

# European SF Weekly

## End without beginning?

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## Key takeaways

- EIOPA declared Solvency II securitisation treatment 'fit for purpose': we disagree.
- Early signs of UK house prices slow-down can clearly be detected already.
- European CMBS principal losses represent 2.2% of all issuance since 1995 and 0.3% of AAA tranches.

Common acronyms (<https://rsch.baml.com/r?q=hMfRaYrddBVjg1ljaAecbg>)

## CMBS: Losses have been lower than you might think

Principal losses have been limited to transactions issued prior to the financial crisis. Losses amounted to 1.2% of 2005, 4.9% of 2006 and 6.4% of 2007 issuance. Very few AAA notes were affected although the arrangers have largely exited the business. Improvements in CMBS 2.0 should avoid similar losses in the future, we think.

# CMBS

## Principal losses have been lower than you might think

In this report we update an earlier analysis CMBS losses to complement our recent report on [CMBS pricing volatility](https://rsch.baml.com/r?q=qBzBOSNkxbA0zh!-GeFA) (<https://rsch.baml.com/r?q=qBzBOSNkxbA0zh!-GeFA>). We think these performance analyses could be relevant to calibrating appropriate regulatory capital charges for CMBS.

Overall, we find no losses have been realised in CMBS 2.0 transactions to date, which we credit to improvements made to the product since the financial crisis. Among transactions issued prior to the financial crisis losses have been concentrated towards the bottom of capital stacks although triple A notes were affected in limited cases.

As we showed in a recent [review of CRE loan performance](https://rsch.baml.com/r?q=FQD-XSn5R7uE4CpPxUEuWw) (<https://rsch.baml.com/r?q=FQD-XSn5R7uE4CpPxUEuWw>), loan losses had amounted to €7.1bn. This represents 2.2% of the €329billion of CMBS issued since 1995. Bloomberg data show €5.2bn of aggregate principal losses have been realised on European CMBS notes, which suggests that €1.9bn of loan losses have not yet been allocated to the CMBS notes, in our interpretation. We have estimated the allocation of this €1.9bn of loss to the notes.

We analysed over 2000 CMBS notes from 450 transactions sold by banks and corporates. All legacy Merrill Lynch and Bank of America transactions were included. Over the 27 year period from 1995 to 2022 there has been €329bn of CMBS issued in Europe.

### Losses by vintage

Almost all of the principal losses have come from notes issued between 2005 and 2007. These vintages were most exposed when the financial crisis saw commercial property values and appetite for CRE lending decline substantially for a number of years before recovering.

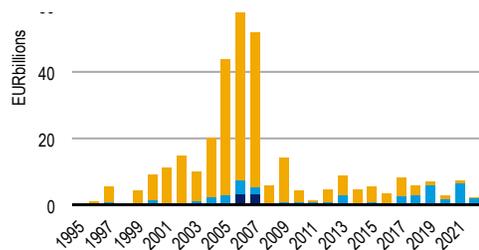
Principal losses amounted to 1.2% of 2005 issuance, 4.9% of 2006 issuance and 6.4% of 2007 issuance. Roughly 5% of the 2006 and 2007 vintages remains outstanding and further losses could be forthcoming.

**Exhibit 28: Fate of European CMBS issuance by vintage**  
€5.2bn of principal losses since 1995



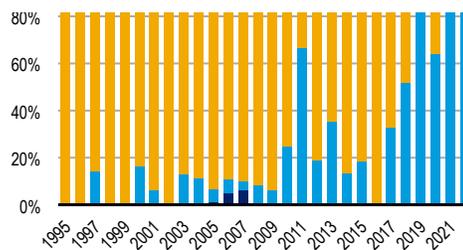
**Exhibit 29: Fate of European CMBS issuance by vintage, %**  
Losses represent 1.6% of all CMBS issued since 1995





Source: Bloomberg, BofA Global Research

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Source: Bloomberg, BofA Global Research

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There has been no loss incurred in any CMBS transaction issued since 2007. The performance of CMBS 2.0 transactions has proven to be more robust with just four loan defaults resulting during the Covid pandemic.

We think some losses are likely to be realised eventually, however, in impaired transactions such as Debussy, Intu Metrocentre Finance, and Elizabeth Finance 2018.

### Losses by rating

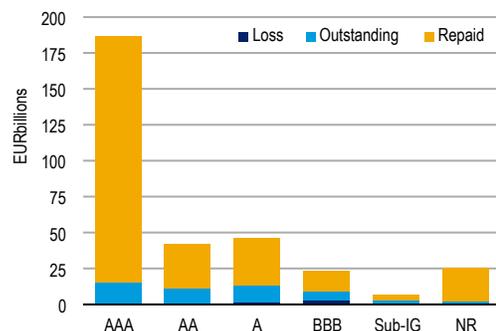
Not surprisingly, lower rated CMBS notes suffered higher principal losses on average. **Among those CMBS notes originally rated AAA, principal losses to date represent €491mn, which is just 0.3% of aggregate AAA issuance.** We question whether this is consistent with the capital charges imposed on CMBS under the Solvency II regulatory regime.

At the AA rating level, aggregate principal loss to date represents 2.9% of the total, in our estimation, while 23% of notes remain outstanding. At the single A rating level, the loss rate increases to 4.1% with 24% of notes still outstanding, and at BBB the loss rate reaches 11.7% with 26% of the notes still outstanding.

Below investment grade, loss rates increase sharply, which we would argue is expected and appropriate. Original BB and B rated notes have suffered 13.9% and 15.9% principal loss respectively to date.

Exhibit 30: Fate of European CMBS issuance by original rating

Less than €500mn of triple A losses since 1995

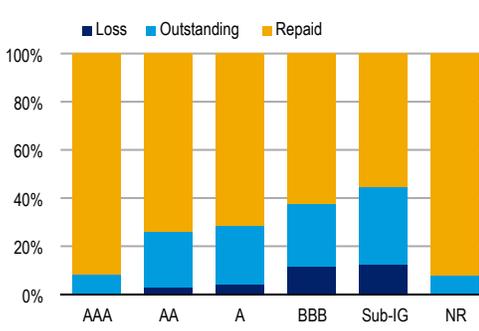


Source: Bloomberg, BofA Global Research

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Exhibit 31: Fate of European CMBS issuance by original rating, %

0.3% loss rate at triple A, 15.9% at single B since 1995



Source: Bloomberg, BofA Global Research

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### Which AAAs lost money?

The AAA rated notes that suffered principal loss were all issued between 2005 and 2007 and most were part of investment banks' conduit programmes that originated and securitised debt rapidly in some cases under an 'originate to distribute' model. The names are listed in the table below. We expect other names could be added to this list as losses are realised in the future.

We are aware of 13 notes issued with triple A ratings that incurred losses of which five were first pay tranches and eight were subordinate tranches. Among the first pay tranches, losses ranged from 0.2% to 28.0%. Losses were higher among the subs in some cases. Subordinate triple A notes are not common in CMBS 2.0 transactions: we are aware of just three being issued since 2011.

Looking ahead, we think changes in the industry have made losses less likely to reach triple A in the future. Since the

financial crisis, most of the arrangers on the list have not restarted conduit CMBS businesses to our knowledge. Regulatory retention requirements ensure that originators share losses, which has successfully encouraged conservative underwriting and structuring since the financial crisis, in our view.

Also, rating agencies have tightened CMBS rating criteria based on the experience of the financial crisis. As a result, the Covid pandemic resulted in relatively few defaults in CMBS, as we discussed in our recent [default study](https://rsch.baml.com/r?q=FQD-XSn5R7uE4CpPxUEuWw) (<https://rsch.baml.com/r?q=FQD-XSn5R7uE4CpPxUEuWw>).

**Exhibit 32: Principal losses in AAA rated CMBS**

13 original triple A notes from 8 arrangers have suffered principal loss

| Ticker            | Arranger         | Vintage | Fitch | Moody's | S&P | Country    | Risk Transfer | Currency | Loss millions | Loss Severity |
|-------------------|------------------|---------|-------|---------|-----|------------|---------------|----------|---------------|---------------|
| DECO 6-UK2X A2    | Deutsche Bank    | 2005    | AAA   | Aaa     | AAA | UK         | True Sale     | GBP      | 19.6          | 16.9%         |
| ECLIP 2006-1 B    | Barclays Capital | 2006    | AAA   | -       | AAA | UK         | True Sale     | GBP      | 0.5           | 2.5%          |
| EPICP INDU A      | RBS              | 2006    | AAA   | Aaa     | AAA | UK         | Synthetic     | GBP      | 78.7          | 25.4%         |
| EPICP INDU B      | RBS              | 2006    | AAA   | -       | AAA | UK         | Synthetic     | GBP      | 49.0          | 97.2%         |
| GGLF 2006-2       | Bayerische Hypo  | 2006    | AAA   | Aaa     | -   | Germany    | True Sale     | EUR      | 17.8          | 43.3%         |
| PROMI 2 A         | HBOS             | 2007    | AAA   | -       | AAA | UK         | Synthetic     | GBP      | 4.8           | 1.3%          |
| REC 6 A           | Rothschild       | 2007    | AAA   | Aaa     | AAA | UK         | True Sale     | GBP      | 35.0          | 28.0%         |
| TAHIT 1 A         | Citigroup        | 2005    | AAA   | -       | AAA | UK         | True Sale     | GBP      | 0.7           | 0.2%          |
| TITN 2006-3X B    | Credit Suisse    | 2006    | AAA   | Aaa     | AAA | Pan-Europe | True Sale     | EUR      | 9.3           | 3.8%          |
| TITN 2006-5X A3   | Credit Suisse    | 2006    | AAA   | -       | AAA | Germany    | True Sale     | EUR      | 54.2          | 87.6%         |
| TITN 2007-1X A    | Credit Suisse    | 2007    | -     | Aaa     | AAA | UK         | True Sale     | GBP      | 41.8          | 9.6%          |
| TITN 2007-3X A2   | Credit Suisse    | 2007    | -     | Aaa     | AAA | UK         | True Sale     | GBP      | 19.6          | 16.9%         |
| TITN 2007-CT1X A2 | Credit Suisse    | 2007    | AAA   | Aaa     | AAA | Pan-Europe | True Sale     | EUR      | 0.3           | 0.1%          |

Source: Bloomberg, BofA Global Research

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**Improvements**

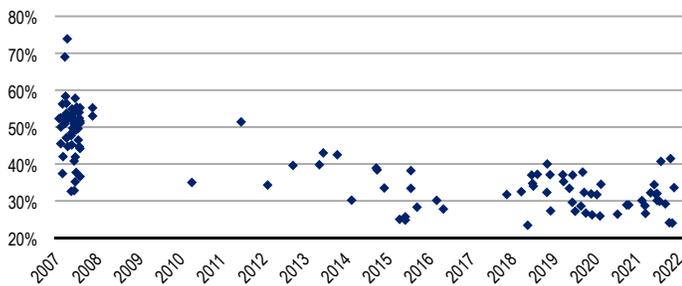
In light of the problems revealed in the wake of the financial crisis, CMBS 2.0 transactions are significantly different from pre-crisis transactions as part of an industry wide collaboration to improve the product that included bond investors, borrowers, lenders, loan servicers, lawyers, researchers, rating agencies and others.

As well as addressing idiosyncratic challenges particular to real estate finance, CMBS 2.0 has seen a significant reduction in financial leverage, in the securitised loans and also in the rated notes.

Among the securitised loans, since 2009 loan to value ratios have been steady in the range of 60% to 65%, down from around 75% or higher before the financial crisis, corresponding to a **15% to 20% reduction in financial leverage**, we estimate.

**Exhibit 33: Initial LTV of AAA rated CMBS notes**

AAA has roughly 30% less debt now vs 2007



Source: BofA Global Research

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Among CMBS notes, the rating agencies have tightened their rating criteria for European CMBS since the financial crisis occurred, in some cases more than once. As a result, the ratings in 2.0 transactions have to pass a greater number of stress tests based on more severe stresses than prior to the crisis. As regards financial leverage, prior to the crisis the detachment point for AAA ratings corresponded to a LTV ratio of around 50% on average, while post-crisis this has been reduced to around 35% on average, as illustrated below. This corresponds to a **30% reduction in AAA leverage**, we estimate.

The reduction in leverage described above is structural in nature and is likely to be a permanent feature of European CMBS going forward, in our view.

# European SF Weekly

## MIA European insurers

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### Key takeaways

- European insurers SF holdings update suggests low participation rate and no change yoy: missing support for European economy.
- UK rental/BTL markets were strong YTD but higher inflation and regulatory regime may bring challenges for the sector.
- CMBS price volatility compares well with senior unsecured bonds from REITs. Solvency II calibrations are due for a review.

Common acronyms (<https://rsch.baml.com/r?q=hMfRaYrddBVjg1ljaAecbg>)

A small uptick in primary and more pronounced, albeit selective, uptick in secondary activity characterized the European SF market activity last week. Retained deals dominated, but a reverse-enquiry driven ABS and amended format (static) CLO(s) may see the light of day soon. Spreads were on average wider, partially catching up and discovering prices after the Barcelona hiatus, but senior high quality more liquid RMBS saw small compression. See **European SF Weekly Data Addendum: Now you see me, now you don't, dated 27 June 2022.**

### Commentary: MIA European insurers

The insurers' involvement with the Structured credit sector was low in 2021, as we have concluded in previous years and there has been little, if any, change. As we have argued for years, the MIA (missing in action) insurers on the European SF market is a missed opportunity for insures, securitisation, capital markets and the economy in Europe.

### RMBS: UK rental and BTL markets strong YTD

UK rents accelerated in 1-5M22, as demand recovered but supply has not kept up. While affordability has held up thanks to higher incomes, rising cost of living is likely to produce an increase in rental arrears in 2H22-2023.

The BTL demand was also on the rise in 1Q22, but regulatory regime remains challenging, with a number of new initiatives recently announced. With higher rates on BTL mortgages, we think demand for BTL mortgages may weaken in 2022, but strong rental and housing markets remain supportive.

## CMBS: How volatile is CMBS pricing?

The volatility of securitised bonds has been similar to that of REITs and broader corporates over the past 25 years in Europe and the UK. The strong performance during the Covid pandemic illustrates the need to review regulatory frameworks.

## Commentary

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### Of insurers and Structured bonds

This [long-standing annual study of the European insurance sectors](https://rsch.baml.com/r?q=6B2IfglA9VXJrmSnaqMUkA) (<https://rsch.baml.com/r?q=6B2IfglA9VXJrmSnaqMUkA>) by our insurance equity analysts looks at €3.7trn of invested assets on European insurance balance sheets. They observed that the fixed income assets grew by 1% YoY in 2021 reflecting the natural

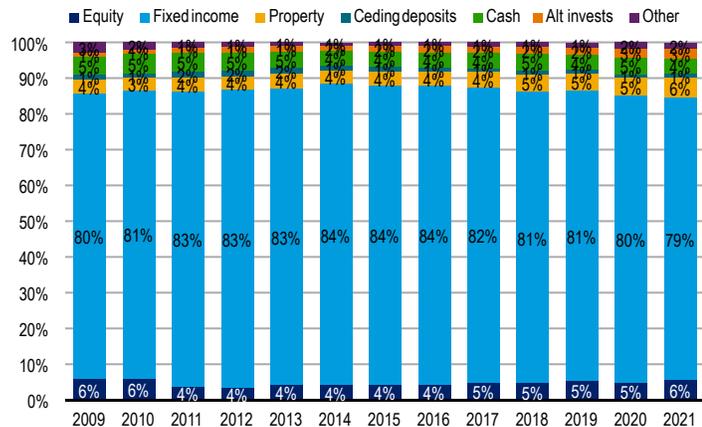
growth in the insurance companies under our coverage, somewhat offset by gently rising yields. The current value of fixed income assets will be lower still given higher yields YTD. The mix remains high quality and dominated (~80%) by fixed income.

## Insurers are primarily fixed income investors

The sector's asset mix remains heavily fixed income oriented, amounting to 79% of investments. This is down slightly by 1% YoY and is now down around 5% since 2016 mainly as some fixed income like alternatives nibble away at the edges of traditional holdings.

**Exhibit 1: Investment portfolio split by asset class - 2009 to 2021**

European insurers' overall investment mix remains stable



Source: BofA Global Research, Company Reports

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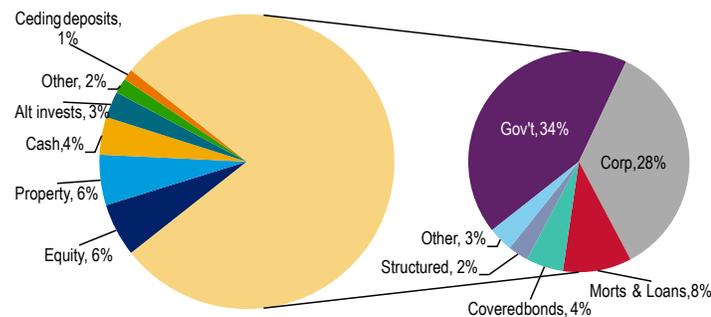
## Fixed income mix continues to look quite traditional

The exhibits below shows the split of fixed income holdings. These are large books of assets (around €3 trillion) and naturally it takes time for noticeable shifts in weightings to occur. Within this fixed income holdings:

- just under half are government bonds,
- around one third are vanilla corporate bond holdings and
- the remainder (around 20%) are a combination of loans (10%), covered bonds (CB) (5%) and structured credit (3%). Mortgages & loans remain the greatest of these smaller components, as they offer an attractive risk-adjusted yield with a favourable capital treatment.

**Exhibit 2: Fixed income assets continue domination in the overall investment mix**

European insurers' investment mix, 2021

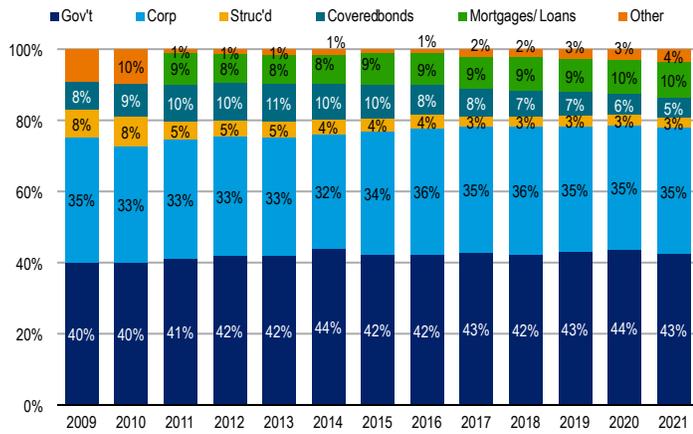


Source: BofA Global Research, Company Reports

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**Exhibit 3: European insurers' fixed income split 2009 to 2021**

Traditional assets continue to weigh heavy within fixed income mix



Source: BofA Global Research, Company Reports

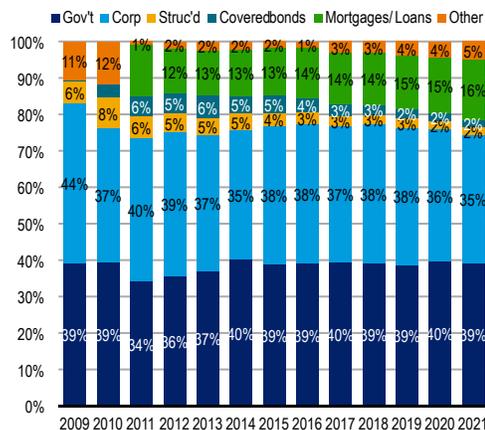
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Looking at the differences in AUM for life insurers and non-life insurers we note:

- much larger holdings of mortgage loan portfolios by the former (16% vs 5%) possibly driven by the higher need for liquidity by the latter;
- equal and stable shares of CB and Structured (2%) of life insurers, and higher share of CB (8%) vs Structured (4%) for non-life insurers. For the latter, the share of Structured has varied between 3% and 4% in the last ten years compared with 8% and 13% share of CBs.

**Exhibit 4: Life fixed income mix 2009-2021**

Life fixed income holdings have moved slightly towards alternatives, but remain heavily weighted to government bonds and corporate bonds

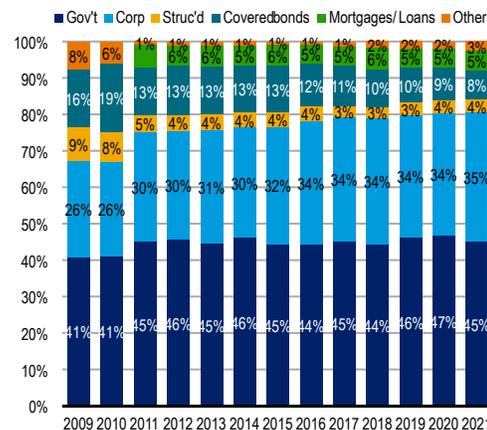


Source: BofA Global Research

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**Exhibit 5: Non-life fixed income mix 2009-2021**

P&C fixed income holdings have remained more vanilla, dominated by government bonds and corporate bonds



Source: BofA Global Research

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**Exhibit 6: Fixed income detail, 2021 (local currency millions)**

Fixed income portfolio analysis shows a broadly even split between government bonds and corporate bonds/others.

|             | Mortgages |         |          |        |         |        |         | Total | Mortgages/ |          |    |       |       |       |     |     |     |     |    |    |         |       |
|-------------|-----------|---------|----------|--------|---------|--------|---------|-------|------------|----------|----|-------|-------|-------|-----|-----|-----|-----|----|----|---------|-------|
|             | Gov't     | Corp    | Struct'd | CB     | / Loans | Other  | Gov't   |       | Corp       | Struct'd | CB | Loans | Other | Total | AAA | AA  | A   | BBB | BB | B  | Unrated | Total |
| Admiral     | 166       | 2,409   | 0        | 0      | 0       | 19     | 2,594   | 6%    | 93%        | 0%       | 0% | 0%    | 1%    | 100%  | 17% | 17% | 39% | 18% | 1% | 1% | 5%      | 100%  |
| Aegon       | 31,101    | 61,133  | 9,829    | 0      | 42,517  | 0      | 144,580 | 22%   | 42%        | 7%       | 0% | 29%   | 0%    | 100%  | 20% | 10% | 23% | 19% | 1% | 1% | 25%     | 100%  |
| Ageas       | 35,556    | 18,529  | 54       | 0      | 2,161   | 12,337 | 68,637  | 52%   | 27%        | 0%       | 0% | 3%    | 18%   | 100%  | 7%  | 52% | 12% | 26% | 0% | 0% | 3%      | 100%  |
| Allianz     | 240,500   | 295,500 | 26,892   | 55,600 | 26,892  | 26,916 | 672,300 | 36%   | 44%        | 4%       | 8% | 4%    | 4%    | 100%  | 18% | 24% | 22% | 29% | 3% | 3% | 2%      | 100%  |
| ASR         | 14,149    | 13,798  | 265      | 265    | 11,461  | 7      | 39,945  | 35%   | 35%        | 1%       | 1% | 29%   | 0%    | 100%  | 25% | 23% | 24% | 21% | 1% | 1% | 5%      | 100%  |
| Aviva       | 30,577    | 25,159  | 1,933    | 0      | 33,802  | 8,729  | 100,200 | 31%   | 25%        | 2%       | 0% | 34%   | 9%    | 100%  | 13% | 43% | 22% | 12% | 2% | 2% | 6%      | 100%  |
| AXA         | 228,000   | 125,580 | 18,000   | 30,420 | 34,000  | 0      | 436,000 | 52%   | 29%        | 4%       | 7% | 8%    | 0%    | 100%  | 21% | 33% | 20% | 21% | 1% | 1% | 3%      | 100%  |
| Beazley     | 4,008     | 2,264   | 0        | 0      | 38      | 0      | 6,310   | 64%   | 36%        | 0%       | 0% | 1%    | 0%    | 100%  | 29% | 29% | 29% | 4%  | 4% | 4% | 0%      | 100%  |
| Direct Line | 78        | 4,098   | 0        | 0      | 201     | 251    | 4,627   | 2%    | 89%        | 0%       | 0% | 4%    | 5%    | 100%  | 2%  | 9%  | 46% | 34% | 4% | 4% | 0%      | 100%  |
| Generali    | 194,293   | 101,006 | 817      | 12,142 | 14,759  | 33,467 | 356,484 | 55%   | 28%        | 0%       | 3% | 4%    | 9%    | 100%  | 6%  | 21% | 23% | 45% | 2% | 2% | 1%      | 100%  |

|                   |                  |                  |               |                |                |                |                  |            |            |           |            |            |           |             |            |            |            |            |           |           |           |             |
|-------------------|------------------|------------------|---------------|----------------|----------------|----------------|------------------|------------|------------|-----------|------------|------------|-----------|-------------|------------|------------|------------|------------|-----------|-----------|-----------|-------------|
| Gjensidige        | 8,900            | 34,982           | 0             | 4,068          | 0              | 0              | 47,950           | 19%        | 73%        | 0%        | 8%         | 0%         | 0%        | 100%        | 27%        | 13%        | 17%        | 16%        | 1%        | 3%        | 22%       | 100%        |
| Hannover Re       | 26,193           | 16,319           | 1,224         | 1,820          | 2,498          | 495            | 48,549           | 54%        | 34%        | 3%        | 4%         | 5%         | 1%        | 100%        | 43%        | 13%        | 19%        | 19%        | 3%        | 1%        | 3%        | 100%        |
| Hiscox            | 1,216            | 3,593            | 498           | 0              | 0              | 221            | 5,528            | 22%        | 65%        | 9%        | 0%         | 0%         | 4%        | 100%        | 12%        | 24%        | 28%        | 29%        | 0%        | 0%        | 7%        | 100%        |
| Lancashire        | 703              | 662              | 243           | 0              | 110            | 91             | 1,809            | 39%        | 37%        | 13%       | 0%         | 6%         | 5%        | 100%        | 15%        | 35%        | 32%        | 12%        | 0%        | 0%        | 5%        | 100%        |
| L&G               | 14,027           | 62,068           | 6,045         | 138            | 6,857          | 0              | 89,135           | 16%        | 70%        | 7%        | 0%         | 8%         | 0%        | 100%        | 9%         | 22%        | 34%        | 32%        | 1%        | 1%        | 0%        | 100%        |
| M&G               | 7,154            | 16,744           | 1,194         | 0              | 2,589          | 0              | 27,681           | 26%        | 60%        | 4%        | 0%         | 9%         | 0%        | 100%        | 10%        | 26%        | 14%        | 16%        | 2%        | 2%        | 31%       | 100%        |
| Mapfre            | 22,879           | 5,248            | 421           | 1,948          | 0              | 0              | 30,496           | 75%        | 17%        | 1%        | 6%         | 0%         | 0%        | 100%        | 15%        | 10%        | 48%        | 23%        | 1%        | 1%        | 3%        | 100%        |
| Munich Re         | 114,100          | 35,400           | 5,883         | 33,500         | 8,789          | 4,487          | 202,159          | 56%        | 18%        | 3%        | 17%        | 4%         | 2%        | 100%        | 42%        | 23%        | 13%        | 13%        | 4%        | 1%        | 4%        | 100%        |
| NN                | 61,587           | 38,231           | 3,730         | 349            | 60,220         | 576            | 164,693          | 37%        | 23%        | 2%        | 0%         | 37%        | 0%        | 100%        | 23%        | 27%        | 25%        | 20%        | 4%        | 2%        | 0%        | 100%        |
| Phoenix           | 14,719           | 23,872           | 60            | 0              | 5,531          | 0              | 44,182           | 33%        | 54%        | 0%        | 0%         | 13%        | 0%        | 100%        | 12%        | 36%        | 33%        | 17%        | 1%        | 1%        | 0%        | 100%        |
| Prudential        | 18,810           | 17,095           | 119           | 0              | 732            | 0              | 36,756           | 51%        | 47%        | 0%        | 0%         | 2%         | 0%        | 100%        | 7%         | 21%        | 19%        | 26%        | 24%       | 0%        | 4%        | 100%        |
| Sampo             | 1,281            | 13,095           | 0             | 3,289          | 0              | 0              | 19,987           | 6%         | 66%        | 0%        | 16%        | 0%         | 0%        | 100%        | 30%        | 11%        | 24%        | 15%        | 3%        | 3%        | 14%       | 100%        |
| SCOR              | 6,000            | 9,900            | 400           | 1,589          | 1,082          | 169            | 19,140           | 31%        | 52%        | 2%        | 8%         | 6%         | 1%        | 100%        | 15%        | 24%        | 28%        | 19%        | 4%        | 4%        | 6%        | 100%        |
| Storebrand        | 79,929           | 79,183           | 0             | 40,231         | 49,685         | 0              | 249,028          | 32%        | 32%        | 0%        | 16%        | 20%        | 0%        | 100%        | 24%        | 13%        | 20%        | 17%        | 8%        | 8%        | 10%       | 100%        |
| Swiss Life        | 52,287           | 33,808           | 0             | 8,127          | 12,044         | 6,204          | 112,469          | 46%        | 30%        | 0%        | 7%         | 11%        | 6%        | 100%        | 36%        | 27%        | 11%        | 20%        | 4%        | 2%        | 0%        | 100%        |
| Swiss Re          | 47,205           | 35,750           | 3,200         | 830            | 3,943          | 0              | 90,928           | 52%        | 39%        | 4%        | 1%         | 4%         | 0%        | 100%        | 14%        | 35%        | 19%        | 26%        | 2%        | 2%        | 3%        | 100%        |
| ZIG               | 86,571           | 52,553           | 8,125         | 5,376          | 13,159         | 12,325         | 178,109          | 49%        | 30%        | 5%        | 3%         | 7%         | 7%        | 100%        | 20%        | 28%        | 17%        | 30%        | 2%        | 2%        | 0%        | 100%        |
| <b>Life</b>       | <b>490,835</b>   | <b>440,520</b>   | <b>25,796</b> | <b>24,775</b>  | <b>206,437</b> | <b>62,771</b>  | <b>1,251,135</b> | <b>39%</b> | <b>35%</b> | <b>2%</b> | <b>2%</b>  | <b>16%</b> | <b>5%</b> | <b>100%</b> | <b>15%</b> | <b>24%</b> | <b>23%</b> | <b>28%</b> | <b>3%</b> | <b>1%</b> | <b>6%</b> | <b>100%</b> |
| <b>Non-life</b>   | <b>762,979</b>   | <b>595,663</b>   | <b>63,429</b> | <b>134,029</b> | <b>88,669</b>  | <b>43,502</b>  | <b>1,690,593</b> | <b>45%</b> | <b>35%</b> | <b>4%</b> | <b>8%</b>  | <b>5%</b>  | <b>3%</b> | <b>100%</b> | <b>23%</b> | <b>26%</b> | <b>20%</b> | <b>24%</b> | <b>2%</b> | <b>2%</b> | <b>3%</b> | <b>100%</b> |
| <b>Reinsurers</b> | <b>193,014</b>   | <b>98,789</b>    | <b>10,972</b> | <b>37,639</b>  | <b>15,967</b>  | <b>5,426</b>   | <b>361,807</b>   | <b>53%</b> | <b>27%</b> | <b>3%</b> | <b>10%</b> | <b>4%</b>  | <b>1%</b> | <b>100%</b> | <b>34%</b> | <b>24%</b> | <b>16%</b> | <b>17%</b> | <b>3%</b> | <b>1%</b> | <b>4%</b> | <b>100%</b> |
| <b>Composites</b> | <b>775,337</b>   | <b>598,264</b>   | <b>55,157</b> | <b>102,889</b> | <b>127,482</b> | <b>81,618</b>  | <b>1,740,747</b> | <b>45%</b> | <b>34%</b> | <b>3%</b> | <b>6%</b>  | <b>7%</b>  | <b>5%</b> | <b>100%</b> | <b>16%</b> | <b>27%</b> | <b>21%</b> | <b>29%</b> | <b>2%</b> | <b>2%</b> | <b>2%</b> | <b>100%</b> |
| <b>Total</b>      | <b>1,253,814</b> | <b>1,036,183</b> | <b>89,225</b> | <b>158,805</b> | <b>295,106</b> | <b>106,273</b> | <b>2,941,728</b> | <b>43%</b> | <b>35%</b> | <b>3%</b> | <b>5%</b>  | <b>10%</b> | <b>4%</b> | <b>100%</b> | <b>19%</b> | <b>25%</b> | <b>21%</b> | <b>26%</b> | <b>2%</b> | <b>2%</b> | <b>4%</b> | <b>100%</b> |

Note: Data relates to end-2021. Most exposures are shown gross, but some companies show exposures net of what accrues to policyholders -- ie the shareholder share. See the Scope column. In all cases data excludes unit-linked assets. Source: Company reports, discussions with company managements and BofA Global Research.

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Looking at the individual companies' AUM distribution:

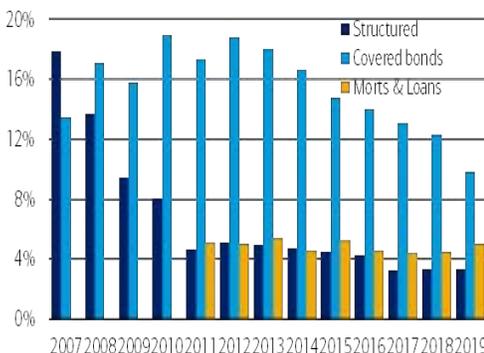
- It is notable that the involvement with the Structured sector is concentrated in a few companies only, namely 16 out of 27 companies, and 9 of the 16 insurers have Structured holdings equal to or above the industry averages.
- Although a similar number of company invests in CB, the level of concentration in holdings is much higher with three companies' share of holdings in the teens double-digits.
- All but four companies hold mortgage loan portfolios, and the concentration levels are even high as five companies hold mortgage loans equal or in excess of 20% of their AUM (between 20% and 37%).

Overall, the insurers' involvement with the Structured credit sector is low, as we have concluded in previous years and there has been little, if any, change in insurers' Structured share of AUM. As we have argued for years this is a missed opportunity for insures, securitisation, capital markets and the economy in Europe.

We often hear that the reason for the SF AUM of insurers is the events of the global financial crisis, the charts below suggests that this is not necessarily the case. While the non-lifers' share declined, the lifers' share actually increased. The charts also dispelled another myth, that the insurers do not like floating rate instruments; the European SF markets has always been dominated by floating rate instruments (well in excess of 95% of issuance). A peak lifers' AUM SF share of nearly 18% in in 2007 could not have been achieved with fixed rate SF instruments to any material degree.

Exhibit 7: Non-Lifers shares of AUM: SF, CB, Mort&Loans, %

While the non-lifers' AUM share of SF declined during the GFC...

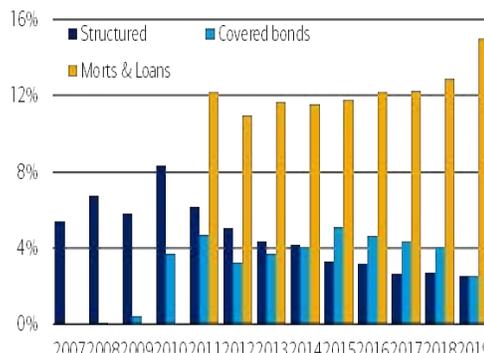


Source: BofA Global Research

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Exhibit 8: Lifers shares of AUM: SF, CB, Mort&Loan, %

... the lifers' AUM share of SF increased during the GFC



Source: BofA Global Research

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The recently initiated by EIOPA consultation gives some hope for a constructive (long-overdue) change in Solvency 2. In hope the European securitisation market lives another year... The initial signs are that such hope is badly misplaced.

# CMBS

## How volatile is CMBS pricing?

In this report we update an [earlier analysis](https://rsch.baml.com/r?q=c3WEJtD00sweFkjgt2kcnw) of pricing volatility of CMBS in the context of the capital charges for CMBS under the CRR and Solvency II frameworks. In this update we consider a longer time series and include comparisons of volatility in additional products.

Overall, we find the volatility of securitised notes has been similar to that of REITs and broader corporates over the past 25 years in Europe and the UK. Our findings also illustrate the need to review regulatory frameworks in light of the exceptional performance during the Covid pandemic.

Given our understanding that Solvency II capital charges are derived from the mark-to-market volatility of securities prices, rather than credit performance, we attempt in this report to quantify the volatility of European CMBS in a Solvency II context using data from ICE BofA bond indices.

### Total returns

In order to quantify the volatility of European CMBS, we need to look at the total returns of the notes. Owing to the lack of pricing data for individual names, we use indices of securitised bonds in Europe and the UK as a proxy. These were the *ICE BofA Euro Asset Backed & Mortgage Backed Securities Index* (Bloomberg ticker, EA00 <Index>), which is composed of 9 senior securitised bonds with ratings of A and BBB, and the *ICE BofA Sterling Asset Backed & Mortgage Backed Securities Index* (Bloomberg ticker, UA00 <Index>), which is composed of 145 CMBS, whole business and other securitised names whose credit ratings range from AAA to BBB-. The names are almost all senior ranking.

For comparison, we used the US CMBS index, *ICE BofA 0-10 Year AAA US Fixed Rate CMBS Index* (Bloomberg ticker, CB15 <Index>), which is composed of 1,584 names. We also used Corporate bond indices and REIT bond indices in Europe and the UK. The characteristics of the seven indices are summarised in the table below.

**Exhibit 9: Characteristics of bond indices**  
Availability of CMBS pricing data is limited in Europe

| Index              | UK Securitised  | UK REITs                            | UK Corporates                                   | Europe Securitised  | Europe REITs                    | Europe Corporates                        | US CMBS   |
|--------------------|---|-------------------------------------|---|---|---------------------------------|--|---|
| Ticker             | UA00  | UIRE                                | URNF  | EA00  | EJRE                            | ENSO                                     | CB15  |
| Full Name          | ICE BofA Sterling Asset Backed & Mortgage Backed Securities Index | ICE BofA Sterling Real Estate Index | ICE BofA Sterling Corporate Non-Financial Index | ICE BofA Euro Asset Backed & Mortgage Backed Securities Index | ICE BofA Euro Real Estate Index | ICE BofA Euro Senior Non-Financial Index | ICE BofA 0-10 Year AAA US Fixed Rate CMBS Index |
| Currency           | GBP   | GBP                                 | GBP   | EUR   | EUR                             | EUR                                      | USD   |
| No. Constituents   | 145   | 180                                 | 606   | 9   | 340                             | 2508                                     | 1584  |
| Effective Duration | 7.4   | 11.2                                | 8.9   | 6.3   | 5.5                             | 5.6                                      | 4.3   |

Source: Bloomberg, BofA Global Research

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For each of the seven indices, total returns are available going back to 1997. The following three charts illustrate the returns for (i) the UK names, (ii) the European ex-UK names, and (iii) the securitised names.

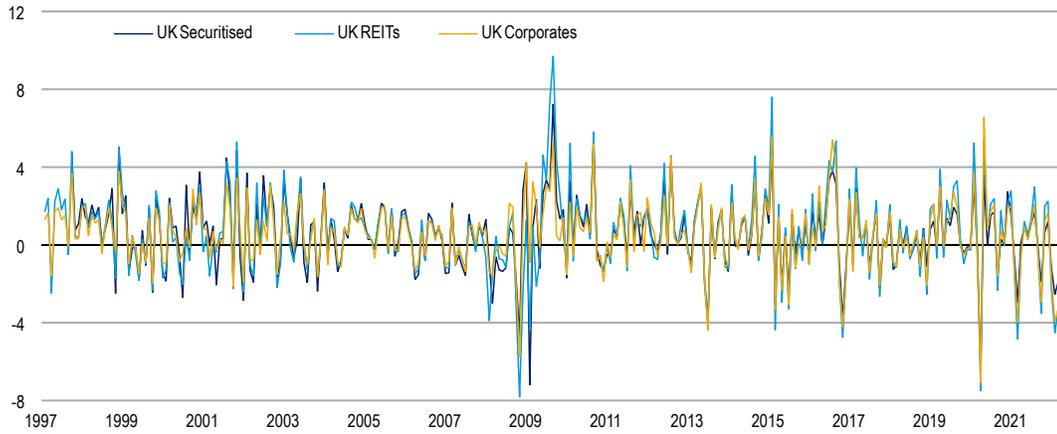
**UK Total Returns**

Among the Sterling bond indices, total returns over the 25 year period were most volatile among the REITs (UIRE), with a standard deviation of 2.23 compared to 1.87 for the securitised index (UA00) and 1.76 for Corporates (URNF).

The securitised bond returns had the lowest kurtosis at 1.54 compared to 1.87 for REITs and 1.97 for Corporates.

**Exhibit 17: Monthly total returns of GBP bond indices, %**

The Covid-19 pandemic was less volatile than the financial crisis



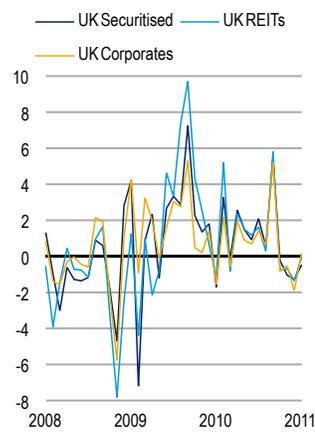
Source: Bloomberg, BofA Global Research

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UK bond returns were most volatile during the financial crisis in 2008 and 2009 when monthly returns whipsawed between -8% and 10%. The effect of the Covid pandemic was similar but briefer in 2020. At their most volatile, returns ranged from -7% to 7% within two successive months.

**Exhibit 18: UK total returns during the GFC, %**

Volatility was elevated for over a year

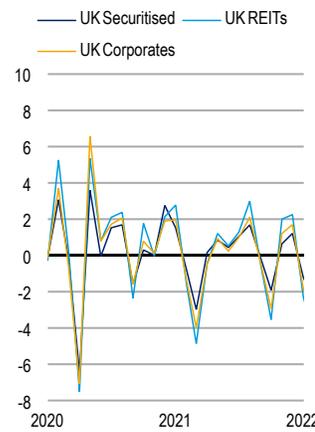


Source: Bloomberg, BofA Global Research

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**Exhibit 19: UK total returns during Covid, %**

Returns recovered sharply after just one month

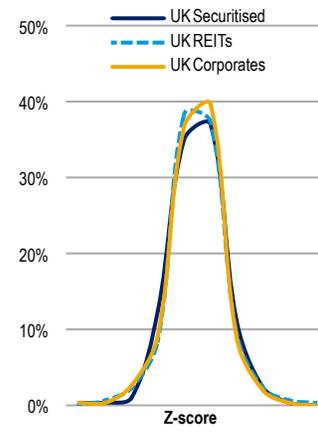


Source: Bloomberg, BofA Global Research

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**Exhibit 20: GBP bond returns distributions**

Securitised returns had lowest kurtosis



Source: Bloomberg, BofA Global Research

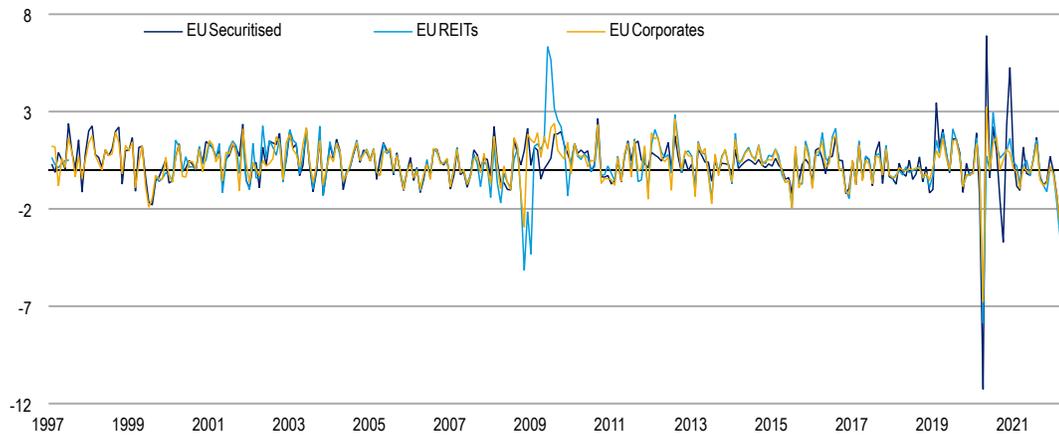
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**Europe Total Returns**

Among the Euro bond indices, total returns over the 25 year period were again most volatile among the REITs (EJRE), with a standard deviation of 1.30 compared to 1.26 for the securitised index (EA00) and 1.02 for Corporates (ENS0). The securitised bond returns had the highest kurtosis at 25.59 compared to 9.15 for REITs and 7.55 for Corporates.

We caution, however, that the European Securitised index (EA00) comprises just nine names, compared to 145 in the UK Securitised index. As such, we think the European Securitised index may be less representative of European CMBS and the conclusions less robust. Ideally, this analysis could be repeated in the future using returns data for more individual CMBS names.

**Exhibit 21: Monthly total returns of EUR bond indices, %**  
The Covid-19 pandemic was more volatile than the financial crisis



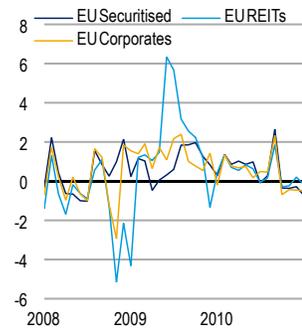
Source: Bloomberg, BofA Global Research

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European bond returns were most volatile during the Covid pandemic in March 2020 when monthly returns reached a low of -11.3%. This return was nine standard-deviations less than the mean, the most extreme result in our data set. In the same month, Corporate returns of -6.8% was seven standard-deviations below the mean.

**Exhibit 22: EUR total returns during the GFC, %**

Securitized bonds were least volatile

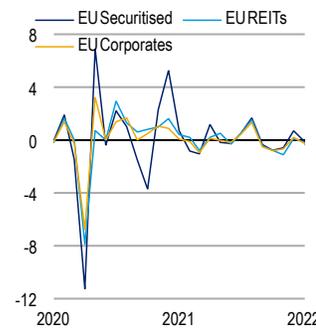


Source: Bloomberg, BofA Global Research

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**Exhibit 23: EUR total returns during Covid, %**

A 9-Sigma move in March 2020

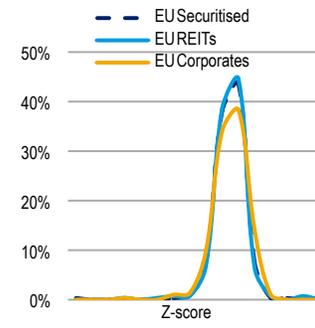


Source: Bloomberg, BofA Global Research

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**Exhibit 24: EUR bond returns distributions**

Securitized index had highest kurtosis



Source: Bloomberg, BofA Global Research

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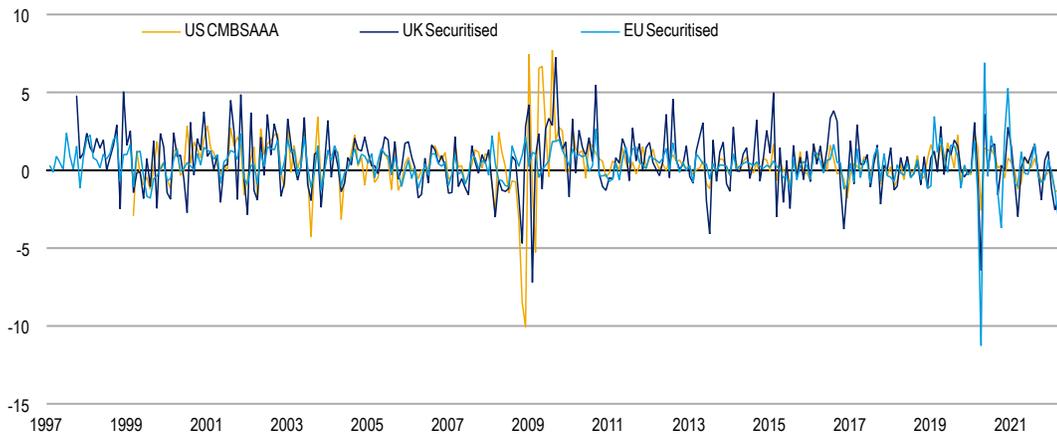
The extreme negative returns during the Covid pandemic were responsible for the high kurtosis of the European Securitised index at 25.6. Prior to March 2020 the European Securitised index had had a Kurtosis of 0.0 including the financial crisis period.

During the financial crisis, the European Securitised index was less volatile than European REITs and European Corporates, as illustrated above. Negative returns in particular were limited during the period

**US CMBS**

Over the past 25 years the volatility of triple A rated US CMBS has been in between the UK and European Securitised indices. The standard deviation of monthly returns has been 1.64 for US CMBS (CB15) compared to 1.26 for European Securitised (EA00) and 1.87 for UK Securitised (UA00). Likewise, the kurtosis of US CMBS has been 12.0 compared to 1.5 for UK Securitised and 25.6 for European Securitised

**Exhibit 25: Monthly total returns of US CMBS, %**  
US CMBS was more volatile during the financial crisis

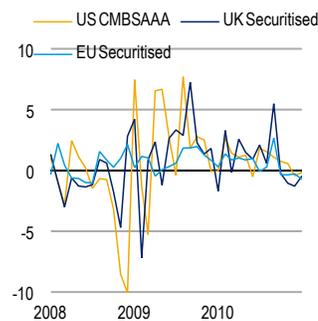


Source: Bloomberg, BofA Global Research

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US CMBS was more volatile during the financial crisis but less volatile during the Covid pandemic than securitised bonds in European and UK.

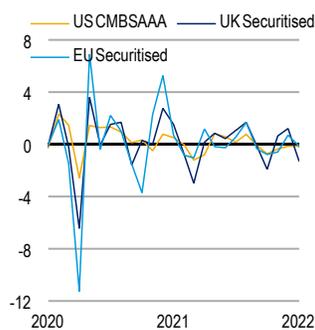
**Exhibit 26: US CMBS returns 2008-10, %**  
Higher volatility in the US than Europe



Source: Bloomberg, BofA Global Research

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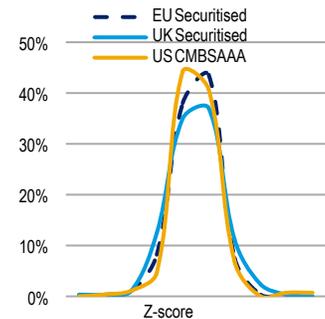
**Exhibit 27: US CMBS returns 2020-21, %**  
Higher volatility in Europe than the US



Source: Bloomberg, BofA Global Research

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**Exhibit 28: Securitised returns distributions**  
US CMBS had a 6-Sigma move in 2008



Source: Bloomberg, BofA Global Research

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**Conclusions**

We find that the volatility of securitised notes has been similar to that of REITs and broader corporates over the past 25 years in Europe and the UK. The returns of securitised notes were less volatile, expressed as lower standard deviation, than REIT bonds but higher than corporates on average in both EUR and GBP denominations.

Likewise, the UK securitised notes were less prone to fat tails, expressed as lower kurtosis, than corporate and REIT bonds. European securitised notes exhibited a particularly high kurtosis and negative skew owing to a negative 9-sigma return during the Covid pandemic. Previously, the kurtosis had been 0.0 for the 23 years since 1997.

We think the pricing of the European securitised index may be less representative of the sector and could have been more sensitive to outliers owing to the small number (9) of constituents. By contrast, we think the results from UK securitised index may be more meaningful owing to the higher number (145) of constituents.

Despite the limited pricing data in Europe, the EUR and GBP securitised indices had similar results to the bigger and deeper US CMBS index. This consistency lifts our confidence in the robustness of the European and UK securitised results.

Volatility was higher during the Covid pandemic than the financial crisis in many cases including European corporate bonds, REITs and securitised bonds as well as UK corporate bonds. We think this illustrates the need to review regulatory frameworks in light of recent performance.

The first week of the New Year was dominated by the street on the secondary market, while on the primary the pipeline began to bulge. Spreads were marked down on low trading volume and depleted inventories in need of replenishment. The second week of the year allowed for price discovery, with UK RMBS Finsbury Square 2018-1, UK auto ABS E-Carat 9 PLC and Dutch RMBS Storm 2018-1 all pricing in the primary, and the investor return to the secondary in BWICs or otherwise. More deals – especially UK RMBS, are added to the pipeline for SF bonds; we expect to see a rare 144A placement for UK RMBS – a harbinger of 2018 USD supply. Benchmark CB supply continues strong, banks front loading issuance for the year. Issuers, in our view, would be wise to front load their funding to lock in low cost funding, as we contend that a rally is underway in the beginning of the year, but we continue to see the market moving sideways and even in risk of retracing some of the early gains in the second half of the year, as ECB - together with the other major central banks, turns more hawkish.

EU SF supply scarcity will remain intact, though, as we see issuers, especially from the UK, tapping the USD RegS/144A market, thus creating both pricing tension and subtracting from already low local supply. EU investors are well advised to consider new geographies, with Australia's supply of €35bn in 2017 and likely higher in 2018 standing out among the investment options.

### **Commentary: Homogeneity is in the eye of the beholder**

As we have argued in our recent commentaries on EU securitisations, a lot of work remains to be done to make the recently published EU securitisation regulatory framework implementable and supportive of market revival. Case in point is the EBA consultation on homogeneity. On the case of EU real life examples of prime RMBS and auto ABS, we highlight some of the uncertainties that need to be addressed to clear the way for an operational and irrevocable homogeneity assessment.

### **RMBS: Australian NC RMBS continue to perform in line with expectations**

In 2017, average 30+ arrears were 1.6% higher than in 2016, while CPRs were down 1.8%. Significant tiering is in place, linked to exposures to risk factors, such as adverse credit and Low Doc loans

### **CMBS: Do securitised loans outperform balance sheet loans?**

It appears they may. Since 2008, UK banks have written-off 10.0% of pre-crisis CRE loans vs 4.0% among pre-crisis conduit CMBS loans.

### **CLO: 2.0 collateral snapshot**

Defaulted and distressed assets remain low in CLO 2.0 portfolios. Steadily tightening loan spreads may be taking some assets out of reach of CLO managers.

Structured Finance  
Europe  
ABS CMBS RMBS CB

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[Common acronyms](#)

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# CMBS

## Do securitised loans outperform balance sheet loans?

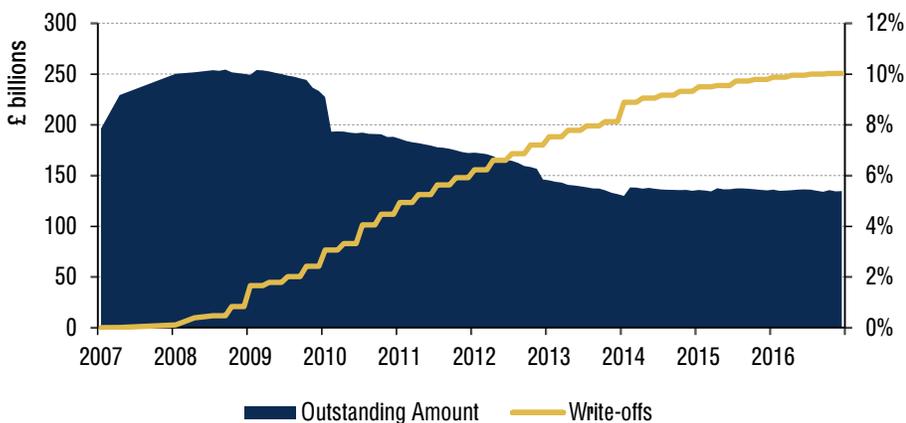
In this report we compare the losses experienced on securitised loans to those of loans that were not securitised. It is intended to complement recent publications in which we showed that losses and price volatility among securitised CRE loans compare favourably to other products, which is not reflected in the regulatory treatment of securitised CRE products.

To recap, at the AAA level CMBS losses amounted to just 0.26% of aggregate issuance from 1995 to 2017 (click [here](#)) and 1.4% for all investment grade issuance (AAA to BBB-). Annualised, we estimate this corresponds to a loss rate of roughly 0.05% pa and 0.28% pa respectively assuming an average weighted average life of five years. All observed losses occurred in conduit transactions. We are not aware of any losses ever having occurred in a CMBS issued by a corporate in the UK or Europe. In terms of MTM volatility, we found minimal difference between the volatility of securitised bonds and corporate bonds over a 20 year period, which does not justify the five-fold increase in regulatory capital required for the securitised bond over the corporate bond under Solvency II. The standard deviation of total returns over the period was 6.6 for a portfolio of 63 UK securitised bonds with an average effective duration of 8.2, compared to a slightly lower standard deviation of 5.2 for a portfolio of 548 UK corporate bonds with a slightly lower average effective duration of 7.5 (click [here](#)).

In this report, we compare the scale of write downs of CRE loans held by banks (ie loans that were not securitised) to those of CRE loans that were securitised. (Spoiler alert: the securitised loans performed better.) The bank loan data was produced by the Bank of England (BoE) and is publicly available online. The securitised loan data was produced by Trepp based on public disclosures.

By our calculations using the BoE data, write-offs by UK banks of pre-crisis CRE loans have reached 10.0% in aggregate of the £196bn that was outstanding at the end of 2007. Our calculations are consistent with the statement in the BoE's December 2015 Financial Stability Report (p32) that, "In aggregate, 9% of the UK banks' pre-crisis stock of CRE debt was written off between 2008 and 2014, while lenders with lower-quality underwriting standards typically had write-off rates above 20%." We estimate write-offs had reached 8.9% by the end of 2014, as shown in the following chart.

**Chart 31: Aggregate write-offs by UK banks of pre-crisis CRE loans that were not securitised**



Source: Bank of England, BofA Merrill Lynch Global Research

It is interesting to note the BoE's comment that some UK lenders suffered write-off rates exceeding 20%. The BoE only makes aggregate data publicly available so we do not have any information about these lenders or the affected loans, nor what constitutes "lower-quality underwriting standards". If a database for UK CRE loans is

ever built, as has been proposed, it may be possible in the future to perform this analysis on individual banks, which we think would be helpful for systemic transparency.

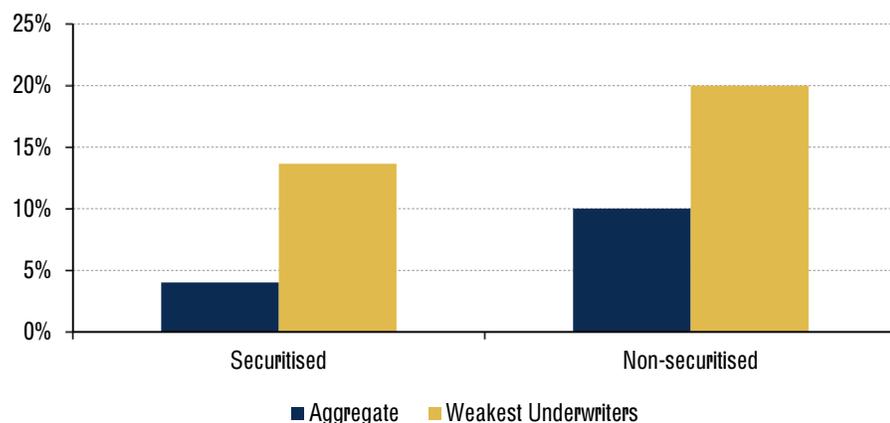
As we understand it, the BoE collects data from just those UK resident banks and building societies it supervises whereas UK loans made by foreign banks are not captured.

Securitised loans performed significantly better than the 9% write-off rate cited by the BoE for non-securitised loans, in our view. We think we have come reasonably close to making the comparison on a like-for-like basis using the different data sets.

Of the £14.3bn of CRE loans originated and sold via conduit securitisation by UK banks from 2000 to 2008, the subsequent write-offs, or principal losses, amounted to £572mn or 4.01% in aggregate. This is less than half the rate of write-offs suffered among the loans that were not securitised. Including the £18.9bn of securitised debt issued by UK corporates over the same period, none of which suffered impairment to our knowledge, the write-off rate decreases to 1.73% in aggregate

In our interpretation, this suggests that loan quality is the primary driver of loan performance, not whether the loan subsequently changed hands – in the capital markets via securitisation, the syndication market, or remained on the bank’s balance sheet.

**Chart 32: Write-off rates by UK banks of CRE loans in wake of the financial crisis**



Source: BofA Merrill Lynch Global Research

Just as the BoE noted higher write-offs by lenders with lower-quality underwriting standards, there were broad differences in write-off rates among the UK banks that securitised. HBOS experienced the highest rate of principal losses subsequent to 2008, representing 13.7% of the £705mn of CRE loans they securitised, we estimate. RBS’ aggregate write-offs totalled 5.0% on £5.8bn of securitised loans while Barclays’ write-offs totalled 3.1% on £5.9bn of securitised loans, by our calculation. We are not aware of any loans from HSBC securitisations having suffered a loss.

**Table 5: Aggregate write-off rates among CRE loans securitised by UK banks**

| UK Bank  | Write-Off Rate |
|----------|----------------|
| HBOS     | 13.7%          |
| RBS      | 5.0%           |
| Barclays | 3.1%           |
| HSBC     | 0.0%           |
| Total    | 4.0%           |

Source: Trepp, BofA Merrill Lynch Global Research

Overall, we conclude the above analysis provides evidence that securitised CRE loans have outperformed CRE loans that banks held on balance sheets in the UK. We think it is reasonable that securitised loans should outperform non-securitised loans given the additional scrutiny from the rating agencies and the securitisation investors in addition

to the bank's own underwriting and credit committee. Also, the lender's obligation to retain 5% of the securitised loan(s) means it continues to be exposed to any loss and ensures alignment of interest with securitisation investors, in our view.

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