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## European Banks | Europe

## Autumn AT1 Primer – Extension and Par Calls

Extension is the key risk for the AT1, but fears here have caused some low-reset bonds to be oversold, we believe. Coupon risk remains low and trigger is immaterial, in our view, in an age of resolution. Early par call risk is far more relevant, considering Brexit and the CRR2.

**Spread widening has sharpened focus on extension risk** as issuer call options for AT1 issued in the tights of 2017 and early 2018 begin to look out of the money. Our expectation is that issuers will make economic decisions at call dates, so extension risk is real. However, as published in [Perpetuity Is Not Forever](#), September 10, 2018, we do see value in some high-quality, low reset bonds with clear extension risk. In our view, these look oversold, considering we believe it's more appropriate to value non-called AT1 to the second call date, or third at the very latest, rather than to perpetuity. The strong credit quality of the issuers gives us comfort on limited further downside, even as the credit markets remain under pressure.

**MDA-linked coupon risks remain low for European banks:** Eurozone bank coupon risk fell sharply at the start of 2017 when [Pillar 2 was split](#) into the Requirement, which is relevant for MDA levels, and Guidance, which is not. Since then, capital levels have remained robust, with coupon risk only really gaining attention when large fines are speculated about. It is a similar story for UK, Swiss, and Scandinavian banks despite differing MDA methodologies. ADI risk is also manageable for most issuers – DB has the lowest coverage but should [benefit from Postbank integration](#), and later, from the CRR2.

**Trigger risk is remote outside of resolution**, given both bank CET1 levels and current capital requirements. The average AT1 issuer has a buffer of €12.6 billion (or 9.7% of RWAs) to its respective trigger, meaning losses would have to be significant to cause a trigger event. However, with bank Pillar 1 and 2R/2A requirements typically higher than the trigger level, we expect banks to enter resolution before the trigger is hit.

**The emergence of early par call risk makes us nervous about high cash price bonds:** [Regulatory par calls](#) could become possible depending on the timeline for CRR2 as non-EU law bonds without contractual recognition of bail-in will lose capital eligibility upon its implementation. While our base case is some delay in the application of this particular clause, the European Parliament's position of full implementation in January 2020 creates risk. [Tax par call optionality](#) is a risk for Italian, Portuguese, Danish, and Spanish AT1, in our view. While we appreciate that tax par calls may be initially unlikely, the threat, or even an issuer affirming it has the option, could cause sharp sell-offs in high cash price bonds.

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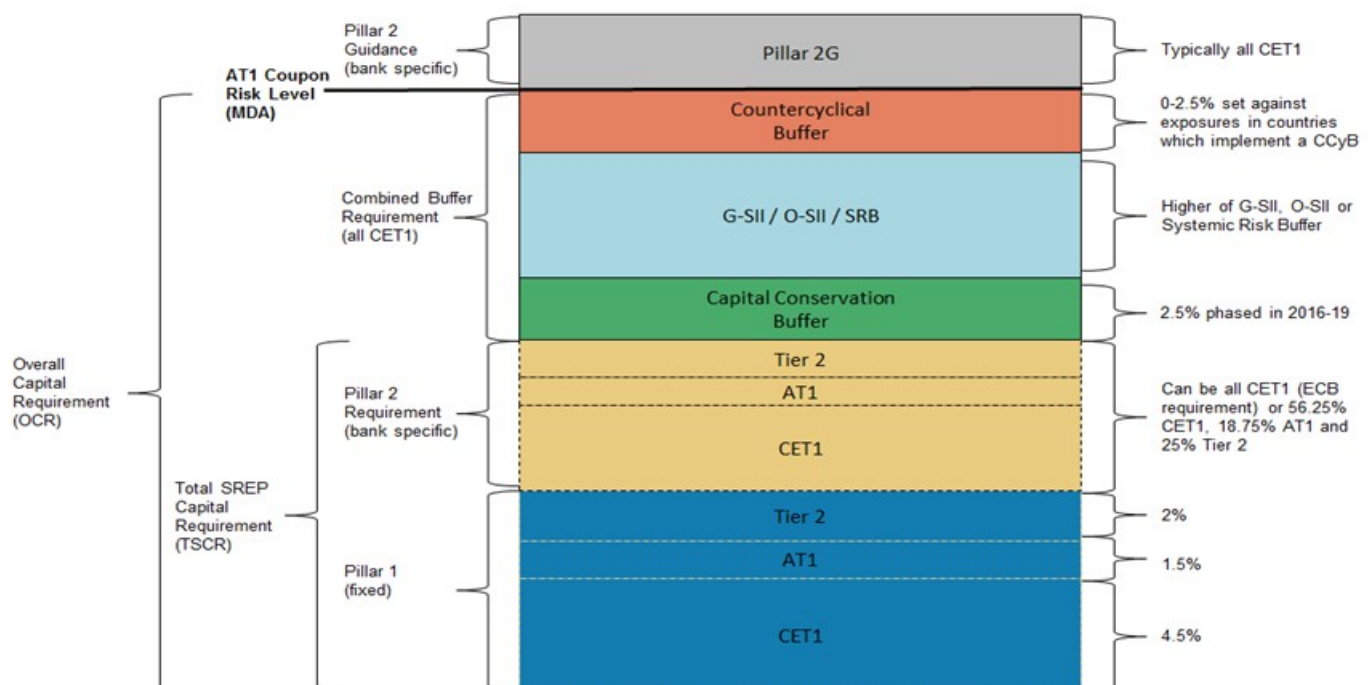
## Coupon risk – Still low

**Coupon risk is the risk that a bank is unable to – or decides not to – make a coupon payment on AT1,** which we covered in our [last AT1 primer](#). AT1 coupons are fully discretionary and, while we think that it is in a bank's interests to pay them, the distributions must be switched off if a bank falls below its minimum capital requirements – known as the Maximum Distributable Amount (MDA) level. In addition, AT1 prospectuses specify that banks must have sufficient Available Distributable Items (ADI) to pay a coupon – if a bank's distributable items are not large enough to cover an AT1 coupon payment, then it cannot be paid.

## Bank capital requirements

The diagram below shows a bank's capital requirements. These are all set as a percentage of risk-weighted assets (RWAs). Hence, if you have a capital requirement of 4.5%, and have €100 billion of RWAs, then you'll need to have issued €4.5 billion of capital. Capital comes in the form of equity (CET1), additional Tier 1 (AT1) and Tier 2. Regulatory capital requirements encompass all three forms of capital, but the market tends to focus on the CET1 requirement only, with one reason being that this is what the ECB, the supervisor of eurozone banks, focuses on most. Banks outside the eurozone have national regulators which set the variable parts of their capital requirements, such as the PRA in the UK or the respective FSAs in Denmark, Norway and Sweden.

Capital requirements showing AT1 coupon risk level



**Pillar 1 requirements must be filled first:** For EU banks, Pillar 1 is set at 8%, with a minimum of 4.5% being CET1, 1.5% AT1 and 2% Tier 2. Theoretically, a bank could fill all 8% with CET1, but this would be inefficient – debt capital is typically cheaper than equity and increasing equity levels is dilutive to shareholders.

**Pillar 2 requirements sit on top of Pillar 1:** Once Pillar 1 is met, a bank uses its remaining capital to fill Pillar 2. These requirements are bank-specific and the national supervisor has discretion in setting Pillar 2 requirements, according to EU rules. Pillar 2 is split into Pillar 2 requirements (P2R), which is disclosed and relevant for AT1 distributions, and Pillar 2 guidance (P2G). EU rules allow Pillar 2 to be set with a mix of CET1, AT1 and Tier 2, but the ECB requires it to be filled solely with CET1, for eurozone banks.

**Buffers are then stacked on Pillar 2 requirements:** Together, the buffers are known as the Combined Buffer Requirement (CBR). The CBR must be met with CET1 and sits on top of P2R. All EU banks must meet a Capital Conservation Buffer of 2.5%, phased in to 2019 (1.875% in 2018). Next are buffers linked to the systemic importance of a bank, with banks having to meet the higher of G-SII, O-SII and Systemic Risk Buffer. Finally, the Countercyclical Buffer is a financial stability tool set by national authorities, up to a maximum of 2.5%, against a bank's exposure in that country to reflect risks linked to the domestic economic cycle.

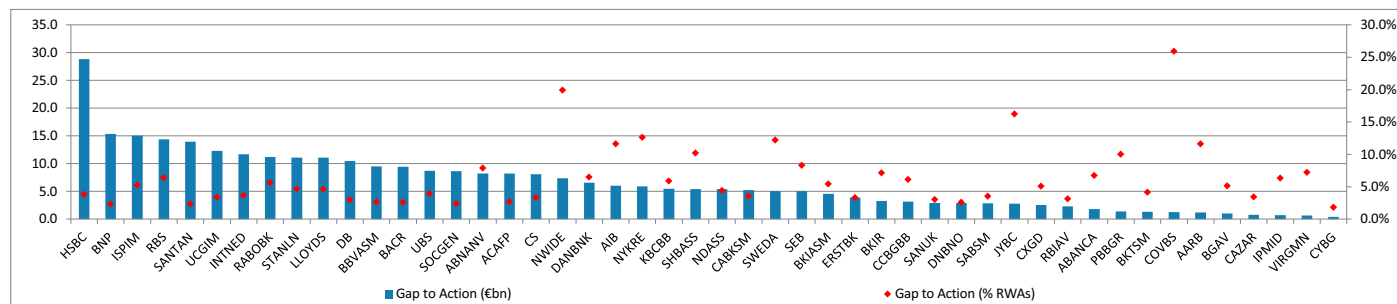
**Pillar 2 guidance sits on top of Pillar 1, Pillar 2R and CBR:** This is the second part of a bank's Pillar 2, and is typically not communicated to the market and crucially for AT1 it does not count towards the MDA level. The supervisor would take action if this is not met, but the market may not even know that this is the case since P2G is generally not disclosed.

## Comfortable distance to MDA

**Eurozone banks must remain above their Combined Buffer Requirement at all times:**

This is the MDA level, and if a bank falls below it then a calculation is made determining how much can be paid out as an AT1 coupon (full details [here](#)).

The risk of breaching the MDA level is low for most European banks. The average AT1 issuer has a buffer of €6.6 billion above their MDA level, equal to 6.3% of RWAs. The lowest buffer is CYBG at 1.8%, which is equal to just £0.4 billion – however, the issuer has [recently announced](#) that it has received IRB accreditation from the PRA, which it estimates would improve pro forma 2Q18 CET1 by 390bp. Away from this, the next lowest are BNP and Santander at 2.3% and SocGen at 2.4%, however in € terms the headroom is large – at €15.3 billion, €13.9 billion and €8.6 billion, respectively.

**Exhibit 1: Gap to action (MDA)**

Source: Company data, Morgan Stanley Research

## National variations of MDA:

- **UK banks** have MDA requirements similar to those of eurozone banks, consisting of Pillar 1, Pillar 2A and the combined buffer requirement.
- **Scandi bank** MDA levels exclude Pillar 2 requirements, true for Norwegian, Swedish and Danish banks (but not Nordea now it has moved to the eurozone). We expect this to be reviewed in future, but at present it boosts headroom to MDA levels, particularly in Sweden and Norway where Pillar 2 levels are far higher than the rest of Europe.
- **Swiss banks** have different capital requirements to the rest of Europe due to the [Swiss Finish](#). However, the MDA levels are linked to Basel 3 requirements and so only include Pillar 1 and buffer requirements.

## Healthy ADI coverage

**Banks require sufficient ADIs to pay their AT1 coupons**, and we last published on the health of bank ADIs in our [2018 ADI review](#). Each ADI prospectus contains a reference to ADI as this is a CRR requirement, but there are different national and bank-level interpretations, making comparisons challenging. However, the consequences of breaching it are the same across all EU banks – insufficient ADIs can place an automatic stopper on coupons.

To generalise, ADIs are retained earnings – losses, dividends and stock buybacks reduce it while positive net income increases it. It is calculated at the solo unconsolidated level of the issuance entity, which is typically only published once a year. The lack of disclosure on ADIs caused investors concern in February 2016 when Deutsche's low headroom triggered a sell-off in the AT1 market.

**ADI coverage is healthy for most European banks:** ADI figures are calculated at least annually by banks - some banks report these more frequently, but we take the FY17 figures for consistency. AT1 coupons have substantial ADI coverage across most European banks - the lowest figure is at Deutsche, where AT1 coupons are 3.4x covered. We discussed Deutsche's ADIs at length in the recent [ADI review](#) – German and Austrian banks suffer from having to use local GAAP, which results in much lower ADIs than under IFRS. The integration of Postbank should help Deutsche's FY18 ADI figure, while proposed definition changes in CRR2 should provide relief for all German and Austrian banks if these are adopted - but at the very earliest, this would count for April 2020 coupons, we believe.

Exhibit 2: ADI and AT1 coupon coverage

| Ticker | ADI FY17<br>€m | AT1 Coupons<br>€m | AT1<br>Coverage | Ticker | ADI FY 17<br>€m | AT1 Coupons<br>€m | AT1<br>Coverage |
|--------|----------------|-------------------|-----------------|--------|-----------------|-------------------|-----------------|
| DB     | 1.09           | 0.32              | 3.4             | SEB    | 6.76            | 0.08              | 79.8            |
| VIRGMN | 0.29           | 0.04              | 7.7             | SWEDA  | 5.31            | 0.06              | 85.3            |
| BACR   | 7.63           | 0.97              | 7.9             | BNP    | 33.03           | 0.37              | 90.3            |
| CAZAR  | 0.22           | 0.02              | 8.9             | DANBNK | 16.22           | 0.17              | 93.7            |
| CABKSM | 2.24           | 0.13              | 16.8            | RBS    | 43.14           | 0.41              | 105.0           |
| LLOYDS | 9.64           | 0.57              | 16.9            | BKIASM | 8.52            | 0.08              | 110.8           |
| SOCGEN | 13.47          | 0.69              | 19.4            | NWIDE  | 8.69            | 0.08              | 110.9           |
| BBVASM | 10.28          | 0.50              | 20.8            | IPMID  | 1.20            | 0.01              | 111.3           |
| RBIIV  | 1.40           | 0.06              | 22.5            | BKIR   | 6.50            | 0.06              | 117.5           |
| AARB   | 0.58           | 0.02              | 25.5            | RABOBK | 25.38           | 0.21              | 119.9           |
| HSBC   | 31.77          | 1.17              | 27.0            | SANTAN | 56.70           | 0.45              | 127.3           |
| CYBG   | 1.14           | 0.04              | 27.7            | PBBGR  | 2.20            | 0.02              | 127.5           |
| ERSTBK | 2.20           | 0.08              | 28.6            | SHBASS | 7.14            | 0.06              | 129.9           |
| SABSM  | 2.13           | 0.07              | 29.0            | AIB    | 5.01            | 0.04              | 135.8           |
| STANLN | 12.68          | 0.31              | 40.6            | NYKRE  | 4.29            | 0.03              | 137.3           |
| ABANCA | 0.79           | 0.02              | 42.1            | ABNANV | 18.00           | 0.11              | 171.4           |
| UCGIM  | 14.92          | 0.34              | 44.2            | BGAV   | 2.90            | 0.02              | 193.3           |
| COVBS  | 1.32           | 0.03              | 45.4            | DNBNO  | 15.65           | 0.08              | 195.0           |
| SANUK  | 4.77           | 0.10              | 47.1            | CCBGBB | 3.54            | 0.02              | 195.3           |
| KBCBB  | 6.42           | 0.12              | 52.9            | NDASS  | 25.28           | 0.13              | 200.3           |
| ACAFP  | 25.70          | 0.39              | 66.1            | BKTSM  | 3.51            | 0.02              | 203.2           |
| CXGD   | 1.80           | 0.03              | 67.0            | INTNED | 42.94           | 0.18              | 234.2           |
| ISPIM  | 23.00          | 0.30              | 77.1            | JYBC   | 3.47            | 0.01              | 487.2           |

Source: Bloomberg, company data, Morgan Stanley Research; AT1 coverage = ADI/AT1 coupons.

## Mindful of par call risk

The three key risks specific to AT1s are traditionally extension risk, coupon risk and trigger risk. However, early par call risk is now clear for many AT1s. We have received some pushback here, and we appreciate the argument that banks would not want to risk alienating investors by exercising par calls. To be clear, we think that the likelihood of banks exercising **tax par call** options is low at current high cash prices, but it would only take one tax par call or even the threat of such a call to move prices of above-par bonds - in turn making them more likely to be par called, or LMEd slightly above par.

With **reg par calls**, our base case is delayed implementation of the relevant CRR2 requirements, but with the nearest proposed implementation date of January 1, 2020, the risk of reg par calls makes us nervous about high cash price bonds. These have limited upside in any case in our view, given our broader caution on bank credit spreads, and when you overlay the downside potential for being called at par then we'd prefer holding bonds closer to, or below, par.

### Regulatory par calls

**CRR2 could create reg par call risk for non-EU law AT1, and those with no waiver of set-off rights:** The final draft of CRR2 is being negotiated between the European Council and Parliament, and both agree on the structural requirements AT1 must have to count as regulatory capital. However, they disagree on timing; the [Council](#) proposes application of such rules six years from implementation of the broader CRR2 (taking us to mid-2025), while [Parliament](#) wants full implementation of some of these requirements from January 1, 2020. Although the date remains to be negotiated, with hoped-for conclusion by the end of this year, our estimate of implementation would be mid-way between the 'best case' of mid-2025 and the worst case of ineligibility at January 1, 2020. We expect extension risk to be limited for bonds with call dates before the implementation date, with the pending loss in capital value incentivising issuer calls, possibly coupled with soft pressure from the regulator.

**Non-EU law AT1 without contractual recognition of EU bail-in powers will become ineligible** once CRR2 is implemented. This is all complicated by Brexit – English law will not be EU law once the UK has left the EU, but whether this becomes effective on March 29, 2019, or January 1, 2021 following a transition period (or a longer period, currently under discussion), is unclear. Our UK economist's base case is that the UK secures a transition period which should mean English law bonds will be eligible until January 1, 2021. **Reg par calls provide upside and downside** – as shown by the scenarios in [Exhibit 3](#).

**Exhibit 3:** Non-EU law AT1s with regulatory par calls

| Scenario     |          |        |        |         |               |            |           |       |      |     | EP: NY Law &<br>Hard Brexit | EP: Brexit<br>Transition | EC: 6yr<br>Grandfathering |
|--------------|----------|--------|--------|---------|---------------|------------|-----------|-------|------|-----|-----------------------------|--------------------------|---------------------------|
| ISIN         | Currency | Ticker | Coupon | Trigger | Rating        | Next Call  | Back end  | Offer | YtC  | ZtC | YtRPC<br>01-01-2020         | YtRPC<br>01-01-2021      | YtRPC<br>30-06-2025       |
| XS1055037177 | EUR      | ACAFP  | 6.5    | 5.125%  | NR/BB+/BBB-   | 23/06/2021 | MS+512    | 108.6 | 3.1  | 310 | -0.9                        | 2.4                      | N/A                       |
| XS1328798779 | EUR      | AIB    | 7.375  | 7.000%  | B1u/NR/B      | 03/12/2020 | MS+733.9  | 108.9 | 3.0  | 305 | -0.3                        | N/A                      | N/A                       |
| XS1248345461 | EUR      | BKIR   | 7.375  | 5.125%  | Ba3/BB-/NR    | 18/06/2020 | MS+695.6  | 107.3 | 2.8  | 293 | 1.0                         | N/A                      | N/A                       |
| XS1247508903 | EUR      | BNP    | 6.125  | 5.125%  | Ba1/BBB-/BBB- | 17/06/2022 | MS+523    | 108.4 | 3.7  | 351 | -1.1                        | 2.1                      | N/A                       |
| XS1044578273 | EUR      | DANBNK | 5.75   | 7.000%  | NR/BBB-/BB+   | 06/04/2020 | MS+464    | 99.6  | 6.1  | 621 | 6.2                         | N/A                      | N/A                       |
| XS1190987427 | EUR      | DANBNK | 5.875  | 7.000%  | NR/BBB-/BB+   | 06/04/2022 | MS+547    | 102.4 | 5.2  | 501 | 3.8                         | 4.8                      | N/A                       |
| XS1227057814 | EUR      | IPMID  | 8.625  | 7.000%  | NR/NR/NR      | 01/04/2021 | MS+835.6  | 105.1 | 6.2  | 630 | 4.0                         | 6.0                      | N/A                       |
| XS1346815787 | EUR      | ISPIM  | 7      | 5.125%  | Ba3/BB-/B+    | 19/01/2021 | MS+688.4  | 103.0 | 5.6  | 562 | 4.4                         | 5.6                      | N/A                       |
| XS1548475968 | EUR      | ISPIM  | 7.75   | 5.125%  | Ba3/BB-/B+    | 11/01/2027 | MS+719.2  | 104.1 | 7.2  | 640 | 4.1                         | 5.8                      | 7.1                       |
| XS1614415542 | EUR      | ISPIM  | 6.25   | 5.125%  | Ba3/BB-/B+    | 16/05/2024 | MS+585.6  | 96.0  | 7.3  | 675 | 10.3                        | 8.5                      | N/A                       |
| XS1577953331 | EUR      | JYBC*  | 4.75   | 7.000%  | NR/BB+/NR     | 21/09/2027 | MS+396.2  | 96.4  | 5.3  | 419 | 8.3                         | 6.7                      | 5.5                       |
| BE0002463389 | EUR      | KBCBB  | 5.625  | 5.125%  | NR/BB/BB+     | 19/03/2019 | MS+475.9  | 101.6 | 1.2  | 152 | N/A                         | N/A                      | N/A                       |
| XS1195632911 | EUR      | NYKRE  | 6.25   | 7.125%  | NR/BB+/BB+    | 26/10/2020 | MS+598.9  | 107.0 | 2.6  | 271 | 0.2                         | N/A                      | N/A                       |
| XS0867620725 | EUR      | SOCGEN | 6.75   | 5.125%  | Ba2/NR/BB+    | 07/04/2021 | MS+553.8  | 106.5 | 3.9  | 397 | 1.1                         | 3.6                      | N/A                       |
| XS1107890847 | EUR      | UCGIM  | 6.75   | 5.125%  | NR/NR/B+      | 10/09/2021 | MS+610    | 96.8  | 8.2  | 804 | 10.0                        | 8.6                      | N/A                       |
| XS1055037920 | GBP      | ACAFP  | 7.5    | 5.125%  | NR/NR/BBB-    | 23/06/2026 | UKT+453.5 | 108.9 | 6.1  | 454 | -0.2                        | 3.2                      | 5.9                       |
| USF22797RT78 | USD      | ACAFP  | 7.875  | 5.125%  | NR/BB+/BBB-   | 23/01/2024 | MS+489.8  | 104.0 | 7.0  | 405 | 4.3                         | NY Law                   | N/A                       |
| USF22797YK86 | USD      | ACAFP  | 6.625  | 5.125%  | NR/BB+/BBB-   | 23/09/2019 | MS+469.7  | 101.8 | 4.6  | 171 | 5.4                         | NY Law                   | N/A                       |
| USF2R125CD54 | USD      | ACAFP  | 8.125  | 5.125%  | NR/BB+/BBB-   | 23/12/2025 | MS+618.5  | 107.6 | 6.8  | 363 | 1.5                         | NY Law                   | 6.8                       |
| XS1207306652 | USD      | DNBNO  | 5.75   | 5.125%  | NR/BBB/NR     | 26/03/2020 | MS+407.5  | 99.4  | 6.1  | 318 | 6.2                         | N/A                      | N/A                       |
| XS1506066676 | USD      | DNBNO  | 6.5    | 5.125%  | NR/BBB/NR     | 26/03/2022 | MS+508    | 100.4 | 6.3  | 323 | 6.1                         | 6.2                      | N/A                       |
| US46115HAU14 | USD      | ISPIM  | 7.7    | 5.125%  | Ba3/BB-/B+    | 17/09/2025 | MS+546.15 | 91.4  | 9.4  | 629 | 16.2                        | NY Law                   | 9.5                       |
| XS1136391643 | USD      | SEB    | 5.75   | 8.000%  | NR/NR/BBB     | 13/05/2020 | MS+385    | 100.3 | 5.6  | 256 | 5.5                         | N/A                      | N/A                       |
| XS1584880352 | USD      | SEB    | 5.625  | 8.000%  | NR/NR/BBB     | 13/05/2022 | MS+349.3  | 97.8  | 6.3  | 324 | 7.7                         | 6.8                      | N/A                       |
| USF8586CRW49 | USD      | SOCGEN | 7.875  | 5.125%  | Ba2/BB+/BB+   | 18/12/2023 | MS+497.9  | 101.5 | 7.5  | 439 | 6.5                         | 7.1                      | N/A                       |
| USF8586CXG25 | USD      | SOCGEN | 6      | 5.125%  | Ba2/NR/BB+    | 27/01/2020 | MS+406.7  | 99.1  | 6.7  | 377 | 6.8                         | N/A                      | N/A                       |
| USF43628B413 | USD      | SOCGEN | 8      | 5.125%  | Ba2/BB+/NR    | 29/09/2025 | MS+587.3  | 102.4 | 7.5  | 440 | 5.8                         | 6.8                      | 7.5                       |
| XS0867614595 | USD      | SOCGEN | 8.25   | 5.125%  | Ba2/BB+/BB+   | 29/11/2018 | MS+639.4  | 100.4 | 2.5  | -3  | N/A                         | N/A                      | N/A                       |
| USF43628C734 | USD      | SOCGEN | 7.375  | 5.125%  | Ba2/BB+/NR    | 13/09/2021 | MS+623.8  | 102.3 | 6.5  | 340 | 5.3                         | 6.2                      | N/A                       |
| XS1190655776 | USD      | SWEDA  | 5.5    | 8.000%  | NR/BBB/BBB    | 17/03/2020 | MS+376.7  | 99.9  | 5.6  | 260 | 5.6                         | N/A                      | N/A                       |
| XS1535953134 | USD      | SWEDA  | 6      | 5.125%  | NR/BBB/BBB    | 17/03/2022 | MS+410.6  | 98.9  | 6.4  | 327 | 7.0                         | 6.6                      | N/A                       |
| XS1046224884 | USD      | UCGIM  | 8      | 5.125%  | NR/NR/B+      | 03/06/2024 | MS+518    | 91.4  | 10.1 | 693 | 16.5                        | 12.7                     | N/A                       |

Source: Bloomberg, Morgan Stanley Research; Prices updated at 18:30 UK time on November 1, 2018. OAS spread used for bond. All bonds are under English law except ACAFP \$ 7.875%, \$ 6.625%, \$ 8.125% and ISPIM \$ 7.7%, which are NY law. None have contractual recognition of EU bail-in powers

## Tax par call optionality

**Tax par calls could be an issue for Italian, Portuguese, Danish and Spanish banks:** As published in [AT1 Tax Call Optionality](#), September 5, 2018, we believe that the removal of tax deductibility for AT1s could occur in other EU countries because the European Commission will be investigating to ensure that state aid concerns in the Netherlands - where banks are able to issue a certain structure with tax deductibility but a corporate cannot - are not replicated elsewhere. Subsequently, the [UK has amended hybrid capital instruments tax treatment](#) to allow corporate debt the same treatment as banks receive for AT1. **This confirms that other EU countries are having to react after the change in the Netherlands.** More specifically for UK banks, it removes a risk for high cash price AT1s because issuers will not get tax par call optionality.

**We think tax par call optionality is still a risk for Danish, Portuguese, Italian and Spanish AT1.** Denmark, Portugal, Italy and Ireland have the same problem that the UK and Netherlands had, we believe, and will be facing pressure from the EC to address possible concerns over state aid. Any government taking the Dutch approach could provide issuers with tax par call options, which could cause significant losses on high cash price AT1. However, in Ireland, although we believe the state aid problem exists, there is no tax par call language in Irish AT1s. The Spanish government has in the past independently proposed removing tax deductibility for AT1s as a revenue raising measure - we understand this has not made it into the latest proposals, but note the budget is still under negotiation.

Banks will still need AT1 despite losing tax deductibility – it is more efficient to fill the 1.5% bucket with AT1 than equity, given an average cost of equity for European banks of ~10-12%. Tax par calls would only be attractive to issuers with bonds trading significantly above par, as they could call expensive bonds and re-issue them with a lower coupon, in theory. It is likely that many banks would look to be investor-friendly, but **it would only take one bank to tax par call its AT1 – or the market simply thinking there's a decent chance that this could happen – to move prices of above-par bonds.** As the prices drop closer to par for all AT1s with the option of a tax par call, then the likelihood of such a call becomes greater - or at least, a slightly-above-par but close to market price LME. Arguably, the drop in price would be no fault of the AT1 issuer (let's say it was a different issuer who suggested they were looking at a tax par call), so doing a 'generous' LME at a point above the market price - say at 104, albeit that the price was 110 a week prior - is simply linked to market moves, and not the 'innocent' issuer antagonising investors.

**Exhibit 4:** High cash price AT1 where tax par call optionality may arise

| ISIN         | Ticker | Coupon | Currency | First Call | Backend      | Ratings    | Offer | YtC | ZtC |
|--------------|--------|--------|----------|------------|--------------|------------|-------|-----|-----|
| XS1394911496 | BBVASM | 8.875  | EUR      | 14-Apr-21  | MS+917.7 bp  | Ba2/NR/BB  | 112.5 | 3.6 | 357 |
| XS1404935204 | BKTSM  | 8.625  | EUR      | 10-May-21  | MS+886.7 bp  | Ba3/NR/NR  | 112.1 | 3.6 | 361 |
| ES0840609004 | CABKSM | 6.75   | EUR      | 13-Jun-24  | MS+649.8 bp  | Ba3u/BB/NR | 105.9 | 5.6 | 513 |
| PTCGDJOM0022 | CXGD   | 10.75  | EUR      | 30-Mar-22  | MS+1092.5 bp | B2u/NR/B-  | 112.6 | 6.7 | 650 |
| XS1346815787 | ISPIM  | 7      | EUR      | 19-Jan-21  | MS+688.4 bp  | Ba3/BB-/B+ | 103.0 | 5.6 | 562 |
| XS1548475968 | ISPIM  | 7.75   | EUR      | 11-Jan-27  | MS+719.2 bp  | Ba3/BB-/B+ | 104.1 | 7.2 | 640 |
| XS1195632911 | NYKRE  | 6.25   | EUR      | 26-Oct-20  | MS+598.9 bp  | NR/BB+/BB+ | 107.0 | 2.6 | 271 |
| XS1602466424 | SANTAN | 6.75   | EUR      | 25-Apr-22  | MS+680.3 bp  | Ba1/NR/BB  | 107.5 | 4.5 | 431 |
| XS1107291541 | SANTAN | 6.25   | EUR      | 11-Sep-21  | MS+564 bp    | Ba1/NR/NR  | 103.6 | 5.0 | 487 |
| XS1539597499 | UCGIM  | 9.25   | EUR      | 03-Jun-22  | MS+930 bp    | NR/NR/B+   | 108.4 | 6.7 | 647 |

Source: Bloomberg, Morgan Stanley Research. Prices updated at 18:30 UK time on November 1, 2018.



## Extension risk – are perps truly perpetual?

**Extension risk is the risk that an issuer does not call a bond at the first call date:** All AT1 is perpetual with an issuer call at least five years after the original date of issue. At the call date, the issuer can redeem the bond (likely refinancing it with a newly issued AT1) or leave it outstanding – if an AT1 is not called it will still have full Tier 1 capital value.

Non-called AT1 coupons will reset at a prevailing five-year reference rate (typically mid-swaps) plus a reset rate which is set at issue. **AT1 cannot contain an incentive to redeem** – a requirement in the CRR. Many legacy Tier 1 bonds contained step-ups, where the reset rate would be higher than the new issue margin, but a step-up is considered an incentive to redeem by the EBA. To comply with CRR requirements, banks have issued AT1 with a reset rate equal to the margin at issue.

**We expect issuers to make economic decisions at the first call date**, in line with the CRR requirements (see [Call decisions and pre-financing](#)). AT1 with reset rates below the market rate carry the highest extension risk, simply due to the economics of refinancing. We appreciate that some banks may look to call and reissue if the difference between the two rates is low, seeing this as a 'reputational premium', but we think that it would be difficult to justify the 'economics' of this premium if it was substantial. **Credit spreads are the major factor in assessing extension risk.** Rates are less important because non-called AT1 will reset over the prevailing five-year mid-swap rate, so at the point of reset then you are still receiving a credit spread over current rates.

**Naturally, extension risk is highest for those bonds with low reset rates**, which include those bonds issued at the tight of 2017 and early 2018. **We expect focus on non-call risk to sharpen towards the end of the year**, given the recent spread widening, which raises the question of how to value non-called AT1.

### Valuing non-called AT1

**We prefer looking at yield-to-second (five-year) call to value non-called AT1**, as discussed at length in [Perpetuity Is Not Forever](#). A bond not being called does not necessarily mean it is a perp, so looking at yield-to-perpetuity seems like a bearish valuation – albeit one that remains useful in assessing the absolute downside scenario. We think that there is a high probability of the regulator reviewing the usefulness of AT1 in the next decade, given that bank capital regulations have typically been updated every 5-10 years. We expect economic decisions at call dates, but capital value provided by AT1 will be a key factor in that decision as naturally, without going concern capital value, AT1 looks very expensive. For this reason, second call dates make more sense for valuations than perpetuity.

**We do not expect significant forced selling of non-called AT1s** as we experienced with non-called legacy Tier 1. There is a risk that some investors are unable to hold truly perpetual bonds and would be forced to sell on the event of a non-call, causing immediate underperformance (like with the [Stan Chart \\$ 6.409% legacy Tier 1](#)). While

this is a risk, we think that this would be limited because of the AT1 buyer base – according to our [AT1 survey](#) 88% of bondholders are either preferred funds or asset managers, able to hold perpetual bonds or carry extension risk. In addition, 78% of those surveyed value AT1 to the first call and maturity, or simply maturity, so it is a risk already being factored into investment decisions. Should there be a significant move lower on the back of a non-call, we expect the broader AT1 investor base to come in rather quickly to buy.

## The future of AT1

**AT1 with a trigger of 5.125% is not going concern** – with average Pillar 1 and Pillar 2R requirements across eurozone banks, we expect banks to enter resolution before the trigger is hit, making AT1 high-coupon gone-concern capital. Even a 7% trigger has limited usefulness for UK and Swiss banks – three UK banks had a pass rate above 7% for the 2017 test, indicating the minimum capital requirements banks need to maintain even in a severe stress scenario. The pass rates will be even higher in the 2018 stress test as systemic risk buffers are included. The minimum CET1 requirement for Swiss banks is 10%, so again we think that there is a good chance of regulatory action before the trigger.

**We think that the regulator has to address the fundamental limitations of AT1:** As it is structured today, AT1 has very limited usefulness as going concern capital as it is difficult to see a scenario in which it would be triggered before the point of non-viability. Bank capital regulations have been updated every 5-10 years since Basel I was introduced in 1988. While we do not think that this is on regulatory agendas at present, we attribute a high probability to this being reviewed over the next decade. Once this is reviewed, outstanding AT1 would become obsolete and therefore callable.

**Exhibit 5: Low reset AT1**

| ISIN         | Ticker | Coupon | First Call | Call Frequency | Reset    | CET1 Trigger | Offer | YT1C | YT2C | YT3C | YTP | ZT1C |
|--------------|--------|--------|------------|----------------|----------|--------------|-------|------|------|------|-----|------|
| <b>USD</b>   |        |        |            |                |          |              |       |      |      |      |     |      |
| US05946KAF84 | BBVASM | 6.125  | 16/11/2027 | Anytime        | MS+387   | 5.125%       | 87.6  | 8.1  | 8.0  | 7.9  | 7.6 | 490  |
| USF1R15XK771 | BNP    | 5.125  | 15/11/2027 | 5 Years        | MS+283.8 | 5.125%       | 89.5  | 6.7  | 6.6  | 6.5  | 6.3 | 351  |
| XS1586367945 | DANBNK | 6.125  | 28/03/2024 | Semi-Annually  | MS+389.6 | 7.000%       | 90.8  | 8.3  | 7.8  | 7.7  | 7.5 | 516  |
| US251525AN16 | DB     | 7.5    | 30/04/2025 | 5 Years        | MS+500.3 | 5.125%       | 93.4  | 8.7  | 8.5  | 8.5  | 8.3 | 571  |
| XS1071551474 | DB     | 6.25   | 30/04/2020 | 5 Years        | MS+435.8 | 5.125%       | 92.8  | 11.5 | 8.5  | 8.2  | 7.9 | 874  |
| US404280BP39 | HSBC   | 6.5    | 23/03/2028 | 5 Years        | MS+360.6 | 7.000%       | 94.6  | 7.3  | 7.2  | 7.2  | 7.1 | 411  |
| US404280BL25 | HSBC   | 6      | 22/05/2027 | 5 Years        | MS+374.6 | 7.000%       | 93.0  | 7.1  | 7.1  | 7.1  | 7.0 | 393  |
| US46115HAU14 | ISPIM  | 7.7    | 17/09/2025 | Semi-Annually  | MS+546.2 | 5.125%       | 91.4  | 9.4  | 9.3  | 9.2  | 9.1 | 629  |
| XS1202090947 | NDASS  | 5.25   | 13/09/2021 | Annually       | MS+342.4 | 8.000%       | 97.0  | 6.3  | 6.3  | 6.4  | 6.4 | 330  |
| US65557DAL55 | NDASS  | 6.125  | 23/09/2024 | Semi-Annually  | MS+352.9 | 8.000%       | 96.9  | 6.8  | 6.8  | 6.8  | 6.7 | 364  |
| XS1584880352 | SEB    | 5.625  | 13/05/2022 | Anytime        | MS+349.3 | 8.000%       | 97.8  | 6.3  | 6.5  | 6.6  | 6.6 | 324  |
| XS1194054166 | SHBASS | 5.25   | 01/03/2021 | 5 Years        | MS+333.5 | 8.000%       | 99.3  | 5.5  | 6.1  | 6.3  | 6.3 | 249  |
| USF8586CBQ45 | SOCGEN | 6.75   | 06/04/2028 | 5 Years        | MS+392.9 | 5.125%       | 89.0  | 8.5  | 8.2  | 8.1  | 7.8 | 528  |
| CH0400441280 | UBS    | 5      | 31/01/2023 | Annually       | MS+250.7 | 7.000%       | 86.9  | 8.6  | 7.2  | 6.8  | 6.2 | 569  |
| XS1046224884 | UCGIM  | 8      | 03/06/2024 | Semi-Annually  | MS+518   | 5.125%       | 91.4  | 10.1 | 9.5  | 9.3  | 9.1 | 693  |
| <b>GBP</b>   |        |        |            |                |          |              |       |      |      |      |     |      |
| XS1658012023 | BACR   | 5.875  | 15/03/2023 | 5 Years        | MS+491   | 7.000%       | 95.6  | 6.8  | 6.8  | 6.8  | 6.8 | 535  |
| XS1071551391 | DB     | 7.125  | 30/04/2026 | 5 Years        | MS+425.7 | 5.125%       | 92.3  | 8.4  | 7.7  | 7.4  | 6.9 | 706  |
| <b>EUR</b>   |        |        |            |                |          |              |       |      |      |      |     |      |
| XS1693822634 | ABNANV | 4.75   | 22/09/2027 | Semi-Annually  | MS+389.8 | 5.125%       | 95.6  | 5.4  | 5.6  | 5.7  | 5.5 | 459  |
| XS1806328750 | BGAV   | 5      | 14/05/2025 | Semi-Annually  | MS+441   | 5.125%       | 95.6  | 5.9  | 6.1  | 6.2  | 6.0 | 530  |
| ES0840609012 | CABKSM | 5.25   | 23/03/2026 | Quarterly      | MS+450.4 | 5.125%       | 92.8  | 6.7  | 6.6  | 6.6  | 6.4 | 588  |
| BE0002582600 | CEGBB  | 3.625  | 16/04/2025 | 5 Years        | MS+293.8 | 5.125%       | 82.4  | 7.2  | 6.3  | 6.0  | 5.3 | 655  |
| DE000DB7XHP3 | DB     | 6      | 30/04/2022 | Quarterly      | MS+469.8 | 5.125%       | 94.1  | 8.0  | 6.9  | 6.9  | 6.6 | 787  |
| XS1640903701 | HSBC   | 4.75   | 04/07/2029 | 5 Years        | MS+384.4 | 7.000%       | 95.1  | 5.4  | 5.6  | 5.6  | 5.5 | 442  |
| XS1614415542 | ISPIM  | 6.25   | 16/05/2024 | Semi-Annually  | MS+585.6 | 5.125%       | 96.0  | 7.3  | 7.4  | 7.6  | 7.5 | 675  |
| XS1577953331 | JYBC   | 4.75   | 21/09/2027 | Semi-Annually  | MS+396.2 | 7.000%       | 96.4  | 5.3  | 5.5  | 5.6  | 5.5 | 448  |
| BE0002592708 | KBCBB  | 4.25   | 24/10/2025 | Annually       | MS+359.4 | 5.125%       | 92.0  | 5.7  | 5.7  | 5.7  | 5.4 | 507  |
| XS1725580465 | NDASS  | 3.5    | 12/03/2025 | Semi-Annually  | MS+300.3 | 5.125%       | 91.6  | 5.1  | 5.0  | 5.0  | 4.7 | 455  |
| XS1808862657 | PBBGR  | 5.75   | 28/04/2023 | 5 Years        | MS+538.3 | 7.000%       | 96.3  | 6.7  | 6.7  | 6.9  | 6.8 | 648  |
| XS1756703275 | RBAIV  | 4.5    | 15/06/2025 | Semi-Annually  | MS+387.7 | 5.125%       | 85.4  | 7.5  | 6.9  | 6.7  | 6.1 | 680  |
| XS1793250041 | SANTAN | 4.75   | 19/03/2025 | Quarterly      | MS+409.7 | 5.125%       | 89.1  | 7.1  | 6.7  | 6.6  | 6.2 | 637  |
| XS1739839998 | UCGIM  | 5.375  | 03/06/2025 | Semi-Annually  | MS+492.5 | 5.125%       | 86.1  | 8.3  | 8.3  | 7.7  | 7.2 | 762  |
| XS1619015719 | UCGIM  | 6.625  | 03/06/2023 | Semi-Annually  | MS+638.7 | 5.125%       | 95.1  | 8.1  | 8.1  | 8.2  | 8.0 | 766  |

Source: Bloomberg, Morgan Stanley Research; YT1C = yield to first call, YT2C = yield to second call, five years after the first possible call date, YT3C = yield to third call five years after the second possible call date. Prices updated around 18:30 UK time on November 1, 2018.

## Increasing call probability

**High reset AT1 carries lower extension risk**, again simply because of the economics of refinancing the instrument – a higher reset than market rates would make it cheaper for a bank to exercise its call option and reissue a new AT1. A simple way of reducing exposure to extension, and therefore duration, in AT1 is to be selective in choosing bonds which have a reset rate higher than the market rate of the same bank's five-year AT1 (as the coupon resets over the 5yr mid-swap, this is the best comparison).

**Extension risk is limited for AT1 that will become ineligible after CRR2**, in our view. We discussed non-EU law AT1s losing capital eligibility after CRR2 in detail in [Regulatory par calls](#). While this does raise the risk of regulatory par calls, it effectively eliminates extension risk because we expect issuers to call non-EU law AT1 bonds at the first call date (if this date is before CRR2 implementation).

## Foreign exchange losses

**Some banks face large foreign exchange losses in calling AT1**, as discussed in [FX Non-Calls, No Problem](#), November 16, 2017. Equity-accounted AT1 issued in a currency other than the balance sheet currency will often be an open, unhedged FX position for the issuer. Most banks that account AT1 as equity cannot mark-to-market FX moves through CET1 on an ongoing basis (only Credit Ag and SocGen can, we think), so the full movement would hit CET1 on redemption.

**A significant CET1 hit cannot be ignored in an economic decision at the first call date**, in our view. This is particularly relevant for UK banks in both \$ and € – against which sterling has depreciated by 22% and 9%, respectively since June 2014 when Barclays did its triple-tranche AT1 exchange. Similarly, this could be an issue for some European banks issuing in \$ – the euro has depreciated 15% against the dollar since the DB \$ 6.25% in May 2014.

**The bonds with the greatest current hits to CET1** (ie assuming fx rates stay the same) are Lloyds \$ 7.5% 24s (13bp), RBS \$ 7.5% 25s (12bp), Barclays \$ 8.25% 18s (9bp), Barclays \$ 6.625% 19s and RBS \$ 8% 25s (both 7bp). We think that this increases extension risk as this should factor into the economic decision. However, we note Barclays announced a call of its \$ 8.25% 18s because the ongoing earnings benefit from replacing with a lower coupon AT1 would offset the CET1 hit.

Exhibit 6: AT1 with FX gain/loss upon redemption

| ISIN                 | Ticker | Coupon | Next Call  | Amt OS (m) | B/S Value | FX Loss | Annual FX Cost<br>(PerpNC5 Spread) | CET1 Impact<br>(bps) | Home CCY | Accounting<br>Treatment | FX MTM<br>in CET1? |
|----------------------|--------|--------|------------|------------|-----------|---------|------------------------------------|----------------------|----------|-------------------------|--------------------|
| <b>Issues in USD</b> |        |        |            |            |           |         |                                    |                      |          |                         |                    |
| US06738EAA38         | BACR   | 8.25   | 15/12/2018 | 2000       | 1,242     | 327     | 104                                | 10                   | GBP      | Equity                  | No                 |
| US06738EAB11         | BACR   | 6.625  | 15/09/2019 | 1211.446   | 714       | 236     | 126                                | 7                    | GBP      | Equity                  | No                 |
| XS1481041587         | BACR   | 7.875  | 15/03/2022 | 1500       | 1,142     | 35      | 11                                 | 1                    | GBP      | Equity                  | No                 |
| USF1R15XK367         | BNP    | 7.375  | 19/08/2025 | 1500       | 1,349     | -28     | -4                                 | 0                    | EUR      | Equity                  | No                 |
| USF1R15XK441         | BNP    | 7.625  | 30/03/2021 | 1500       | 1,323     | -2      | -1                                 | 0                    | EUR      | Equity                  | No                 |
| USF1R15XK698         | BNP    | 6.75   | 14/03/2022 | 750        | 712       | -52     | -28                                | -1                   | EUR      | Equity                  | No                 |
| USF1R15XK771         | BNP    | 5.125  | 15/11/2027 | 750        | 636       | 24      | 8                                  | 0                    | EUR      | Equity                  | No                 |
| US251525AN16         | DB     | 7.5    | 30/04/2025 | 1500       | 1,211     | 110     | 17                                 | 3                    | EUR      | Equity                  | No                 |
| XS1071551474         | DB     | 6.25   | 30/04/2020 | 1250       | 917       | 184     | 68                                 | 5                    | EUR      | Equity                  | No                 |
| XS1207306652         | DNBNO  | 5.75   | 26/03/2020 | 750        | 5,934     | 364     | 24                                 | 3                    | NOK      | Equity                  | No                 |
| XS1506066676         | DNBNO  | 6.5    | 26/03/2022 | 750        | 6,112     | 185     | 11                                 | 2                    | NOK      | Equity                  | No                 |
| US46115HAU14         | ISPIM  | 7.7    | 17/09/2025 | 1000       | 875       | 6       | 1                                  | 0                    | EUR      | Equity                  | No                 |
| US539439AG42         | LLOYDS | 7.5    | 27/06/2024 | 1675       | 1,009     | 306     | 59                                 | 15                   | GBP      | Equity                  | No                 |
| US780099CJ48         | RBS    | 7.5    | 10/08/2020 | 2000       | 1,283     | 287     | 89                                 | 14                   | GBP      | Equity                  | No                 |
| US780099CK11         | RBS    | 8      | 10/08/2025 | 1150       | 738       | 165     | 45                                 | 8                    | GBP      | Equity                  | No                 |
| US780097BB64         | RBS    | 8.625  | 15/08/2021 | 2650       | 2,057     | 22      | 4                                  | 1                    | GBP      | Equity                  | No                 |
| XS1046224884         | UCGIM  | 8      | 03/06/2024 | 1250       | 911       | 189     | 41                                 | 5                    | EUR      | Equity                  | No                 |
| <b>Issues in GBP</b> |        |        |            |            |           |         |                                    |                      |          |                         |                    |
| XS1071551391         | DB     | 7.125  | 30/04/2026 | 650        | 801       | -72     | -15                                | -2                   | EUR      | Equity                  | No                 |
| <b>Issues in EUR</b> |        |        |            |            |           |         |                                    |                      |          |                         |                    |
| XS1002801758         | BACR   | 8      | 15/12/2020 | 1000       | 837       | 54      | 19                                 | 2                    | GBP      | Equity                  | No                 |
| XS1068574828         | BACR   | 6.5    | 15/09/2019 | 1076.73    | 860       | 100     | 44                                 | 3                    | GBP      | Equity                  | No                 |
| XS1111123987         | HSBC   | 5.25   | 16/09/2022 | 1500       | 1,930     | -226    | -29                                | -3                   | USD      | Equity                  | No                 |
| XS1298431104         | HSBC   | 6      | 29/09/2023 | 1000       | 1,125     | 11      | 2                                  | 0                    | USD      | Equity                  | No                 |
| XS1640903701         | HSBC   | 4.75   | 04/07/2029 | 1250       | 1,418     | 2       | 0                                  | 0                    | USD      | Equity                  | No                 |
| XS1043545059         | LLOYDS | 6.375  | 27/06/2020 | 750        | 622       | 46      | 24                                 | 2                    | GBP      | Equity                  | No                 |

Source: Bloomberg, Morgan Stanley Research; FX loss shows loss (positive) or gain (negative) to CET1 in home currency if redeemed. Annual FX costs shows the annualised spread-equivalent impact on a newly issued PerpNC5 AT1

## Call decisions and pre-financing

**Supervisors must consider the cost of replacing called regulatory capital, and should require refinancing earlier or at the same time as the call**, based on the CRR. Article 78 (full text below) is quite clear that supervisors need to consider the cost implications for banks. This does not prohibit uneconomic calls, but requires there to be a clear rationale for the regulators, which will be challenging if there is a significant cost difference.

Re-financing is also required before, or at the same time, as a call. **Issuers will typically refinance an AT1 3-6 months ahead of the call**, in our view, because of the length of the call process. A standard AT1 will require issuers to give bondholders 30-60 days' notice that the call option will be exercised, and it must obtain regulatory permission prior to the call, which can take up to three months. BBVA set the precedent by issuing the \$6.125% 27 in Nov-17 ahead of redeeming the \$9% 18 in May-18. Barclays followed by issuing the \$7.75% in Aug-18 ahead of the \$8.25 Nov-18 call, and SocGen further reinforced this by issuing the \$7.375% 23 in Sep-18 to de-risk the Dec-18 call. Similarly, we think BBVA has de-risked its Feb-19 call by issuing the €5.875% 23 in Sep-18.

### Article 78 - Supervisory permission for reducing own funds

1. The competent authority shall grant permission for an institution to reduce, repurchase, call or redeem Common Equity Tier 1, Additional Tier 1 or Tier 2 instruments where any of the following conditions is met:

(a) **earlier than or at the same time** as the action referred to in Article 77, **the institution replaces the instruments** referred to in Article 77 **with own funds instruments of equal or higher quality at terms that are sustainable for the income capacity of the institution**;

(b) **the institution has demonstrated** to the satisfaction of the competent authority **that the own funds of the institution would**, following the action in question, **exceed the requirements** laid down in Article 92(1) of this Regulation and the combined buffer requirement as defined in point (6) of Article 128 of Directive 2013/36/EU by a margin that the competent authority may consider necessary on the basis of Article 104(3) of Directive 2013/36/EU.

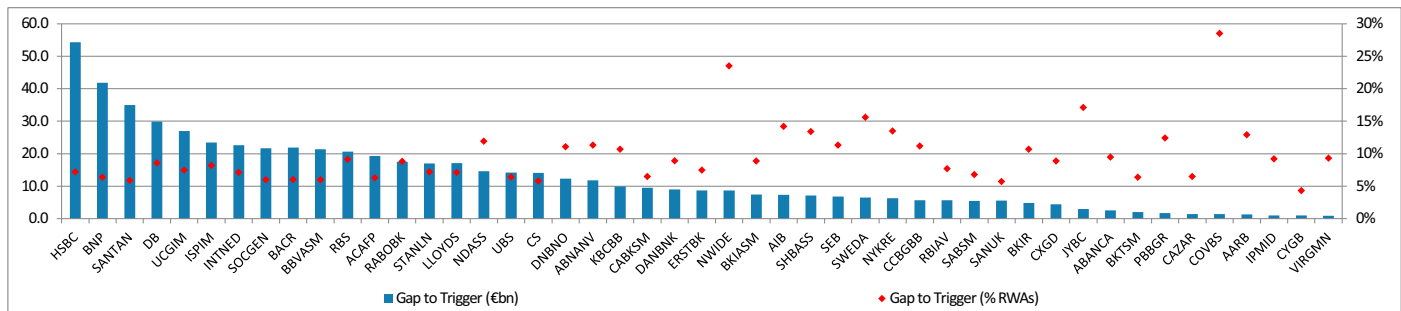
2. When assessing under point (a) of paragraph 1 the sustainability of the replacement instruments for the income capacity of the institution, **competent authorities shall consider the extent to which those replacement capital instruments would be more costly for the institution** than those they would replace.

## Trigger risk – Only in resolution

**Trigger risk is the risk that an issuer's CET1 ratio falls to the level at which the AT1 will either be written down (permanently or temporarily) or converted into equity:** The level of the trigger can depend on the issuer or the bond – eurozone banks usually opt for the low trigger of 5.125%, but some choose the higher trigger of 7%. UK and Swiss bank AT1 must be high trigger at 7%, while Swedish banks are required to have a minimum trigger level of 8%.

**The risk of AT1 being triggered while a bank remains a going concern is close to zero, in our view:** As discussed above in [Valuing non-called AT1](#), we see a very limited chance of AT1 being triggered before a bank hits the point of non-viability and enters resolution. [Exhibit 7](#) shows the distance banks have to the higher trigger of their outstanding AT1 bonds. The average bank has headroom of €12.6 billion, or 9.7% of RWAs, giving a large cushion before bondholders would get written down or converted in a going concern bank. Indeed, in most circumstances coupons should be switched off before the trigger is hit, giving an early indication of severe difficulties.

**Exhibit 7:** Distance to AT1 trigger



Source: Company data, Morgan Stanley Research

## Thematic AT1 recommendations

With our cautious view on the broader market and AT1 in particular, we have limited Buy recommendations in this sector. Below are our thematic AT1 recommendations:

- **Low reset AT1s look oversold for high quality issuers.** Below par bonds carry the highest extension risk as they have low resets; however, we think that while these bonds may not get called they should not trade to perp. Capital regulations get updated every 5-10 years, and we think the regulator is likely to review the usefulness of AT1 as going concern capital in the next decade. Low reset bonds look attractive on a yield-to-second, or even -third, call valuation.
- **We are cautious on above par, non-EEA law bonds, which could be subject to reg par calls...** The CRR2 makes non-EEA law bonds ineligible. Our base case is implementation will be delayed, but if the Parliament's proposed implementation date of 1 Jan 2020 is used, this could trigger reg par calls, a concern for above par bonds.
- **...and also on high cash price AT1s that may get tax par call optionality.** The European Commission's investigation into tax deductibility is likely to cause tax rules to change in some EU countries, with the Netherlands and UK already reacting. We think Danish, Portuguese, Italian and Spanish banks may get tax par call optionality on AT1s, a concern for high cash price bonds.
- **Turkish exposure could drag on credit spreads.** The broader uncertainty caused by Turkish lira depreciation is likely to further impact the asset quality of European banks active in Turkey.
- **Switching out of Italian-exposed French banks.** We Sell BNP as it is heavily exposed to Italy with €140bn of total on- and off-balance sheet exposure, in favour of HSBC, which is internationally diversified, or Swiss banks UBS and CS, which should be more protected from eurozone concerns.
- **We are sellers of peripheral banks** due to political events in Italy and the sovereign debt trajectory causing volatility. We also Sell Spanish banks, despite spreads likely to be less volatile, due to concerns on contagion.

## Exhibit 8: Thematic AT1 recommendations

| B/S  | ISIN         | Ticker | Cpn   | Crncy | Call Date  | Ratings        | Offer | YtC  | Z sprd |
|--|--------------|--------|-------|-------|------------|----------------|-------|------|--------|
| <b>Low reset AT1s look oversold for high quality issuers</b>                               |              |        |       |       |            |                |       |      |        |
| Buy  | US404280BP39 | HSBC   | 6.5   | USD   | 23/03/2028 | Baa3/NR/BBB    | 94.6  | 7.3  | 411    |
| Buy  | US404280BL25 | HSBC   | 6     | USD   | 22/05/2027 | Baa3/NR/BBB    | 93.0  | 7.1  | 393    |
| Buy  | XS1202090947 | NDASS  | 5.25  | USD   | 13/09/2021 | Ba1u/BBB/BBB   | 97.0  | 6.3  | 330    |
| Buy  | US65557DAL55 | NDASS  | 6.125 | USD   | 23/09/2024 | Ba1u/BBB/BBB   | 96.9  | 6.8  | 364    |
| Buy  | XS1584880352 | SEB    | 5.625 | USD   | 13/05/2022 | Ba1/NR/BBB     | 97.8  | 6.3  | 324    |
| Buy  | CH0400441280 | UBS    | 5     | USD   | 31/01/2023 | Ba1u/BB/BBB-   | 86.9  | 8.6  | 569    |
| Buy  | XS1693822634 | ABNANV | 4.75  | EUR   | 22/09/2027 | Ba1u/NR/BB+    | 95.6  | 5.4  | 459    |
| Buy  | BE0002582600 | CCBGBB | 3.625 | EUR   | 16/04/2025 | Ba2/BB+/NR     | 82.4  | 7.2  | 655    |
| Buy  | XS1640903701 | HSBC   | 4.75  | EUR   | 04/07/2029 | Baa3/NR/BBB    | 95.1  | 5.4  | 442    |
| Buy  | BE0002592708 | KBCBB  | 4.25  | EUR   | 24/10/2025 | NR/BB+/BB+     | 92.0  | 5.7  | 507    |
| Buy  | XS1725580465 | NDASS  | 3.5   | EUR   | 12/03/2025 | Ba1u/BBB/BBB   | 91.6  | 5.1  | 455    |
| <b>Cautious on above par, non-EEA law bonds which could be subject to reg par calls...</b> |              |        |       |       |            |                |       |      |        |
| Sell   | XS1055037920 | ACAFP  | 7.5   | GBP   | 23/06/2026 | NR/NR/BBB-     | 108.4 | 6.2  | 462    |
| Sell   | XS1548475968 | ISPIM  | 7.75  | EUR   | 11/01/2027 | Ba3/BB-/B+     | 103.4 | 7.3  | 652    |
| Sell   | USF22797RT78 | ACAFP  | 7.875 | USD   | 23/01/2024 | NR/BBB-/BBB-   | 103.5 | 7.1  | 416    |
| Sell   | USF2R125CD54 | ACAFP  | 8.125 | USD   | 23/12/2025 | Ba1u/BBB-/BBB- | 107.0 | 6.9  | 374    |
| <b>... and also high cash price AT1s that may get tax par call optionality</b>             |              |        |       |       |            |                |       |      |        |
| Sell   | PTCGDJOM0022 | CXGD   | 10.75 | EUR   | 30/03/2022 | B2u/NR/B-      | 111.9 | 7.0  | 673    |
| Sell   | XS1539597499 | UCGIM  | 9.25  | EUR   | 03/06/2022 | NR/NR/B+       | 107.9 | 6.8  | 663    |
| <b>Turkish exposure could drag on credit spreads</b>                                       |              |        |       |       |            |                |       |      |        |
| Sell   | XS1046224884 | UCGIM  | 8     | USD   | 03/06/2024 | NR/NR/B+       | 90.4  | 10.3 | 718    |
| Sell   | XS1107890847 | UCGIM  | 6.75  | EUR   | 10/09/2021 | NR/NR/B+       | 96.3  | 8.4  | 824    |
| Sell   | XS1539597499 | UCGIM  | 9.25  | EUR   | 03/06/2022 | NR/NR/B+       | 107.9 | 6.8  | 663    |
| Sell   | XS1619015719 | UCGIM  | 6.625 | EUR   | 03/06/2023 | B1u/NR/B+      | 94.6  | 8.2  | 779    |
| Sell   | XS1739839998 | UCGIM  | 5.375 | EUR   | 03/06/2025 | B1u/NR/B+      | 85.6  | 8.4  | 773    |
| Sell   | US05946KAF84 | BBVASM | 6.125 | USD   | 16/11/2027 | Ba2/NR/BB      | 86.6  | 8.3  | 507    |
| Sell   | XS1619422865 | BBVASM | 5.875 | EUR   | 24/05/2022 | Ba2/NR/BB      | 99.8  | 6.1  | 584    |
| Sell   | XS1033661866 | BBVASM | 7     | EUR   | 19/02/2019 | NR/NR/BB       | 101.0 | 3.5  | 374    |
| Sell   | XS1190663952 | BBVASM | 6.75  | EUR   | 18/02/2020 | Ba2/NR/BB      | 102.9 | 4.5  | 463    |
| Sell   | XS1394911496 | BBVASM | 8.875 | EUR   | 14/04/2021 | Ba2/NR/BB      | 111.5 | 4.0  | 397    |
| Sell   | US456837AE31 | INTNED | 6     | USD   | 16/04/2020 | Ba1/BB/BBB-    | 99.9  | 6.1  | 308    |
| Sell   | XS1497755360 | INTNED | 6.875 | USD   | 16/04/2022 | Ba1/NR/BBB-    | 101.0 | 6.5  | 344    |
| Sell   | US456837AF06 | INTNED | 6.5   | USD   | 16/04/2025 | Ba1/BB/BBB-    | 95.1  | 7.5  | 433    |
| Sell   | USF1R15XK367 | BNP    | 7.375 | USD   | 19/08/2025 | Ba1/BBB-/BBB-  | 102.8 | 6.9  | 371    |
| Sell   | USF1R15XK698 | BNP    | 6.75  | USD   | 14/03/2022 | Ba1/BBB-/BBB-  | 101.1 | 6.4  | 326    |
| Sell   | XS1247508903 | BNP    | 6.125 | EUR   | 17/06/2022 | Ba1/BBB-/BBB-  | 107.5 | 3.9  | 376    |

Source: Bloomberg, Morgan Stanley Research; Buy= recommendation to buy, Sell = recommendation to sell. Prices updated at 18:30 on November 1, 2018. Bid price for sell, offer price for buy. Ratings format – Moody's/S&P/Fitch.

## Exhibit 9: Thematic AT1 recommendations (continued)

| B/S  | ISIN         | Ticker | Cpn   | Crncy | Call Date  | Ratings       | Offer | YtC  | Z sprd |
|--|--------------|--------|-------|-------|------------|---------------|-------|------|--------|
| <b>Switching out of Italian-exposed French banks</b> |              |        |       |       |            |               |       |      |        |
| Sell   | XS1247508903 | BNP    | 6.125 | EUR   | 17/06/2022 | Ba1/BBB-/BBB- | 107.5 | 3.9  | 376    |
| Buy  | XS1111123987 | HSBC   | 5.25  | EUR   | 16/09/2022 | Baa3/NR/BBB   | 105.4 | 3.8  | 358    |
| Buy  | CH0271428309 | UBS    | 5.75  | EUR   | 19/02/2022 | NR/BB+/BBB-   | 109.4 | 2.7  | 265    |
| Buy  | CH0271428333 | UBS    | 7     | USD   | 19/02/2025 | NR/BB+/BBB-   | 104.6 | 6.0  | 292    |
| Sell   | USF1R15XK367 | BNP    | 7.375 | USD   | 19/08/2025 | Ba1/BBB-/BBB- | 102.8 | 6.9  | 371    |
| Buy  | CH0352765157 | CS     | 7.125 | USD   | 29/07/2022 | Ba2u/BB-/BB   | 102.4 | 6.4  | 329    |
| Buy  | XS0989394589 | CS     | 7.5   | USD   | 11/12/2023 | NR/BB/BB      | 105.0 | 6.3  | 321    |
| <b>We sell peripheral banks</b>                      |              |        |       |       |            |               |       |      |        |
| Sell   | US46115HAU14 | ISPIM  | 7.7   | USD   | 17/09/2025 | Ba3/BB-/B+    | 90.4  | 9.6  | 650    |
| Sell   | XS1046224884 | UCGIM  | 8     | USD   | 03/06/2024 | NR/NR/B+      | 90.4  | 10.3 | 718    |
| Sell   | XS1346815787 | ISPIM  | 7     | EUR   | 19/01/2021 | Ba3/BB-/B+    | 102.5 | 5.9  | 586    |
| Sell   | XS1548475968 | ISPIM  | 7.75  | EUR   | 11/01/2027 | Ba3/BB-/B+    | 103.4 | 7.3  | 652    |
| Sell   | XS1614415542 | ISPIM  | 6.25  | EUR   | 16/05/2024 | Ba3/BB-/B+    | 95.3  | 7.4  | 692    |
| Sell   | XS1107890847 | UCGIM  | 6.75  | EUR   | 10/09/2021 | NR/NR/B+      | 96.3  | 8.4  | 824    |
| Sell   | XS1539597499 | UCGIM  | 9.25  | EUR   | 03/06/2022 | NR/NR/B+      | 107.9 | 6.8  | 663    |
| Sell   | XS1619015719 | UCGIM  | 6.625 | EUR   | 03/06/2023 | B1u/NR/B+     | 94.6  | 8.2  | 779    |
| Sell   | XS1739839998 | UCGIM  | 5.375 | EUR   | 03/06/2025 | B1u/NR/B+     | 85.6  | 8.4  | 773    |
| Sell   | XS1043535092 | SANTAN | 6.25  | EUR   | 12/03/2019 | Ba1/NR/NR     | 99.8  | 7.1  | 724    |
| Sell   | XS1107291541 | SANTAN | 6.25  | EUR   | 11/09/2021 | Ba1/NR/NR     | 102.9 | 5.3  | 515    |
| Sell   | XS1602466424 | SANTAN | 6.75  | EUR   | 25/04/2022 | Ba1/NR/BB     | 106.8 | 4.7  | 453    |
| Sell   | XS1692931121 | SANTAN | 5.25  | EUR   | 29/09/2023 | Ba1/NR/BB     | 97.6  | 5.9  | 550    |
| Sell   | XS1619422865 | BBVASM | 5.875 | EUR   | 24/05/2022 | Ba2/NR/BB     | 99.8  | 6.1  | 584    |
| Sell   | XS1033661866 | BBVASM | 7     | EUR   | 19/02/2019 | NR/NR/BB      | 101.0 | 3.5  | 374    |
| Sell   | XS1190663952 | BBVASM | 6.75  | EUR   | 18/02/2020 | Ba2/NR/BB     | 102.9 | 4.5  | 463    |
| Sell   | XS1394911496 | BBVASM | 8.875 | EUR   | 14/04/2021 | Ba2/NR/BB     | 111.5 | 4.0  | 397    |
| Sell   | XS1066553329 | SANTAN | 6.375 | USD   | 19/05/2019 | Ba1/NR/NR     | 98.6  | 9.1  | 626    |
| Sell   | US05946KAF84 | BBVASM | 6.125 | USD   | 16/11/2027 | Ba2/NR/BB     | 86.6  | 8.3  | 507    |

Source: Bloomberg, Morgan Stanley Research; Buy= recommendation to buy, Sell = recommendation to sell. Prices updated at 18:30 on November 1, 2018. Bid price for sell, offer price for buy. Ratings format – Moody's/S&P/Fitch.



**Exhibit 10: Valuation methodology and risks**

| Recommendation   | Risks  |
|--|--|
| <b>Perpetuity Is Not Forever</b><br>The risks of AT1 reg and tax par calls are increasing, making below par AT1s look more attractive. Naturally, below par bonds carry the highest extension risk as they have low resets, however we think that while these bonds may not get called they should not trade to perp. Capital regulations get updated every 5-10 years and we think the regulator is likely to review the usefulness of AT1 as going concern capital in the next decade. Low reset bonds look attractive on a yield-to-second-call valuation | Issuers decide to call and refinance AT1 at the first call date despite it not making economic sense. Regulators decide never to review the usefulness of AT1 as going concern capital. Investor reaction to non-called AT1 could be more negative than we expect.                                 |
| <b>Rounding Up The Regulatory Calls</b><br>We are cautious on above par, non-EEA law bonds which could be subject to reg par calls... The CRR2 makes non-EEA law bonds ineligible. Our base case is implementation will be delayed, but if the Parliament's proposed implementation date of 1 Jan 2020 is used then this could trigger reg par calls, a concern for above par bonds  | CRR2 implementation could be delayed to allow banks to adjust to the new rules, which would remove reg par call risk   |
| <b>Tax Par Call Optionality</b><br>We Sell CXGD € 10.75% and UCGIM € 9.25%, These are high-cash-price AT1s in countries where we believe tax deductibility is likely to be removed, allowing the banks to call at par. It would just take one bank to do it, or threaten it, or even not deny they might use it, for prices to drop.   | Tax authorities across the EU decide to move to the French/German approach to making tax rulings based on the structure, not the issuer. D G Comp does not pursue enquiries with other member states which, like the Netherlands, have potential state aid issues linked to AT1 tax deductibility. |
| <b>Committed To Turkey</b><br>We Sell European banks with large exposures to Turkey as we think broader uncertainty in the country could weigh on bank spreads. Unicredit, BBVA, ING and BNP all have significant operations in Turkey   | Wider uncertainty does not impact bank trading levels. Changes in policy directed at the financial sector could change how European banks approach operations in Turkey  |
| <b>Retreating from the Periphery</b><br>Political events in the periphery could cause market sentiment to worsen, with the outlook for credit spreads skewed to the downside. We sell Italian and Spanish banks because of this uncertainty.   | Bank credit could prove more resilient to uncertainty than our expectations, the ECB could begin buying European bank bonds and political uncertainty could be resolved more quickly   |
| <b>Switching into Summer - CAT1s</b><br>We are more bearish on spreads and look to switch into more defensive names. In AT1 we sell BNP with its significant Italian exposure based on our expectations for peripheral risk to underperform, preferring  | Our economists' base case prevails and BNP does not underperform peers, the market become more sanguine about event risk and the AT1 market rallies as a whole   |
| <b>Switching into Summer - SAT1s</b><br>We are more bearish on spreads and look to switch into more defensive names. In AT1 we sell BNP with its significant Italian exposure based on our expectations for peripheral risk to underperform, preferring  | Our economists' base case prevails and peripheral-exposed back do not underperform peers, the market become more sanguine about event risk and the Tier 2 market rallies as a whole  |

Source: Morgan Stanley Research

**Definition of terms**

**Buy:** The analyst expects that over the next 6 months the instrument's total return shall be greater than the total return of the benchmark composed of comparable instruments in the same currency and asset class issued by the other European banks.

**Sell:** The analyst expects that over the next 6 months the instrument's total return shall be lesser than the total return of the benchmark composed of comparable instruments in the same currency and asset class issued by the other European banks.

Unless otherwise specified, the price of financial instruments mentioned in the recommendation is as at the date and time of publication of the recommendation.

**Pair trade:** Is a market-neutral strategy in which an analyst recommends matching a long position (Buy) in one instrument with a corresponding short position (Sell) in a different instrument. The analyst expects that over the next three months the credit spread of the instrument recommended on the Buy leg of the trade will narrow while the credit spread on the instrument recommended on the Sell leg will widen. In addition, the analyst expects that each of the Buy and Sell legs of the trade will independently perform in accordance to the Buy and Sell definitions set forth above.

For important disclosures related to the proportion of all investment recommendations over the past 12 months that fit each of the categories defined above, and the proportion of issuers corresponding to each of those categories to which Morgan Stanley has supplied material services, please see the Morgan Stanley disclosure at <https://ny.matrix.ms.com/eqr/article/webapp/a5cdea6a-d95a-11e8-9388-71fc4ae660a6?ch=rpint&sch=ar>

Exhibit 11: History of recommendations

| CCY | Ticker | Company Name             | Cpn    | Maturity Date | Entry Date | Type | Side | ISIN         | Entry Level Price | Entry Level Spread | Entry Level Benchmark |
|-----|--------|--------------------------|--------|---------------|------------|------|------|--------------|-------------------|--------------------|-----------------------|
| USD | ACAFP  | CREDIT AGRICOLE SA       | 7.8750 | Perpetual     | 21-Jul-17  | AT1  | Sell | USF22797RT78 | 111.750           | 371.67             | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 7.8750 | Perpetual     | 11-Sep-17  | AT1  | Buy  | USF22797RT78 | 111.875           | 383.65             | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 7.8750 | Perpetual     | 5-Dec-17   | AT1  | Buy  | USF22797RT78 | 113.750           | 299.372            | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 7.8750 | Perpetual     | 8-Feb-18   | AT1  | Buy  | USF22797RT78 | 112.400           | 275.000            | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 7.8750 | Perpetual     | 7-Sep-18   | AT1  | Sell | USF22797RT78 | 106.750           |                    | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 8.1250 | Perpetual     | 21-Jul-17  | AT1  | Sell | USF2R125CD54 | 118.000           | 336.35             | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 8.1250 | Perp          | 5-Dec-17   | AT1  | Buy  | USF2R125CD54 | 120.500           | 271.045            | Z Spread              |
| USD | ACAFP  | CREDIT AGRICOLE SA       | 8.1250 | Perp          | 22-May-18  | AT1  | Buy  | USF2R125CD54 | 112.400           | 305.00             | Z Spread              |
| USD | ACAFP  | Credit Agricole SA       | 8.1250 | Perp          | 7-Sep-18   | AT1  | Sell | USF2R125CD54 | 110.625           |                    | Z Spread              |
| GBP | ACAFP  | CREDIT AGRICOLE SA       | 7.5000 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1055037920 | 113.625           | 443.07             | Z Spread              |
| GBP | ACAFP  | CREDIT AGRICOLE SA       | 7.5000 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1055037920 | 120.125           | 337                | Z Spread              |
| GBP | ACAFP  | Credit Agricole SA       | 7.5000 | Perp          | 7-Sep-18   | AT1  | Sell | XS1055037920 | 112.5             |                    | Z Spread              |
| USD | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.1250 | Perp          | 5-Dec-17   | AT1  | Buy  | US05946KAF84 | 107.750           | 339.269            | Z Spread              |
| USD | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.1250 | Perp          | 29-May-18  | AT1  | Sell | US05946KAF84 | 87.400            | 503.000            | Z Spread              |
| USD | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.1250 | Perp          | 17-Sep-18  | AT1  | Sell | US05946KAF84 | 89.4              | 472                |                       |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 7.0000 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1033661866 | 104.375           | 429.10             | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 7.0000 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1033661866 | 105.375           | 266.279            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 7.0000 | Perp          | 29-May-18  | AT1  | Sell | XS1033661866 | 101.500           | 435.000            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 7.0000 | Perp          | 17-Sep-18  | AT1  | Sell | XS1033661866 | 101.3             | 423                |                       |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.7500 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1190663952 | 106.000           | 435.19             | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.7500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1190663952 | 108.500           | 291.968            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.7500 | Perp          | 29-May-18  | AT1  | Sell | XS1190663952 | 103.000           | 478.000            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 6.7500 | Perp          | 17-Sep-18  | AT1  | Sell | XS1190663952 | 103.9             | 412                |                       |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 8.8750 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1394911496 | 116.375           | 405.27             | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 8.8750 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1394911496 | 119.000           | 294.451            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 8.8750 | Perp          | 29-May-18  | AT1  | Sell | XS1394911496 | 110.300           | 488.000            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 8.8750 | Perp          | 17-Sep-18  | AT1  | Sell | XS1394911496 | 112.1             | 396                |                       |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 5.8750 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1619422865 | 108.625           | 366.025            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 5.8750 | Perp          | 29-May-18  | AT1  | Sell | XS1619422865 | 100.100           | 559.000            | Z Spread              |
| EUR | BBVASM | BANCO BILBAO VIZCAYA ARG | 5.8750 | Perp          | 17-Sep-18  | AT1  | Sell | XS1619422865 | 102.0             | 517                |                       |
| USD | BNP    | BNP PARIBAS              | 7.3750 | Perpetual     | 21-Jul-17  | AT1  | Buy  | USF1R15XK367 | 113.250           | 325.98             | Z Spread              |
| USD | BNP    | BNP PARIBAS              | 7.3750 | Perp          | 20-Jun-18  | AT1  | Sell | USF1R15XK367 | 104.125           | 371.23             | Z Spread              |
| USD | BNP    | BNP PARIBAS              | 7.3750 | Perp          | 17-Sep-18  | AT1  | Sell | USF1R15XK367 | 105.1             | 349                |                       |
| EUR | BNP    | BNP PARIBAS              | 6.1250 | Perpetual     | 21-Jul-17  | AT1  | Buy  | XS1247508903 | 112.375           | 314.85             | Z Spread              |
| EUR | BNP    | BNP PARIBAS              | 6.1250 | Perp          | 25-Jun-18  | AT1  | Sell | XS1247508903 | 109.4             | 348                | Z Spread              |
| EUR | BNP    | BNP PARIBAS              | 6.1250 | Perp          | 17-Sep-18  | AT1  | Sell | XS1247508903 | 110.5             | 302                |                       |
| EUR | DANBNK | DANSKE BANK              | 5.8750 | Perp          | 5-Sep-18   | AT1  | Sell | XS1190987427 | 107.000           |                    | Z Spread              |
| EUR | DANBNK | DANSKE BANK A/S          | 5.8750 | Perp          | 21-Jul-17  | AT1  | Buy  | XS1190987427 | 110.875           | 316.51             | Z Spread              |
| EUR | DANBNK | DANSKE BANK A/S          | 5.8750 | Perp          | 25-Jun-18  | AT1  | Buy  | XS1190987427 | 109.6             | 309                | Z Spread              |
| USD | INTNED | ING GROEP NV             | 6.5000 | Perpetual     | 21-Jul-17  | AT1  | Sell | US456837AF06 | 107.000           | 332.21             | Z Spread              |
| USD | INTNED | ING GROEP NV             | 6.5000 | Perpetual     | 5-Dec-17   | AT1  | Sell | US456837AF06 | 108.625           | 278.829            | Z Spread              |
| USD | INTNED | ING GROEP NV             | 6.5000 | Perp          | 20-Jun-18  | AT1  | Buy  | US456837AF06 | 99.500            | 366.54             | Z Spread              |
| USD | INTNED | ING GROEP NV             | 6.5000 | Perp          | 17-Sep-18  | AT1  | Sell | US456837AF06 | 97.1              | 409                |                       |
| USD | ISPM   | INTESA SANPAOLO SPA      | 7.7000 | Perp          | 21-Jul-17  | AT1  | Sell | US46115HAU14 | 105.750           | 469.71             | Z Spread              |
| USD | ISPM   | INTESA SANPAOLO SPA      | 7.7000 | Perp          | 1-Dec-17   | AT1  | Buy  | US46115HAU14 | 109.500           | 386.02             | Z Spread              |
| USD | ISPM   | INTESA SANPAOLO SPA      | 7.7000 | Perp          | 5-Dec-17   | AT1  | Buy  | US46115HAU14 | 109.375           | 386.04             | Z Spread              |
| USD | ISPM   | INTESA SANPAOLO SPA      | 7.7000 | Perp          | 1-May-18   | AT1  | Buy  | US46115HAU14 | 106.800           | 359.000            | Z Spread              |
| USD | ISPM   | INTESA SANPAOLO SPA      | 7.7000 | Perp          | 29-May-18  | AT1  | Sell | US46115HAU14 | 94.800            | 572.000            | Z Spread              |
| USD | ISPM   | Intesa Sanpaolo SpA      | 7.7000 | Perp          | 7-Sep-18   | AT1  | Sell | US46115HAU14 | 94.125            |                    | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.0000 | Perp          | 21-Jul-17  | AT1  | Sell | XS1346815787 | 107.125           | 472.43             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.0000 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1346815787 | 111.625           | 311.06             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.0000 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1346815787 | 111.500           | 316                | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.0000 | Perp          | 1-May-18   | AT1  | Buy  | XS1346815787 | 110.000           | 315.000            | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.0000 | Perp          | 29-May-18  | AT1  | Sell | XS1346815787 | 100.600           | 659.000            | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.7500 | Perp          | 21-Jul-17  | AT1  | Sell | XS1548475968 | 112.500           | 527.98             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.7500 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1548475968 | 122.375           | 407.77             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.7500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1548475968 | 122.250           | 411                | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.7500 | Perp          | 1-May-18   | AT1  | Buy  | XS1548475968 | 122.900           | 377.000            | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 7.7500 | Perp          | 29-May-18  | AT1  | Sell | XS1548475968 | 107.300           | 587.000            | Z Spread              |
| EUR | ISPM   | Intesa Sanpaolo SpA      | 7.7500 | Perp          | 7-Sep-18   | AT1  | Sell | XS1548475968 | 106.500           |                    | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 6.2500 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1614415542 | 102.875           | 525.56             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 6.2500 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1614415542 | 109.375           | 419.69             | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 6.2500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1614415542 | 109.250           | 424                | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 6.2500 | Perp          | 1-May-18   | AT1  | Buy  | XS1614415542 | 109.600           | 392.000            | Z Spread              |
| EUR | ISPM   | INTESA SANPAOLO SPA      | 6.2500 | Perp          | 29-May-18  | AT1  | Sell | XS1614415542 | 96.400            | 651.000            | Z Spread              |
| GBP | LLOYDS | LLOYDS BANKING GROUP PLC | 7.8750 | Perp          | 21-Jul-17  | AT1  | Buy  | XS1043552261 | 118.625           | 444.37             | Z Spread              |
| GBP | LLOYDS | LLOYDS BANKING GROUP PLC | 7.8750 | Perp          | 5-Sep-18   | AT1  | Sell | XS1043552261 | 115.400           |                    | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1043535092 | 104.000           | 390.44             | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1043535092 | 104.625           | 274.157            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perp          | 29-May-18  | AT1  | Sell | XS1043535092 | 101.100           | 434.000            | Z Spread              |
| USD | SANTAN | BANCO SANTANDER SA       | 6.3750 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1066553329 | 102.750           | 316.22             | Z Spread              |
| USD | SANTAN | BANCO SANTANDER SA       | 6.3750 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1066553329 | 102.500           | 261.376            | Z Spread              |
| USD | SANTAN | BANCO SANTANDER SA       | 6.3750 | Perp          | 29-May-18  | AT1  | Sell | XS1066553329 | 99.600            | 326.000            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perp          | 21-Jul-17  | AT1  | Sell | XS1107291541 | 106.000           | 453.25             | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1107291541 | 110.000           | 338.242            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.2500 | Perp          | 29-May-18  | AT1  | Sell | XS1107291541 | 105.800           | 418.000            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.7500 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1602466424 | 109.250           | 438.07             | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.7500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1602466424 | 113.750           | 326.681            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 6.7500 | Perp          | 29-May-18  | AT1  | Sell | XS1602466424 | 106.400           | 464.000            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 5.2500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1692931121 | 105.750           | 385.678            | Z Spread              |
| EUR | SANTAN | BANCO SANTANDER SA       | 5.2500 | Perp          | 29-May-18  | AT1  | Sell | XS1692931121 | 98.300            | 521.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT                | 9.2500 | Perp          | 5-Sep-18   | AT1  | Sell | XS1539597499 | 109.500           |                    | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1046224884 | 106.000           | 488.85             | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1046224884 | 110.625           | 376.49             | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1046224884 | 110.375           | 379                | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 8-Feb-18   | AT1  | Buy  | XS1046224884 | 109.900           | 339.000            | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 1-May-18   | AT1  | Buy  | XS1046224884 | 105.000           | 405.000            | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 29-May-18  | AT1  | Sell | XS1046224884 | 92.500            | 660.000            | Z Spread              |
| USD | UCGIM  | UNICREDIT SPA            | 8.0000 | Perp          | 17-Sep-18  | AT1  | Sell | XS1046224884 | 95.9              | 591                |                       |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 21-Jul-17  | AT1  | Sell | XS1107890847 | 103.500           | 567.17             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1107890847 | 109.250           | 403.36             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1107890847 | 108.875           | 415                | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 1-May-18   | AT1  | Buy  | XS1107890847 | 108.400           | 396.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 29-May-18  | AT1  | Sell | XS1107890847 | 97.900            | 721.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.7500 | Perp          | 17-Sep-18  | AT1  | Sell | XS1107890847 | 101.9             | 606                |                       |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1539597499 | 115.125           | 545.00             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1539597499 | 122.375           | 367.18             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1539597499 | 122.125           | 374                | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perp          | 1-May-18   | AT1  | Buy  | XS1539597499 | 120.100           | 368.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perp          | 29-May-18  | AT1  | Sell | XS1539597499 | 109.400           | 618.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 9.2500 | Perp          | 17-Sep-18  | AT1  | Sell | XS1539597499 | 113.3             | 517                |                       |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perpetual     | 21-Jul-17  | AT1  | Sell | XS1619015719 | 102.625           | 575.19             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perp          | 1-Dec-17   | AT1  | Buy  | XS1619015719 | 109.875           | 432.67             | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perp          | 5-Dec-17   | AT1  | Buy  | XS1619015719 | 109.500           | 442                | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perp          | 1-May-18   | AT1  | Buy  | XS1619015719 | 109.000           | 426.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perp          | 29-May-18  | AT1  | Sell | XS1619015719 | 96.900            | 697.000            | Z Spread              |
| EUR | UCGIM  | UNICREDIT SPA            | 6.6250 | Perp          | 17-Sep-18  | AT1  | Sell | XS1619015719 | 100.5             | 625                |                       |
| EUR | UC     |                          |        |               |            |      |      |              |                   |                    |                       |

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| STOCK RATING<br>CATEGORY | COVERAGE UNIVERSE |               | INVESTMENT BANKING CLIENTS (IBC) |                   |                            | OTHER MATERIAL<br>INVESTMENT SERVICES<br>CLIENTS (MISC) |                                |
|--------------------------|-------------------|---------------|----------------------------------|-------------------|----------------------------|---|--------------------------------|
|                          | COUNT             | % OF<br>TOTAL | COUNT                            | % OF<br>TOTAL IBC | % OF<br>RATING<br>CATEGORY | COUNT   | % OF<br>TOTAL<br>OTHER<br>MISC |
| <b>Overweight/Buy</b>    | <b>1157</b>       | <b>37%</b>    | <b>305</b>                       | <b>42%</b>        | <b>26%</b>                 | <b>544</b>  | <b>39%</b>                     |
| <b>Equal-weight/Hold</b> | <b>1380</b>       | <b>44%</b>    | <b>335</b>                       | <b>46%</b>        | <b>24%</b>                 | <b>632</b>  | <b>45%</b>                     |
| <b>Not-Rated/Hold</b>    | <b>47</b>         | <b>1%</b>     | <b>7</b>                         | <b>1%</b>         | <b>15%</b>                 | <b>7</b>  | <b>0%</b>                      |
| <b>Underweight/Sell</b>  | <b>553</b>        | <b>18%</b>    | <b>82</b>                        | <b>11%</b>        | <b>15%</b>                 | <b>220</b>  | <b>16%</b>                     |
| <b>TOTAL</b>             | <b>3,137</b>      |               | <b>729</b>                       |                   |                            | <b>1403</b>   |                                |

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