon means. Those investors not familiar with bank capital securities may have mistakenly thought that this would be equivalent to an event of default but this is definitely not the case. The coupons on AT1 Cocos issued by European banks are generally fully discretionary and therefore a non-payment of coupon is not an event of default. This seems straightforward enough, but we think it's possible that the concerns about non-payment of AT1 coupons may have inadvertently started a negative feedback loop.

What will happen when the first AT1 Coco doesn't pay?

- What will happen when the first AT1 Coco doesn't pay a coupon? At a risk of stating the obvious the market reaction would likely be visceral, at least in the short run. But would this be the end of the AT1 Coco market? We don't believe so. There are currently more than 30 European banks that have issued Cocos. If the coupon skip is caused by a bank-specific problem (e.g. an unforeseen loss) we simply don't see any logical basis for why this should be extrapolated to all other banks in the Coco universe unless there were some similarities in the type of exposure.
- On the topic of potential coupon cancellation, last week, both Deutsche Bank and Unicredit (two of the institutions which have been in the press about potentially restricting coupon payments on the AT1) said last week they would be paying coupons on their AT1 cocos.

The Coco market is here to stay but stick with quality issuers

Hence we believe the Coco market is here to stay and we think that sticking with quality issuers as for instance those which rank well in our CAMRELS screening methodology (last published in *European Banks Credit Outlook 2016)* will be a profitable investment over time. We cannot unfortunately predict periods of market upheaval – such as the one taking place at the time of publication – which, in our view, are not justified by fundamentals.

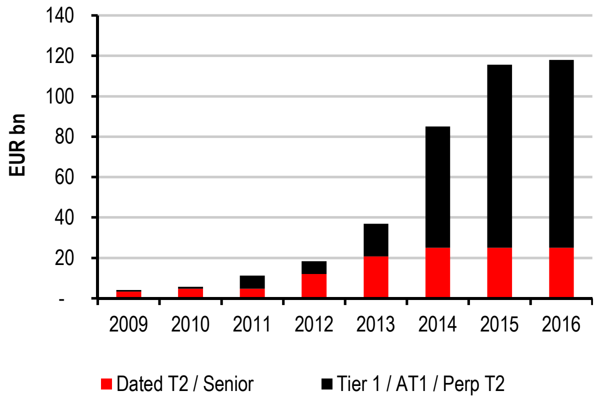
CAMRELS Overall Screen

Bank	Score	Quartile
SEB	4.10	1
Credit Agricole	4.00	1
UBS	4.00	1
DNB	4.00	1
Swedbank	3.95	1
Danske	3.93	1
Nordea	3.83	1
Svenska Handelsbanken	3.83	1
KBC	3.82	1
Group BPCE	3.82	2
Credit Suisse	3.80	2
Nationwide	3.77	2
Rabobank	3.73	2
Lloyds	3.63	2
ING	3.55	2
Commerzbank	3.50	2
Barclays	3.47	2
RBS	3.45	3
Societe Generale	3.40	3
Intesa Sanpaolo	3.38	3
Caixabank	3.28	3
Erste	3.23	3
Deutsche Bank	3.17	3
Banco Santander	3.13	3
Standard Chartered	3.08	3
BBVA	3.02	3
UBI	3.02	4
BNP Paribas	3.02	4
RBI	2.58	4
Unicredit	2.57	4
BP Espanaol	2.53	4
BP SC	2.43	4
BMPS	2.02	4

Source: HSBC, the scores are assigned based on company data in line with the methodology explained in the CAMRELS section of the European Banks Credit Outlook as noted above.

The genesis of Cocos

European banks Coco universe



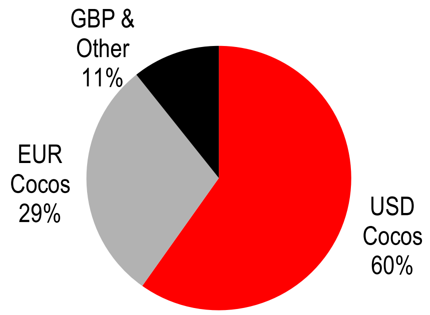
Source: HSBC

From zero to EUR120 billion

Regulators wanted to have a going concern capital stand-by facility

The theoretical basis for Cocos, lies in the desire of the regulators to have a going concern capital stand-by facility. Cocos abbreviation is also used for 'contingent convertible' although we are reluctant to use the term 'convertible' as it implies conversion into equity, whereas some Cocos are not converted but rather temporarily or permanently written down. This can serve as first line of defence when a bank finds itself in distress. While the idea of bank contingent capital has been discussed in academia for a long time, the catalyst that moved the concept of contingent capital securities from textbook to practice was the failure of the existing subordinated debt to aid in recapitalising distressed institutions (with some rare exceptions such as Ireland).

European banks Coco universe by currency



Source: HSBC, Bloomberg, pricing data as of 10 February 2016

Cocos have grown from humble beginnings to an almost EUR120bn market

Eight years on from the 2008 financial crisis, the European bank contingent capital space has grown from humble beginnings to an almost EUR120bn market today, comprising more than 30 different issuing banks. And while a number of institutional investors were initially unenthusiastic about these instruments, given the difficulty of valuing them, the high yield of the Cocos in the low interest environment since 2009 meant that a number of them altered their stance. However the question of Coco valuation is now very much back at the top of the agenda and we hope to provide some guidance in the pricing section of this primer.

Just what is a Coco?

We define these as any bank securities that **can be partially or wholly written down or converted into equity on a going concern basis at the option of the issuer or the regulator at a pre-defined (usually capital linked) threshold.** They generally come in a Tier 1 / Additional Tier 1 (AT1) perpetual or dated Tier 2 host instrument. Rabobank has so far issued the only exception to this – a senior contingent note (SCN), although it's possible we will see more of these in the future, for example as part of a 'first to bail-in buffer'.

Why issue Cocos?

There is a reason for everything

There is a reason for everything. We do not mean to be overly philosophical here, but merely stress the point that these instruments have a specific role in a bank's capital structure which justifies the issuer paying a premium over a comparable host instrument without a contingent trigger. In other words, no bank will issue a Coco simply because investors would like it to. Issuance of Cocos is motivated by the need to meet or exceed Pillar I, Pillar II or other institution-specific capital requirements.

For example, the Lloyds Enhanced Capital Notes (ECNs) were the first large transaction in the contingent capital space, with around GBP9bn equivalent issued in December 2009. The primary reason for this transaction was to allow Lloyds to stay out of the UK Government Asset Protection Scheme (APS) and thereby save billions of pounds over several years. This was possible because the Financial Services Authority (FSA) gave these instruments CT1 credit under Pillar II (eg under stressed conditions). But five years on the Bank of England's Prudential Regulation Authority (PRA, which took over from the FSA as the main regulator of UK banks) considered the 5% threshold as too low to be considered a going concern trigger and ceased to give them credit in their annual stress testing exercise. As a result, most of the ECNs were later exchanged for Basel III compliant AT1 securities in another liability management exercise in March 2014 and subsequently redeemed via a regulatory call by the issuer.

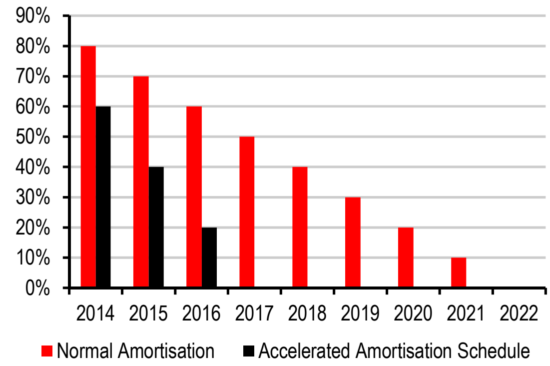
Pillar I

In future there will be other Pillar I requirements

Pillar I refers to the minimum capital requirements set by the Basel committee and the national regulator. While in the past this mainly referred to the Core Equity Tier 1 (CET1), Core Tier 1 (CT1), Tier 1 and Total Capital ratio, in future there will be other Pillar I requirements (such as the leverage ratio, the liquidity ratio and the net stable funding ratio). For instance, in most of the jurisdictions under our coverage, Basel III compliant AT1 instruments are eligible for inclusion in the numerator of the leverage ratio, and hence even if the bank might not need AT1 for the purposes of minimum capital ratios (eg if it already meets or exceeds the basic requirement through core equity), it may choose to issue in order to improve its leverage ratio. The amortisation of capital credit given to the legacy Tier 1 and Tier 2 instruments under transitional arrangements in CRD IV[2] will also drive issuance as banks will need to replace the legacy Tier 1 instruments with CRD IV compliant securities. This is less so the case for Tier 2s as most outstanding securities are in fact CRD IV compliant.

2 Capital Requirements Directive IV, which implements Basel III in the European Union

European banks legacy capital amortisation



Source: HSBC, based on CRD IV the European Union implementation of Basel III

It's complicated, and the taper conditions need scrutiny

A quick word on amortisation of legacy bank capital

Legacy Tier 1 and Tier 2 pools are amortised separately, based on the amount outstanding as of 31 December 2012, starting with 20% in 2014 and 10% every year thereafter until 2021. Amortisation of the cap on legacy Tier 1 and Tier 2 securities can be accelerated, subject to national regulators' discretion, as shown in the chart above. Instruments with an incentive to call (eg, step-up at call date) will lose all of their capital credit as of the date the incentive to call occurs (eg, call date). The guidance in the final Q&A on the European Banking Authority (EBA) single rulebook was clear that innovative (or step-up) Tier 1 securities will not be eligible for any capital credit after their call date if the step occurred after December 2011 (QA2013_15). The cut-off period for instruments that are past the incentive to call date has been moved from July 2011 to December 2011 compared with the summer 2011 CRD IV draft. This means that if a legacy Tier 1 instrument stepped up in summer 2012, it would have retained its Tier 1 capital credit until January 2014 (the date of the implementation of CRD IV) but lose all of it thereafter. On the other hand, should the call date have occurred in summer 2011, this would mean the bond could qualify for Tier 1 capital credit, to the extent there is space under the legacy pool amortisation cap.

Pillar II and the Combined Buffer Requirement

A specific capital buffer that can be imposed on a bank by its regulator

This refers to a specific capital buffer, in excess of the Pillar I requirement, which can be imposed on a bank by its primary regulator. The Pillar II buffer is generally based on but not limited to an institution's capital need under a stress test administered by the regulator. The level of Pillar II requirement is generally not disclosed. The Lloyds ECNs (most of which have recently been retired after a regulatory call) and the KBC Tier 2 Coco are examples where the Pillar II requirement was the main driver of issuance. For example, in the Eurozone it is the supervisory review and evaluation process (SREP) conducted by the ECB which sets the Pillar II buffer requirement.

On 18 December the European Banking Authority (EBA) published a document stating its opinion on the interaction of Pillar I, Pillar II and Combined Buffer Requirement (CBR) on restrictions and distributions. In a nutshell, the EBA sees both Pillars I and II *and* the CBR as not only the *de-facto* but also the *de-jure minima*, the breach of which should automatically lead to capital conservation measures. These are primarily defined in Article 141 of the Capital Requirements Directive IV (CRD IV), which prevents institutions from making distributions in connection with CET1 capital should this result in a CET1 capital level in breach of the CBR.

As a quick reminder, according to the CRD IV Article 141, institutions that fail to meet the combined buffer requirements are prohibited, before the calculation of the Maximum Distributable Amount (MDA), from: (i) making a distribution in connection with CET1 capital; (ii) creating an obligation to pay variable remuneration or discretionary pension benefits or pay variable remuneration if the obligation to pay was created at a time when the institution failed to meet the combined buffer requirements; and (iii) making payments on Additional Tier 1 (AT1) instruments.

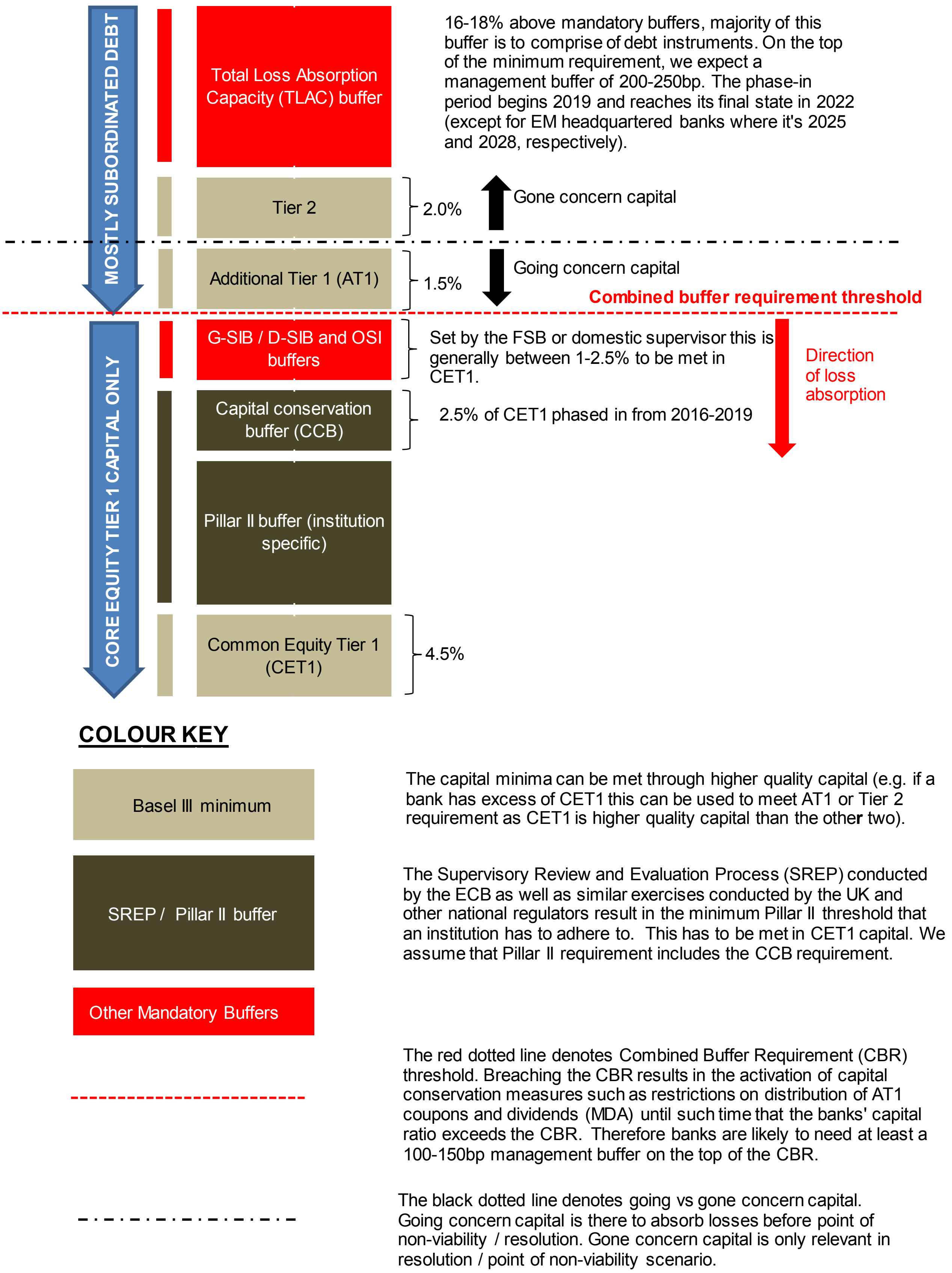
The EBA argued for some flexibility but only in exceptional circumstances

The EBA argued for some flexibility with regards to coupon suspension driven by the MDA but this, in its view, should only be granted in exceptional circumstances. It has also expressed the view that the supervisory review and evaluation process (SREP)/Pillar II requirements should be disclosed and concluded with the recommendation that the European Commission (EC) should:

a. *review Article 141 of the CRD IV with a view to avoiding differing interpretations of Article 141(6) and thus ensuring greater consistency of the MDA framework with the stacking order described in this Opinion and in the SREP Guidelines; and*

b. *review the prohibition on distribution, notably in so far as it relates to AT1 instruments, in all circumstances when no profits are made in any given year.*

European banks capital stack model



Source: HSBC

So why is this significant?

Previously we didn't know whether Pillar II requirements would be mandatory

Previously, there had been little clarity on whether Pillar II requirements would indeed be mandatory vis-à-vis Article 141 of the CRD IV or not. Here, the EBA is clearly stating its position that this is indeed the case. And while this is clearly negative for the AT1s of those banks which are a closer to breaching their CBR than others, we would caution against coming to any early conclusions. As a reminder, Danielle Nouy, the head of the Single Supervisory Mechanism (SSM) of the ECB, said in a recent speech that it is necessary to clarify the interactions of the various buffers (Bloomberg, 28 October 2015). It could well be that the EBA wanted to clearly state its position on this topic but we think other stakeholders will also want to have their say. On that note, the ECB announced early January that it broadly agrees with EBA's position, while Sweden's FinansInspektionen (FI) appeared to express its original view, which is that Pillar 2 breach is not an automatic trigger for invocation of MDA and capital conservatory measures. And if the implementation of the European bail-in directive is any guide, we may see material differences among various jurisdictions.

Another way of interpreting the EBA opinion on the interaction of Pillar I and II requirements is that Pillar II will become the *de-facto* counter cyclical and capital conservation buffer Pillar I requirement all put into one, with other buffers (such as that for global systemic important banks, G-SIB) added on the top of the Pillar II requirements.

A few days after the release of the EBA paper, numerous institutions that previously hadn't disclosed their SREP/Pillar II requirement have done so – these were primarily Spanish and French banks, as Italian banks had already done so a few weeks before. We include them in the following table.

Pillar II/Combined Buffer Requirements

Institution	Country of domicile	2016 Pillar II requirement incl. G-SIB buffer	Latest reported CET1	Headroom	Additional G/D-SIB buffer to be phased by 2019
Credit Agricole Groupe	France	9.8%	13.3%	3.6%	0.75%
Groupe BPCE	France	9.8%	13.2%	3.5%	0.75%
BNP Paribas	France	10.0%	11.0%	1.0%	1.50%
Societe Generale	France	9.8%	11.4%	1.7%	0.75%
Banco Santander	Spain	9.8%	12.6%	2.8%	0.75%
BBVA	Spain	9.8%	12.1%	2.3%	0%
Banco Popular	Spain	10.3%	13.1%	2.8%	0%
Caixabank	Spain	9.3%	12.7%	3.4%	0.25%
Banco Popolare	Italy	9.6%	12.6%	3.1%	0%
Unicredit	Italy	10.0%	10.7%	0.7%	0.75%
Intesa Sanpaolo	Italy	9.5%	13.0%	3.5%	0%
BMPS	Italy	10.2%	12.0%	1.8%	0%
UBI	Italy	9.3%	13.0%	3.8%	0%
KBC	Belgium	10.3%	17.2%	7.0%	0%
ABN Amro	Netherlands	10.3%	14.9%	4.7%	2.25%
Rabobank	Netherlands	10.3%	13.2%	3.0%	2.25%
ING	Netherlands	10.3%	12.9%	2.6%	2.25%
Barclays	United Kingdom	9.8%	11.1%	1.3%	1.50%
Lloyds	United Kingdom	10.8%	13.7%	2.9%	0%
RBS	United Kingdom	10.5%	12.7%	2.2%	0%
Standard Chartered	United Kingdom	8.9%	11.5%	2.6%	0.75%
Santander UK	United Kingdom	9.2%	11.6%	2.4%	0%
Nordea	Sweden	15.4%	16.5%	1.1%	0.75%
SEB	Sweden	15.6%	18.8%	3.2%	0%
Svenska Handelsbanken	Sweden	18.6%	21.2%	2.6%	0%
Swedbank	Sweden	19.0%	24.1%	5.1%	0%
Deutsche Bank	Germany	10.8%	13.2%	2.5%	1.50%
Danske Bank	Denmark	10.7%	16.1%	5.4%	0%
DNB	Norway	13.8%	14.4%	0.8%	0%

Source: HSBC, Company data as of 10 February 2015

Other reasons to issue Cocos

Leverage ratio

AT1 Cocos generally count toward the numerator of the leverage ratio.

In most jurisdictions, AT1 Cocos count toward the numerator of the leverage ratio. In the normal course of business, it is cheaper for banks to issue AT1 than equity and hence it is preferable to use AT1 to meet any additional leverage ratio targets, rather than common equity, to the extent that is allowed by regulation of course.

Rating considerations

Banks might issue Cocos to improve their ratings

Other than Pillar I or II requirements, banks may also be incentivised to issue Coco securities in order to improve their ratings. For example Crédit Agricole's 8.125% '33 Tier 2 Coco is an example of such a security, where the key objective for the issuer was to increase its S&P Risk Adjusted Capital (RAC) level. But issuing AT1s is also no doubt rating positive as it increases the amount of going concern capital as well as the leverage ratio.

Cocos vs dated Tier 2

Issuers will want to get the most out of Cocos – they don't come cheap

Issuers will be very keen to get the most out of their Cocos since they don't come cheap.
As noted in our past publications, we believe that, over time, investors in senior unsecured debt

will focus their attention more on the Total Capital ratio and the level of MREL[3] and TLAC[4], but all of these are cheaper to fill with plain vanilla dated Tier 2 rather than much more expensive AT1 or Tier 2 Cocos. But they might not be given the choice as regulators may insist on some amount of minimum contingent capital for Pillar I and II reasons, or the issuer may want to improve their RAC for rating reasons.

We would like to make one more clarification here – with a dated Tier 2 instrument, banks have the option to decide whether to issue a plain vanilla or a Coco instrument, depending on their needs. In the European Union, Basel III compliant AT1 instruments – in other words all new AT1 issuance – have to have a going concern trigger and therefore are all, by our definition, Cocos.

Exceptions and caveats

Of course, Cocos come with their own basket of exceptions and caveats

Banking regulation would not be complete without its share of exceptions and caveats and Cocos are no different. For example, given that Switzerland is not part of the European Union, the Swiss banks under our coverage are subject to the "Swiss Finish" implementation of Basel III. This has recently been updated to what we refer to as Swiss Finish 2015.

On 21 October 2015, the Swiss Federal Council has defined new capital adequacy standards for systemically important banks. The two Swiss G-SIBs – Credit Suisse and UBS – will have to meet a Tier 1 leverage ratio of 5% by the end of 2019. Of the 5%, at least 3.5% must be CET1 with the balance of 1.5% from high trigger (HT, at least 7% CET1 trigger) contingent convertible AT1 securities. In addition, these banks must meet hold an equal amount of "gone concern" capital. This means that required total loss-absorbing capital will amount to 10% of total exposure. The legacy Tier 2 Coco securities will be grandfathered until 2020.

Even within the EU we are likely to see some national adaptation

Even within the EU, however, we are likely to see some national adaptation of the EU criteria. For example, in the UK, the Prudential Regulation Authority (PRA) took the view that an AT1 instrument would be eligible for inclusion in the numerator of the leverage ratio only if the trigger had a minimum threshold of 7% fully loaded Basel III CET1 rather than phased definition. We would expect that most jurisdictions in Europe take a more measured approach and rely on the phased Basel III CET1 ratio for trigger threshold of the Cocos, not least as this is the official regulatory ratio. That said we do think that over time, the going concern Coco trigger should move towards 7% rather than the 5.125% that many of the existing AT1 Cocos have.

Capital for stress tests?

Cocos are usually taken into account in stress testing scenarios

Cocos are usually taken into account in the stress testing scenarios conducted by the EBA, ECB or other national regulators, as long as the trigger threshold is above the stress test threshold – in other words as long as it is reasonable to assume that the Cocos would be converted into CET1 capital under the relevant scenario.

Other Basel III compliant structures

We have also seen new generation Basel III instruments

In addition to more conventional contingent capital structures, we have also seen new generation Basel III instruments such as the Nationwide Core Capital Deferred Shares (CCDS) and the Rabobank member certificates. While in the past these used to be predominantly retail securities, this is no longer the case, with plenty of institutional interest in these securities. Inevitably, investors therefore start looking at relative value between these securities and the Cocos. Our key concern with these securities, when compared with the AT1 structures, is the lack of call date (and therefore potential maturity date) as well as the variable coupon, where allowed. The lack of a potential call date in our view means these securities take much more interest rate risk, for which an investor would look to be rewarded.

3 Minimum Required Eligible Liabilities
4 Total Loss Absorbing Capital

How deep is the investor love?

Cocos are an institutional product, although investor base has been put to the test lately

Investor appetite has been put to the test lately to say the least. While in its early days of the Coco product, conventional wisdom had it that the buyer base was dominated by private banking clients, this has not been the case for a long time. To put things in perspective, we provide some placement data on AT1 and Tier 2 Coco deals from various issuers. We note that, while initially private banks took the majority of the deals, the market has long since become dominated by institutional investors.

Much of the discussion after the recent correction has focused on who are the natural buyers of the Cocos. The data clearly says it is institutional investors but given they are off index investments (more on this in next paragraph) the market may become a lot more shallow during bouts of volatility like now, even though as we pointed out earlier in the report no benchmark Coco that we know of has ever skipped a coupon or been converted/written down into equity. Many readers of this report may be too young to remember but when the first legacy Tier 1 securities were issued in the 1990s there were similar questions regarding the ultimate investor base of these securities. Twenty years later the few legacy Tier 1s are still here having survived several crises and each time come back. We believe the AT1 Cocos have a similar future ahead of them.

Cocos are currently off benchmark investments for most investors

Cocos are currently off benchmark investments for most investors. They do not qualify for the iBoxx bond indices, whether write-down or equity conversion in structure, nor do they qualify for the Barclays Aggregate or Bank of America Merrill Lynch investment grade or high yield indices. They may however qualify for specific indices, particularly those targeting contingent capital securities.

Regulators also appear to be keen to keep the Cocos away from retail investors

We also note that regulators appear to be keen to keep the Cocos away from retail investors. This should be accomplished in large part simply due to the fact that the minimum denomination on most of these instruments is GBP/EUR/USD 200,000 or higher. That said, several jurisdictions including UK have introduced an outright ban on the sale of these securities to retail investors. As noted earlier, we do not believe this will have a major impact on the market as the new generation CRD IV compliant Cocos were not intended for retail in any event.

HSBC

Selected Coco investor placement detail

	Europe ex UK	UK & Ireland	North America	Asia	Other	Asset Managers	Priv. Banks / Banks / Retail	Insurance Pension Fund	Hedge Funds	Other
AIB EUR 7.375% AT1 (12/15)	15%	69%	13%	n/a	3%	66%	n/a	n/a	30%	4%
ACAFP USD 7.875% AT1 (01/14)	20%	22%	49%	8%	1%	61%	15%	14%	10%	0%
ACAFP USD 8.125% T2 CoCo (09/13)	25%	43%	27%	4%	1%	72%	8%	9%	8%	3%
ACAFP USD 6.625% AT1 (09/14)	22%	20%	50%	6%	2%	83%	10%	7%	n/a	0%
BBVASM EUR 6.75% AT1 (02/15)	31%	48%	8%	7%	6%	67%	4%	9%	18%	2%
BACR EUR 8% AT1 (12/13)	27%	49%	13%	11%	0%	61%	11%	5%	21%	2%
BACR USD 8.25% AT1 (11/13)	42%	n/a	52%	6%	0%	65%	10%	7%	17%	1%
BACR GBP 7.875% AT1 (08/15)	8%	88%	n/a	2%	2%	74%	4%	n/a	22%	n/a
DANBNK EUR 5.875% AT1 (02/15)	46%	40%	6%	5%	3%	63%	4%	11%	16%	6%
DB USD 6.25% AT1 (05/14)	26%	33%	13%	14%	14%	41%	31%	5%	23%	0%
DB EUR 6% AT1 (05/14)	46%	32%	4%	9%	9%	51%	25%	11%	13%	0%
DB GBP 7.125% AT1 (05/14)	21%	43%	11%	12%	13%	42%	35%	2%	20%	1%
DNB USD 5.75% AT1 (03/15)	52%	33%	n/a	12%	3%	63%	9%	15%	9%	4%
ISPIM EUR 7% AT1 (01/16)	40%	53%	3%	n/a	4%	86%	4%	7%	n/a	3%
ISPIM USD 7.7% AT1 (09/15)	n/a	26%	62%	n/a	12%	70%	n/a	7%	22%	1%
POPSM EUR 11.5% AT1 (10/13)	24%	67%	0%	2%	7%	47%	0%	0%	40%	7%
RABOBK USD 8.375% T1 (01/11) (2)	28%	n/a	0%	63%	9%	(1) 28%	72%	n/a	n/a	n/a
RABOBK USD 8.4% T1 (11/11) (2)	26%	n/a	0%	66%	8%	(1) 12%	88%	n/a	n/a	n/a
RABOBK EUR6.875% SCN (03/10)	27%	69%	0%	1%	3%	70%	13%	6%	10%	1%
RBS USD 7.5% AT1 (08/15)	5%	25%	65%	3%	2%	71%	4%	5%	20%	0%
RBS USD 8% AT1 (08/15)	3%	25%	69%	3%	0%	64%	4%	5%	26%	1%
SHBASS USD 5.25% AT1 (02/15)	42%	52%	n/a	n/a	6%	75%	5%	8%	10%	2%
SOCGEN USD 7.875% AT1 (12/13)	31%	n/a	56%	n/a	13%	74%	n/a	n/a	n/a	26%
SOCGEN USD 8.25% AT1 (09/13) (2)	13%	44%	n/a	n/a	43%	62%	20%	n/a	n/a	18%
SWEDA USD 5.5% AT1 (02/15)	35%	44%	n/a	18%	3%	68%	12%	11%	9%	0%
UBS USD 7.25% Tier 2 CoCo (02/12)	11%	17%	n/a	58%	14%	15%	72%	n/a	6%	7%
UBS USD 7.625% Tier 2 CoCo (08/12)	22%	12%	58%	6%	2%	49%	29%	n/a	10%	12%
UBS USD 4.75% Tier 2 CoCo (05/13)	31%	44%	n/a	6%	19%	49%	31%	n/a	14%	6%
UBS EUR 4.75% Tier 2 CoCo (02/14)	39%	46%	n/a	n/a	15%	63%	11%	11%	9%	6%
UBS USD 5.125% Tier 2 CoCo (05/14)	22%	59%	n/a	7%	12%	63%	20%	n/a	11%	6%
UBS EUR 5.75% AT1 (02/15)	35%	62%	n/a	1%	2%	78%	9%	4%	9%	0%
UBS USD 6.875% AT1 (08/15)	22%	45%	8%	22%	3%	54%	27%	4%	14%	1%
UBS USD 7% AT1 (02/15)	25%	60%	9%	2%	3%	64%	13%	3%	18%	2%
UBS USD 7.125% AT1 (02/15)	34%	55%	7%	4%	0%	64%	16%	4%	15%	1%
Average	27%	44%	24%	13%	7%	60%	20%	7%	16%	4%

Source: Company information
(1) Only institutional vs retail investor breakdown provided.
(2) Europe only includes allocation for France, the rest is included in the Other column.

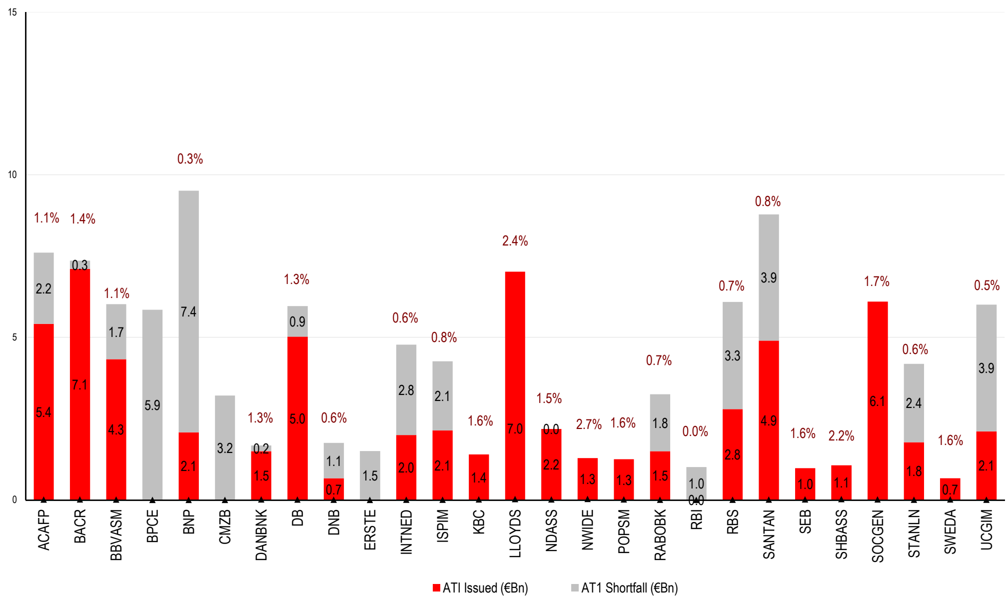
How much to issue?

This is likely a multi-hundred-billion euro question that will keep many bankers awake over the foreseeable future. In our Contingent Capital Primer II, we estimated that the Coco market would reach EUR200bn by 2019, which adjusted for FX differentials (most importantly significant euro depreciation since October 2014) would translate to between EUR220bn-240bn. In other words, this would mean an annual issuance run rate of around EUR30bn-40bn to reach the EUR220bn-240bn Coco market size by 2019.

We expect the AT1 class to dominate new issuance as well as the Coco universe overall

While for the first few years, the Coco asset class was dominated by structures with a Tier 2 host instrument, since 2014 and going forward we expect the AT1 class to dominate new issuance as well as the Coco universe overall.

European banks CRD IV AT1 issuance



Source: HSBC , Dealogic, Company Information as of 10 February 2015

Assumptions behind our bottom-up issuance estimate for AT1

We might well see a bit less diversity in the number of issuers

After the Cambrian period for AT1 issuance that we saw in 2013-15, we might well see a bit less diversity in the number of issuers as many are already nearing the 1.5% AT1 threshold in new CRD IV compliant instruments.

For instance, the Scandinavian banks are for the most part done with AT1 issuance, unless of course they are prompted to do more by some new regulatory requirement. Similarly a number of other names are more than half-way done with their issuance programmes to reach 1.5%. In fact, counting the legacy Tier 1 bucket that is still eligible for AT1 credit, most European banks already have in excess of the 1.5% AT1 minimum.

We have omitted the Swiss banks, given that the driver of their AT1 issuance is likely to be the new leverage ratio requirements rather that Basel III's 1.5% (which they are already well above). We discuss this in further detail in the Regulatory Update section in our *European Banks Credit Outlook 2016*. And in fact we see the leverage ratio as the main driver of AT1 issuance once banks have met the 1.5% CRD IV AT1 requirement.

In 2016, we expect EUR30bn-40bn equivalent of AT1 supply although risk is to the downside after a tough start of the year

As for 2016, we expect EUR30bn-40bn equivalent of AT1 supply. This goes back to the point we made in our European Banks Credit Outlook 2015 – banks are not desperate to issue AT1 as in most jurisdictions up to 70% (and next year 60%) of legacy stock Tier 1 may still count toward the AT1 buffer. Hence issuers will be opportunistic about accessing the market as long as they find the new issue spreads attractive, but we don't believe they would issue into a bad market for the aforementioned reason. Furthermore, in the short term the market volatility will need to stabilise before banks bring new deals to the market and this may impact supply for 2016 to the downside.

However, we see limited potential for Tier 2 Coco supply

Bottom-up issuance estimate assumptions for Tier 2 Cocos

Estimating Tier 2 Coco supply is more difficult, given that at present they do not have Pillar I credit in most European jurisdictions. Switzerland is the only exception but even there the Tier 2 Cocos are in the process of being phased out and we are very unlikely to see any new supply. Therefore to the extent we have Tier 2 Coco supply, it would be driven by local regulatory considerations, and therefore stay quite limited.

Issuance via exchange

Perhaps the best example of this is Lloyds – first in 2009 by issuing the ECNs Cocos in exchange for legacy Tier 1 and Upper Tier 2 instruments and then ECNs to AT1 Coco exchange in 2014. Most of the ECNs have recently been redeemed after a regulatory call by the issuer.

Exchange issuance will be rarer on the continent where issuers tend to call the bonds

Similarly, Barclays issued more than EUR3bn of CRD4 AT1s (in addition to the two primary deals) in May 2014 by exchanging these for legacy Tier 1 securities. Do we see similar transactions occurring elsewhere? Certainly yes, although we think this will be rarer on the continent where issuers tend to call the bonds and issue new securities rather than issue via an exchange.

Knowing what matters – the key characteristics of Cocos

- We take a closer look at the key attributes of Cocos and why these matter
- Key variables to watch are distance to coupon suspension, distance to loss absorption trigger, and type of loss absorption
- Banks' track record of past treatment of bondholders should also be considered, in particular when investing in securities with discretionary coupon

While the principles of bank analysis can summarised in the catchy, (hopefully easy to remember) CAMRELS[5] framework (for the latest please see our *European Banks Credit Outlook 2016)*, for the time being we do not have an easy mnemonic for key Coco attributes. In this section, we take an in-depth view on various issues to consider when investing in Cocos. For details on the features of specific instruments, please see the Coco overview section at the end of the document.

Capital and Loss Absorption Trigger(s)

Beware of the capital ratio definition

Investors need to pay very close attention to the definition of the capital ratio

In the past, there were about as many different definitions of capital as there were Cocos. But things have improved a bit over the last couple of years. Generally, the loss absorption trigger is based on the Basel III transitional/phased definition of CET1 ratio. But we still caution investors to not assume anything as there can be differences even between Cocos issued by the same issuer. For example, Barclays dated Tier 2 Cocos had a trigger of 7% Basel II.5 CT1 when issued, moving to a phased definition of Basel III CET1 with the implementation of Basel III (January 2014). But the most recent AT1 issues have a trigger based on fully loaded (ie 2019) definition of Basel III CET1. While these two definitions will eventually converge, until that point the AT1 instruments are de facto subordinated to the Tier 2 instruments, as the trigger event for AT1 would likely occur before that for the Tier 2 Cocos. The Lloyds ECN definition of CT1 was 'frozen' to reflect the 2009 definition. The bottom line is investors need to pay very close attention to the definition of the capital ratio in order to properly ascertain the distance to the loss absorption trigger.

5 Capital, Asset quality, Management, Ratings, Earnings quality, Liquidity, Sensitivity

Also of relevance here is the risk of an unexpected increase in Risk Weighted Assets (RWA) due to a change in RWA calculation. At the time of writing, these are some of the main categories:

- Basel fundamental review of the trading book
- Basel review of the standardised approach for operational risk
- Various reviews of mortgage risk weights by national and supra national regulators
- ECB review of consistency for the internal RWA models across the institutions in the SSM
- ECB review of the 0% risk weighing exception for sovereign debt

We do not expect to see a similar build-up of capital as we have seen from 2009-15

The timing of the conclusion and final recommendation of these initiatives vary, with many of them slipping past 2016, and perhaps well into later in the decade. And while the direction is clear – more and better quality capital – we don't believe this will continue ad infinitum. Regulators appear to be getting more comfortable with the current targets and while these may be calibrated somewhat, we do not expect to see a similar build-up of capital as we have seen from 2009-15. For those interested in more detail on our latest views on bank regulation we recommend reading the *Global Banks: Six themes for 2016* from our banks equity research team and the *European Banks Credit Outlook 2016.*

Trigger level(s)

The Coco universe clusters around a low trigger of 5-5.125% or high trigger of 7%

While there are somewhat fewer trigger levels than capital definitions, the majority of the Coco universe clusters around a low trigger level of 5-5.125% or high trigger of 7%. Bank of Ireland Tier 2 Cocos have the highest trigger at CT1/CET1 of 8.25%. But, there may be more than one trigger. Some issuers keep it simple and have only one relevant ratio; for others there are several potential triggers (eg Credit Agricole AT1s have a trigger linked to Credit Agricole S.A. as well as Credit Agricole Group). It is important to know which trigger would be the first to be breached under most circumstances and furthermore how these triggers relate to each other. We believe that over time, most Cocos will have a trigger of at least 7% CET1 or higher. This is simply because if Cocos are to be considered going concern capital, they have to recapitalise the bank (whether that is via a write-down or conversion to equity mechanism) before it reaches a point of non-viability. We would argue that in a world where minimum Pillar II / CBR ratios are well north of 9%, a CET1 ratio of 5.125% is likely below the point of non-viability. One could even argue whether a 7% CET1 threshold is perhaps too low but needless to say it does seem more credible than 5.125% threshold.

Regulatory trigger

Some Cocos can also be triggered by the supervisory authority

In addition to the pre-defined trigger level, some Cocos can also be triggered by the supervisory authority if an institution reaches a point of non-viability (PONV) or has to be recapitalised using public funds. It is quite conceivable that the PONV trigger could occur before the relevant trigger ratio is reached. For instance, in Switzerland, the minimum CET1 level is 10% even though the high trigger (7% CET1) and low trigger (5% CET1) thresholds are set below that level. The low trigger Cocos usually do have some protection through a clause that specifies that higher trigger Cocos would have to be triggered before the low trigger ones.

Distance to trigger

Once the definition and the trigger level is established, investors need to pay attention to the distance or buffer between the banks' current relevant capital ratio (most likely CET1, although, as we noted earlier, the definitions can vary considerably between securities) and the trigger threshold. This is in fact one of the most important considerations in valuing the Cocos, as it quantifies the probability of breaching the trigger level. That said, we believe the probability is quite low at this time for pretty most the European banks' Cocos.

Trigger breached – now what?

There are three different ways for the Cocos to generate capital upon reaching the trigger event:

1. Permanent write-down with no option of a write-up – examples include the Barclays and the UBS dated Tier 2 Cocos.
2. Conversion into equity – examples include Lloyds ECNs, BBVA AT1s and some of the Credit Suisse issues. Investors should also pay attention to the conversion price, which may be specified ahead of the time, or a function of a VWAP[6] prior to the conversion with a floor.
3. Write-down with the possibility of a write-up – the recent Société Générale AT1, for example. It's important to stress that the write-up is generally fully discretionary at the option of the issuer (presumably with regulatory approval).

Most investors prefer the conversion to equity – and so do we

From a fundamental point of view, most investors (as do we) prefer the conversion to equity, followed by the write-down with the potential for a write-up (even though the write-up feature is discretionary), with the permanent write-down structure unsurprisingly being the least preferred. This is simply because the equity-convertible Coco structure has the least potential for a conflict with the equity holders, and even in the worst case scenario the bondholders would not be left worse off than equity holders.

Coupon payment optionality

For senior and dated Tier 2, coupon payment optionality is very simple – there is no optionality

For senior and dated Tier 2 Coco instruments the question of coupon payment optionality is a very simple one – there is no optionality. Coupons for these instruments have to be paid as for any other senior or Tier 2 instrument. Failure to do so can be an event of default, clearly not a state that most issuers want to contemplate.

The coupon payment optionality is the key risk for AT1 that investors need to consider

As for Tier 1 Cocos, there are major differences between some of the older European structures and Basel III compliant AT1 issues. In the EU, a newly issued AT1 instrument has to have fully discretionary coupon payments in order to be Basel III/CRD IV compliant. That means that dividend and/or capital pushers and stoppers are not allowed. The exception here is Switzerland where dividend stoppers are allowed (as noted earlier, Switzerland has its own implementation of Basel III as it is not part of the EU). While some of the older Tier 1 Cocos (eg Rabobank 8.4%, 8.375%) contain restrictions on paying dividends, should the bank skip a coupon on the Tier 1 instruments, future instruments will not be able to have this feature if they are to count as fully compliant Basel III AT1 capital. We would argue the coupon payment optionality is the key risk for AT1 that investors need to consider and the main reason that justifies the spread premium between AT1 and Tier 2 or senior unsecured debt. To this end, the EBA and the ECB provided a lot more clarity recently as discussed earlier in the document in the Pillar II and CBR section.

Maximum Distributable Amount and Combined Buffer Requirement

The objective is to make sure that banks prioritise retaining earnings to get back to a compliant capital level

To complicate matters further, Article 141 of the CRD IV introduces the concept of Maximum Distributable Amount (MDA) should a bank breach the CBR. The CBR refers to a combination of the Capital Conservation Buffer, the G-SIB buffer and, where relevant, Pillar II buffer (which generally also includes the countercyclical buffer). The objective of the MDA is to make sure that banks prioritise retaining earnings to get back to a capital level that is compliant with the minimum capital plus the CBR. This regulation is coming into force this year, hence the slew of disclosures of Pillar II and CBR late last year and early this year.

6 Volume Weighted Average Price

Some distribution of dividends and coupons may be allowed

Some distribution of dividends and coupons for Tier 1 securities may be allowed depending on the distance from full compliance with the CBR requirement. While it is important to understand how MDA restrictions could affect coupon payment on a particular instrument, we would point out that the coupon on the new AT1 instruments is fully discretionary in any event. This means that if an institution is getting close to breaching the CBR, it may forgo paying the coupon altogether. Therefore, under this scenario, the bond would likely be trading at fairly distressed levels. Furthermore, as we have mentioned earlier in the report, notwithstanding the guidance by the EBA and ECB, we could nevertheless see differences in enforcement between different national jurisdictions.

Ratings considerations

Cocos mostly fall between Baa2/BBB and Ba2/BB

The Coco universe spans the border of investment grade (IG) and non-investment grade (non-IG) territory, with most bonds falling between Baa2/BBB and Ba2/BB ratings. While many of the dated Tier 2 Coco issues are IG rated, it is rare in the Tier 1 / AT1 space. In fact, with the exception of the Rabobank Tier 1s (which, due to their dividend stopper language, cannot be considered fully Basel III compliant AT1, in our view) and more recently some UK and Scandinavian AT1, most of the recent AT1 issues have an IG rating. This is because the AT1 ratings are determined by subtracting several notches from a banks' standalone rating (ie not the senior unsecured rating which often includes sovereign uplift). Therefore, the universe of IG rated AT1s is likely to be smaller than the high yield universe.

Sovereign of the issuer

The country of domicile of the issuer is an important factor in pricing

While all of the Coco attributes discussed in this section so far focus on the issuer and bond-specific parameters, the country of domicile of the issuer is an important factor in the pricing of the new issues as well as on the secondary markets. Given the rather slow implementation of the European banking union project (particularly the Single Resolution Mechanism and common backstop), this will likely remain the case. We therefore expect European peripheral issuers to have to pay a higher premium compared with those from core or Nordic banks, ceteris paribus.

Aside from sovereign risk, the native jurisdiction is also relevant from a regulatory and taxation point of view, of course.

Other important considerations

Markets have a short memory, but long-term investors in Cocos should not

The markets have a short memory, but long-term investors in Cocos should not. This is particularly relevant with regards to the AT1 instruments that are perpetual and the coupons of which are fully discretionary. We would expect that issuers who have changed their call policies or were involved in similar bondholder unfriendly treatment may have to pay a premium in the primary market for this. Based on this metric, the French, Nordic and some of the UK banks still look strong, although some issuers in the periphery but also Germany less so.

Banks are leveraged institutions that need the confidence of creditors

There is also the concern of a bank paying dividends but skipping the coupon on fixed income securities where it is allowed to do so. While this is permissible with many AT1 structures, we would argue that blatant disregard for bondholder rights such as this (eg by any conventional creditor waterfall or corporate finance theory) could result in a significant negative backlash, which is clearly not in the interest of any issuer. Let's not forget that banks are leveraged institutions that need the confidence of creditors in order to conduct business as usual and this sort of creditor mistreatment would certainly not be without consequences.

Most common AT1 structures by country

While every Coco is special we have seen some standardisation in AT1s

While every Coco is special (and for this we have the Coco overview at the end of the document), we have seen an emergence of some standardisation in the AT1 space, although we caution this is only at a country rather than Europe-wide level. These standard AT1 structures are as follows:

Belgium: AT1 securities are generally issued out of the main operating bank entity with a transitional CET1 trigger of 5.125%. Upon breach of the trigger, the AT1 bond's principal value is to be written down, with write-up allowed but at the option of the issuer (and presumably with the regulator's blessing).

France: AT1 securities are generally issued out of the main operating bank entity with a transitional CET1 trigger of 5.125%. Upon breach of the trigger, the AT1 bond's principal value is to be written down, with write-up allowed but at the option of the issuer (and presumably with the regulator's blessing).

Germany: AT1 securities (are issued out of the main operating bank entity with a transitional CET1 trigger of 5.125%. Upon breach of the trigger, the AT1 bond's principal value is to be written down, with write-up allowed but at the option of the issuer (and presumably with the regulator's blessing).

Italy: AT1 securities are generally issued out of the main operating bank entity with a transitional CET1 trigger of 5.125%. Upon breach of the trigger, the AT1 bond's principal value is to be written down, with write-up allowed but at the option of the issuer (and presumably with the regulator's blessing).

Netherlands: AT1 securities are generally issued out of the holding company (Rabobank being the notable exception as it is a cooperative) entity with a transitional CET1 trigger of 7%. Upon breach of this trigger, the AT1 bonds convert into equity.

Spain: AT1 securities are generally issued out of the main operating bank entity with a transitional CET1 trigger of 5.125%. Upon breach of the trigger, the AT1 bonds convert into equity.

Switzerland: No real standard. AT1s have been issued out of both operating and holding company entities with permanent writedown as well as equity conversion structures.
Going forward however, most supply is likely to come in the form of holding company issued high trigger (7% CET1 threshold) AT1 Cocos.

United Kingdom: AT1 securities are generally issued out of the holding company (rather than the main operating bank entity) with a fully loaded CET1 trigger of 7%. Upon breach of this trigger, the AT1 bonds convert into equity.

Valuing Cocos

- Different terms, ranking, trigger events and loss-absorbing mechanisms present investors with significant challenges when estimating fair value of Coco bonds
- Practical pricing approaches include distance to CBR breach, distance to trigger, structure risk premiums, Cocos as CDS and ratings based models
- We also take deeper look at AT1 vs equities of the respective issuers and the pros and cons of each investment proposition

In this section, we explore various Coco pricing methodologies, some of which were originally introduced in our past publications, including the two earlier editions of the Contingent Capital Primer.

Debt or equity?

Investors often ask us an ostensibly very simple question – given the deep subordination and the full coupon discretion of the AT1 instruments, why not just buy the equity instead? It is a very relevant question, particularly for those investors with the flexibility to invest across asset classes and we have therefore put together a very basic model to give investors some idea of how these two compare.

To start with, some assumptions:

1. We assume that the AT1 bonds get called at the first call date. In reality, this is an oversimplification as we believe the call decision with regards to these securities will be made purely on an economic basis. In other words, if the bond is trading at more than its par value close to the call date, it is likely the bank will call the bond and re-issue at cheaper levels and vice versa. This simplified assumption, however, is necessary given that otherwise we would not have a definite investment period over which to compare returns.
2. We assume that the dividend yield and the coupon on the comparable AT1 instrument stay the same during the holding period, which begins in mid-October 2014 and ends at the call date of the AT1. It is possible (and likely in fact) that the dividend will fluctuate during the holding period, but our model simply takes the average of HSBC 2014-6 dividend estimates to compute the yield.
3. The breakeven equity price is a hypothetical point at which the investment in AT1 and equity would give the same return throughout the holding period, bearing in mind assumptions (1) and (2).

AT1 vs Equity valuation comparison

Equity Ticker	Equity price	HSBC 2015e-2017e Average Dividend Yield	AT1 Crncy and Coupon	AT1 Yield to Call	First AT1 Call date	HSBC Equityu price target	Equity price at breakeven return point with AT1	Equity breakeven total return	Equity breakeven annual return
ARL GY Equity	22.58	9.60%	EUR 7.625%	10.62%	30/04/2020	40	23.48	4.0%	1.0%
ACA FP Equity	8.21	7.56%	USD 6.625%	10.86%	23/09/2019	14.7	9.16	11.6%	3.3%
ACA FP Equity	8.21	7.56%	USD 7.875%	9.89%	23/01/2024	14.7	9.74	18.6%	2.3%
ACA FP Equity	8.21	7.56%	EUR 6.5%	9.09%	23/06/2021	14.7	8.85	7.9%	1.5%
ACA FP Equity	8.21	7.56%	GBP 7.5%	9.78%	23/06/2026	14.7	10.15	23.6%	2.2%
ACA FP Equity	8.21	7.56%	USD 8.125%	9.63%	23/12/2025	14.7	9.91	20.7%	2.1%
BARC LN Equity	159.00	5.14%	USD 8.25%	9.78%	15/12/2018	230	179.80	13.1%	4.6%
BARC LN Equity	159.00	5.14%	EUR 8%	9.58%	15/12/2020	230	194.37	22.2%	4.4%
BARC LN Equity	159.00	5.14%	GBP 7%	11.83%	15/09/2019	230	198.48	24.8%	6.7%
BARC LN Equity	159.00	5.14%	EUR 6.5%	11.64%	15/09/2019	230	197.29	24.1%	6.5%
BARC LN Equity	159.00	5.14%	USD 6.625%	12.35%	15/09/2019	230	201.84	26.9%	7.2%
BARC LN Equity	159.00	5.14%	GBP 7.875%	10.88%	15/09/2022	230	225.88	42.1%	5.7%
BBVA SM Equity	5.64	3.32%	USD 9%	11.04%	09/05/2018	7.99	6.63	17.5%	7.7%
BBVA SM Equity	5.64	3.32%	EUR 7%	13.88%	19/02/2019	7.99	7.58	34.2%	10.6%
BBVA SM Equity	5.64	3.32%	EUR 6.75%	12.37%	18/02/2020	7.99	7.91	40.2%	9.0%
BKIR ID Equity	0.26	2.42%	EUR 7.375%	9.79%	18/06/2020	0.32	0.35	35.3%	7.4%
BNP FP Equity	39.76	6.66%	EUR 6.125%	8.21%	17/06/2022	59	43.55	9.5%	1.5%
BNP FP Equity	39.76	6.66%	USD 7.375%	8.98%	19/08/2025	59	48.76	22.7%	2.3%
DANSKE DC Equity	179.70	4.95%	EUR 5.75%	7.86%	06/04/2020	198	201.31	12.0%	2.9%
DANSKE DC Equity	179.70	4.95%	EUR 5.875%	7.45%	06/04/2022	198	207.68	15.6%	2.5%
DNB NO Equity	98.25	5.34%	USD 5.75%	9.59%	26/03/2020	131	115.69	17.7%	4.3%
INGA NA Equity	9.83	6.83%	USD 6%	8.54%	16/04/2020	12.5	10.50	6.8%	1.7%
INGA NA Equity	9.83	6.83%	USD 6.5%	8.23%	16/04/2025	12.5	11.07	12.7%	1.4%
ISP IM Equity	2.46	6.11%	USD 7.7%	10.13%	17/09/2025	2.93	3.51	43.0%	4.0%
ISP IM Equity	2.46	6.11%	EUR 7%	10.24%	19/01/2021	2.93	2.97	20.8%	4.1%
KBC BB Equity	47.27	4.23%	EUR 5.625%	9.12%	19/03/2019	60	54.49	15.3%	4.9%
LLOY LN Equity	58.40	6.56%	EUR 6.375%	7.80%	27/06/2020	80	61.43	5.2%	1.2%
LLOY LN Equity	58.40	6.56%	GBP 7%	10.15%	27/06/2019	80	65.30	11.8%	3.6%
LLOY LN Equity	58.40	6.56%	GBP 7.625%	9.12%	27/06/2023	80	69.56	19.1%	2.6%
LLOY LN Equity	58.40	6.56%	GBP 7.875%	8.88%	27/06/2029	80	77.88	33.3%	2.3%
LLOY LN Equity	58.40	6.56%	USD 7.5%	8.31%	27/06/2024	80	66.92	14.6%	1.7%
NDA SS Equity	81.95	8.74%	USD 6.125%	7.36%	23/09/2024	100	73.40	-10.4%	-1.4%
NDA SS Equity	81.95	8.74%	USD 5.5%	8.62%	23/09/2019	100	81.63	-0.4%	-0.1%
NDA SS Equity	81.95	8.74%	USD 5.25%	6.92%	13/09/2021	100	74.57	-9.0%	-1.8%
POP SM Equity	2.19	3.73%	EUR 11.5%	16.50%	10/10/2018	3.10	2.98	36.3%	12.8%
POP SM Equity	2.19	3.73%	EUR 8.25%	15.92%	10/04/2020	3.10	3.48	58.8%	12.2%
RBS LN Equity	233.00	1.43%	USD 7.5%	9.32%	10/08/2020	260	326.42	40.1%	7.9%
RBS LN Equity	233.00	1.43%	USD 8%	8.70%	10/08/2025	260	449.80	93.0%	7.3%
SAN SM Equity	3.55	4.55%	EUR 6.25%	12.84%	12/03/2019	5.45	4.50	26.5%	8.3%
SAN SM Equity	3.55	4.55%	USD 6.375%	12.09%	19/05/2019	5.45	4.46	25.6%	7.5%
SAN SM Equity	3.55	4.55%	EUR 6.25%	10.48%	11/09/2021	5.45	4.84	36.1%	5.9%
SAN SM Equity	3.55	4.55%	GBP 7.375%	9.64%	24/06/2022	5.45	4.81	35.4%	5.1%
SEBA SS Equity	82.60	7.04%	USD 5.75%	8.50%	13/05/2020	103	87.49	5.9%	1.5%
SHBA SS Equity	104.00	6.15%	USD 5.25%	7.69%	01/03/2021	98	111.88	7.6%	1.5%
GLE FP Equity	31.42	7.11%	USD 8.25%	9.49%	29/11/2018	46	33.41	6.3%	2.4%
GLE FP Equity	31.42	7.11%	USD 7.875%	10.70%	18/12/2023	46	40.70	29.6%	3.6%
GLE FP Equity	31.42	7.11%	EUR 6.75%	8.99%	07/04/2021	46	34.36	9.4%	1.9%
GLE FP Equity	31.42	7.11%	USD 6%	10.76%	27/01/2020	46	35.88	14.2%	3.7%
GLE FP Equity	31.42	7.11%	USD 8%	8.83%	29/09/2025	46	36.62	16.6%	1.7%
STAN LN Equity	407.40	2.36%	USD 6.5%	12.89%	02/04/2020	620	611.22	50.0%	10.5%
SWEDA SS Equity	159.00	7.63%	USD 5.5%	8.03%	17/03/2020	194	161.44	1.5%	0.4%
UCG IM Equity	3.10	3.87%	USD 8%	13.75%	03/06/2024	5.76	6.60	112.9%	9.9%
UCG IM Equity	3.10	3.87%	EUR 6.75%	13.32%	10/09/2021	5.76	5.04	62.6%	9.4%

Source: Bloomberg, HSBC equity research estimates, market data as of 10 February 2016

Table 2 illustrates the results of this simple analysis with selected AT1 securities. For example, the ACA FP current share price is EUR8.21 and the average holding period dividend yield is 8.43%. The USD 6.625% AT1 has a current yield to call of 10.86%, assuming the bond is called at its first call date in September 2019. In order to reach this same return from buying the ACA FP shares instead of AT1, the share price would have to reach EUR8.90 in September 2019. This means that assuming the dividend yield stays the same, the stock price would have to appreciate by 8.4% throughout the holding period, which translates into an average annual return of 2.4%.

Investment calls driven by our analysis

Based on the assumptions described above, in Table 2, we highlight those stocks where we think investors are better off owning equity rather than AT1s. This is because our equity target price is above the equity price at breakeven return point with AT1 shown in Table 2. From the equity side we are ideally looking for banks where our target price is consistently above all the AT1s in issue and where additionally we have a positive stance on the stock.

On that basis, we see more value on the equity side than on the AT1 for Barclays, Credit Agricole, Lloyds and Societe Generale. For the interested reader, we would point to our latest report on UK banks (*The darkest hour is before the dawn*, 03 February 2016) for more colour on Lloyds and Barclays, *French Banks, Prefer SocGen to BNP on valuation, upgrade both to Buy*, 28 September 2015 for the French names and *Buy: Compelling valuation and opportunities to improve profitability*, 2 December 2015 for a further update on Credit Agricole.

Investment thesis, Valuation and Risks

Barclays (BARC.L, Buy, GBP1.59, covered by Peter Toeman*, Analyst, HSBC Bank plc, +44 20 6991 6791, peter.toeman@hsbcib.com)

For most of the past two years we have taken a positive view on Barclays because of management's commitment to right-sizing the group's cost base. From GBP18.5bn in 2012 the group is likely to hit its 2015 hard cost target of GBP16.3bn. But management's cost-cutting credentials have been undermined by a change in 2016 guidance to incorporate the UK ring-fence regime. In addition there were three chief executives in succession last year, which precluded management from defining a new strategic direction.

We expect the new management team to update investors on 1st March on 2017 cost targets and anticipate Core Barclays will aim for a five percentage point improvement on its current cost/income ratio. This would entail a 50% ratio in the Personal and Corporate Bank, and 60% in the Investment Bank. The latter may seem ambitious but it is a necessary step towards achieving an adequate return from this unit in our view. Recent exits from marginal offices outside the US and UK are a step in the right direction.

We doubt South Africa will be sold as a quick fix to the group's capital position. Rather, the accelerated run-off of non-core will itself produce an equivalent 100bp improvement in CET1, and the strong showing of Barclays in the recent stress test indicates that its regulatory requirements could be lower than peers. If the group is indeed able to achieve a cost of equity return by 2018 then upside relative to our European sector would be on the order of 40%.

Our target price is derived from a sum-of-the-parts approach based on 2018 estimates and taking account of the profitability of individual businesses. Capital is allocated on the basis of the prospective distribution of RWAs and the theoretical value is discounted back two years at a 12% cost of equity. Components of the cost of equity are a 10-year UK government bond yield of 1.5%; an equity market risk premium of 7% and bank sector beta of 1.5.

We allow GBP3bn for future litigation costs but nothing for surplus capital even though by 2018 we expect the group to have a CET1 ratio in excess of 14%. Including the discounted value of expected dividend payments 2016-18, we reach a target price of 230p. Our target price implies upside of 44.7% and we have a Buy rating.

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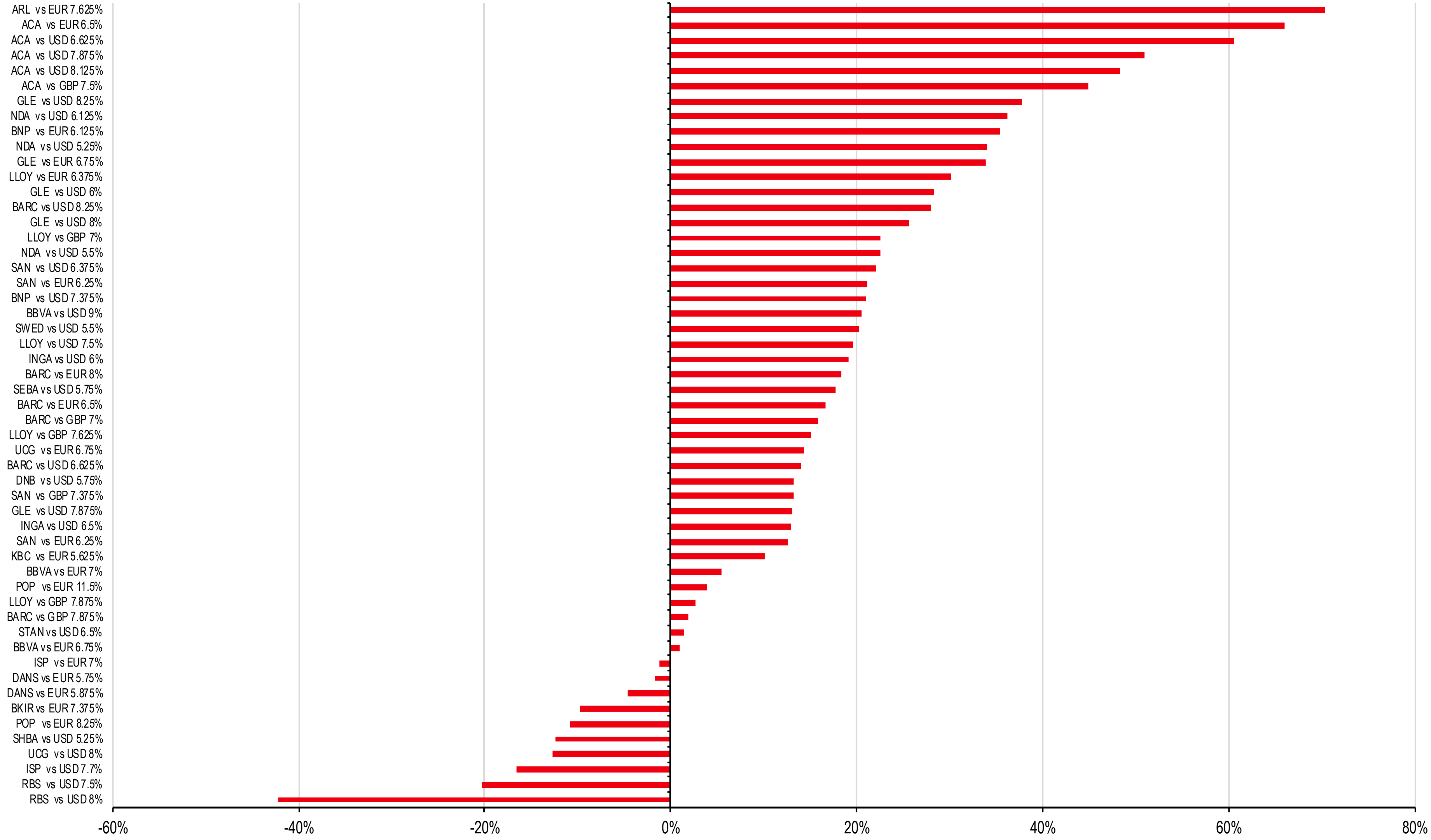
Equity vs AT1: Upside to equity target price from equity price at breakeven return point with AT1



Source: HSBC estimates

The main downside risk is that revenues disappoint because of damage to the investment bank franchise from restructuring measures and that management may fail to achieve the cost targets set out in the Transform programme.

Credit Agricole (CAGR.PA, Buy, EUR8.21, covered by Robin Down*, Analyst, HSBC Bank plc, +44 20 7991 6926, robin.down@hsbcib.com)

On our current forecasts, we think CASA already looks attractively valued: a 2017e PE of 5.9x ex-Amundi. However, in addition, we believe management has some levers to pull to improve returns on equity further. First, we believe the drag on operating returns from the corporate centre can be reduced through a reduction in both the volume of subordinated debt in issuance (CASA has one of the strongest total capital ratios in our universe) and the natural roll-over of the residual stock from legacy high yields (average 6.5%) to new lower pricing (CASA has been issuing new bonds as low as 2.7%). Second, we think there are a number of opportunities to improve capital efficiency: we estimate migrating the Specialist Financial Services division from Standardised to modelled RWAs could reduce Group RWAs by 5%; likewise, we believe there's scope to reduce RWAs associated with the Capital Markets operation and large corporate Financing. We'd hope to hear more discussion on this potential at the March investor day. CASA is a constituent of the HSBC Europe Super Ten portfolio.

We derive a target price of EUR14.7 using a sum-of-the-parts model, with the main components being the market value of the Amundi stake, the Insurance division valued in line with 2016e PE multiples of French quoted insurance peers, domestic Retail operations are given a PE multiple of 10x (LCL) and 10.5x (Caisses Regionales). We reverse out the impact of the "Switch" transaction with the Group parent and deduct any CT1 shortfall versus a 10% benchmark. Our target price implies 79.1% upside and we have a Buy rating.

Downside risks include: (1) renewed economic weakness in either France or Italy given CASA's heavy retail exposure to those two countries; (2) sharp fall in equity markets, which could have an impact on the valuation of Amundi through lower AUM or performance fees; (3) weakness in commodity prices could have a negative impact on Financing division revenues.

Lloyds (LLOY.L, Buy, GBP0.58, covered by Peter Toeman*, Analyst, HSBC Bank plc, +44 20 6991 6791, peter.toeman@hsbcib.com)

The group's mid-teens ROTE is its distinguishing feature putting it at the top end of the scale of European Bank profitability. But the shares have been disappointing performers over the past two years which we attribute to PPI provisions and the constant drip-feed of government stock into the market. With a retail placing planned for the spring of 2016, it seemed reasonable to assume that this adverse technical factor would come to an end this year, but a collapse in the share price to below the government's 73p in-price has postponed this positive outcome. Nonetheless, government ownership is down to 9% and a complete exit would mark a major transformation in the group's fortunes.

Another long-term issue which could be resolved in 2016e is PPI. Other institutions are now raising provisions which they claim will be sufficient through to the 2018 deadline. If a comparable quantum of provision was identified for Lloyds then investors could have more confidence that the disparity between underlying and headline earnings would close. The group's superior profitability and dividend characteristics would receive more appropriate recognition.

By 2018 we estimate Lloyds will have a CET1 ratio of almost 16% and so we allow GBP6bn of surplus capital into the calculation plus the discounted value of expected dividend payments 2016-18. We round up to produce target price of 80p. Our target price implies 37.0% upside and we have a Buy rating.

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The main downside risk stems from competitive pressures on mortgage spreads and the absence of increases to domestic interest rates in 2017. These factors could prevent Lloyds from achieving the 15% ROTE that is critical to our valuation.

Societe Generale (SOGN.PA, Buy, EUR31.42, covered by Robin Down*, Analyst, HSBC Bank plc, +44 20 7991 6926, robin.down@hsbcib.com)

We are generally positive towards the French banking market; while low interest rates are putting pressure on margins, the pick-up in credit demand is one of the strongest in Europe. Credit risks are low and the French banks appear to have more scope than most banks to restructure and cut costs (a function of a high starting point for expenses). SocGen typifies this view with the added benefits that it has better-than-peer growth within the domestic retail operation and recovery potential within its International businesses. Trading on a 2017e P/TNAV multiple of just 0.53x (for an 8.1% ROTE), the valuation is undemanding, in our view.

We have a target price of EUR43 based on a 2017e sum-of-the-parts model. Typically banking operations are valued using price/book multiples with non-banking operations valued using PEs. Key assumptions are price/book multiples of 1.3x for the French Retail operation, 1.2x for Global Markets, 0.9x for Financing and Advisory and 0.5x for International Retail excluding Komercni (BKOM.PR, Hold, CZK5032). The stake in the latter is included at its current quoted market value. In addition, we add or deduct any capital surplus or shortfall versus a 11.5% CT1 benchmark. Our target price implies upside of 36.9% and we have a Buy rating.

Downside risks include: (1) deterioration in the health of the French economy given the importance of French Retail banking to the group. Any negative surprises here in volumes or impairments could hurt overall group returns on equity; (2) further deterioration in the health of the Russian economy – while Socgen's exposure here has diminished in recent quarters, the stock remains sensitive to any pick-up in impairments or potential write-downs in the value of the Rosbank stake.

The Equity view

Will tomorrow never come?

At the time of writing, equity investors in European Banks would be excused for feeling despair. Following a leg down in August and a further, more severe drop year to date, European Banks are fast approaching levels not seen since the depth of the European sovereign crisis and Mr. Draghi's now famous "whatever it takes" statement.

> **"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.**
>
> **Mario Draghi at the Global Investment Conference in London 26 July 2012**

Liquidity is hardly an issue for European banks

In some ways, that statement is still relevant today. The gross liquidity provided by the ECB stood at EUR639bn at the end of January with liquidity net of deposits with the ECB at negative territory. At peak, the gross liquidity provided stood at EUR1,447bn with net at EUR615bn leaving the system with ample headroom if it is required. At the same time, there is close to no signs of trouble in money markets with EURIBOR – OIS spreads at c15bp and USD/EUR 12-month cross currency swap at -20bp. December figures from the ECB would also suggest that there is little stress on the deposit side, with deposits down % -1.1y/y.

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Although profitability might face headwinds in 2016…

Given that liquidity is hardly an issue, we think that concerns can be broadly grouped into three categories:

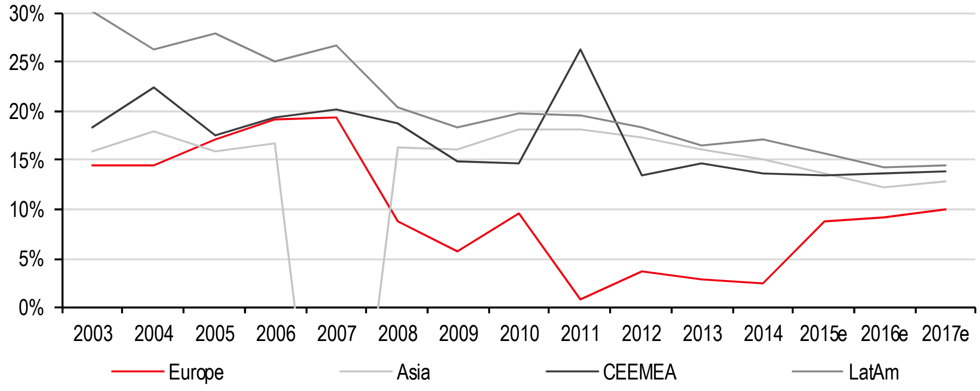
- **Oil/ Commodities:** The continued drop in commodity prices and especially the free fall in the oil price since H2 2014 have raised concerns. We have discussed this more extensively in *Global Banks, Six themes for 2016*, 15 January 2016 but broadly speaking as far as European banks are concerned, we think that there are three elements to consider here. ***Direct loan exposures*** to the energy sector are relatively small while typically c50% are short term trade finance and thus low risk. ***HY debt holdings*** are less of an issue in Europe while after the introduction of tougher regulation, banks carry much less inventory. Lastly, notional ***derivative exposures*** are sizable but only represent c1% of the overall derivatives market while net, directional trades on banks' balance sheets should be orders of magnitude smaller. All of the above could cause headwinds to profitability but is nowhere near sizable enough to justify the amount of stress witnessed in the market. If our estimates are anything to go by, net profits for European banks should grow to cEUR71bn in 2016e, providing European banks with significant room to offset headwinds.
- **Rates:** A persistently low interest environment puts pressure on banks margins. In fact, we think there is still downside risk to margin estimates for European banks. As the ECB should continue its easing programme, asset yields should continue their descending trends. With increasingly less scope for additional improvement in funding costs, pressure on customer spreads should increase in 2016. We estimate that volume growth will offset margin compression, but some countries may suffer more than others (i.e. Italy vs Spain). There should however be some limit to this process, as progressively more negative rates would mean that banks begin to charge depositors, who in turn choose place deposits outside the financial system and thus reversing the desired effect of the transmission mechanism from lower rates.
- **Growth:** China has slowed recently, of that there is little doubt and while our economists expect both a policy response and a rebound in GDP, the market appears to need convincing. What we can see though is that EU bank cross-border lending into China and indeed Asia overall is modest (for example 1% of total cross-border loans for Spanish banks). That suggests to us that direct credit losses aren't going to be an issue, likewise commodity price declines. Rather, it's the second order impact of weaker exports and weaker corporate loan demand, that we'd be most focused on (note: household lending, 55% of the European total could prove robust). But the earnings sensitivity here is, we believe, limited to maybe no more than mid-single digits percentages.

… there are still reasons to be hopeful that returns will recover

Against that background, it is important to remember that there are some bright spots for European banks.

- **Capital**: Simply put, the level of stress required to break the banks is sizably different this time. Banks are now running with at least twice as much capital as they used to. The new Basel III regulation has effectively reduced the leverage banks have been used to work with. At the same time regulation has reduced how interlinked the banks are and how dependent they are on short term funding. Is should thus be easier to alleviate market concerns.
- **Regulation:** Following years of regulatory pressure, we are increasingly seeing growing signs of a 'political' pushback on regulator-driven proposals at a European level. 2016 should see updates in a number of areas: credit, market and operational risk-weightings, the ECB's Pillar 2 add-ons and, towards year-end, the next EBA stress test. As a result, we still expect demand for additional capital requirements to continue over the course of the next few years, slowing RoTE recovery. But at least, uncertainty around capital requirements is (hopefully) coming to an end. Indeed, the ECB has indicated that it would like banks to have more capital certainty and, as a result, this year's 'SREP' (effectively the setting of targets for European banks) should "provide an indication for the future". In other words, there are good grounds to believe the sector may only see CET1 targets increased by the impact of phasing-in of systemic risk buffers.

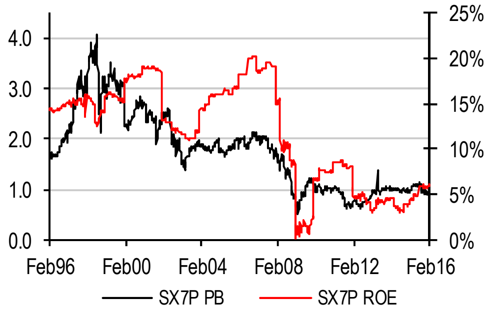
Returns in Europe should recover significantly and converge with other regions



Source: Company data, HSBC estimates

- **Cost efficiency:** We believe cost discipline should remain imperative in the sector as management focuses on operating profit improvement and the revenue outlook remains unexciting in 2016. Our forecast of flat costs may prove conservative should revenue remain subdued during the year.
- **GDP recovery:** Last but not least, it is important to remember that we expect the macro picture to improve in Europe. Our economists forecast a progressive recovery over the next two years in the eurozone, with GDP growing by 1.5% in both 2016 and 2017. As a result, we believe credit demand should finally recover from 2016 onwards, albeit growth rates will vary on a country basis – we estimate lending growth in the range of 2% and 3% in 2016 and 2017, respectively.

Stoxx Banks index: Price to Book value and ROE



Source: Thomson Reuters Datastream, HSBC estimates

Stoxx Banks index: Performance

Source: Thomson Reuters Datastream, HSBC estimates

A combination of flat margins, recovering volume, cost control and declining provisions should fuel earnings growth across the region: we estimate net income to grow by 17% in 2016 and 2017. This is largely widespread across all European countries. The main downside risk to our forecasts arises from likely prolonged pressure on margins, which could reduce our earnings growth forecasts.

We thus think that the valuation pullback creates some opportunities and we see our European banks coverage universe delivering a dividend yield of 5.5% (based on our 2016e dividend forecast).

Fixed income pricing approaches

Introduction

Cocos are either perpetual or defined maturity instruments that behave like debt most of the time. However, if a trigger is hit, they convert into equity, or suffer a principal impairment or complete write-off, depending on their terms. The complexity of such instruments makes them very difficult to value. Existing structures pose several key challenges when attempting to value Cocos.

Trigger event

It may not always be clear when a trigger event happened and it can be retrospective.

Cocos convert into equity, or experience a principal write-down or write-off when a trigger event occurs. The trigger event is usually a breach of minimum CET1 ratio; either a high trigger point (say, 7-8%) or a low trigger point (say, 5%). While this sounds simple in theory, in practice, it is very difficult to determine when a trigger has been hit. Using publicly available information such a bank's earnings statement means that the trigger event would have happened prior to the information becoming public, owing to the time that passes between the end of the year or the end of the quarter and the calculation of capital ratios and publication of results. In practice, it is likely that market speculation about the potential breach of capital ratios will increase the price volatility of Cocos in advance of the point where information can be made publicly available. Additionally, some Cocos contain a Point of Non-Viability trigger – this is when a regulatory authority determines that a bank has reached a point of non-viability and forces the trigger. This feature means that Coco holders may find out on any given day that the relevant regulatory authority has forced a loss on them based on information that is not yet in the public domain, which adds an extra element of qualitative risk to a quantitative trigger.

Recovery value

Conversion to equity, principal write-down or write-off, and bail-in provisions make recovery value estimates very difficult.

The recovery value that Coco holders may obtain is highly uncertain:

- If a conversion is to equity, the recovery value is a function of how many shares Coco holders receive, and the equity value post conversion. In reality, the trigger of a conversion to equity when a bank is still considered a going concern could be only hours away from a bank becoming a 'gone concern' and its equity becoming worthless, in which case the recovery value for holders of equity-convertible Cocos could well be zero. However, if a bank survives and actually benefits from the increased share capital it has as a result of conversion, then Coco investors that receive shares could benefit from recovery value upside.
- Holders of partial principal write-down Cocos are exposed, in effect, to two trigger events, one conditional on the other. The first trigger event leaves Coco holders with some percentage of their previous bonds and preserves their position in the capital structure. In theory such an approach provides investors with a more manageable approach to estimating recovery values. However, the introduction of bail-in provisions to banks' capital instruments at the point of non-viability means that if the going concern becomes a gone concern shortly after the first trigger event has taken place, then Coco holders, having suffered principal write-down as a result of the trigger, could also find themselves being bailed in by the regulatory authorities once the institution goes into resolution (the second trigger event being the point at which a regulator judges that a bank needs to enter resolution).

- It may well be that in this scenario Coco holders end up with a zero recovery value again, in the same way that a Coco convertible into equity could have a recovery value of zero. An alternative way of representing this is to view principal write-down Cocos as being made up of two bonds: (i) a bond with principal write-off; and (ii) a non-Coco bail-in bond.
- Where Cocos provide for a full principal write-off (as opposed to a partial write-down), holders face no uncertainty with regards to recovery value, which will be zero if a trigger event takes place.

Ranking in bankruptcy

If a bank enters resolution, some CoCo holders may recover more than others.

There may be scenarios where a bank enters resolution without going through a trigger event – in effect a 'jump to default' or a 'jump to resolution'. In such scenarios, which are likely to be even rarer than hitting a trigger, CoCo holders are likely to be bailed in by the resolution authority in the same way as other debt instruments that rank along-side CoCos. In this type of scenario Tier 2 CoCos could have a higher recovery value than Additional Tier 1 CoCos because of the seniority waterfall.

Extension risk

In the olden days of step-up Tier 1s, the first call date was taken as the de-facto if not the de-jure maturity date. But this is no longer the case with the new CRD IV compliant AT1 cocos. From the beginning it was the intention of the regulators that banks would feel no moral or any other obligation to call, except for on economic basis. What this means in practice is that if an AT1 is trading below par prior to maturity it makes much more economic sense for the bank to keep it outstanding rather than call and issue a new AT1 and hence at that point there would be a real risk of extension (most structures are callable every five years after the first call). If on the other hand a bond is trading above par it makes economic sense for the bank to call the bond as it is likely to be able to issue new AT1 with a lower coupon in the primary market.

How does all of this translate into valuation?

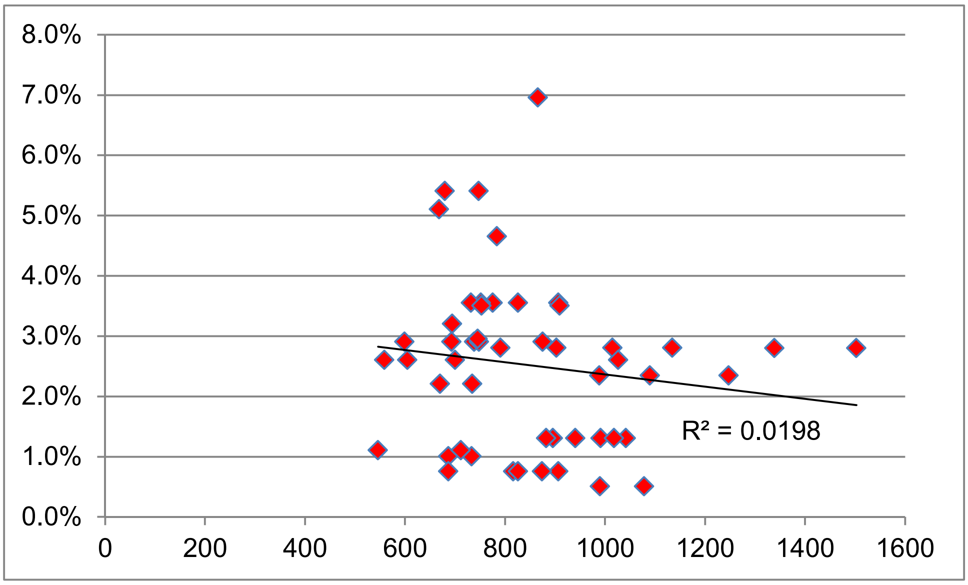
There are really only two concerns that keep Coco investors up at night, even though they can happen for any number of reasons. The first one, relevant to both AT1 and Tier 2 Coco holders is the loss absorption event – breaching the trigger at which point the Cocos are written down or converted into equity. The second, relevant only to the AT1 holders (given that Tier 2 coupons are mandatory) is breaching the Pillar II / CBR buffer at which point the mandatory suspension of dividends and AT1 coupons may kick in. Hence one might think that it is these two approaches that are most important in pricing of Cocos and indeed we explore them in the following two sections. But for those pushed for time, let us say that the statistical analysis shows far less contribution from these two variables than we would have thought. In fact with coefficient of correlation (R2) in single digits this means that there is hardly any impact on pricing from these variables. For example BNP trades at a much tighter spread to Banco Popular event though the latter one has much higher distance to breaching their Pillar II / CBR. This plus other evidence as discussed below lead us to believe that in fact other variables, such as those outlined in our CAMRELS screening methodology plus investors' expectations of future direction of the issuers have much more weight for pricing levels.

Distance to Pillar II / CBR – distance to coupon switch off

Using Z-spread to call or maturity (or next call), relative to the distance from the Pillar II / CBR level as discussed earlier in the publication.

Switching off the coupons on the AT1 securities due to a breach of Pillar II / CBR is the first line of defence for a bank finding itself in troubles. As such we believe this is the highest risk for AT1 bondholders given as the Pillar II / CBR threshold is always above the loss absorption trigger threshold. That said as we discussed earlier in the report the seriousness of the Pillar II / CBR breach is treated differently based on jurisdiction and so this is at best a rough estimate of where a bank would possibly turn off coupon payments.

Distance to Pillar II/CBR breach vs spread to call



Source: HSBC

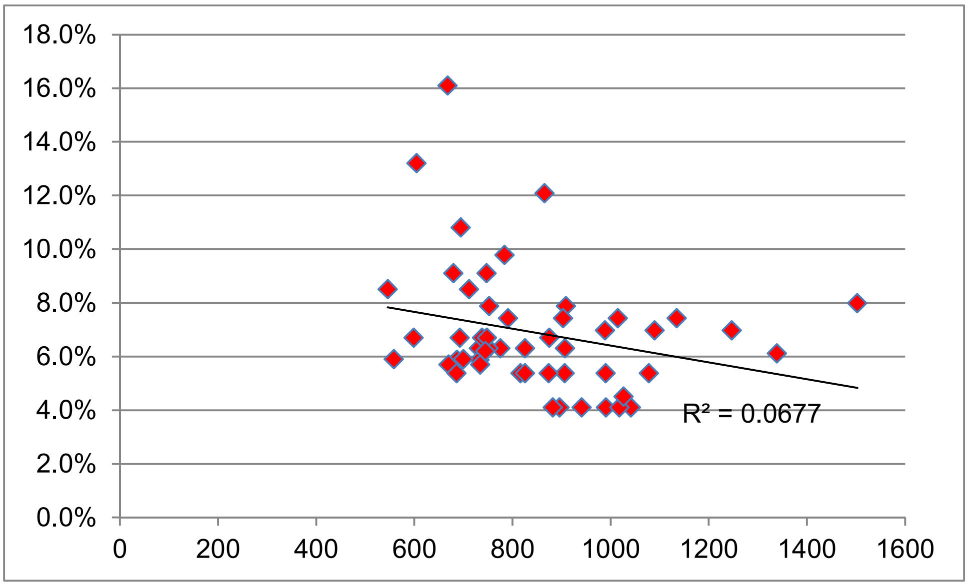
While this approach may have some relevance, it is far from statistically robust. When we use the distance to trigger versus the Z-spread to call / maturity (whichever is earlier), the statistical analysis gives us a coefficient of correlation (R^2) of 2% – which almost makes this variable look irrelevant. This means that almost 98% of the Z-spread is still explained by other factors, including those that we discuss later in this section. Furthermore, the R^2 fluctuates quite a bit, so it can hardly be used as a key variable in determining the proper level of a Coco. For the analysis we used a sample of more than 50 bonds for which we had all the necessary data.

Distance to loss absorption / equity conversion trigger

Using Z-spread to call or maturity (or next call), relative to the distance of trigger level from the reported ratio.

This methodology is based on the notion that as the CoCo gets closer to being triggered, investors should demand a higher yield. Similar to previous section, we use the distance to trigger versus the Z-spread to call / maturity (whichever is earlier) and the statistical analysis gives us a coefficient of correlation (R^2) of 7% – which is clearly not very robust. This means that almost 93% of the Z-spread is still explained by other factors, including those that we discuss later in this section. Furthermore, the R^2 fluctuates quite a bit, so it can hardly be used as a key variable in determining the proper level of a Coco.

Distance to loss absorption trigger vs spread to call



Source: HSBC

Multiples-based approach

We have also analysed the spread to maturity (or first call) of AT1 cocos and compared this to that of senior unsecured and plain vanilla (i.e. not Coco) Tier 2 bonds. And we do see a pattern here.

For EUR denominated bonds, the Tier 2s were on average trading at a spread of 2.75x-3.5x of senior bonds with comparable maturity with the multiple level closer to the higher hand given the recent market correction. As for AT1s/Tier 2 multiple, this has generally been around 2x-3x meaning a AT1 with a call date similar to the maturity date of Tier 2 would be trading at 2x-3x the spread of the Tier 2. This therefore translates into an AT1 to senior multiple range of 7-9x.

As for USD denominated bonds, the picture is a bit different. First it's worth noting that due to technical factors USD denominated senior unsecured and Tier 2 bonds usually trade at a wider spread than their EUR counterparts. But the exact opposite is the case for AT1s. This is because investors in AT1 tend to be more yield-focused than purely spread-focused and given that the mid-swap rate (which is usually used to price bonds at issuance) is considerably higher in USD than EUR (at the time of writing by little over 1%), USD-denominated AT1 usually yield more on absolute basis even if they may be actually yielding less than the EUR-denominated bonds on spread basis. So for USD-denominated bonds the Tier 2/senior spread multiple is around 2x. The USD AT1/Tier 2 multiple is also around 2x on average. Hence this translates into AT1 to senior multiple of around 4x, considerably lower than that for EUR.

A word on Tier 2 Coco pricing

In the last version of the Coco Primer we have spent considerable portion of the pricing section on pricing of Tier 2 Cocos as compared to the plain vanilla Tier 2. Little more than a year later however Tier 2 Cocos have a de-facto legacy product given that we hardly expect any Tier 2 coco issuance in the future. As such we think that looking at pricing approaches for these is a bit less meaningful given that they will inevitably also include a 'rarity premium'. Nevertheless for those interested in more detail for how we looked at these securities in the past we recommend reading the *Contingent Capital Primer II: Debt or Equity*.

Relative value monitor

In the following section, we construct relative value monitors for identifying relative value between EUR AT1 bonds and between USD AT1 bonds.

These monitors calculate a measure of relative value based solely on historical spread behaviour, and as such any potential ideas would also need to be examined from a fundamental viewpoint. The ‘CQ’ column refers to the CAMRELS quartile in our CAMRELS screening analysis, in the earlier section. Against each name, we show the CAMRELS quartile from 1 (strongest quartile) to 4 (weakest quartile).

Each table shows up to 30 bonds where the rows are sorted in descending order of asset swap spread (bold numbers from grey to blue) and the columns are sorted in ascending order of asset swap spread (bold numbers from blue to grey). Where more than 30 bonds were available for a given table, we have cut the number to 30 by choosing large, European bonds. The pricing source is HSBC pricing as of 9 February 2016.

The rows show the long side of the pair, and the columns show the short side. Thus, the upper left half of each table shows positive carry pairs (with the most positive in spread terms at the top left), and the lower right half shows negative carry pairs (with the most negative in spread terms at the bottom right).

The body of each table shows how rich or cheap the pair spread is, measured by how many standard deviations the pair spread is above or below its 40 and 120 trading day moving average. Thus positive numbers in green are ‘cheap’ i.e. the pair spread is above its moving average, and negative numbers in red are ‘rich’ i.e. the pair spread is below its moving average.

The large amount of green in the top left of the heatmaps is simply a function of the general spread widening environment we have seen. As spreads have widened, wider names have generally widened by more, causing pair spreads to move above their moving averages even after adjusting for standard deviation. Even so, the pattern is not uniform, suggesting possible pairs for further investigation. And in a tightening environment, the ‘cheaper’ pairs might compress by more.

Following the heatmaps, we show the return and volatility of EUR, GBP and USD AT1 bonds over the past six months, sorted by return. We see that, except for one very short-dated bond, all of the bonds have had negative return over the period, and that bonds with more negative returns have had greater volatility.

EUR AT1 – calculated using a 40 day moving average

Long	CQ	Asw	DANBNK 5.875 04/22-49	UBS 5.75 02/22-49	DANBNK 5.75 04/20-49	BNP 6.125 06/22-49	LLOYDS 6.375 06/20-49	RABOBK 5.5 06/20-49	ABNANV 5.75 09/20-49	ACAFP 6.5 06/21-49	SOCGEN 6.75 04/21-49	BACR 8 12/20-49	BKIR 7.375 06/20-49	KBC 5.625 03/19-49	SANTAN 6.25 09/21-49	AIB 7.375 12/20-49	ISPIM 7 01/21-49	AARB 7.625 04/20-49	DB 6 04/22-49	BACR 6.5 09/19-49	UCGIM 6.75 09/21-49	BBVASM 6.75 02/20-49	SANTAN 6.25 03/19-49	BBVASM 7 02/19-49	POPSM 8.25 04/20-49	POPSM 11.5 10/18-49
		CQ Short	1	1	1	4	2	2		1	3	2			3		3		3	2	4	3	3	3	4	4
			661	**680**	**724**	**738**	**763**	**790**	**799**	**851**	**868**	**907**	**909**	**916**	**938**	**969**	**984**	**987**	**1048**	**1059**	**1129**	**1135**	**1172**	**1288**	**1398**	**1629**
POPSM 11.5 10/18-49	4	**1629**	3.1	2.6	3.1	3.1	2.8	2.6	2.8	2.7	2.9	2.7	2.7	2.2	2.8	2.8	2.2	2.9	2.7	2.4	3.0	2.6	2.6	2.0	3.9	
POPSM 8.25 04/20-49	4	**1398**	2.4	1.4	2.2	2.1	1.5	1.2	1.5	1.3	1.5	1.1	1.2	0.3	1.6	1.3	-0.8	1.6	0.3	-0.9	0.5	-0.3	0.3	-2.4		-3.9
BBVASM 7 02/19-49	3	**1288**	3.8	3.0	3.9	3.9	3.5	3.0	3.3	3.3	3.5	3.2	3.5	2.2	3.4	3.5	2.2	3.5	3.4	2.6	4.3	3.8	3.5		2.4	-2.0
SANTAN 6.25 03/19-49	3	**1172**	3.6	2.2	3.7	3.6	2.9	2.0	2.7	2.4	2.7	2.0	2.3	0.2	3.0	2.4	0.0	2.7	0.1	-2.2	0.2	-1.8		-3.5	-0.3	-2.6
BBVASM 6.75 02/20-49	3	**1135**	3.6	2.4	3.8	3.8	3.1	2.4	2.9	2.7	3.1	2.5	2.8	0.9	3.0	3.0	0.9	3.1	1.4	-1.9	2.0		1.8	-3.8	0.3	-2.6
UCGIM 6.75 09/21-49	4	**1129**	2.9	1.7	2.9	2.8	2.0	1.4	1.9	1.6	2.0	1.4	1.7	0.0	2.0	1.9	-0.4	2.2	-0.1	-3.4		-2.0	-0.2	-4.3	-0.5	-3.0
BACR 6.5 09/19-49	2	**1059**	4.0	2.8	4.2	4.1	3.6	2.9	3.3	3.4	3.8	3.3	3.6	1.6	3.3	3.8	1.6	3.7	2.8		3.4	1.9	2.2	-2.6	0.9	-2.4
DB 6 04/22-49	3	**1048**	3.2	1.9	3.1	3.1	2.3	1.6	2.1	1.9	2.3	1.7	2.1	0.1	2.2	2.4	-0.1	2.5		-2.8	0.1	-1.4	-0.1	-3.4	-0.3	-2.7
AARB 7.625 04/20-49		**987**	4.1	0.1	3.3	2.8	-1.3	-3.2	-0.3	-2.6	-1.5	-3.7	-2.3	-4.2	0.2	-2.3	-2.9		-2.5	-3.7	-2.2	-3.1	-2.7	-3.5	-1.6	-2.9
ISPIM 7 01/21-49	3	**984**	3.6	2.7	3.7	3.7	3.7	2.2	3.3	2.9	3.2	2.6	2.6	-1.1	3.5	2.4		2.9	0.1	-1.6	0.4	-0.9	0.0	-2.2	0.8	-2.2
AIB 7.375 12/20-49		**969**	3.8	1.2	3.7	3.6	1.4	-0.3	1.4	0.1	1.4	-1.9	-1.0	-3.0	1.6		-2.4	2.3	-2.4	-3.8	-1.9	-3.0	-2.4	-3.5	-1.3	-2.8
SANTAN 6.25 09/21-49	3	**938**	4.1	-0.1	2.9	2.2	-1.4	-3.1	-0.7	-2.3	-1.0	-2.7	-1.9	-4.7		-1.6	-3.5	-0.2	-2.2	-3.3	-2.0	-3.0	-3.0	-3.4	-1.6	-2.8
KBC 5.625 03/19-49		**916**	5.2	4.1	5.2	4.9	4.6	3.5	5.1	3.9	4.2	3.3	3.1		4.7	3.0	1.1	4.2	-0.1	-1.6	0.0	-0.9	-0.2	-2.2	-0.3	-2.2
BKIR 7.375 06/20-49		**909**	3.9	1.5	3.8	3.7	2.0	0.1	1.8	0.6	1.9	-1.0		-3.1	1.9	1.0	-2.6	2.3	-2.1	-3.6	-1.7	-2.8	-2.3	-3.5	-1.2	-2.7
BACR 8 12/20-49	2	**907**	4.4	2.1	4.8	4.6	3.4	0.8	2.7	1.5	3.1		1.0	-3.3	2.7	1.9	-2.6	3.7	-1.7	-3.3	-1.4	-2.5	-2.0	-3.2	-1.1	-2.7
SOCGEN 6.75 04/21-49	3	**868**	4.1	0.8	4.4	4.1	0.1	-1.8	1.0	-2.2		-3.1	-1.9	-4.2	1.0	-1.4	-3.2	1.5	-2.3	-3.8	-2.0	-3.1	-2.7	-3.5	-1.5	-2.9
ACAFP 6.5 06/21-49	1	**851**	4.6	1.5	5.5	5.2	2.5	-0.7	2.6		2.2	-1.5	-0.6	-3.9	2.3	-0.1	-2.9	2.6	-1.9	-3.4	-1.6	-2.7	-2.4	-3.3	-1.3	-2.7
ABNANV 5.75 09/20-49		**799**	4.8	0.4	4.3	3.3	-1.1	-3.1		-2.6	-1.0	-2.7	-1.8	-5.1	0.7	-1.4	-3.3	0.3	-2.1	-3.3	-1.9	-2.9	-2.7	-3.3	-1.5	-2.8
RABOBK 5.5 06/20-49	2	**790**	5.2	2.1	5.6	5.3	2.4		3.1	0.7	1.8	-0.8	-0.1	-3.5	3.1	0.3	-2.2	3.2	-1.6	-2.9	-1.4	-2.4	-2.0	-3.0	-1.2	-2.6
LLOYDS 6.375 06/20-49	2	**763**	4.3	0.8	4.6	4.6		-2.4	1.1	-2.5	-0.1	-3.4	-2.0	-4.6	1.4	-1.4	-3.7	1.3	-2.3	-3.6	-2.0	-3.1	-2.9	-3.5	-1.5	-2.8
BNP 6.125 06/22-49	4	**738**	3.2	-1.6	1.6		-4.6	-5.3	-3.3	-5.2	-4.1	-4.6	-3.7	-4.9	-2.2	-3.6	-3.7	-2.8	-3.1	-4.1	-2.8	-3.8	-3.6	-3.9	-2.1	-3.1
DANBNK 5.75 04/20-49	1	**724**	3.0	-2.2		-1.6	-4.6	-5.6	-4.3	-5.5	-4.4	-4.8	-3.8	-5.2	-2.9	-3.7	-3.7	-3.3	-3.1	-4.2	-2.9	-3.8	-3.7	-3.9	-2.2	-3.1
UBS 5.75 02/22-49	1	**680**	5.3		2.2	1.6	-0.8	-2.1	-0.4	-1.5	-0.8	-2.1	-1.5	-4.1	0.1	-1.2	-2.7	-0.1	-1.9	-2.8	-1.7	-2.4	-2.2	-3.0	-1.4	-2.6
DANBNK 5.875 04/22-49	1	**661**		-5.3	-3.0	-3.2	-4.3	-5.2	-4.8	-4.6	-4.1	-4.4	-3.9	-5.2	-4.1	-3.8	-3.6	-4.1	-3.2	-4.0	-2.9	-3.6	-3.6	-3.8	-2.4	-3.1

Source: HSBC calculations, Markit. Bold numbers are most recent asset swap spread bp. Green (cheap)/red (rich) shows number of std dev pair spread is above or below its 40d moving average. CQ = CAMREL quartile.

EUR AT1 – calculated using a 120 day moving average

Long	CQ	Asw	DANBNK 5.875 04/22-49	UBS 5.75 02/22-49	DANBNK 5.75 04/20-49	BNP 6.125 06/22-49	LLOYDS 6.375 06/20-49	RABOBK 5.5 06/20-49	ABNANV 5.75 09/20-49	ACAFP 6.5 06/21-49	SOCGEN 6.75 04/21-49	BACR 8 12/20-49	BKIR 7.375 06/20-49	KBC 5.625 03/19-49	SANTAN 6.25 09/21-49	AIB 7.375 12/20-49	ISPIM 7 01/21-49	AARB 7.625 04/20-49	DB 6 04/22-49	BACR 6.5 09/19-49	UCGIM 6.75 09/21-49	BBVASM 6.75 02/20-49	SANTAN 6.25 03/19-49	BBVASM 7 02/19-49	POPSM 8.25 04/20-49	POPSM 11.5 10/18-49
		CQ Short	1	1	1	4	2	2		1	3	2			3		3		3	2	4	3	3	3	4	4
			661	**680**	**724**	**738**	**763**	**790**	**799**	**851**	**868**	**907**	**909**	**916**	**938**	**969**	**984**	**987**	**1048**	**1059**	**1129**	**1135**	**1172**	**1288**	**1398**	**1629**
POPSM 11.5 10/18-49	4	**1629**	4.9	4.1	4.8	4.8	4.4	4.3	1.3	4.3	4.4	4.3	4.1	3.7	4.7	3.0	2.2	4.6	4.3	3.7	4.9	4.2	4.3	3.4	5.0	
POPSM 8.25 04/20-49	4	**1398**	3.2	2.2	2.8	2.8	2.2	2.1	0.3	2.1	2.3	2.0	2.0	1.4	2.7	1.5	-0.8	2.4	1.4	0.7	1.5	1.0	1.1	-1.4		-5.0
BBVASM 7 02/19-49	3	**1288**	5.2	3.8	4.9	5.1	4.2	4.1	0.5	4.1	4.3	4.0	3.8	3.2	5.5	3.6	2.2	4.5	4.4	2.6	5.9	4.5	4.8		1.4	-3.4
SANTAN 6.25 03/19-49	3	**1172**	3.8	2.5	3.3	3.4	2.5	2.3	0.0	2.3	2.5	2.1	2.1	1.3	3.7	2.0	0.0	2.8	0.9	0.1	0.9	0.3		-4.8	-1.1	-4.3
BBVASM 6.75 02/20-49	3	**1135**	5.3	3.3	5.0	5.3	3.8	3.6	0.0	3.5	3.9	3.3	3.2	1.9	5.3	3.1	0.9	4.3	0.9	-0.2	0.9		-0.3	-4.5	-1.0	-4.2
UCGIM 6.75 09/21-49	4	**1129**	4.2	2.6	3.8	3.9	2.8	2.5	-0.1	2.5	2.9	2.4	2.3	1.1	3.6	2.0	-0.4	3.2	0.3	-0.7		-0.9	-0.9	-5.9	-1.5	-4.9
BACR 6.5 09/19-49	2	**1059**	6.5	4.4	6.7	6.5	5.8	4.8	0.0	5.3	6.1	5.5	4.7	3.0	4.5	4.1	1.6	6.0	0.7		0.7	0.2	-0.1	-2.6	-0.7	-3.7
DB 6 04/22-49	3	**1048**	4.3	2.6	3.7	3.9	2.5	2.5	-0.1	2.5	2.7	2.1	2.2	1.0	3.4	2.7	-0.1	3.1		-0.7	-0.3	-0.9	-0.9	-4.4	-1.4	-4.3
AARB 7.625 04/20-49		**987**	6.3	1.1	4.2	3.1	-0.8	-3.3	-0.7	-1.9	-0.8	-4.6	-1.3	-6.0	-1.0	-2.2	-2.9		-3.1	-6.0	-3.2	-4.3	-2.8	-4.5	-2.4	-4.6
ISPIM 7 01/21-49	3	**984**	3.6	2.7	3.7	3.7	3.7	2.2	3.3	2.9	3.2	2.6	2.6	-1.1	3.5	2.4		2.9	0.1	-1.6	0.4	-0.9	0.0	-2.2	0.8	-2.2
AIB 7.375 12/20-49		**969**	4.4	1.5	4.1	4.0	1.0	-0.4	1.6	0.1	1.5	-1.8	-0.6	-3.5	1.1		-2.4	2.2	-2.7	-4.1	-2.0	-3.1	-2.0	-3.6	-1.5	-3.0
SANTAN 6.25 09/21-49	3	**938**	3.9	1.2	2.5	2.4	0.5	-0.6	-0.6	0.0	0.5	-0.9	0.1	-2.8		-1.1	-3.5	1.0	-3.4	-4.5	-3.6	-5.3	-3.7	-5.5	-2.7	-4.7
KBC 5.625 03/19-49		**916**	8.4	4.7	8.3	6.9	5.4	4.3	-0.3	5.3	6.3	3.7	3.7		2.8	3.5	1.1	6.0	-1.0	-3.0	-1.1	-1.9	-1.3	-3.2	-1.4	-3.7
BKIR 7.375 06/20-49		**909**	5.5	2.1	4.0	2.8	0.7	-0.8	-0.6	-0.1	0.8	-1.6		-3.7	-0.1	0.6	-2.6	1.3	-2.2	-4.7	-2.3	-3.2	-2.1	-3.8	-2.0	-4.1
BACR 8 12/20-49	2	**907**	6.5	2.8	6.1	5.3	3.7	0.7	-0.5	1.7	3.7		1.6	-3.7	0.9	1.8	-2.6	4.6	-2.1	-5.5	-2.4	-3.3	-2.1	-4.0	-2.0	-4.3
SOCGEN 6.75 04/21-49	3	**868**	6.2	1.8	5.9	2.6	-0.2	-2.1	-0.6	-1.7		-3.7	-0.8	-6.3	-0.5	-1.5	-3.2	0.8	-2.7	-6.1	-2.9	-3.9	-2.5	-4.3	-2.3	-4.4
ACAFP 6.5 06/21-49	1	**851**	7.0	2.6	6.8	3.4	1.0	-1.4	-0.6		1.7	-1.7	0.1	-5.3	0.0	-0.1	-2.9	1.9	-2.5	-5.3	-2.5	-3.5	-2.3	-4.1	-2.1	-4.3
ABNANV 5.75 09/20-49		**799**	1.1	0.8	0.9	0.8	0.6	0.5		0.6	0.6	0.5	0.6	0.3	0.6	-1.6	-3.3	0.7	0.1	0.0	0.1	0.0	0.0	-0.5	-0.3	-1.3
RABOBK 5.5 06/20-49	2	**790**	7.7	2.5	6.4	5.3	1.6		-0.5	1.4	2.1	-0.7	0.8	-4.3	0.6	0.4	-2.2	3.3	-2.5	-4.8	-2.5	-3.6	-2.3	-4.1	-2.1	-4.3
LLOYDS 6.375 06/20-49	2	**763**	5.4	1.7	4.4	2.4		-1.6	-0.6	-1.0	0.2	-3.7	-0.7	-5.4	-0.5	-1.0	-3.7	0.8	-2.5	-5.8	-2.8	-3.8	-2.5	-4.2	-2.2	-4.4
BNP 6.125 06/22-49	4	**738**	4.7	0.0	1.5		-2.4	-5.3	-0.8	-3.4	-2.6	-5.3	-2.8	-6.9	-2.4	-4.0	-3.7	-3.1	-3.9	-6.5	-3.9	-5.3	-3.4	-5.1	-2.8	-4.8
DANBNK 5.75 04/20-49	1	**724**	4.6	-0.9		-1.5	-4.4	-6.4	-0.9	-6.8	-5.9	-6.1	-4.0	-8.3	-2.5	-4.1	-3.7	-4.2	-3.7	-6.7	-3.8	-5.0	-3.3	-4.9	-2.8	-4.8
UBS 5.75 02/22-49	1	**680**	3.4		0.9	0.0	-1.7	-2.5	-0.8	-2.6	-1.8	-2.8	-2.1	-4.7	-1.2	-1.5	-2.7	-1.1	-2.6	-4.4	-2.6	-3.3	-2.5	-3.8	-2.2	-4.1
DANBNK 5.875 04/22-49	1	**661**		-3.4	-4.6	-4.7	-5.4	-7.7	-1.1	-7.0	-6.2	-6.5	-5.5	-8.4	-3.9	-4.4	-3.6	-6.3	-4.3	-6.5	-4.2	-5.3	-3.8	-5.2	-3.2	-4.9

Source: HSBC calculations, Markit. Bold numbers are most recent asset swap spread bp. Green (cheap)/red (rich) shows number of std dev pair spread is above or below its 120d moving average. CQ = CAMREL quartile.

USD AT1 – calculated using a 40 day moving average

Long	CQ	Asw	NDASS 5.25 09/21-49	INTNED 6.5 04/25-49	UBS 7 02/25-49	CS 6.25 12/24-49	BNP 7.375 08/25-49	UBS 6.875 08/25-49	SHBASS 5.25 03/21-49	CS 7.5 12/23-49	SWEDA 5.5 03/20-49	LLOYDS 7.5 06/24-49	INTNED 6 04/20-49	RBS 8 08/25-49	SOCGEN 8 09/25-49	SEB 5.75 05/20-49	DNB 5.75 03/20-49	ISPIM 7.7 09/25-49	NDASS 5.5 09/19-49	BACR 8.25 12/18-49	ACAFP 7.875 01/24-49	SOCGEN 7.875 12/23-49	RBS 7.5 08/20-49	DB 7.5 04/25-49	SOCGEN 6 01/20-49	BBVASM 9 05/18-49	ACAFP 6.625 09/19-49	UCGIM 8 06/24-49	BACR 6.625 09/19-49	STANLN 6.5 04/20-49	SANTAN 6.375 05/19-49	DB 6.25 04/20-49
CQ Short			1	2	1	2	4	1	1	2	1	2	2	3	3	1		3	1	2	1	3	3	3	3	3	1	4	2	3	3	3
			148	**599**	**613**	**616**	**623**	**654**	**684**	**688**	**713**	**725**	**732**	**738**	**748**	**750**	**759**	**763**	**768**	**802**	**814**	**816**	**854**	**897**	**913**	**947**	**949**	**989**	**1007**	**1057**	**1092**	**1205**
DB 6.25 04/20-49	3	**1205**	3.3	3.2	3.0	3.1	3.6	3.0	3.0	3.2	2.9	3.5	3.1	3.1	3.3	3.3	3.5	3.3	3.1	2.4	3.1	3.2	2.7	3.3	3.0	2.2	3.0	3.7	1.6	1.7	2.3	
SANTAN 6.375 05/19-49	3	**1092**	3.6	3.7	3.4	3.6	4.3	3.3	3.5	3.7	3.3	4.0	3.7	3.4	3.8	3.7	4.4	3.9	3.9	2.0	3.7	3.7	2.8	3.7	3.6	-1.7	3.1	4.3	-1.6	-2.6		-2.3
STANLN 6.5 04/20-49	3	**1057**	3.8	3.9	3.8	3.9	4.4	3.7	3.8	4.0	3.8	4.3	4.0	3.8	4.1	4.1	4.3	4.2	4.0	2.9	4.0	4.0	3.4	4.3	3.9	1.2	3.2	4.1	0.4		2.6	-1.7
BACR 6.625 09/19-49	2	**1007**	4.3	4.5	4.4	4.6	5.0	4.3	4.6	4.7	4.8	4.9	5.0	4.5	4.8	5.0	4.8	4.9	4.5	3.7	4.7	4.9	4.6	5.1	4.9	0.6	3.1	4.1		-0.4	1.6	-1.6
UCGIM 8 06/24-49	4	**989**	2.6	2.3	1.7	1.8	3.2	1.8	1.1	1.8	0.2	2.7	0.6	1.7	2.1	0.9	2.8	1.9	-1.2	-0.8	1.4	1.6	-0.9	-1.1	-0.7	-4.8	-3.7		-4.1	-4.1	-4.3	-3.7
ACAFP 6.625 09/19-49	1	**949**	3.1	3.0	2.6	2.8	3.8	2.6	2.4	2.7	1.8	3.4	2.3	2.6	3.0	2.3	4.1	3.0	1.8	0.4	2.8	2.7	0.9	1.3	1.8	-3.9		3.7	-3.1	-3.2	-3.1	-3.0
BBVASM 9 05/18-49	3	**947**	3.5	3.6	3.4	3.6	4.2	3.3	3.5	3.6	3.3	3.9	3.7	3.4	3.8	3.6	4.4	3.9	4.0	2.1	3.7	3.6	2.9	3.7	3.7		3.9	4.8	-0.6	-1.2	1.7	-2.2
SOCGEN 6 01/20-49	3	**913**	3.4	3.5	3.0	3.3	4.5	2.9	2.9	3.3	1.4	4.0	3.1	3.1	3.8	2.2	4.5	4.0	-0.4	-0.7	3.5	3.4	-1.5	-0.5		-3.7	-1.8	0.7	-4.9	-3.9	-3.6	-3.0
DB 7.5 04/25-49	3	**897**	3.2	3.1	2.5	2.7	3.9	2.5	2.0	2.8	1.1	3.6	2.0	2.6	3.1	2.8	3.2	3.0	0.2	-0.4	2.3	2.7	-0.2		0.5	-3.7	-1.3	1.1	-5.1	-4.3	-3.7	-3.3
RBS 7.5 08/20-49	3	**854**	3.8	4.1	3.8	4.2	5.0	3.6	3.9	4.3	3.2	4.7	4.6	4.0	4.7	3.0	4.3	4.9	0.4	-0.3	4.3	4.7		0.2	1.5	-2.9	-0.9	0.9	-4.6	-3.4	-2.8	-2.7
SOCGEN 7.875 12/23-49	3	**816**	3.3	3.5	2.0	2.5	4.9	2.2	-2.5	2.3	-3.6	4.4	-3.2	1.8	4.0	-1.9	1.0	1.9	-2.8	-3.8	-1.6		-4.7	-2.7	-3.4	-3.6	-2.7	-1.6	-4.9	-4.0	-3.7	-3.2
ACAFP 7.875 01/24-49	1	**814**	3.2	3.2	2.2	2.5	4.5	2.2	-1.2	2.2	-2.9	3.7	-2.3	1.9	3.4	-0.9	2.6	3.0	-2.6	-2.7		1.6	-4.3	-2.3	-3.5	-3.7	-2.8	-1.4	-4.7	-4.0	-3.7	-3.1
BACR 8.25 12/18-49	2	**802**	4.2	4.3	3.9	4.0	4.7	3.9	2.5	4.1	1.8	5.0	2.1	3.9	4.3	2.6	2.9	3.7	0.4		2.7	3.8	0.3	0.4	0.7	-2.1	-0.4	0.8	-3.7	-2.9	-2.0	-2.4
NDASS 5.5 09/19-49	1	**768**	3.2	3.2	2.6	2.8	4.1	2.6	2.2	2.9	1.2	3.7	2.2	2.6	3.2	2.1	4.0	3.2		-0.4	2.6	2.8	-0.4	-0.2	0.4	-4.0	-1.8	1.2	-4.5	-4.0	-3.9	-3.1
ISPIM 7.7 09/25-49	3	**763**	3.1	2.9	1.1	1.4	4.6	1.6	-4.0	1.0	-3.9	3.7	-3.9	0.7	2.8	-2.3	0.6		-3.2	-3.7	-3.0	-1.9	-4.9	-3.0	-4.0	-3.9	-3.0	-1.9	-4.9	-4.2	-3.9	-3.3
DNB 5.75 03/20-49		**759**	2.3	1.6	0.2	0.2	3.0	0.7	-2.9	0.0	-3.2	1.9	-3.3	-0.1	0.7	-2.2		-0.6	-4.0	-2.9	-2.6	-1.0	-4.3	-3.2	-4.5	-4.4	-4.1	-2.8	-4.8	-4.3	-4.4	-3.5
SEB 5.75 05/20-49	1	**750**	3.1	2.9	2.0	2.2	4.0	2.1	0.6	2.2	-0.9	3.8	-0.6	2.1	2.7		2.2	2.3	-2.1	-2.6	0.9	1.9	-3.0	-2.8	-2.2	-3.6	-2.3	-0.9	-5.0	-4.1	-3.7	-3.3
SOCGEN 8 09/25-49	3	**748**	3.0	2.7	-1.5	-2.0	3.8	0.5	-3.8	-2.6	-4.2	3.4	-3.7	-2.9		-2.7	-0.7	-2.8	-3.2	-4.3	-3.4	-4.0	-4.7	-3.1	-3.8	-3.8	-3.0	-2.1	-4.8	-4.1	-3.8	-3.3
RBS 8 08/25-49	3	**738**	3.6	4.2	1.4	1.3	4.5	2.1	-2.6	0.2	-3.2	5.0	-2.8		2.9	-2.1	0.1	-0.7	-2.6	-3.9	-1.9	-1.8	-4.0	-2.6	-3.1	-3.4	-2.6	-1.7	-4.5	-3.8	-3.4	-3.1
INTNED 6 04/20-49	2	**732**	3.4	3.4	2.7	3.1	4.7	2.7	1.5	3.2	-1.1	4.1		2.8	3.7	0.6	3.3	3.9	-2.2	-2.1	2.3	3.2	-4.6	-2.0	-3.1	-3.7	-2.3	-0.6	-5.0	-4.0	-3.7	-3.1
LLOYDS 7.5 06/24-49	2	**725**	2.3	-0.6	-4.1	-3.9	1.0	-2.7	-4.0	-4.1	-4.3		-4.1	-5.0	-3.4	-3.8	-1.9	-3.7	-3.7	-5.0	-3.7	-4.4	-4.7	-3.6	-4.0	-3.9	-3.4	-2.7	-4.9	-4.3	-4.0	-3.5
SWEDA 5.5 03/20-49	1	**713**	3.6	3.8	3.3	3.6	4.6	3.1	1.9	3.7		4.3	1.1	3.2	4.2	0.9	3.2	3.9	-1.2	-1.8	2.9	3.6	-3.2	-1.1	-1.4	-3.3	-1.8	-0.2	-4.8	-3.8	-3.3	-2.9
CS 7.5 12/23-49	2	**688**	3.4	3.4	0.8	1.5	4.2	1.7	-2.9		-3.7	4.1	-3.2	-0.2	2.6	-2.2	0.0	-1.0	-2.9	-4.1	-2.2	-2.3	-4.3	-2.8	-3.3	-3.6	-2.7	-1.8	-4.7	-4.0	-3.7	-3.2
SHBASS 5.25 03/21-49	1	**684**	3.4	3.6	2.6	3.1	5.0	2.6		2.9	-1.9	4.0	-1.5	2.6	3.8	-0.6	2.9	4.0	-2.2	-2.5	1.2	2.5	-3.9	-2.0	-2.9	-3.5	-2.4	-1.1	-4.6	-3.8	-3.5	-3.0
UBS 6.875 08/25-49	1	**654**	4.0	4.6	-2.2	-1.5	2.7		-2.6	-1.7	-3.1	2.7	-2.7	-2.1	-0.5	-2.1	-0.7	-1.6	-2.6	-3.9	-2.2	-2.2	-3.6	-2.5	-2.9	-3.3	-2.6	-1.8	-4.3	-3.7	-3.3	-3.0
BNP 7.375 08/25-49	4	**623**	1.5	-1.3	-4.0	-4.3		-2.7	-5.0	-4.2	-4.6	-1.0	-4.7	-4.5	-3.8	-4.0	-3.0	-4.6	-4.1	-4.7	-4.5	-4.9	-5.0	-3.9	-4.5	-4.2	-3.8	-3.2	-5.0	-4.4	-4.3	-3.6
CS 6.25 12/24-49	2	**616**	3.4	3.7	0.1		4.3	1.5	-3.1	-1.5	-3.6	3.9	-3.1	-1.3	2.0	-2.2	-0.2	-1.4	-2.8	-4.0	-2.5	-2.5	-4.2	-2.7	-3.3	-3.6	-2.8	-1.8	-4.6	-3.9	-3.6	-3.1
UBS 7 02/25-49	1	**613**	3.7	4.6		-0.1	4.0	2.2	-2.6	-0.8	-3.3	4.1	-2.7	-1.4	1.5	-2.0	-0.2	-1.1	-2.6	-3.9	-2.2	-2.0	-3.8	-2.5	-3.0	-3.4	-2.6	-1.7	-4.4	-3.8	-3.4	-3.0
INTNED 6.5 04/25-49	2	**599**	3.1		-4.6	-3.7	1.3	-4.6	-3.6	-3.4	-3.8	0.6	-3.4	-4.2	-2.7	-2.9	-1.6	-2.9	-3.2	-4.3	-3.2	-3.5	-4.1	-3.1	-3.5	-3.6	-3.0	-2.3	-4.5	-3.9	-3.7	-3.2
NDASS 5.25 09/21-49	1	**148**		-3.1	-3.7	-3.4	-1.5	-4.0	-3.4	-3.4	-3.6	-2.3	-3.4	-3.6	-3.0	-3.1	-2.3	-3.1	-3.2	-4.2	-3.2	-3.3	-3.8	-3.2	-3.4	-3.5	-3.1	-2.6	-4.3	-3.8	-3.6	-3.3

Source: HSBC calculations, Markit. Bold numbers are most recent asset swap spread bp. Green (cheap)/red (rich) shows number of std dev pair spread is above or below its 40d moving average. CQ = CAMREL quartile.

USD AT1 – calculated using a 120 day

			NDASS 5.25 09/21-49	INTNED 6.5 04/25-49	UBS 7 02/25-49	CS 6.25 12/24-49	BNP 7.375 08/25-49	UBS 6.875 08/25-49	SHBASS 5.25 03/21-49	CS 7.5 12/23-49	SWEDA 5.5 03/20-49	LLOYDS 7.5 06/24-49	INTNED 6 04/20-49	RBS 8 08/25-49	SOCGEN 8 09/25-49	SEB 5.75 05/20-49	DNB 5.75 03/20-49	ISPIM 7.7 09/25-49	NDASS 5.5 09/19-49	BACR 8.25 12/18-49	ACAFP 7.875 01/24-49	SOCGEN 7.875 12/23-49	RBS 7.5 08/20-49	DB 7.5 04/25-49	SOCGEN 6 01/20-49	BBVASM 9 05/18-49	ACAFP 6.625 09/19-49	UCGIM 8 06/24-49	BACR 6.625 09/19-49	STANLN 6.5 04/20-49	SANTAN 6.375 05/19-49	DB 6.25 04/20-49
		CQ Short	1	2	1	2	4	1	1	2	1	2	2	3	3	1		3	1	2	1	3	3	3	3	3	1	4	2	3	3	3
Long	**CQ**	**Asw**	**148**	**599**	**613**	**616**	**623**	**654**	**684**	**688**	**713**	**725**	**732**	**738**	**748**	**750**	**759**	**763**	**768**	**802**	**814**	**816**	**854**	**897**	**913**	**947**	**949**	**989**	**1007**	**1057**	**1092**	**1205**
DB 6.25 04/20-49	3	**1205**	3.1	5.3	4.9	4.8	5.9	5.1	5.1	5.3	4.5	5.4	4.6	4.8	5.1	5.2	5.9	5.1	4.9	3.2	5.1	5.2	3.8	5.4	4.7	3.0	4.4	5.9	2.5	2.7	3.1	
SANTAN 6.375 05/19-49	3	**1092**	2.8	5.0	4.4	4.4	5.8	4.7	4.4	4.9	3.5	5.1	3.9	4.4	4.6	4.3	5.8	4.8	3.6	2.1	4.7	4.8	2.9	3.4	4.1	0.7	3.0	4.9	0.6	-0.2		-3.1
STANLN 6.5 04/20-49	3	**1057**	3.0	6.3	5.8	5.6	6.9	6.0	5.9	6.3	5.1	6.3	5.4	5.7	5.9	5.6	6.3	6.3	5.2	2.5	6.0	6.3	4.0	5.0	5.7	1.1	3.4	3.4	1.1		0.2	-2.7
BACR 6.625 09/19-49	2	**1007**	3.3	7.3	7.1	7.8	7.1	6.4	4.9	6.1	6.6	8.1	7.9	7.4	6.6	6.0	4.8	6.8	4.6	2.5	6.0	6.5	6.6	3.4	4.8	0.0	2.5	1.7		-1.1	-0.6	-2.5
UCGIM 8 06/24-49	4	**989**	2.1	3.4	2.7	2.6	4.3	3.0	2.0	2.9	1.3	3.5	1.5	2.5	2.9	1.7	3.7	2.6	0.7	0.3	2.3	2.6	0.6	0.5	0.8	-2.1	-0.6		-1.7	-3.4	-4.9	-5.9
ACAFP 6.625 09/19-49	1	**949**	2.6	4.8	4.1	4.2	5.5	4.1	3.1	4.0	2.8	5.2	3.4	4.1	4.1	3.6	4.7	4.3	2.3	0.8	4.2	4.2	1.8	1.4	2.5	-4.3		0.6	-2.5	-3.4	-3.0	-4.4
BBVASM 9 05/18-49	3	**947**	3.1	5.8	5.5	5.8	6.2	5.2	4.4	5.1	4.7	6.4	5.8	5.6	5.3	5.3	5.2	5.6	4.7	2.2	5.4	5.4	4.5	3.3	4.8		4.3	2.1	0.0	-1.1	-0.7	-3.0
SOCGEN 6 01/20-49	3	**913**	2.3	5.5	4.5	4.3	6.6	4.7	2.9	4.8	2.0	5.8	2.8	4.4	5.0	2.5	4.1	5.6	0.0	-0.1	5.0	5.3	0.4	-0.5		-4.8	-2.5	-0.8	-4.8	-5.7	-4.1	-4.7
DB 7.5 04/25-49	3	**897**	2.2	5.0	4.0	3.6	6.5	4.4	3.2	4.6	2.0	5.2	2.1	3.7	4.8	2.5	4.0	4.4	0.6	0.1	3.5	4.4	0.5		0.5	-3.3	-1.4	-0.5	-3.4	-5.0	-3.4	-5.4
RBS 7.5 08/20-49	3	**854**	2.6	5.3	4.6	6.0	4.9	3.8	1.3	2.9	1.5	6.4	3.2	5.1	4.5	1.3	1.8	3.9	-0.4	-0.3	2.0	2.7		-0.5	-0.4	-4.5	-1.8	-0.6	-6.6	-4.0	-2.9	-3.8
SOCGEN 7.875 12/23-49	3	**816**	1.8	5.2	2.7	2.2	6.7	3.7	-2.1	2.2	-2.1	5.0	-1.8	2.1	4.5	-1.9	0.0	1.7	-4.4	-1.7	-2.7		-2.7	-4.4	-5.3	-5.4	-4.2	-2.6	-6.5	-6.3	-4.8	-5.2
ACAFP 7.875 01/24-49	1	**814**	2.0	4.9	3.2	2.8	6.5	3.8	-0.6	3.0	-1.0	5.0	-0.7	2.7	4.3	-0.9	1.1	3.5	-3.7	-1.3		2.7	-2.0	-3.5	-5.0	-5.4	-4.2	-2.3	-6.0	-6.0	-4.7	-5.1
BACR 8.25 12/18-49	2	**802**	2.6	3.4	2.6	2.8	3.3	2.6	1.0	2.0	0.9	3.7	1.2	2.5	2.5	1.0	1.5	2.0	0.1		1.3	1.7	0.3	-0.1	0.1	-2.2	-0.8	-0.3	-2.5	-2.5	-2.1	-3.2
NDASS 5.5 09/19-49	1	**768**	2.3	5.2	4.2	4.1	6.2	4.3	2.7	4.2	2.1	5.6	2.5	4.0	4.6	2.5	3.8	4.7		-0.1	3.7	4.4	0.4	-0.6	0.0	-4.7	-2.3	-0.7	-4.6	-5.2	-3.6	-4.9
ISPIM 7.7 09/25-49	3	**763**	1.7	4.3	2.0	1.8	5.3	2.5	-3.4	0.6	-2.7	4.5	-3.0	1.5	3.0	-2.5	-0.4		-4.7	-2.0	-3.5	-1.7	-3.9	-4.4	-5.6	-5.6	-4.3	-2.6	-6.8	-6.3	-4.8	-5.1
DNB 5.75 03/20-49		**759**	1.7	2.6	1.3	1.2	3.8	1.7	-1.6	0.8	-1.2	2.7	-1.0	1.0	1.5	-1.5		0.4	-3.8	-1.5	-1.1	0.0	-1.8	-4.0	-4.1	-5.2	-4.7	-3.7	-4.8	-6.3	-5.8	-5.9
SEB 5.75 05/20-49	1	**750**	2.1	4.1	2.8	2.9	4.7	3.1	0.5	2.2	0.0	4.7	0.3	2.7	3.1		1.5	2.5	-2.5	-1.0	0.9	1.9	-1.3	-2.5	-2.5	-5.3	-3.6	-1.7	-6.0	-5.6	-4.3	-5.2
SOCGEN 8 09/25-49	3	**748**	1.5	3.9	-0.5	-0.1	4.2	0.8	-5.0	-2.7	-4.1	3.5	-3.8	-1.4		-3.1	-1.5	-3.0	-4.6	-2.5	-4.3	-4.5	-4.5	-4.8	-5.0	-5.3	-4.1	-2.9	-6.6	-5.9	-4.6	-5.1
RBS 8 08/25-49	3	**738**	1.8	5.2	1.5	1.9	3.5	1.2	-2.4	-0.9	-3.9	6.1	-4.3		1.4	-2.7	-1.0	-1.5	-4.0	-2.5	-2.7	-2.1	-5.1	-3.7	-4.4	-5.6	-4.1	-2.5	-7.4	-5.7	-4.4	-4.8
INTNED 6 04/20-49	2	**732**	2.2	5.2	4.0	4.9	5.0	3.4	0.2	2.2	-0.4	6.2		4.3	3.8	-0.3	1.0	3.0	-2.5	-1.2	0.7	1.8	-3.2	-2.1	-2.8	-5.8	-3.4	-1.5	-7.9	-5.4	-3.9	-4.6
LLOYDS 7.5 06/24-49	2	**725**	1.4	-0.8	-5.3	-4.6	-0.1	-2.9	-4.4	-3.8	-6.5		-6.2	-6.1	-3.5	-4.7	-2.7	-4.5	-5.6	-3.7	-5.0	-5.0	-6.4	-5.2	-5.8	-6.4	-5.2	-3.5	-8.1	-6.3	-5.1	-5.4
SWEDA 5.5 03/20-49	1	**713**	2.2	5.5	4.4	4.5	5.3	4.0	0.4	2.5		6.5	0.4	3.9	4.1	0.0	1.2	2.7	-2.1	-0.9	1.0	2.1	-1.5	-2.0	-2.0	-4.7	-2.8	-1.3	-6.6	-5.1	-3.5	-4.5
CS 7.5 12/23-49	2	**688**	1.7	4.5	1.5	1.3	6.8	2.9	-3.0		-2.5	3.8	-2.2	0.9	2.7	-2.2	-0.8	-0.6	-4.2	-2.0	-3.0	-2.2	-2.9	-4.6	-4.8	-5.1	-4.0	-2.9	-6.1	-6.3	-4.9	-5.3
SHBASS 5.25 03/21-49	1	**684**	1.9	4.7	2.9	2.5	6.4	3.9		3.0	-0.4	4.4	-0.2	2.4	5.0	-0.5	1.6	3.4	-2.7	-1.0	0.6	2.1	-1.3	-3.2	-2.9	-4.4	-3.1	-2.0	-4.9	-5.9	-4.4	-5.1
UBS 6.875 08/25-49	1	**654**	1.6	4.8	-0.8	-0.2	3.4		-3.9	-2.9	-4.0	2.9	-3.4	-1.2	-0.8	-3.1	-1.7	-2.5	-4.3	-2.6	-3.8	-3.7	-3.8	-4.4	-4.7	-5.2	-4.1	-3.0	-6.4	-6.0	-4.7	-5.1
BNP 7.375 08/25-49	4	**623**	1.2	-0.5	-3.3	-2.1		-3.4	-6.4	-6.8	-5.3	0.1	-5.0	-3.5	-4.2	-4.7	-3.8	-5.3	-6.2	-3.3	-6.5	-6.7	-4.9	-6.5	-6.6	-6.2	-5.5	-4.3	-7.1	-6.9	-5.8	-5.9
CS 6.25 12/24-49	2	**616**	1.8	2.9	-0.5		2.1	0.2	-2.5	-1.3	-4.5	4.6	-4.9	-1.9	0.1	-2.9	-1.2	-1.8	-4.1	-2.8	-2.8	-2.2	-6.0	-3.6	-4.3	-5.8	-4.2	-2.6	-7.8	-5.6	-4.4	-4.8
UBS 7 02/25-49	1	**613**	1.7	6.5		0.5	3.3	0.8	-2.9	-1.5	-4.4	5.3	-4.0	-1.5	0.5	-2.8	-1.3	-2.0	-4.2	-2.6	-3.2	-2.7	-4.6	-4.0	-4.5	-5.5	-4.1	-2.7	-7.1	-5.8	-4.4	-4.9
INTNED 6.5 04/25-49	2	**599**	1.4		-6.5	-2.9	0.5	-4.8	-4.7	-4.5	-5.5	0.8	-5.2	-5.2	-3.9	-4.1	-2.6	-4.3	-5.2	-3.4	-4.9	-5.2	-5.3	-5.0	-5.5	-5.8	-4.8	-3.4	-7.3	-6.3	-5.0	-5.3
NDASS 5.25 09/21-49	1	**148**		-1.4	-1.7	-1.8	-1.2	-1.6	-1.9	-1.7	-2.2	-1.4	-2.2	-1.8	-1.5	-2.1	-1.7	-1.7	-2.3	-2.6	-2.0	-1.8	-2.6	-2.2	-2.3	-3.1	-2.6	-2.1	-3.3	-3.0	-2.8	-3.1

Source: HSBC calculations, Markit. Bold numbers are most recent asset swap spread bp. Green (cheap)/red (rich) shows number of std dev pair spread is above or below its 120d moving average. CQ = CAMREL quartile.

AT1 bonds in EUR, GBP and USD – return and risk 11 Aug 15 to 10 Feb 16

Ticker	Coupon	Next call	Currency	Rating	Yield	Return	Vol	Down vol	Sharpe	Sortino
UBS	5.75	19/02/2022	EUR	-/BB/BB+	6.750%	-8.34%	6.46%	8.29%	-1.29	-1.01
DANBNK	5.75	06/04/2020	EUR	-/BB+/BB+	7.863%	-9.72%	5.73%	7.31%	-1.69	-1.33
DANBNK	5.875	06/04/2022	EUR	Ba1/BB+/BB+	7.451%	-9.86%	5.49%	7.00%	-1.80	-1.41
LLOYDS	6.375	27/06/2020	EUR	-/BB-/BB+	7.802%	-10.61%	5.97%	7.73%	-1.78	-1.37
BKIR	7.375	18/06/2020	EUR	B2/B+/-	9.792%	-10.70%	7.10%	9.03%	-1.51	-1.19
KBCBB	5.625	19/03/2019	EUR	-/BB/BB	9.122%	-11.11%	7.48%	9.41%	-1.48	-1.18
SOCGEN	6.75	07/04/2021	EUR	Ba2/-/BB+	8.986%	-12.11%	7.32%	8.80%	-1.65	-1.38
BNP	6.125	17/06/2022	EUR	Ba1/BBB-/BBB-	8.207%	-13.88%	6.92%	8.51%	-2.01	-1.63
RABOBK	5.5	29/06/2020	EUR	Baa3/-/BBB-	7.990%	-14.38%	7.36%	9.83%	-1.95	-1.46
BACR	8	15/12/2020	EUR	-/B+/BB+	9.576%	-15.34%	7.69%	10.22%	-2.00	-1.50
ACAFP	6.5	23/06/2021	EUR	-/BB/BB+	9.085%	-15.69%	8.39%	11.47%	-1.87	-1.37
BACR	6.5	15/09/2019	EUR	-/B+/BB+	11.633%	-19.82%	8.62%	11.36%	-2.30	-1.74
SANTAN	6.25	11/09/2021	EUR	Ba1/-/-	10.478%	-20.92%	9.54%	9.78%	-2.19	-2.14
SANTAN	6.25	12/03/2019	EUR	Ba1/-/-	12.844%	-21.09%	9.07%	9.41%	-2.33	-2.24
BBVASM	7	19/02/2019	EUR	-/-/BB	13.881%	-23.25%	10.13%	11.39%	-2.29	-2.04
BBVASM	6.75	18/02/2020	EUR	Ba2/-/BB	12.370%	-23.71%	10.26%	11.30%	-2.31	-2.10
DB	6	30/04/2022	EUR	Ba3/BB-/BB	11.533%	-31.72%	13.85%	14.05%	-2.29	-2.26
POPSM	8.25	10/04/2020	EUR	Caa1/-/-	15.919%	-31.98%	10.35%	11.91%	-3.09	-2.68
UCGIM	6.75	10/09/2021	EUR	-/-/BB-	13.319%	-33.17%	14.23%	14.78%	-2.33	-2.25
LLOYDS	7	27/06/2019	GBP	-/BB-/BB+	10.149%	-10.98%	5.83%	7.09%	-1.88	-1.55
LLOYDS	7.625	27/06/2023	GBP	-/BB-/BB+	9.119%	-12.52%	6.63%	8.01%	-1.89	-1.56
NWIDE	6.875	20/06/2019	GBP	-/BB+/BB+	11.163%	-13.05%	6.42%	8.31%	-2.03	-1.57
BACR	7	15/09/2019	GBP	-/B+/BB+	11.834%	-15.03%	6.44%	8.00%	-2.33	-1.88
LLOYDS	7.875	27/06/2029	GBP	-/BB-/BB+	8.880%	-15.04%	6.33%	7.98%	-2.37	-1.89
DB	7.125	30/04/2026	GBP	Ba3/BB-/BB	11.760%	-32.96%	13.19%	15.70%	-2.50	-2.10
RABOBK	8.375	26/07/2016	USD	-/-/BBB-	6.054%	0.04%	2.26%	2.47%	0.02	0.01
RABOBK	8.4	29/06/2017	USD	-/-/BBB-	4.815%	-0.03%	2.32%	2.40%	-0.01	-0.01
UBS	7.125	19/02/2020	USD	-/BB/BB+	8.336%	-6.62%	5.63%	7.07%	-1.18	-0.94
UBS	7	19/02/2025	USD	-/BB/BB+	7.815%	-6.66%	6.54%	8.82%	-1.02	-0.76
INTNED	6.5	16/04/2025	USD	Ba1/BB/BB+	8.163%	-7.84%	6.08%	7.62%	-1.29	-1.03
SWEDA	5.5	17/03/2020	USD	Baa3/BBB/BBB-	8.031%	-7.95%	6.76%	8.63%	-1.18	-0.92
LLOYDS	7.5	27/06/2024	USD	-/BB-/BB+	8.315%	-8.19%	6.82%	8.93%	-1.20	-0.92
SOCGEN	8.25	29/11/2018	USD	Ba2/BB+/BB+	9.573%	-8.87%	5.37%	7.06%	-1.65	-1.26
SHBASS	5.25	01/03/2021	USD	Baa2/BBB/BBB	7.693%	-9.27%	5.80%	6.44%	-1.60	-1.44
LLOYDS	8	15/06/2020	USD	-/BB+/BBB	7.202%	-9.52%	7.84%	13.42%	-1.21	-0.71
INTNED	6	16/04/2020	USD	Ba1/BB/BB+	8.810%	-10.09%	6.01%	7.72%	-1.68	-1.31
BACR	8.25	15/12/2018	USD	-/B+/BB+	10.069%	-10.32%	6.45%	9.07%	-1.60	-1.14
CS	6.25	18/12/2024	USD	-/BB/BB+	8.271%	-10.51%	8.29%	10.83%	-1.27	-0.97
NDASS	5.5	23/09/2019	USD	Ba1/BBB/BBB	8.732%	-10.91%	5.39%	6.73%	-2.02	-1.62
SEB	5.75	13/05/2020	USD	Ba1/-/BBB-	8.499%	-11.02%	5.80%	6.72%	-1.90	-1.64
NDASS	6.125	23/09/2024	USD	Ba1/BBB/BBB	7.922%	-11.65%	5.19%	6.90%	-2.24	-1.69
BBVASM	9	09/05/2018	USD	-/-/BB	10.345%	-11.95%	6.09%	7.25%	-1.96	-1.65
UBS	6.875	07/08/2025	USD	-/BB/BB+	8.811%	-13.00%	8.85%	11.56%	-1.47	-1.12
CS	7.5	11/12/2023	USD	-/BB/BB+	8.644%	-13.01%	6.74%	9.40%	-1.93	-1.38
DNBNO	5.75	26/03/2020	USD	Baa3/BBB/-	9.596%	-13.20%	6.23%	7.33%	-2.12	-1.80
SOCGEN	6	27/01/2020	USD	Ba2/-/BB+	11.588%	-15.17%	8.19%	10.19%	-1.85	-1.49
BACR	6.625	15/09/2019	USD	-/B+/BB+	11.818%	-15.87%	8.89%	12.34%	-1.79	-1.29
ACAFP	6.625	23/09/2019	USD	Ba2/BB/BB+	11.831%	-16.55%	7.47%	9.57%	-2.22	-1.73
ACAFP	7.875	23/01/2024	USD	-/BB/BB+	10.342%	-18.85%	8.69%	11.44%	-2.17	-1.65
SOCGEN	7.875	18/12/2023	USD	Ba2/BB+/BB+	10.774%	-19.54%	8.28%	10.77%	-2.36	-1.81
SANTAN	6.375	19/05/2019	USD	Ba1/-/-	12.945%	-20.24%	8.74%	9.71%	-2.32	-2.08
STANLN	6.5	02/04/2020	USD	Ba1/BB/BBB-	12.431%	-24.75%	13.08%	16.20%	-1.89	-1.53
DB	7.5	30/04/2025	USD	Ba3/BB-/BB	11.636%	-29.22%	13.84%	15.53%	-2.11	-1.88
DB	6.25	30/04/2020	USD	Ba3/BB-/BB	14.153%	-30.62%	13.38%	15.07%	-2.29	-2.03
UCGIM	8	03/06/2024	USD	-/-/BB-	13.251%	-35.17%	14.18%	14.97%	-2.48	-2.35

Source: HSBC. Sharpe = Return / Vol, Sortino = Return / Down vol. Down vol = volatility of downward moves. Return and vol calculated based on daily returns and annualised.

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The Coco Glossary

Selected European Banks Coco securities: Summary view

Bank	Host Instrument	Currency	Coupon	Amount Outstanding	Amt out (EUR)	Call Date	Maturity	Issuance	Issue date	Cash price	Yield to Maturity	Yield to Call	Ratings (M/S/F)	Trigger level	Loss absorption
AARB	CRD4 AT1	EUR	7.625	300	300	30/04/2020	na	2014	20/11/2014	90.17	9.01	10.62	NR / NR / BB-	7.000%	Write down with ability to write-up
ABNANV	CRD4 AT1	EUR	5.75	1,000	1,000	22/09/2020	na	2015	22/09/2015	89.32	7.33	8.60	Ba2u / BB / BB+	5.125%	Write down with ability to write-up
ACAFP	Dated T2	USD	8.125	1,000	890	19/09/2018	19/09/2033	2013	19/09/2013	108.47	7.44	4.62	NR / BBB- / BBB-	7.000%	Full write-down
ACAFP	CRD4 AT1	USD	6.625	1,250	1,113	23/09/2019	na	2014	18/09/2014	87.50	7.90	10.86	Ba2u / BB / BB+	7.000%	Write down with ability to write-up
ACAFP	CRD4 AT1	USD	7.875	1,750	1,558	23/01/2024	na	2014	23/01/2014	89.00	8.56	9.89	NR / BB / BB+	7.000%	Write down with ability to write-up
ACAFP	CRD4 AT1	EUR	6.5	1,000	1,000	23/06/2021	na	2014	08/04/2014	89.12	7.42	9.09	NR / BB / BB+	7.000%	Write down with ability to write-up
ACAFP	CRD4 AT1	GBP	7.5	500	645	23/06/2026	na	2014	08/04/2014	85.24	8.21	9.78	NR / NR / BB+	7.000%	Write down with ability to write-up
ACAFP	CRD4 AT1	USD	8.125	1,250	1,113	23/12/2025	na	2016	19/01/2016	90.50	9.28	9.63	Ba2u / BB / BB+	7.000%	Write down with ability to write-up
AIB	CRD4 AT1	EUR	7.375	500	500	03/12/2020	na	2015	03/12/2015	85.66	9.74	11.32	B3u / NR / B	7.000%	Write down with ability to write-up
BACR	Dated T2	USD	7.625	3,000	2,671	na	21/11/2022	2012	21/11/2012	106.48	6.43	na	NR / BB+ / BBB-	7.000%	Full write-down
BACR	Dated T2	USD	7.75	1,000	890	10/04/2018	10/04/2023	2013	10/04/2013	103.50	7.50	5.98	NR / BB+ / BBB-	7.000%	Full write-down
BACR	CRD4 AT1	USD	8.25	2,000	1,781	15/12/2018	na	2013	20/11/2013	96.25	9.16	9.78	NR / B+ / BB+	7.000%	Equity conversion
BACR	CRD4 AT1	EUR	8	1,000	1,000	15/12/2020	na	2013	10/12/2013	93.91	8.87	9.58	NR / B+ / BB+	7.000%	Equity conversion
BACR	CRD4 AT1	GBP	7	698	900	15/09/2019	na	2014	17/06/2014	86.05	8.15	11.83	NR / B+ / BB+	7.000%	Equity conversion
BACR	CRD4 AT1	EUR	6.5	1,077	1,077	15/09/2019	na	2014	17/06/2014	85.08	8.39	11.64	NR / B+ / BB+	7.000%	Equity conversion
BACR	CRD4 AT1	USD	6.625	1,211	1,079	15/09/2019	na	2014	17/06/2014	83.63	8.55	12.35	NR / B+ / BB+	7.000%	Equity conversion
BACR	CRD4 AT1	GBP	7.875	1,000	1,289	15/09/2022	na	2015	11/08/2015	85.98	9.25	10.88	Ba2 / B+ / BB+	7.000%	Equity conversion
BBVASM	CRD4 AT1	USD	9	1,500	1,335	09/05/2018	na	2013	09/05/2013	96.00	10.62	11.04	NR / NR / BB	5.125%	Equity conversion
BBVASM	CRD4 AT1	EUR	7	1,500	1,500	19/02/2019	na	2014	19/02/2014	83.26	8.96	13.88	NR / NR / BB	5.125%	Equity conversion
BBVASM	CRD4 AT1	EUR	6.75	1,500	1,500	18/02/2020	na	2015	18/02/2015	82.42	9.41	12.37	Ba2 / NR / BB	5.125%	Equity conversion
BKIR	Dated T2	EUR	10	1,000	1,000	na	30/07/2016	2013	15/01/2013	102.23	4.12	na	NR / NR / NR	8.125%	Equity conversion
BKIR	CRD4 AT1	EUR	7.375	750	750	18/06/2020	na	2015	18/06/2015	91.47	8.85	9.79	B2 / B+ / NR	5.125%	Write down with ability to write-up
BNP	CRD4 AT1	EUR	6.125	750	750	17/06/2022	na	2015	17/06/2015	89.85	7.24	8.21	Ba1 / BBB- / BBB-	5.125%	Write down with ability to write-up
BNP	CRD4 AT1	USD	7.375	1,500	1,335	19/08/2025	na	2015	19/08/2015	89.91	8.09	8.98	Ba1 / BBB- / BBB-	5.125%	Write down with ability to write-up
CS	Tier 1	USD	7.875	2,000	1,781	24/08/2016	24/02/2041	2011	24/02/2011	100.31	7.17	7.26	NR / NR / BBB-	7.000%	Equity conversion
CS	Dated T2	CHF	7.125	750	683	22/03/2017	22/03/2022	2012	22/03/2012	102.99	5.83	4.30	NR / NR / BBB-	7.000%	Equity conversion
CS	Dated T2	USD	6.5	2,500	2,226	na	08/08/2023	2013	08/08/2013	103.00	6.00	na	NR / BBB / BBB+	5.000%	Full write-down
CS	Dated T2	EUR	5.75	1,250	1,250	18/09/2020	18/09/2025	2013	18/09/2013	103.28	4.95	4.93	NR / BBB / BBB+	5.000%	Full write-down
CS	Tier 1	USD	7.5	2,250	2,003	11/12/2023	na	2013	11/12/2013	94.25	7.63	8.52	NR / BB / BB+	5.125%	Full write-down
CS	CRD4 AT1	USD	6.25	2,500	2,226	18/12/2024	na	2014	18/06/2014	87.75	6.83	8.22	NR / BB / BB+	5.125%	Full write-down
DANBNK	CRD4 AT1	EUR	5.75	750	750	06/04/2020	na	2014	12/03/2014	92.63	6.46	7.86	NR / BB+ / BB+	7.000%	Write down with ability to write-up
DANBNK	CRD4 AT1	EUR	5.875	750	750	06/04/2022	na	2015	18/02/2015	92.33	7.12	7.45	Ba1u / BB+ / BB+	7.000%	Write down with ability to write-up
DB	CRD4 AT1	EUR	6	1,750	1,750	30/04/2022	na	2014	27/05/2014	76.32	8.09	11.53	Ba3 / BB- / BB	5.125%	Write down with ability to write-up
DB	CRD4 AT1	USD	6.25	1,250	1,113	30/04/2020	na	2014	27/05/2014	72.00	8.82	15.82	Ba3 / BB- / BB	5.125%	Write down with ability to write-up
DB	CRD4 AT1	GBP	7.125	650	838	30/04/2026	na	2014	27/05/2014	73.18	9.06	11.76	Ba3 / BB- / BB	5.125%	Write down with ability to write-up
DB	CRD4 AT1	USD	7.5	1,500	1,335	30/04/2025	na	2014	21/11/2014	74.50	9.76	12.26	Ba3 / BB- / BB	5.125%	Write down with ability to write-up
DNB	CRD4 AT1	USD	5.75	750	668	26/03/2020	na	2015	26/03/2015	87.37	6.91	9.59	Baa3u / BBB / NR	5.125%	Write down with ability to write-up
INTNED	CRD4 AT1	USD	6	1,000	890	16/04/2020	na	2015	16/04/2015	91.25	7.14	8.54	Ba1 / BB / BB+	7.000%	Equity conversion
INTNED	CRD4 AT1	USD	6.5	1,250	1,113	16/04/2025	na	2015	16/04/2015	89.00	7.47	8.23	Ba1 / BB / BB+	7.000%	Equity conversion
ISPIM	CRD4 AT1	USD	7.7	1,000	890	17/09/2025	na	2015	17/09/2015	85.28	8.81	10.13	Ba3 / B+ / BB-	5.125%	Write down with ability to write-up
ISPIM	CRD4 AT1	EUR	7	1,250	1,250	19/01/2021	na	2016	19/01/2016	87.67	9.04	10.24	Ba3 / B+ / BB-	5.125%	Write down with ability to write-up
KBC	Dated T2	USD	8	1,000	890	25/01/2018	25/01/2023	2013	25/01/2013	106.50	7.24	4.48	NR / BBB- / NR	7.000%	Full write-down
KBC	CRD4 AT1	EUR	5.625	1,400	1,400	19/03/2019	na	2014	19/03/2014	90.65	6.63	9.12	NR / BB / BB	5.125%	Equity conversion
LLOYDS	Dated T2	GBP	15	703	907	na	21/12/2019	2009	01/12/2009	134.67	4.87	na	Baa3 / BBB / BBB+	5.000%	Equity conversion
LLOYDS	Perp T2	USD	8	657	585	15/06/2020	na	2009	15/12/2009	102.50	8.28	7.31	NR / BB+ / BBB	5.000%	Equity conversion
LLOYDS	Dated T2	EUR	6.385	614	614	na	12/05/2020	2009	01/12/2009	102.37	5.53	na	Baa3 / BBB / BBB+	5.000%	Equity conversion
LLOYDS	Dated T2	EUR	15	487	487	na	21/12/2019	2009	01/12/2009	139.05	3.90	na	Baa3 / BBB / BBB+	5.000%	Equity conversion
LLOYDS	CRD4 AT1	EUR	6.375	750	750	27/06/2020	na	2014	01/04/2014	94.75	7.10	7.80	NR / BB- / BB+	7.000%	Equity conversion
LLOYDS	CRD4 AT1	GBP	7	1,481	1,909	27/06/2019	na	2014	01/04/2014	91.10	7.54	10.15	NR / BB- / BB+	7.000%	Equity conversion
LLOYDS	CRD4 AT1	GBP	7.625	1,494	1,927	27/06/2023	na	2014	01/04/2014	92.04	7.81	9.12	NR / BB- / BB+	7.000%	Equity conversion

Selected European Banks Coco securities: Summary view

Bank	Host Instrument	Currency	Coupon	Amount Outstanding	Amt out (EUR)	Call Date	Maturity	Issuance	Issue date	Cash price	Yield to Maturity	Yield to Call	Ratings (M/S/F)	Trigger level	Loss absorption
AARB	CRD4 AT1	EUR	7.625	300	300	30/04/2020	na	2014	20/11/2014	90.17	9.01	10.62	NR / NR / BB-	7.000%	Write down with ability to write-up
LLOYDS	CRD4 AT1	GBP	7.875	750	967	27/06/2029	na	2014	01/04/2014	92.17	8.06	8.88	NR / BB- / BB+	7.000%	Equity conversion
LLOYDS	CRD4 AT1	USD	7.5	1,675	1,491	27/06/2024	na	2014	07/04/2014	95.15	7.82	8.31	NR / BB- / BB+	7.000%	Equity conversion
NDASS	CRD4 AT1	USD	6.125	500	445	23/09/2024	na	2014	23/09/2014	92.25	6.38	7.36	Ba1u / BBB / BBB	8.000%	Write down with ability to write-up
NDASS	CRD4 AT1	USD	5.5	1,000	890	23/09/2019	na	2014	23/09/2014	90.50	6.29	8.62	Ba1u / BBB / BBB	8.000%	Write down with ability to write-up
NDASS	CRD4 AT1	USD	5.25	550	490	13/09/2021	na	2015	12/03/2015	92.44	5.81	6.92	Ba1u / BBB / BBB	8.000%	Write down with ability to write-up
NWIDE	CRD4 AT1	GBP	6.875	1,000	1,289	20/06/2019	na	2014	11/03/2014	88.25	7.65	11.16	NR / BB+ / BB+	7.000%	Conversion to CCDS
NYKRE	Dated T2	EUR	4	600	600	na	03/06/2036	2014	03/06/2014	96.36	4.45	4.79	NR / BBB / BBB	7.000%	Full write-down
NYKRE	CRD4 AT1	EUR	6.25	500	500	26/10/2020	na	2015	26/02/2015	93.85	7.52	7.84	NR / BB+ / BB+	7.125%	Write down with ability to write-up
POPSM	CRD4 AT1	EUR	11.5	500	500	10/10/2018	na	2013	10/10/2013	89.39	13.65	16.50	NR / NR / NR	5.125%	Equity conversion
POPSM	CRD4 AT1	EUR	8.25	750	750	10/04/2020	na	2015	12/02/2015	na	12.07	15.92	Caa1u / NR / NR	7.000%	Equity conversion
RABOBK	Senior	EUR	6.875	1,250	1,250	na	19/03/2020	2010	19/03/2010	115.94	2.61	na	Baa2 / NR / NR	7.000%	Write down to 25% of face value
RABOBK	Tier 1	USD	8.375	2,000	1,781	26/07/2016	na	2011	26/01/2011	101.00	8.28	6.10	NR / NR / BBB-	8.000%	Variable principal write-down
RABOBK	Tier 1	USD	8.4	2,000	1,781	29/06/2017	na	2011	09/11/2011	104.01	9.02	5.34	NR / NR / BBB-	8.000%	Variable principal write-down
RABOBK	CRD4 AT1	EUR	5.5	1,500	1,500	29/06/2020	na	2015	22/01/2015	90.94	7.04	7.99	Baa3 / NR / BBB-	7.000%	Variable principal write-down
RBS	CRD4 AT1	USD	7.5	2,000	1,781	10/08/2020	na	2015	10/08/2015	93.38	8.54	9.32	B1u / B / BB-	7.000%	Equity conversion
RBS	CRD4 AT1	USD	8	1,150	1,024	10/08/2025	na	2015	10/08/2015	95.50	8.50	8.70	B1u / B / BB-	7.000%	Equity conversion
SANTAN	CRD4 AT1	EUR	6.25	1,500	1,500	12/03/2019	na	2014	12/03/2014	83.42	8.16	12.84	Ba1 / NR / NR	5.125%	Equity conversion
SANTAN	CRD4 AT1	USD	6.375	1,500	1,335	19/05/2019	na	2014	19/05/2014	84.75	8.15	12.09	Ba1 / NR / NR	5.125%	Equity conversion
SANTAN	CRD4 AT1	EUR	6.25	1,500	1,500	11/09/2021	na	2014	11/09/2014	82.31	8.52	10.48	Ba1 / NR / NR	5.125%	Equity conversion
SANTAN	CRD4 AT1	GBP	7.375	750	967	24/06/2022	na	2015	10/06/2015	89.31	8.28	9.64	Ba2 / B+ / BB+	5.125%	Equity conversion
SEB	CRD4 AT1	USD	5.75	1,100	979	13/05/2020	na	2014	13/11/2014	90.34	6.62	8.50	Ba1u / NR / BBB-	8.000%	Write down with ability to write-up
SHBASS	CRD4 AT1	USD	5.25	1,200	1,068	01/03/2021	na	2015	25/02/2015	90.07	6.01	7.69	Baa2 / BBB / BBB	8.000%	Write down with ability to write-up
SOCGEN	CRD4 AT1	USD	8.25	1,250	1,113	29/11/2018	na	2013	06/09/2013	97.00	8.74	9.49	Ba2 / BB+ / BB+	5.125%	Write down with ability to write-up
SOCGEN	CRD4 AT1	USD	7.875	1,750	1,558	18/12/2023	na	2013	18/12/2013	85.23	8.92	10.70	Ba2 / BB+ / BB+	5.125%	Write down with ability to write-up
SOCGEN	CRD4 AT1	EUR	6.75	1,000	1,000	07/04/2021	na	2014	07/04/2014	90.93	7.72	8.99	Ba2 / NR / BB+	5.125%	Write down with ability to write-up
SOCGEN	CRD4 AT1	USD	6	1,500	1,335	27/01/2020	na	2014	25/06/2014	85.00	7.46	10.76	Ba2 / NR / BB+	5.125%	Write down with ability to write-up
SOCGEN	CRD4 AT1	USD	8	1,250	1,113	29/09/2025	na	2015	29/09/2015	94.70	8.56	8.83	Ba2 / BB+ / NR	5.125%	Write down with ability to write-up
STANLN	CRD4 AT1	USD	6.5	2,000	1,781	02/04/2020	na	2015	02/04/2015	80.00	8.68	12.89	Ba1 / BB / BBB-	7.000%	Equity conversion
SWEDA	CRD4 AT1	USD	5.5	750	668	17/03/2020	na	2015	19/02/2015	91.30	6.42	8.03	Baa3u / BBB / BBB-	8.000%	Equity conversion
UBS	Dated T2	USD	7.25	2,000	1,781	22/02/2017	22/02/2022	2012	22/02/2012	102.00	6.85	5.20	NR / BBB / BBB+	5.000%	Full write-down
UBS	Dated T2	USD	7.625	2,000	1,781	na	17/08/2022	2012	17/08/2012	109.41	5.86	na	NR / BBB / BBB+	5.000%	Full write-down
UBS	Dated T2	USD	4.75	1,500	1,335	22/05/2018	22/05/2023	2013	22/05/2013	98.25	5.40	5.58	NR / BBB / BBB+	5.000%	Full write-down
UBS	Dated T2	EUR	4.75	2,000	2,000	12/02/2021	12/02/2026	2014	13/02/2014	101.56	4.44	4.40	NR / BBB / BBB+	5.000%	Full write-down
UBS	Dated T2	USD	5.125	2,500	2,226	na	15/05/2024	2014	15/05/2014	95.25	5.78	na	NR / BBB / BBB+	5.000%	Full write-down
UBS	CRD4 AT1	USD	7.125	1,250	1,113	19/02/2020	na	2015	19/02/2015	96.00	7.72	8.34	NR / BB / BB+	7.000%	Full write-down
UBS	CRD4 AT1	USD	7	1,250	1,113	19/02/2025	na	2015	19/02/2015	94.75	7.37	7.83	NR / BB / BB+	5.125%	Full write-down
UBS	CRD4 AT1	EUR	5.75	1,000	1,000	19/02/2022	na	2015	19/02/2015	95.18	6.63	6.75	NR / BB / BB+	5.125%	Full write-down
UBS	CRD4 AT1	USD	6.875	1,575	1,402	07/08/2025	na	2015	07/08/2015	87.00	7.77	8.95	NR / BB / BB+	5.125%	Full write-down
UCGIM	CRD4 AT1	USD	8	1,250	1,113	03/06/2024	na	2014	03/04/2014	72.00	10.99	13.75	NR / NR / BB-	5.125%	Write down with ability to write-up
UCGIM	CRD4 AT1	EUR	6.75	1,000	1,000	10/09/2021	na	2014	10/09/2014	74.70	9.76	13.32	NR / NR / BB-	5.125%	Write down with ability to write-up

Source: HSBC, Bloomberg

AT1 and CoCo Instruments

Issuing entity	Aareal Bank AG	ABN AMRO Bank NV	Banco Bilbao Vizcaya Argentaria S.A.	Banco Bilbao Vizcaya Argentaria S.A.	Banco Bilbao Vizcaya Argentaria, S.A.	Banco Popular Espanol S.A.
Country	Germany	Netherlands	Spain	Spain	Spain	Spain
Bloomberg Ticker	AARB	ABNANV	BBVASM	BBVASM	BBVASM	POPSM
ISIN	DE000A1TNDK2	XS1278718686	XS0926832907	XS1033661866	XS1190663952	XS0979444402
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Nov-14	Sep-15	May-13	Feb-14	Feb-15	Oct-13
First Call (or Reset) Date	Apr-20	Sep-20	May-18	Feb-19	Feb-20	Oct-18
Maturity	perpetual	perpetual	perpetual	perpetual	perpetual	perpetual
Issue Currency	EUR	EUR	USD	EUR	EUR	EUR
Coupon (%)	7.625%	5.750%	9.000%	7.000%	6.750%	11.500%
Amount Outstanding (LCYm)	300	1,000	1,500	1,500	1,500	500
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	5.125%	5.125%	5.125%	5.125%	5.125%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Conversion to equity	Conversion to equity	Conversion to equity	Conversion to equity
Any additional contractual write-down/conversion triggers	No	Group CET1 Ratio < 7%.	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	n/a	10.3%	9.8%	9.8%	9.8%	10.3%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Banco Popular Espanol S.A.	Banco Santander S.A.	Banco Santander S.A.	Banco Santander S.A.	Bank of Ireland	Barclays Bank Plc
Country	Spain	Spain	Spain	Spain	Ireland	United Kingdom
Bloomberg Ticker	POPSM	SANTAN	SANTAN	SANTAN	BKIR	BACR
ISIN	XS1189104356	XS1043535092	XS1066553329	XS1107291541	XS1248345461	US06740L8C27
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	Tier 2
Issue Date	Feb-15	Mar-14	May-14	Sep-14	Jun-15	Nov-12
First Call (or Reset) Date	Apr-20	Mar-19	May-19	Sep-21	Jun-20	n/a
Maturity	perpetual	perpetual	perpetual	perpetual	perpetual	Nov-22
Issue Currency	EUR	EUR	USD	EUR	EUR	USD
Coupon (%)	8.250%	6.250%	6.375%	6.250%	7.375%	7.625%
Amount Outstanding (LCYm)	750	1,500	1,500	1,500	750	3,000
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	5.125%	5.125%	5.125%	5.125%	7.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Conversion to equity	Conversion to equity	Conversion to equity	Conversion to equity	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	10.3%	9.8%	9.8%	9.8%	10.0%	9.8%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	No

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Barclays Bank Plc	Barclays Plc	Barclays Plc	Barclays Plc	Barclays Plc	Barclays Plc
Country	United Kingdom	United Kingdom	United Kingdom	United Kingdom	United Kingdom	United Kingdom
Bloomberg Ticker	BACR	BACR	BACR	BACR	BACR	BACR
ISIN	US06739FHK03	US06738EAA38	XS1002801758	US06738EAB11	XS1068574828	XS1068561098
Host Instrument	Tier 2	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Apr-13	Nov-13	Dec-13	Jun-14	Jun-14	Jun-14
First Call (or Reset) Date	Apr-18	Dec-18	Dec-20	Sep-19	Sep-19	Sep-19
Maturity	Apr-23	perpetual	perpetual	Perpetual	Perpetual	Perpetual
Issue Currency	USD	USD	EUR	USD	EUR	GBP
Coupon (%)	7.750%	8.250%	8.000%	6.625%	6.500%	7.000%
Amount Outstanding (LCYm)	1,000	2,000	1,000	1,211	1,077	698
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	7.000%	7.000%	7.000%	7.000%	7.000%
Transitional or Fully loaded CET1 definition?	Transitional	Fully loaded	Fully loaded	Fully loaded	Fully loaded	Fully loaded
Loss absorption mechanism	Permanent write-down with no possibility of write-up.	Conversion to equity	Conversion to equity	Conversion to equity	Conversion to equity	Conversion to equity
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%
Distributable items test (Yes/No)	No	No	No	No	No	No

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Barclays PLC	BNP Paribas	BNP Paribas SA	Credit Agricole S.A.	Credit Agricole S.A.	Credit Agricole S.A.
Country	United Kingdom	France	France	France	France	France
Bloomberg Ticker	BACR	BNP	BNP	ACAFP	ACAFP	ACAFP
ISIN	XS1274156097	XS1247508903	US05565AAN37	US225313AC92, USF22797QT87	US225313AD75, USF22797RT78	XS1055037177
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	Tier 2	CRD IV AT1	CRD IV AT1
Issue Date	Aug-15	Jun-15	Aug-15	Sep-13	Jan-14	Apr-14
First Call (or Reset) Date	Sep-22	Jun-22	Aug-25	Sep-18	Jan-24	Jun-21
Maturity	perpetual	perpetual	perpetual	Sep-33	perpetual	perpetual
Issue Currency	GBP	EUR	USD	USD	USD	EUR
Coupon (%)	7.875%	6.130%	7.375%	8.125%	7.875%	6.500%
Amount Outstanding (LCYm)	1,000	750	1,500	1,000	1,750	1,000
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	5.125%	5.125%	7% @ CA Group level	7% @ CA Group level	7% @ CA Group level
Transitional or Fully loaded CET1 definition?	Fully loaded	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Conversion to equity	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Permanent write-down with no possibility of write-up.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.
Any additional contractual write-down/conversion triggers	No	No	No	Notes no longer subject to loss-absorption after a rating methodology (S&P) event	5.125% CET1 ratio for CA S.A. (the issuing entity)	5.125% CET1 ratio for CA S.A. (the issuing entity)
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	9.8%	10.0%	10.0%	9.8%	9.8%	9.8%
Distributable items test (Yes/No)	No	Yes	Yes	No	No	No

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Credit Agricole S.A.	Credit Agricole S.A.	Credit Suisse AG	Credit Suisse AG	Credit Suisse Group AG	Credit Suisse Group AG
Country	France	France	Switzerland	Switzerland	Switzerland	Switzerland
Bloomberg Ticker	ACAFP	ACAFP	CS	CS	CS	CS
ISIN	XS1055037920	US225313AE58, USF22797YK86	XS0957135212	XS0972523947	US22546DAB29, XS0989394589	XS1076957700
Host Instrument	CRD IV AT1	CRD IV AT1	Tier 2	Tier 2	AT1	AT1
Issue Date	Apr-14	Sep-14	Aug-13	Sep-13	Dec-13	Jun-14
First Call (or Reset) Date	Jun-26	Sep-19	n/a	Sep-20	Dec-23	Dec-24
Maturity	perpetual	perpetual	Aug-23	Sep-25	perpetual	perpetual
Issue Currency	GBP	USD	USD	EUR	USD	USD
Coupon (%)	7.500%	6.625%	6.500%	5.750%	7.500%	6.250%
Amount Outstanding (LCYm)	500	1,250	2,500	1,250	2,250	2,500
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7% @ CA Group level	7% @ CA Group level	5.000%	5.000%	5.125%	5.125%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.
Any additional contractual write-down/conversion triggers	5.125% CET1 ratio for CA S.A. (the issuing entity)	5.125% CET1 ratio for CA S.A. (the issuing entity)	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	9.8%	9.8%	10.0%	10.0%	10.0%	10.0%
Distributable items test (Yes/No)	No	No	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Credit Suisse Group Guernsey I	Credit Suisse Group Guernsey II	Credit Suisse Group Guernsey IV	Danske Bank	Danske Bank	Deutsche Bank AG
Country	Switzerland	Switzerland	Switzerland	Denmark	Denmark	Germany
Bloomberg Ticker	CS	CS	CS	DANBNK	DANBNK	DB
ISIN	XS0595225318	XS0810846617	CH0181115681	XS1044578273	XS1190987427	DE000DB7XHP3
Host Instrument	Tier 2	AT1	Tier 2	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Nov-11	Aug-12	Mar-12	Mar-14	Feb-15	May-14
First Call (or Reset) Date	Aug-16	Oct-18	Mar-17	Apr-20	Apr-22	Apr-22
Maturity	Feb-41	perpetual	Mar-22	perpetual	perpetual	perpetual
Issue Currency	USD	USD	CHF	EUR	EUR	EUR
Coupon (%)	7.875%	9.500%	7.125%	5.750%	5.875%	6.000%
Amount Outstanding (LCYm)	2,000	1,725	750	750	750	1,750
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	7.000%	7.000%	7.000%	7.000%	5.125%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Conversion to equity	Conversion to equity	Conversion to equity	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	10.0%	10.0%	10.0%	10.7%	10.7%	10.8%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Deutsche Bank AG	Deutsche Bank AG	Deutsche Bank AG	DNB Bank ASA	ING Groep NV	ING Groep NV
Country	Germany	Germany	Germany	Norway	Netherlands	Netherlands
Bloomberg Ticker	DB	DB	DB	DNBDNB	INTNED	INTNED
ISIN	XS1071551474	XS1071551391	US251525AN16	XS1207306652	US456837AE31	US456837AF06
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	AT1	CRD IV AT1	CRD IV AT1
Issue Date	May-14	May-14	Nov-14	Mar-15	Apr-15	Apr-15
First Call (or Reset) Date	Apr-20	Apr-26	Apr-25	Mar-20	Apr-20	Apr-25
Maturity	perpetual	perpetual	perpetual	perpetual	perpetual	perpetual
Issue Currency	USD	GBP	USD	USD	USD	USD
Coupon (%)	6.250%	7.125%	7.500%	5.750%	6.000%	6.500%
Amount Outstanding (LCYm)	1,250	650	n/a	750	1,000	1,250
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	5.125%	5.125%	5.125%	5.125%	7.000%	7.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Conversion to equity	Conversion to equity
Any additional contractual write-down/conversion triggers	No	No	No	5.125% trigger applies both at bank and consolidated group level	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	10.8%	10.8%	10.8%	13.8%	10.3%	10.3%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Intesa Sanpaolo SpA	Intesa Sanpaolo SpA	KBC Bank NV	KBC Group NV	Lloyds Banking Group plc	Lloyds Banking Group plc
Country	Italy	Italy	Belgium	Belgium	United Kingdom	United Kingdom
Bloomberg Ticker	ISPIM	ISPIM	KBCBB	KBCBB	LLOYDS	LLOYDS
ISIN	US46115HAU14	XS1346815787	BE6248510610	BE0002463389	XS1043545059	XS1043550307
Host Instrument	CRD IV AT1	CRD IV AT1	Tier 2	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Sep-15	Jan-16	Jan-13	Mar-14	Apr-14	Apr-14
First Call (or Reset) Date	Sep-25	Jan-21	Jan-18	Mar-19	Jun-20	Jun-19
Maturity	perpetual	perpetual	Jan-23	perpetual	perpetual	perpetual
Issue Currency	USD	EUR	USD	EUR	EUR	GBP
Coupon (%)	7.700%	7.000%	8.000%	5.625%	6.375%	7.000%
Amount Outstanding (LCYm)	1,000	1,250	1,000	1,400	750	1,480
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	5.125%	5.125%	7.000%	5.125%	7.000%	7.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Fully loaded	Fully loaded
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Permanent write-down with no possibility of write-up.	Partial or full write-down with the ability to write-up if issuer recovers.	Conversion to equity	Conversion to equity
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	9.5%	9.5%	10.3%	10.3%	10.8%	10.8%
Distributable items test (Yes/No)	Yes	Yes	No	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Lloyds Banking Group plc	Lloyds Banking Group plc	Lloyds Banking Group plc	Nationwide Building Society	Nordea Bank AB	Nordea Bank AB
Country	United Kingdom	United Kingdom	United Kingdom	United Kingdom	Sweden	Sweden
Bloomberg Ticker	LLOYDS	LLOYDS	LLOYDS	NWIDE	NDASS	NDASS
ISIN	XS1043552188	XS1043552261	US539439AG42	XS1043181269	US65557CAM55	US65557CAN39
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Apr-14	Apr-14	Apr-14	Apr-14	Sep-14	Sep-14
First Call (or Reset) Date	Jun-23	Jun-29	Jun-24	Jun-19	Sep-19	Sep-24
Maturity	perpetual	perpetual	perpetual	perpetual	perpetual	perpetual
Issue Currency	GBP	GBP	USD	GBP	USD	USD
Coupon (%)	7.625%	7.875%	7.500%	6.875%	5.500%	6.125%
Amount Outstanding (LCYm)	1,498	750	1,675	1,000	1,000	500
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	7.000%	7.000%	7.000%	7.000%	8.000%	8.000%
Transitional or Fully loaded CET1 definition?	Fully loaded	Fully loaded	Fully loaded	Fully loaded	Transitional	Transitional
Loss absorption mechanism	Conversion to equity	Conversion to equity	Conversion to equity	Conversion to equity	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.
Any additional contractual write-down/conversion triggers	No	No	No	No	5.125% CET1 stand-alone (unconsolidated) ratio	5.125% CET1 stand-alone (unconsolidated) ratio
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	10.8%	10.8%	10.8%	10.0%	15.4%	15.4%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Nordea Bank AB	Nykredit Realkredit A/S	Nykredit Realkredit A/S	Cooperatieve Centrale Raiffeisen-Boerenleenbank BA/Netherlands	Santander UK Group Holdings plc	Skandinaviska Enskilda Banken AB (publ)
Country	Sweden	Denmark	Denmark	Netherlands	United Kingdom	Sweden
Bloomberg Ticker	NDASS	NYKRE	NYKRE	RABOBK	SANTAN	SEB
ISIN	XS1202090947	XS1073143932	XS1195632911	XS1171914515	XS1244538523	XS1136391643
Host Instrument	CRD IV AT1	Tier 2	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Mar-15	Jun-14	Feb-15	Jan-15	Jun-15	Nov-14
First Call (or Reset) Date	Sep-21	Jun-21	Oct-20	Jun-20	Jun-22	May-20
Maturity	perpetual	Jun-36	perpetual	perpetual	perpetual	perpetual
Issue Currency	USD	EUR	EUR	EUR	GBP	USD
Coupon (%)	5.250%	4.000%	6.250%	5.500%	7.375%	5.750%
Amount Outstanding (LCYm)	550	600	500	1,500	750	1,100
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	8.000%	7.000%	7.125%	7.000%	7.000%	8.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Fully loaded	Fully loaded
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Permanent write-down with no possibility of write-up.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Permanent write-down with no possibility of write-up.	Partial or full write-down with the ability to write-up if issuer recovers.
Any additional contractual write-down/conversion triggers	5.125% CET1 stand-alone (unconsolidated) ratio	No	7.125% applies to issuer (stand-alone and consolidated) and Nykredit Holding Group	7% applies to Rabobank Group; 5.125% applies to Local Rabobank Group	No	5.125% CET1 at SEB AB (the central institution)
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	15.4%	9.0%	9.0%	10.3%	9.0%	15.6%
Distributable items test (Yes/No)	Yes	No	No	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Societe Generale	Societe Generale	Societe Generale	Societe Generale	Societe Generale SA	Standard Chartered PLC
Country	France	France	France	France	France	United Kingdom
Bloomberg Ticker	SOCGEN	SOCGEN	SOCGEN	SOCGEN	SOCGEN	STANLN
ISIN	XS0867614595	US83367TBF57, USF8586CRW49	XS0867620725	USF8586CXG25 US83367TBH14	US83368JFA34	USG84228CE61, US853254AT77
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1
Issue Date	Sep-13	Dec-13	Apr-14	Jun-14	Sep-15	Apr-15
First Call (or Reset) Date	Nov-18	Dec-23	Apr-21	Jan-20	Sep-25	Apr-20
Maturity	perpetual	perpetual	perpetual	perpetual	perpetual	perpetual
Issue Currency	USD	USD	EUR	USD	USD	USD
Coupon (%)	8.250%	7.875%	6.750%	6.000%	8.000%	6.500%
Amount Outstanding (LCYm)	1,250	1,750	1,000	1,500	1,250	2,000
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	5.125%	5.125%	5.125%	5.125%	5.125%	7.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Fully loaded
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.	Conversion to equity
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	9.8%	9.8%	9.8%	9.8%	9.8%	8.9%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	Svenska Handelsbanken AB (publ)	Swedbank AB (publ)	Royal Bank of Scotland Group PLC	Royal Bank of Scotland Group PLC	UBS AG	UBS AG
Country	Sweden	Sweden	United Kingdom	United Kingdom	Switzerland	Switzerland
Bloomberg Ticker	SHBASS	SWEDA	RBS	RBS	UBS	UBS
ISIN	XS1194054166	XS1190655776	US780099CJ48	US780099CK11	CH0214139930	CH0236733827
Host Instrument	CRD IV AT1	CRD IV AT1	CRD IV AT1	CRD IV AT1	Tier 2	Tier 2
Issue Date	Feb-15	Feb-15	Aug-15	Aug-15	May-13	Feb-14
First Call (or Reset) Date	Mar-21	Mar-20	Aug-20	Aug-25	May-18	Feb-21
Maturity	perpetual	perpetual	perpetual	perpetual	May-23	Feb-26
Issue Currency	USD	USD	USD	USD	USD	EUR
Coupon (%)	5.250%	5.500%	7.500%	8.000%	4.750%	4.750%
Amount Outstanding (LCYm)	1,200	750	2,000	1,150	1,500	2,000
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	8.000%	8.000%	7.000%	7.000%	5.000%	5.000%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Fully loaded	Fully loaded	Transitional	Transitional
Loss absorption mechanism	Partial or full write-down with the ability to write-up if issuer recovers.	Conversion to equity	Conversion to equity	Conversion to equity	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.
Any additional contractual write-down/conversion triggers	Additional 5.125% trigger at issuer level (8% trigger applies to consolidated group)	Additional 5.125% trigger at issuer level (8% trigger applies to consolidated group)	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	18.6%	19.0%	10.5%	10.5%	10.0%	10.0%
Distributable items test (Yes/No)	Yes	Yes	Yes	Yes	No	No

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	UBS AG	UBS AG, Jersey Branch	UBS AG, Stamford Branch	UBS Group AG	UBS Group AG	UBS Group AG
Country	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland
Bloomberg Ticker	UBS	UBS	UBS	UBS	UBS	UBS
ISIN	CH0244100266	XS0747231362	US90261AAB89	CH0271428317	CH0271428333	CH0271428309
Host Instrument	Tier 2	Tier 2	Tier 2	AT1	AT1	AT1
Issue Date	May-14	Feb-12	Aug-12	Feb-15	Feb-15	Feb-15
First Call (or Reset) Date	n/a	Feb-17	n/a	Feb-20	Feb-25	Feb-22
Maturity	May-24	Feb-22	Aug-22	perpetual	perpetual	perpetual
Issue Currency	USD	USD	USD	USD	USD	EUR
Coupon (%)	5.125%	7.250%	7.625%	7.125%	7.000%	5.750%
Amount Outstanding (LCYm)	2,500	2,000	2,000	1,250	1,250	1,000
Write-Down/Conversion Trigger						
Write-down or conversion trigger (% CET)	5.000%	5.000%	5.000%	7.000%	5.125%	5.125%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional	Transitional	Transitional	Transitional
Loss absorption mechanism	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.	Permanent write-down with no possibility of write-up.
Any additional contractual write-down/conversion triggers	No	No	No	No	No	No
Issuer CET1 Capital and RWAs						
Pillar 2 / Combined buffer requirement	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Distributable items test (Yes/No)	No	No	No	No	No	No

Source: HSBC, Issuer bond prospectuses

AT1 and CoCo Instruments

Issuing entity	UBS Group AG	Unicredit S.p.A.	Unicredit S.p.A.
Country	Switzerland	Italy	Italy
Bloomberg Ticker	UBS	UCGIM	UCGIM
ISIN	CH0286864027	XS1046224884	XS1107890847
Host Instrument	AT1	CRD IV AT1	CRD IV AT1
Issue Date	Aug-15	Apr-14	Sep-14
First Call (or Reset) Date	Aug-25	Jun-24	Sep-21
Maturity	perpetual	perpetual	perpetual
Issue Currency	USD	USD	EUR
Coupon (%)	6.875%	8.000%	6.750%
Amount Outstanding (LCYm)	1,575	1,250	1,000
Write-Down/Conversion Trigger			
Write-down or conversion trigger (% CET)	7.000%	5.125%	5.125%
Transitional or Fully loaded CET1 definition?	Transitional	Transitional	Transitional
Loss absorption mechanism	Permanent write-down with no possibility of write-up.	Partial or full write-down with the ability to write-up if issuer recovers.	Partial or full write-down with the ability to write-up if issuer recovers.
Any additional contractual write-down/conversion triggers	No	Parent bank only trigger 5.125%	Parent bank only trigger 5.125%
Issuer CET1 Capital and RWAs			
Pillar 2 / Combined buffer requirement	10.0%	10.0%	10.0%
Distributable items test (Yes/No)	No	Yes	Yes

Source: HSBC, Issuer bond prospectuses

HSBC

Notes

Disclosure appendix

Analyst Certification
Each analyst whose name appears as author of an individual section or individual sections of this report certifies that the views about the subject security(ies) or issuer(s) or any other views or forecasts expressed in the section(s) of which (s)he is author accurately reflect his/her personal views and that no part of his/her compensation was, is or will be directly or indirectly related to the specific recommendation(s) or view(s) contained therein: Ivan Zubo, Jason Kepaptsoglou, Dominic Kini, Peter Toeman and Robin Down

Important disclosures
Equities: Stock ratings and basis for financial analysis
HSBC believes an investor's decision to buy or sell a stock should depend on individual circumstances such as the investor's existing holdings, risk tolerance and other considerations and that investors utilise various disciplines and investment horizons when making investment decisions. Ratings should not be used or relied on in isolation as investment advice. Different securities firms use a variety of ratings terms as well as different rating systems to describe their recommendations and therefore investors should carefully read the definitions of the ratings used in each research report. Further, investors should carefully read the entire research report and not infer its contents from the rating because research reports contain more complete information concerning the analysts' views and the basis for the rating.

Credit: Basis for financial analysis
This report is designed for, and should only be utilised by, institutional investors. Furthermore, HSBC believes an investor's decision to make an investment should depend on individual circumstances such as the investor's existing holdings and other considerations.

HSBC believes that investors utilise various disciplines and investment horizons when making investment decisions, which depend largely on individual circumstances such as the investor's existing holdings, risk tolerance and other considerations. Given these differences, HSBC has two principal aims in its credit research: 1) in corporate credit to identify long-term investment opportunities based on particular themes or ideas that may affect the future earnings or cash flows of companies and in the case of covered bonds to identify long-term investment opportunities based on country-specific ideas or themes that may affect the performance of these bonds, in both cases on a six-month time horizon; and 2) from time to time to identify trade ideas on a time horizon of up to three months, relating to specific instruments, which are predominantly derived from relative value considerations or driven by events and which may differ from our long-term credit opinion on an issuer. HSBC has assigned a fundamental recommendation structure only for its long-term investment opportunities, as described below.

HSBC believes an investor's decision to buy or sell a bond should depend on individual circumstances such as the investor's existing holdings and other considerations. Different securities firms use a variety of terms as well as different systems to describe their recommendations. Investors should carefully read the definitions of the recommendations used in each research report. In addition, because research reports contain more complete information concerning the analysts' views, investors should carefully read the entire research report and should not infer its contents from the recommendation. In any case, recommendations should not be used or relied on in isolation as investment advice.

HSBC Global Research is not and does not hold itself out to be a Credit Rating Agency as defined under the Hong Kong Securities and Futures Ordinance.

Prior to this date, HSBC's rating structure was applied on the following basis:
For each stock we set a required rate of return calculated from the cost of equity for that stock's domestic or, as appropriate, regional market established by our strategy team. The target price for a stock represented the value the analyst expected the stock to reach over our performance horizon. The performance horizon was 12 months. For a stock to be classified as Overweight, the potential return, which equals the percentage difference between the current share price and the target price, including the forecast dividend yield when indicated, had to exceed the required return by at least 5 percentage points over the

succeeding 12 months (or 10 percentage points for a stock classified as Volatile*). For a stock to be classified as Underweight, the stock was expected to underperform its required return by at least 5 percentage points over the succeeding 12 months (or 10 percentage points for a stock classified as Volatile*). Stocks between these bands were classified as Neutral.

*A stock was classified as volatile if its historical volatility had exceeded 40%, if the stock had been listed for less than 12 months (unless it was in an industry or sector where volatility is low) or if the analyst expected significant volatility. However, stocks which we did not consider volatile may in fact also have behaved in such a way. Historical volatility was defined as the past month's average of the daily 365-day moving average volatilities. In order to avoid misleadingly frequent changes in rating, however, volatility had to move 2.5 percentage points past the 40% benchmark in either direction for a stock's status to change.

For the purposes of the distribution above the following mapping structure is used during the transition from the previous to current rating models: under our previous model, Overweight = Buy, Neutral = Hold and Underweight = Sell; under our current model Buy = Buy, Hold = Hold and Reduce = Sell. For rating definitions under both models, please see “Stock ratings and basis for financial analysis” above.

Definitions for fundamental credit and covered bond recommendations

Overweight: For corporate credit, the credits of the issuer are expected to outperform those of other issuers in the sector over the next six months. For covered bonds, the bonds issued in this country are expected to outperform those of the other countries in our coverage over the next six months.

Neutral: For corporate credit, the credits of the issuer are expected to perform in line with those of other issuers in the sector over the next six months. For covered bonds, the bonds issued in this country are expected to perform in line with those of the other countries in our coverage over the next six months.

Underweight: For corporate credit, the credits of the issuer are expected to underperform those of other issuers in the sector over the next six months. For covered bonds, the bonds issued in this country are expected to underperform those of other countries in our coverage over the next six months.

Distribution of fundamental credit and covered bond opinions

As of 11 February 2016, the distribution of all credit opinions published is as follows:

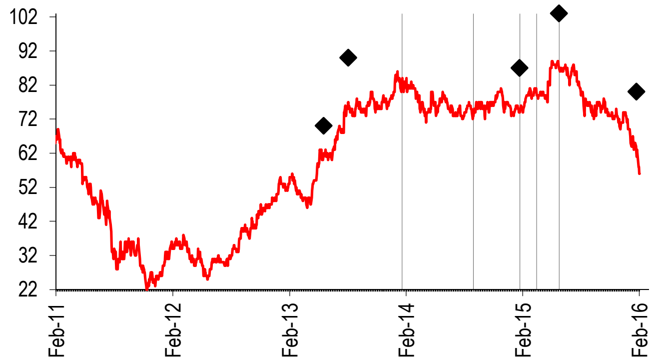
	All Covered Companies		Companies where HSBC has provided Investment Banking in the past 12 months	
	Count	Percentage	Count	Percentage
Overweight	68	24	15	22
Neutral	165	58	53	32
Underweight	53	18	9	17

Source: HSBC

HSBC

Share price and rating changes for long-term investment opportunities

Lloyds Banking Group (LLOY.L) share price performance GBp Vs HSBC rating history



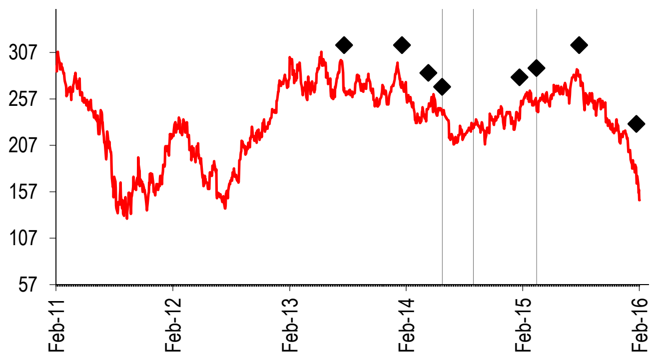
Source: HSBC

Rating & target price history

From	To	Date
Overweight (V)	Neutral (V)	30 January 2014
Neutral (V)	Overweight (V)	09 September 2014
Overweight (V)	Neutral (V)	02 February 2015
Neutral (V)	Hold	27 March 2015
Hold	Buy	05 June 2015
Target price	**Value**	**Date**
Price 1	70	29 May 2013
Price 2	90	15 August 2013
Price 3	87	02 February 2015
Price 4	103	05 June 2015
Price 5	80	03 February 2016

Source: HSBC

Barclays (BARC.L) share price performance GBp Vs HSBC rating history



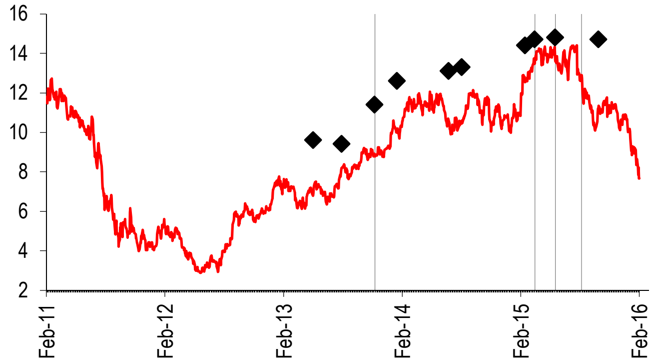
Source: HSBC

Rating & target price history

From	To	Date
Overweight (V)	Neutral (V)	04 June 2014
Neutral (V)	Overweight (V)	09 September 2014
Overweight (V)	Buy	27 March 2015
Target price	**Value**	**Date**
Price 1	315	02 August 2013
Price 2	315	30 January 2014
Price 3	285	22 April 2014
Price 4	270	04 June 2014
Price 5	280	02 February 2015
Price 6	290	27 March 2015
Price 7	315	07 August 2015
Price 8	230	03 February 2016

Source: HSBC

Credit Agricole S.A. (CAGR.PA) share price performance EUR Vs HSBC rating history



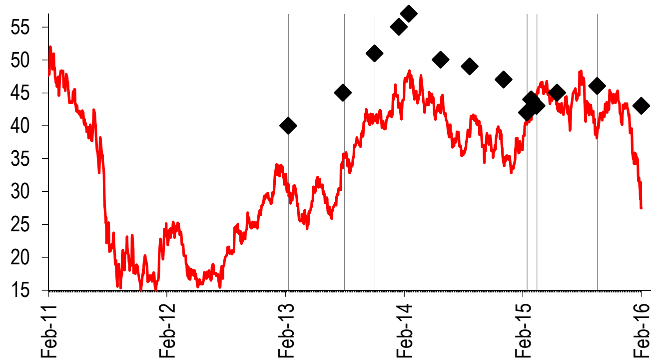
Source: HSBC

Rating & target price history

From	To	Date
Overweight (V)	Overweight	19 November 2013
Overweight	Buy	27 March 2015
Buy	Hold	29 May 2015
Hold	Buy	17 August 2015
Target price	**Value**	**Date**
Price 1	9.60	13 May 2013
Price 2	9.40	09 August 2013
Price 3	11.40	19 November 2013
Price 4	12.60	27 January 2014
Price 5	13.10	04 July 2014
Price 6	13.30	14 August 2014
Price 7	14.40	25 February 2015
Price 8	14.70	27 March 2015
Price 9	14.80	29 May 2015
Price 10	14.70	09 October 2015

Source: HSBC

Societe Generale (SOGN.PA) share price performance EUR Vs HSBC rating history



Source: HSBC

Rating & target price history

From	To	Date
Neutral (V)	Overweight (V)	19 February 2013
Overweight (V)	Restricted	12 August 2013
Restricted	Overweight (V)	13 August 2013
Overweight (V)	Overweight	13 November 2013
Overweight	Neutral	25 February 2015
Neutral	Hold	27 March 2015
Hold	Buy	29 September 2015
Target price	**Value**	**Date**
Price 1	40.00	19 February 2013
Price 2	45.00	07 August 2013
Price 3	51.00	13 November 2013
Price 4	55.00	27 January 2014
Price 5	57.00	26 February 2014
Price 6	50.00	04 June 2014
Price 7	49.00	02 September 2014
Price 8	47.00	15 December 2014
Price 9	42.00	25 February 2015
Price 10	44.00	10 March 2015
Price 11	43.00	27 March 2015
Price 12	45.00	29 May 2015
Price 13	46.00	29 September 2015
Price 14	43.00	12 February 2016

Source: HSBC

HSBC & Analyst disclosures

Disclosure checklist

Company	Ticker	Recent price	Price date	Disclosure
BARCLAYS PLC	BARC.L	1.48	12-Feb-2016	4, 6, 7
CREDIT AGRICOLE S.A.	CAGR.PA	7.67	12-Feb-2016	1, 5, 6, 7
LLOYDS BANKING GROUP	LLOY.L	0.56	12-Feb-2016	1, 4, 5, 6, 7
SOCIETE GENERALE	SOGN.PA	27.46	12-Feb-2016	4, 6, 7

Source: HSBC

1 HSBC has managed or co-managed a public offering of securities for this company within the past 12 months.
2 HSBC expects to receive or intends to seek compensation for investment banking services from this company in the next 3 months.
3 At the time of publication of this report, HSBC Securities (USA) Inc. is a Market Maker in securities issued by this company.
4 As of 31 January 2016 HSBC beneficially owned 1% or more of a class of common equity securities of this company.
5 As of 31 December 2015, this company was a client of HSBC or had during the preceding 12 month period been a client of and/or paid compensation to HSBC in respect of investment banking services.
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Additional disclosures

1 This report is dated as at 16 February 2016.
2 All market data included in this report are dated as at close 11 February 2016, unless otherwise indicated in the report.
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4 As of 05 February 2016 HSBC owned a significant interest in the debt securities of the following company(ies) :CREDIT AGRICOLE S.A.,SOCIETE GENERALE

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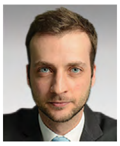

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