

## Global Credit Focus

### How substantial is 'the ETF bid'?

- **ETFs seem increasingly prevalent in credit.** From barely anything at all 10 years ago, AUM in the EUR and USD markets has grown steadily, and we increasingly hear talk of the 'ETF bid'. Whilst ETF volumes lag CDS indices by some way, they can still be substantial relative to cash, especially in USD HY.
- **Are ETF flows large enough to generate distortions?** ETFs engage directly with bond markets via the 'create-redeem' process, where they specify subsets of bonds exchangeable for shares. As their prevalence increases, more such transactions will occur. This has raised some questions over what spillover or even distortionary effect ETFs could have, which is unsurprising given the issues with VIX-related products last year.
- **Tracking ETF over- and underweights can anticipate flow.** We consistently find that where ETFs are over or underweight their benchmark, these positions tend to get corrected. This is a reflection of the create-redeem process - ETFs will amend the constituents of redemption baskets to reflect their own positioning. We run screens showing the bonds currently most over-and under-owned by ETFs, which we think can be a useful indicator of market flows.
- **Yet, the market remains too small to consistently impact pricing.** Going long under-owned bonds vs the index can potentially deliver excess returns at certain times, but once rolldown is accounted for, the strategy becomes less consistent. Interestingly our equity quantitative colleagues find similarly little evidence of a consistent systematic pull despite ETFs being more entrenched in their market.

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

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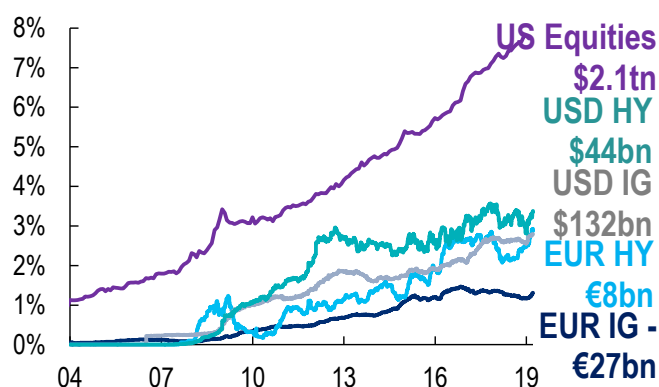
## Credit ETF's benefit from shift to liquid instruments

CDS indices and options have been the clearest beneficiaries of the growing demand for liquid products in post-crisis credit markets. However, in recent years, ETFs have also seen increasing popularity in credit. From barely anything at all ten years ago, ETF holdings of the respective USD and EUR IG and HY cash markets have grown steadily (Figure 1). In the past this growth was primarily focused in USD, but the EUR market has also been catching up, especially in high yield (though USD ETF markets remain largest by far).

In terms of volumes, ETFs are most substantial in the USD market. Combined primary and secondary market activity as a proportion of TRACE market volumes can be as high as 40% in high yield at times (around 10% for investment grade). In Europe, this is much harder to quantify given that cash data is patchy at best, and a large proportion of European ETF secondary market volumes are OTC<sup>1</sup>. Nonetheless, anecdotally, some estimates claim that ETFs can account for as much as 20-30% of EUR HY intraday cash market volumes at times, which is far from trivial. Again, this tends to be much smaller in IG - around 5%.

At present, the combined assets managed by the largest USD and EUR high yield ETFs comprise around 2.5-3%<sup>2</sup> of the respective underlying markets. Granted, this isn't huge compared with say US equities, where ETFs account for around 8% of the Russell 3000 outstanding (Figure 1). Additionally, trading volumes remain small compared with CDS indices (Figure 2). However, as the proportion of AUM relative to the market has increased, talk of 'the ETF bid' (trading activity stemming from ETFs) has become more prevalent, raising questions over the impact ETF activity can have on the cash market.

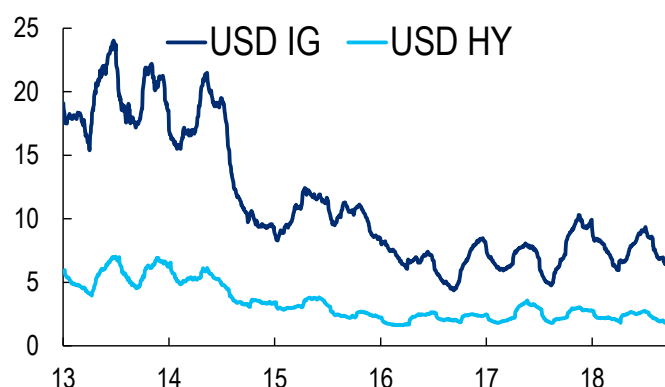
**Figure 1. Credit Market ETF growth**  
ETF AUM\*, as % of underlying market\*.



Source: Citi Research, Bloomberg, Markit

\*Aggregates the largest ETFs in each subset. Underlying indices: iBoxx EUR Corps, iBoxx Core EUR HY, iBoxx USD Corps, BBG Barclays US Corporate HY Market, Russell 3000

**Figure 2. USD Credit Index volumes as a multiple of ETF volumes\***  
CDX IG/HY relative to largest USD IG/HY ETFs, 3m Rolling Average



Source: Citi Research, Bloomberg, Markit, SDR

\*Aggregates primary and secondary ETF volumes

<sup>1</sup> In contrast to the US (and somewhat ironic, given the product name)

<sup>2</sup> We take the broad iBoxx EUR and USD HY indices as the denominator. Naturally you can arrive at a higher number with a narrower index

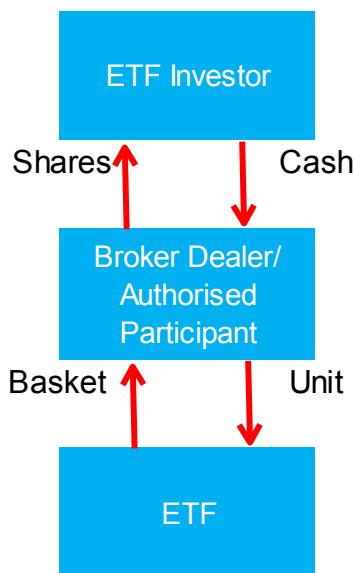
### How does ETF activity spillover to the cash market?

A good case can be made that the majority of ETF activity should not have any impact on cash credit at all. 'Secondary market' trading of ETF shares – where ETF buyers are matched with sellers – is directly akin to CDS index buying and selling. Neither requires any immediate participation in the underlying cash or CDS market.

Instead, ETFs only *directly* interact with the cash market through the create-redeem process, or the so-called 'primary' market. In order to create shares, bonds have to be delivered to the ETF through authorized participants (APs, typically dealers, who can act on behalf of end clients), and vice versa to redeem them (Figure 3). As the proportion of AUM relative to the market increases, the volume of such transactions will naturally grow, giving rise to more interaction with the underlying bond market

In EUR and USD high yield, ETF primary activity can account for around 5-7% of underlying cash market volume, and around 2% in IG (Figure 4). Again, these numbers aren't enormous, but aren't trivial either, and are well worth tracking. As a result, the pick-up in ETF-related investment flows has prompted some questions over whether their prevalence could have a distortionary impact on bond pricing or even whether their presence raises the possibility of generating alpha via systematic positioning (similar debates have taken place in equities). The former is unsurprising, considering the very recent memory of the fallout from VIX-linked products last year. We consider the evidence in the following sections.

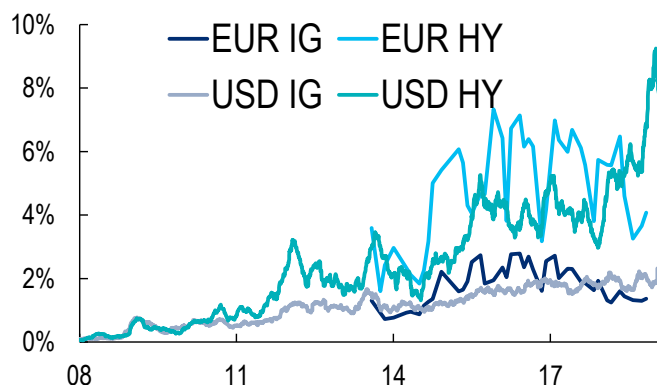
Figure 3. Stylised ETF Primary Market Trading Flows



Source: Citi Research

Figure 4. ETF Primary Market Flows

As a proportion of underlying market \*



Source: Citi Research, Bloomberg, TRACE

## Where could the marginal impact be?

Each create-redeem basket needs to approximately replicate the underlying index, but is not required to do so perfectly. When APs interact with ETFs via the create-redeem process, the ETF will provide a list of bonds that can be delivered for shares, which is usually a small subset of the benchmark. The precise number will depend on size, but around 70 bonds for a 'typical' IG trade and 50 in HY is a rough guide. In turn, APs can propose amendments to better fit their own risk and positioning, and ETF shares can then be created or redeemed.

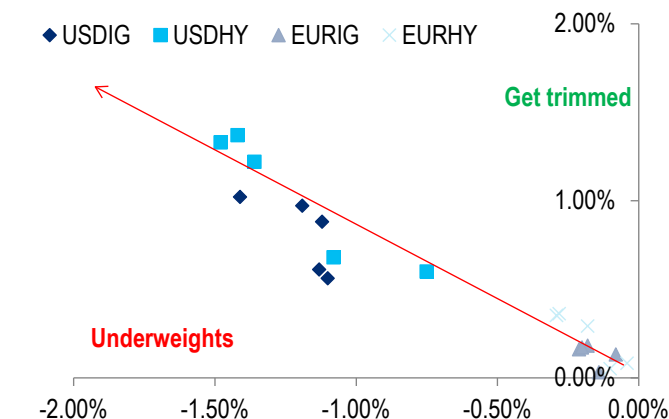
Determining which bonds are most susceptible to being driven by this process involves a bit of guesswork given that create-redeem baskets are not easily available. However, the main aim of an ETF is to minimize tracking error relative to benchmark. Therefore, in theory it is in the bonds that the ETFs are most long or short of where the marginal ETF-selling or buying pressure ought to be.

## Over/underweights revert– the create-redeem process in action

A natural first test is to see if ETFs tend to reduce their over- and underweights where they are long or short. To do this, we compiled a database of the holdings of the largest 50 ETFs, across EUR and USD IG and HY on an annual basis since 2013. Comparing these ISIN-level holdings of the ETFs with their respective weights in the relevant benchmarks, for each bond, we were able to compute the *aggregate* amount by which all ETFs were over- or underweight each bond (over 20000 ISINs). Naturally, the fact that an ETF is underweight a bond begs the question as to why. Liquidity is often the proximate cause, and there can be a multitude of reasons as to why a bond doesn't trade. To account for this, we restricted our sample to larger issue bonds (assuming these are most liquid)<sup>3</sup>, and adjusted for other features.<sup>4</sup> We then divided the aggregate over or underweight by the bond amount outstanding, and created screens of the ETF market's most 'over' and 'under' weighted bonds as of the end of every year. Naturally different ETFs are benchmarked to different indices, and fund holdings in each bond vary. However, aggregating them in this way and dividing by outstandings should give a decent proxy for where over/underweights are most acute.

**Figure 5. ETF Underweights do get brought back in line**

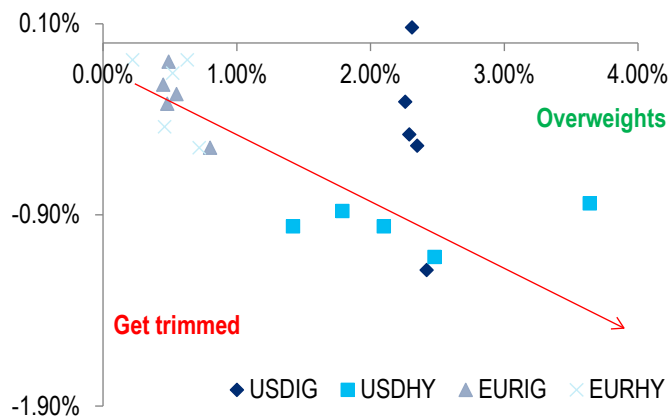
Average underweight on a basket of most underweight bonds (x axis) vs change in the underweight the next year (y axis), 2013-18



Source: Citi Research, Bloomberg, Markit

**Figure 6. As do overweights**

Average overweight on a basket of most overweight bonds (x axis) vs change in the overweight the next year (y axis), 2013-18



Source: Citi Research, Bloomberg, Markit

<sup>3</sup> Issue size above the median index bond issue size- \$/€750 for IG, \$/€500 for HY)

<sup>4</sup> 3-8y maturity, excluding bonds with more non-vanilla features (perps/sinking/FRN/index linked)

Interestingly, most of the larger credit ETFs tend to hold the majority of ISINs in the underlying index (contrary to some popular perceptions). For instance, the largest European IG and HY ETFs hold >96% of the ISINs in their benchmarks. Additionally, most of the holdings are also very tight in line compared with benchmark – the largest deviations rarely tend to be greater than +/-0.2% for both EUR and USD indices.

However, where deviations do appear between ETF holdings and their benchmarks, these get trimmed away systematically, and this tends to hold consistently across time. In Figure 5 and Figure 6, for each year since 2013, we took the 20 bonds where the ETF over/underweights were largest (as a proportion of the bond outstanding), for each subset of ETFs. We plotted the size of the under/overweight on the x axis, against the change in the under/overweight in the following year (each dot represents the change over the following year, for each ETF type). The result is quite consistent. Where ETFs are under or over-weight bonds relative to their benchmark, this almost invariably gets reduced in the subsequent period. Some of this change will reflect different composition in the index, but given we have picked bonds with >3y maturity (maturity constraints are the most common cause for bonds dropping out of indices) this effect shouldn't be too large. Instead, this likely shows the create-redeem process in action. An ETF short of certain bonds will request them in the create lists. Once delivered, the ETF holding will converge with the benchmark. The opposite occurs where the ETF is long via the redeem process.

In the absence of data on create-redeem lists, we think it makes sense to track ETF over and underweights, both to get an idea of what could be in create-redeem lists, but also to get a handle on potential flows into the cash market.

### **However, the ETF impact is still too small to trade this systematically**

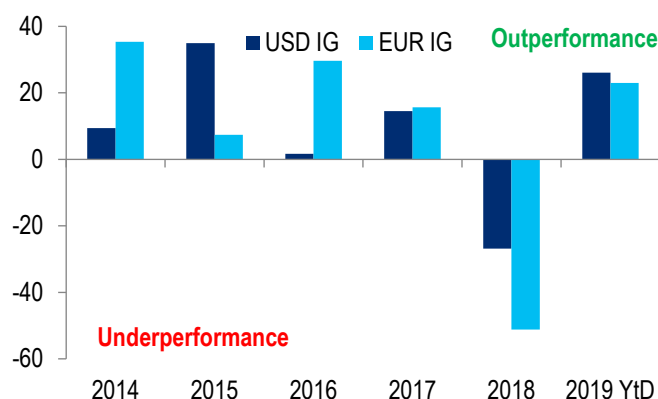
The next question is whether this can be systematically traded. We tracked the (carry-neutral) spread performance of these baskets of overweights and underweights vs the broad cash index, to see if they can deliver any meaningful outperformance. In short, we don't find too much compelling, consistent evidence one way or another. A strategy going long under-owned EUR HY bonds would have performed best vs the index, returning as much as 80bp in some years (Figure 8). Similarly, the EUR IG underweight basket performance isn't too bad. However, naturally one can't trade the benchmark directly, and the index is rebalanced periodically, so tracking index spread performance won't account for any rolldown (as the bond leg would). If one were to account for rolldown<sup>5</sup>, the returns would look far less consistent. Interestingly, there is also little evidence for much outperformance of under-owned USD HY bonds, despite ETF volumes and AUM being largest as a proportion of the underlying market. Finally we didn't find any compelling evidence for over-weighted bonds underperforming either.

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<sup>5</sup> We haven't accounted for rolldown on index in our calculations, given it is particularly hard to calculate (for HY cash indices in particular). In general we would expect this to be around 10bp for IG and perhaps 20bp for HY. However, the latter is contentious given the rating splits across different curve segments – it may even be that part of the curve rolls up.

**Figure 7. ETF underweights bucket performance - IG**

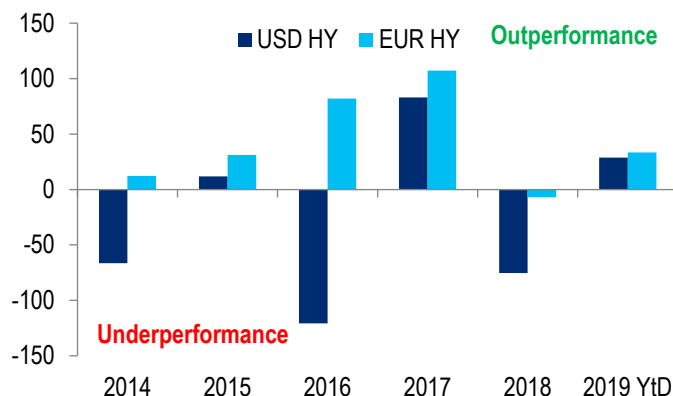
Carry-neutral spread compression/decompression vs index, 1y holding



Source: Citi Research, Bloomberg, Markit

**Figure 8. ETF underweights bucket performance - HY**

Carry-neutral spread compression/decompression vs index, 1y holding



Source: Citi Research, Bloomberg, Markit

### Conclusion – watch the over/underweights to anticipate flows.

It is clear that whilst the ETF market has grown in recent years, it still retains a small proportion of total 'macro credit product' volumes. At present, credit indices and options remain the instruments of choice. Whilst the ETF assets under management are non-trivial, as we show above, ETF flows are still too small to influence bond pricing in a consistently meaningful manner. Interestingly, despite ETFs being more entrenched in their market, our equity quantitative colleagues find similarly little evidence of a consistent systematic pull.

Nonetheless, it is clear that ETF holdings track their benchmarks quite tightly. Whilst ETFs may not consistently impact the market price in aggregate, tracking bonds where ETF holdings are most out of line with their benchmarks can both give an idea of what could be in create-redeem baskets, but also provide a handle on potential flows into the cash market. This can be particularly relevant in markets where the ETF impact is larger (relative to cash), such as USD and EUR HY.

In the appendix we provide screens of the bonds where we estimate ETFs are most over- and underweight split by asset class, and based on data as of April 2019.

## Appendix 1: Underweighted Bond Screen

Figure 9. Bonds Most Underweighted by Exchange Traded Funds\*

| Sector | Issuer                   | Bond Name             | Country       | Sector                 | Issue Amount  | Underweight |
|--------|--------------------------|-----------------------|---------------|------------------------|---------------|-------------|
| USD IG | WESTPAC BANKING CORP     | WSTP 2 3/4 01/11/23   | AUSTRALIA     | Financial              | 1,250,000,000 | -2.06%      |
| USD IG | GENERAL MOTORS FINL CO   | GM 3 1/4 01/05/23     | UNITED STATES | Consumer, Cyclical     | 850,000,000   | -1.93%      |
| USD IG | US BANK NA CINCINNATI    | USB 3.4 07/24/23      | UNITED STATES | Financial              | 1,250,000,000 | -1.88%      |
| USD IG | ENBRIDGE INC             | ENBCN 4 10/01/23      | CANADA        | Energy                 | 800,000,000   | -1.76%      |
| USD IG | CAPITAL ONE FINANCIAL CO | COF 3.9 01/29/24      | UNITED STATES | Financial              | 1,250,000,000 | -1.65%      |
| USD IG | MCKESSON CORP            | MCK 3.796 03/15/24    | UNITED STATES | Consumer, Non-cyclical | 1,100,000,000 | -1.49%      |
| USD IG | GENERAL DYNAMICS CORP    | GD 3 3/4 05/15/28     | UNITED STATES | Industrial             | 1,000,000,000 | -1.46%      |
| USD IG | BOSTON SCIENTIFIC CORP   | BSX 3.45 03/01/24     | UNITED STATES | Consumer, Non-cyclical | 850,000,000   | -1.43%      |
| USD IG | STARBUCKS CORP           | SBUX 3.85 10/01/23    | UNITED STATES | Consumer, Cyclical     | 750,000,000   | -1.37%      |
| USD IG | MONDELEZ INTERNATIONAL   | MDLZ 4 1/8 05/07/28   | UNITED STATES | Consumer, Non-cyclical | 700,000,000   | -1.36%      |
| USD HY | BAUSCH HEALTH AMERICAS   | BHCCN 8 1/2 01/31/27  | UNITED STATES | Consumer, Non-cyclical | 1,750,000,000 | -3.48%      |
| USD HY | XEROX CORPORATION        | XRX 3 5/8 03/15/23    | UNITED STATES | Technology             | 1,000,000,000 | -2.87%      |
| USD HY | BOMBARDIER INC           | BBDBCN 7 7/8 04/15/27 | CANADA        | Industrial             | 2,000,000,000 | -2.10%      |
| USD HY | FRONTIER COMMUNICATIONS  | FTR 8 04/01/27        | UNITED STATES | Communications         | 1,650,000,000 | -1.81%      |
| USD HY | SS&C TECHNOLOGIES INC    | SSNC 5 1/2 09/30/27   | UNITED STATES | Technology             | 2,000,000,000 | -1.69%      |
| USD HY | USA COM PART/USA COM FIN | USAC 6 7/8 04/01/26   | UNITED STATES | Energy                 | 725,000,000   | -1.64%      |
| USD HY | INTESA SANPAOLO SPA      | ISPIM 5.017 06/26/24  | ITALY         | Financial              | 2,000,000,000 | -1.58%      |
| USD HY | ENLINK MIDSTREAM PARTNER | ENLK 4.4 04/01/24     | UNITED STATES | Energy                 | 550,000,000   | -1.56%      |
| USD HY |                          | [R]                   |               | Financial              |               | -1.36%      |
| USD HY | CHS/COMMUNITY HEALTH SYS | CYH 8 03/15/26        | UNITED STATES | Consumer, Non-cyclical | 1,600,809,000 | -1.36%      |
| EUR IG | VONOVIA FINANCE BV       | ANNGR 2 1/4 12/15/23  | NETHERLANDS   | Financial              | 1,000,000,000 | -0.32%      |
| EUR IG | MERLIN PROPERTIES SOCIMI | MRLSM 2.225 04/25/23  | SPAIN         | Financial              | 850,000,000   | -0.24%      |
| EUR IG | CREDIT AGRICOLE LONDON   | ACAF 5 1/8 04/18/23   | FRANCE        | Financial              | 1,000,000,000 | -0.20%      |
| EUR IG | ENGIE ALLIANCE GIE       | ENGALL 5 3/4 06/24/23 | FRANCE        | Utilities              | 1,000,000,000 | -0.19%      |
| EUR IG | CREDIT AGRICOLE LONDON   | ACAF 3 1/8 07/17/23   | FRANCE        | Financial              | 1,250,000,000 | -0.19%      |
| EUR IG | ENGIE SA                 | ENGIFP 3 1/2 10/18/22 | FRANCE        | Utilities              | 1,000,000,000 | -0.18%      |
| EUR IG | HEINEKEN NV              | HEIANA 1 05/04/26     | NETHERLANDS   | Consumer, Non-cyclical | 800,000,000   | -0.17%      |
| EUR IG | SODEXO SA                | SWFP 0 3/4 04/14/27   | FRANCE        | Consumer, Cyclical     | 800,000,000   | -0.16%      |
| EUR IG | VOLKSWAGEN INTL FIN NV   | VW 0 7/8 01/16/23     | NETHERLANDS   | Consumer, Cyclical     | 1,000,000,000 | -0.15%      |
| EUR IG | ASTRAZENCA PLC           | AZN 1 1/4 05/12/28    | BRITAIN       | Consumer, Non-cyclical | 800,000,000   | -0.15%      |
| EUR HY | EL CORTE INGLES SA       | CRTING 3 03/15/24     | SPAIN         | Consumer, Cyclical     | 690,000,000   | -0.27%      |
| EUR HY | ICCREA BANCA SPA         | ICCREA 1 1/2 10/11/22 | ITALY         | Financial              | 600,000,000   | -0.17%      |
| EUR HY |                          | [R]                   |               | Consumer, Cyclical     |               | -0.16%      |
| EUR HY | TELENET FINANCE LUX NOTE | TNETBB 3 1/2 03/01/28 | LUXEMBOURG    | Communications         | 600,000,000   | -0.15%      |
| EUR HY | TELECOM ITALIA SPA       | TITIM 3 5/8 05/25/26  | ITALY         | Communications         | 1,000,000,000 | -0.15%      |
| EUR HY | BULGARIAN ENERGY HLD     | BULENR 3 1/2 06/28/25 | BULGARIA      | Utilities              | 600,000,000   | -0.12%      |
| EUR HY | SPCM SA                  | SNFF 2 7/8 06/15/23   | FRANCE        | Basic Materials        | 550,000,000   | -0.10%      |
| EUR HY |                          | [R]                   |               | Basic Materials        |               | -0.06%      |
| EUR HY | TELE COLUMBUS AG         | TCGR 3 7/8 05/02/25   | GERMANY       | Communications         | 650,000,000   | -0.03%      |
| EUR HY | PLAYTECH PLC             | PTECLN 3 3/4 10/12/23 | ISLE OF MAN   | Technology             | 530,000,000   | -0.01%      |

Source: Citi Research, Bloomberg

\*Taking the universe of USD and EUR IG and HY ETFs, we compile the largest deviations of aggregated ETF holdings from benchmark on a bond level, excluding small size bonds (>500m, 750m for HY/UG respectively), limiting to 3-8y maturity, excluding bonds with more non-vanilla features (perps/sinking/FRNs/index linked). ETF underweight is represented as % of the outstanding free float



## Appendix 2: Overweighted Bond Screen

Figure 10. Bonds Most Overweighted by Exchange Traded Funds\*

| Sector | Issuer                   | Name                  | Country        | Sector                 | Issue Amount  | Overweight |
|--------|--------------------------|-----------------------|----------------|------------------------|---------------|------------|
| USD IG | ALTRIA GROUP INC         | MO 4.4 02/14/26       | UNITED STATES  | Consumer, Non-cyclical | 1,500,000,000 | 3.15%      |
| USD IG | SIMON PROPERTY GROUP LP  | SPG 2 3/4 06/01/23    | UNITED STATES  | Financial              | 600,000,000   | 3.07%      |
| USD IG | EQT CORP                 | EQT 3 10/01/22        | UNITED STATES  | Energy                 | 750,000,000   | 3.03%      |
| USD IG | BP CAPITAL MARKETS PLC   | BPLN 3.535 11/04/24   | BRITAIN        | Energy                 | 750,000,000   | 2.60%      |
| USD IG |                          | [R]                   |                | Financial              |               | 2.44%      |
| USD IG | AERCAP IRELAND CAP/GLOBA | AER 4 1/8 07/03/23    | IRELAND        | Financial              | 600,000,000   | 2.39%      |
| USD IG | BANK OF NY MELLON CORP   | BK 3 1/4 05/16/27     | UNITED STATES  | Financial              | 750,000,000   | 2.38%      |
| USD IG | EBAY INC                 | EBAY 2 3/4 01/30/23   | UNITED STATES  | Communications         | 750,000,000   | 2.33%      |
| USD IG | AIRCASLE LTD             | AYR 4.4 09/25/23      | BERMUDA        | Financial              | 650,000,000   | 2.31%      |
| USD IG | NORDEA BANK ABP          | NDASS 3 3/4 08/30/23  | FINLAND        | Financial              | 750,000,000   | 2.30%      |
| USD HY | SBA COMMUNICATIONS CORP  | SBAC 4 10/01/22       | UNITED STATES  | Financial              | 750,000,000   | 2.21%      |
| USD HY | ANTERO RESOURCES CORP    | AR 5 5/8 06/01/23     | UNITED STATES  | Energy                 | 750,000,000   | 1.33%      |
| USD HY | SABRE GLBL INC           | SABHLD 5 3/8 04/15/23 | UNITED STATES  | Consumer, Cyclical     | 530,000,000   | 1.32%      |
| USD HY | ALGECO GLOBAL FINANCE    | ALGSCO 8 02/15/23     | BRITAIN        | Consumer, Cyclical     | 520,000,000   | 1.30%      |
| USD HY | OPEN TEXT CORP           | OTEXCN 5 5/8 01/15/23 | CANADA         | Technology             | 800,000,000   | 1.17%      |
| USD HY | CINEMARK USA INC         | CNK 4 7/8 06/01/23    | UNITED STATES  | Consumer, Cyclical     | 755,000,000   | 1.09%      |
| USD HY | PARK AEROSPACE HOLDINGS  | AVOL 4 1/2 03/15/23   | CAYMAN ISLANDS | Industrial             | 950,000,000   | 1.08%      |
| USD HY | ACADIA HEALTHCARE CO INC | ACHC 5 5/8 02/15/23   | UNITED STATES  | Consumer, Non-cyclical | 650,000,000   | 1.05%      |
| USD HY | CDW LLC/CDW FINANCE      | CDWC 5 09/01/23       | UNITED STATES  | Technology             | 525,000,000   | 1.04%      |
| USD HY | SUNOCO LP/FINANCE CORP   | SUN 4 7/8 01/15/23    | UNITED STATES  | Energy                 | 999,579,000   | 1.03%      |
| EUR IG |                          | [R]                   |                | Financial              |               | 0.42%      |
| EUR IG | SNAM SPA                 | SRGIM 1 09/18/23      | ITALY          | Utilities              | 900,000,000   | 0.37%      |
| EUR IG |                          | [R]                   |                | Financial              |               | 0.27%      |
| EUR IG | BASF SE                  | BASGR 2 12/05/22      | GERMANY        | Basic Materials        | 1,250,000,000 | 0.27%      |
| EUR IG | CREDIT AGRICOLE LONDON   | ACAFF 0 3/4 12/01/22  | FRANCE         | Financial              | 1,000,000,000 | 0.26%      |
| EUR IG | SOCIETE GENERALE         | SOCGEN 0 3/4 05/26/23 | FRANCE         | Financial              | 1,000,000,000 | 0.22%      |
| EUR IG |                          | [R]                   |                | Financial              |               | 0.21%      |
| EUR IG | SKANDINAVISKA ENSKILDA   | SEB 2 1/2 05/28/26    | SWEDEN         | Financial              | 1,000,000,000 | 0.21%      |
| EUR IG | CREDIT AGRICOLE LONDON   | ACAFF 0 3/4 12/05/23  | FRANCE         | Financial              | 1,000,000,000 | 0.21%      |
| EUR IG | ABN AMRO BANK NV         | ABNANV 0 1/2 07/17/23 | NETHERLANDS    | Financial              | 1,250,000,000 | 0.21%      |
| EUR HY | CIRSA FINANCE INTER      | LHMCFI 6 1/4 12/20/23 | LUXEMBOURG     | Consumer, Cyclical     | 663,000,000   | 0.47%      |
| EUR HY | SMURFIT KAPPA ACQUISITIO | SKGID 2 7/8 01/15/26  | IRELAND        | Basic Materials        | 1,000,000,000 | 0.40%      |
| EUR HY | BALL CORP                | BLL 4 3/8 12/15/23    | UNITED STATES  | Industrial             | 700,000,000   | 0.37%      |
| EUR HY | TELECOM ITALIA SPA       | TITIM 2 7/8 01/28/26  | ITALY          | Communications         | 750,000,000   | 0.36%      |
| EUR HY | METRO AG                 | MEOGR 1 1/2 03/19/25  | GERMANY        | Consumer, Non-cyclical | 600,000,000   | 0.34%      |
| EUR HY | COTY INC                 | COTY 4 04/15/23       | UNITED STATES  | Consumer, Non-cyclical | 550,000,000   | 0.34%      |
| EUR HY | ORANO SA                 | ORANOF 3 1/8 03/20/23 | FRANCE         | Utilities              | 750,000,000   | 0.34%      |
| EUR HY | PVH CORP                 | PVH 3 1/8 12/15/27    | UNITED STATES  | Consumer, Cyclical     | 600,000,000   | 0.31%      |
| EUR HY | ELIS SA                  | ELISGP 1 7/8 02/15/23 | FRANCE         | Consumer, Non-cyclical | 650,000,000   | 0.30%      |
| EUR HY | LKQ EURO HOLDINGS BV     | LKQ 3 5/8 04/01/26    | NETHERLANDS    | Consumer, Cyclical     | 750,000,000   | 0.28%      |

Source: Citi Research, Bloomberg

\*Taking the universe of USD and EUR IG and HY ETFs, we compile the largest deviations of aggregated ETF holdings from benchmark on a bond level, excluding small size bonds (>500m, 750m for HY/UG respectively), limiting to 3-8y maturity, excluding bonds with more non-vanilla features (perps/sinking/FRNs/index linked) . ETF overweight is represented as % of the outstanding free float



## The Week Ahead (Chris Chapman)

With much of the hope for the global economy resting, in our view, on Chinese stimulus, Wednesday's figures on credit expansion will be closely watched. A further disappointment could precipitate additional worries. We will also be looking at data on FX reserves (Monday).

The ECB meeting (Wednesday) should bring greater clarity on the TLTROs and we expect questions on deposit tiering in the following press-conference. Although there are no new projections, we will be interested in the extent to which Mario Draghi acknowledges the better data from the Eurozone. Fed minutes (Wednesday) will also be closely read for signs for how secure the current dovishness is.

Brexit reaches its next decision point. With the UK due to leave the EU with no deal on Friday, PM May has to persuade the EU to grant an additional extension. That may only be given if May has passed the Withdrawal Agreement into UK law, at this point all options remain open and the relative probabilities seem to change each hour.

Earnings season starts next week. Obviously every one of these is important, but with the market having one eye on the yield curve inversion, and other recession indicators, earnings and guidance may affect estimates of the durability of the economic expansion.

Figure 11. Economic Releases

| <b>Monday 8 April</b>  | <b>Consensus Forecast</b> | <b>Last</b> |
|--|---------------------------|-------------|
| China: Foreign Reserves - Mar                                    | \$3090.00b                | \$3090.18b  |
| Eurozone: ECB's Villeroy speaks in Paris                         |                           |             |
| Eurozone: Sentix Investor Confidence - Apr                       | --                        | -2.2%       |
| Germany: Current Account Balance - Feb                           | --                        | 18.3b       |
| Germany: Trade Balance - Feb                                     | --                        | 14.5b       |
| US: Cap Goods Orders Nondef Ex Air - Feb F                       | --                        | -0.10%      |
| US: Cap Goods Ship Nondef Ex Air - Feb F                         | --                        |             |
| US: Durable Goods Orders - Feb F                                 | --                        | -1.60%      |
| US: Factory Orders - Feb   | -0.50%                    | 0.10%       |
| <b>Tuesday 9 April</b>   | <b>Consensus Forecast</b> | <b>Last</b> |
| UK: BRC Sales Like-For-Like YoY - Mar                            | --                        | -0.10%      |
| US: Clarida Speaks at Fed Listens Event in Minneapolis           |                           |             |
| US: JOLTS Job Openings - Feb                                     | 7550                      | 7581        |
| US: NFIB Small Business Optimism - Mar                           | 101.2                     | 101.7       |
| <b>Wednesday 10 April</b>  | <b>Consensus Forecast</b> | <b>Last</b> |
| China: Aggregate Financing CNY - Mar                             | 1900.0b                   | 703.0b      |
| China: Money Supply M2 YoY - Mar                                 | 8.20%                     | 8.00%       |
| China: New Yuan Loans CNY - Mar                                  | 1225.0b                   | 885.8b      |
| Eurozone: ECB's Draghi Speaks in Frankfurt After Policy Decision |                           |             |
| UK: Construction Output SA YoY - Feb                             | --                        | 1.80%       |
| UK: GDP (MoM) - Feb  | 0.20%                     | 0.50%       |
| UK: Industrial Production YoY - Feb                              | --                        | -0.90%      |
| UK: Manufacturing Production YoY - Feb                           | --                        | -1.10%      |
| UK: Trade Balance Non EU GBP/Mn - Feb                            | --                        | -£4977m     |
| UK: Visible Trade Balance GBP/Mn - Feb                           | --                        | -£13084m    |
| US: CPI Ex Food and Energy YoY - Mar                             | 2.10%                     | 2.10%       |
| US: CPI YoY - Mar  | 1.80%                     | 1.50%       |
| US: FOMC Meeting Minutes   | --                        | --          |
| US: Monthly Budget Statement - Mar                               | -\$181.0b                 | -\$234.0b   |
| <b>Thursday 11 April</b>   | <b>Consensus Forecast</b> | <b>Last</b> |
| China: CPI YoY - Mar   | 2.40%                     | 1.50%       |
| China: Foreign Direct Investment YoY CNY - Mar                   | --                        | 6.60%       |
| China: PPI YoY - Mar   | 0.40%                     | 0.10%       |
| Germany: CPI MoM - Mar F   | 0.40%                     | 0.40%       |
| Germany: CPI YoY - Mar F   | 1.30%                     | 1.30%       |
| UK: RICS House Price Balance - Mar                               | --                        | -0.28       |
| US: Bloomberg April United States Economic Survey                |                           |             |
| US: Fed's Bullard Speaks on Economy and Monetary Policy          |                           |             |
| US: Fed's Clarida Speaks at Annual IIF Meeting in Washington     |                           |             |
| US: PPI Ex Food and Energy YoY - Mar                             | 2.50%                     | 2.50%       |
| US: PPI Ex Food, Energy, Trade YoY - Mar                         | --                        | 2.30%       |
| US: PPI Final Demand YoY - Mar                                   | 1.90%                     | 1.90%       |
| <b>Friday 12 April</b>   | <b>Consensus Forecast</b> | <b>Last</b> |
| China: Exports YoY - Mar   | 6.40%                     | -20.70%     |
| China: Exports YoY CNY - Mar                                     | 5.80%                     | -16.60%     |
| China: Imports YoY - Mar   | -2.10%                    | -5.20%      |
| China: Imports YoY CNY - Mar                                     | 1.00%                     | -0.30%      |
| China: Trade Balance - Mar                                       | \$6.00b                   | \$4.12b     |
| China: Trade Balance CNY - Mar                                   | 0.00b                     | 34.46b      |
| Eurozone: Industrial Production SA MoM - Feb                     | --                        | 1.40%       |
| Eurozone: Industrial Production WDA YoY - Feb                    | --                        | -1.10%      |
| US: Import Price Index MoM - Mar                                 | 0.40%                     | 0.60%       |
| US: U. of Mich. Sentiment - Apr P                                | 98                        | 98.4        |
| Source: Citi Research, Bloomberg                                 |                           |             |

Figure 12. Earnings Releases

**Monday 8 April**

**Tuesday 9 April**

Industrivarden AB

**Wednesday 10 April**

Delta Air Lines Inc, Tesco PLC, Tryg A/S

**Thursday 11 April**

Barry Callebaut AG, Fastenal Co, Gerresheimer AG, Hella GmbH & Co KGaA, LPP SA, Sodexo SA, WH Smith PLC

**Friday 12 April**

Fabege AB, First Republic Bank/CA, JPMorgan Chase & Co, PNC Financial Services Group I, Wells Fargo & Co

Source: Bloomberg.

## Appendix A-1

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