

A research publication by DZ HYP | September 2020

# THE GERMAN PFANDBRIEF MARKET 2020 | 2021

**Pfandbriefe: a resilient market –  
European harmonisation efforts are progressing**

[dzhyp.de](https://dzhyp.de)



# TABLE OF CONTENTS

2	<b>Preface</b>
4	<b>The market for german Pfandbriefe and international Covered Bonds</b>
13	<b>Green Pfandbriefe and ESG Covered Bonds</b>
21	<b>Ratings for credit and ESG risks</b>
26	<b>European harmonisation of the Covered Bond laws</b>
36	<b>Legal framework</b>
70	<b>Regulatory treatment of german Pfandbriefe</b>
72	<b>Appendix: terms, concepts and developments from more than 250 years of Pfandbrief history</b>
80	<b>Bond overview</b>
81	<b>Imprint</b>
86	<b>DZ HYP addresses</b>

# PREFACE

Dear Sir/Madam,

When looking at risk premiums, we note that the COVID-19 pandemic has not taken too much of a toll on the German Pfandbrief market so far. Swap spreads were only marginally higher at the mid-year point than at the beginning of the year. At the same time, the pandemic has triggered an economic crisis that is having a negative impact on public-sector budgets and private households, and – as a consequence – on the credit quality of Mortgage and Public-sector Pfandbriefe. What is more, banks have increasingly been using their own new issuance as collateral for loans with the European Central Bank (ECB). Cheap ECB money has recently been so attractive that some institutions have resorted to buying their own Pfandbriefe and replacing them with central bank loans. While outstanding Pfandbrief volumes have continued to rise during the course of 2020, investors have had little to choose from in terms of publicly placed new issues.

Looking beyond COVID-19, green Pfandbriefe have been leading the way. The member institutions of the German Association of German Pfandbrief Banks (“vdp”) have prepared minimum standards for issuing these mortgage Pfandbriefe to account for the EU taxonomy for sustainable activities. To gain the trust of investors, vdp member institutions are focusing upon transparency. Issuers of green mortgage Pfandbriefe commit to regular disclosure of information on the green assets included in their cover assets pool. This shows that the market for green Pfandbriefe, which is relatively small as of yet, is gaining in importance.

The European influence on German Pfandbriefe continues to grow. In early 2020, the harmonisation package for EU covered bonds entered into force. Covered bonds meeting certain criteria may now use the labels “European Covered Bonds” or “European Covered Bonds (Premium)”. The corresponding directive is currently being implemented in the member states. As many of the provisions contained in the package seem to have been inspired by German Pfandbrief law, it seems likely that any adjustments required for the German market will be negligible.

All current reports can be downloaded from our website  
(on [www.dzhyp.de/en/about-us/market-research/](http://www.dzhyp.de/en/about-us/market-research/)).

Yours sincerely,

**DZ HYP**

September 2020

## BEYOND COVID-19: GREEN PFANDBRIEFE LEAD THE WAY

- » **Pfandbrief spreads remain stable despite corona crisis, retained own new issues are increasingly used by banks as collateral for the ECB**
- » **Pfandbrief banks agree on minimum standards for Green Pfandbriefe**
- » **Covid-19 weighs on pfandbriefe whose ratings could, however, survive a prolonged crisis due to the statutory protection mechanisms**

### Summary

At the latest since the end of January 2020, when the first confirmed Covid-19 case in Germany became known, the pandemic has also reached the pfandbrief market. The rising infection figures in August - worldwide, but also in Germany - are cause for concern. Measured by its risk premiums, the pfandbrief has so far come through the crisis well. Swap spreads are trading at only slightly higher levels than at the beginning of the year. However, banks are increasingly using their retained own pfandbriefe as collateral for cheap central bank loans. These are so appealing for euro area credit institutions that some pfandbrief banks have even bought back their own short-dated covered bonds in order to replace them with cheap money from the central bank in June. In the first half of the year, this line of action, which were economically necessary from an issuer's point of view, meant that the volume of pfandbriefe outstanding did indeed rise more rapidly than at any time in a long time. At the same time, the supply of publicly placed new issues for investors remained tight.

The pfandbrief banks have agreed on minimum standards for Green Pfandbriefe. They stipulate that the EU taxonomy for environmentally sustainable economic activities will be taken into account. In addition, the banks are also seeking orientation towards the minimum standards for the EU Green Bond Standard. There is also a link to the Energy Efficient Mortgage Initiative (EEMI) of the European Mortgage Federation (EMF). Relevant data on sustainable building finance is currently being collected and evaluated via the EEMI, for which the EMF has taken the lead and which is financed by the EU Commission. The initiative also examines whether the default probability of green mortgages is lower - i.e. better - than that of financing conventional buildings. Initial results from an EEMI subproject indicate that this is the case. Although the market for Green Pfandbriefe is still manageable, it has been growing steadily for years.

In summary, the corona crisis is bad news for pfandbrief ratings. The economic crisis triggered by the pandemic is weighing on budgets of private households and the public sector and thus potentially on the credit quality of mortgage pfandbriefe and public sector pfandbriefe. However, the safety mechanisms for the pfandbrief appear to be strong enough to survive a corona crisis that may last a little longer.

## THE MARKET FOR GERMAN PFANDBRIEFE AND INTERNATIONAL COVERED BONDS

In December 1770 the first mortgage pfandbrief was issued by the Silesian Landschaft. The origins of today's pfandbrief law can be traced back to the cabinet order of Prussian King Frederick II of 29 August 1769. That is why the 250th anniversary of the pfandbrief was rightly celebrated last year. Fortunately! This year, the corona pandemic has put a spoke in the wheels of many major events and celebrations. The first news about Covid-19 came at the end of 2019, when the disease raged in the Chinese city of Wuhan in Hubei province. On 27 January 2020, the first confirmed case of corona in Germany became known. At the beginning of September, there were more than 25.3 million confirmed infected persons worldwide. At that time, 848,255 people had already died as a result of a Covid-19 infection. The disease means a heavy blow of fate for every single affected family. In addition, the consequences of the Covid-19 pandemic have a negative impact on the entire society of a country and its economy through the sometimes far-reaching measures taken to contain the infection.

### Covid-19 pandemic and its consequences

#### COVID-19 PANDEMIC IN NUMBERS

WHO region	Confirmed cases (absolute)	Deaths (absolute)
Americas	13,356,411	467,149
Europe	4,255,328	219,892
- of which Germany	243,599	9,302
South-East Asia	4,233,827	77,318
Eastern Mediterranean	1,927,266	51,092
Africa	1,056,120	21,999
Western Pacific	497,405	10,792
<b>Total</b>	<b>25,327,098</b>	<b>848,255</b>

Source: World Health Organization ([WHO](#)), DZ BANK Research, as of 1 September 2020

Although the number of newly infected persons in the European Union (EU) remained at relatively low levels in July and early August, with few exceptions, and events were dominated by local, relatively isolated outbreaks, the corona crisis is far from over. Worldwide, the number of newly infected people remained on a very high level during August. It seems in the United States, it is only a matter of time before the health care system reaches its limits in the particularly affected states, and countries such as Brazil, South Africa and India are also reporting high numbers of newly infected people. With the easing of restrictions and, in some cases, more negligent protection measures on the part of parts of the population ("corona fatigue"), the risk of a second wave is also increasing again in Western Europe. As a result, the concerns could also become more acute in Europe again.

### Corona crisis: Second wave after the summer holidays?

This has made little impression on the capital markets in recent weeks. The assumption that the low point of economic development was reached in the second quarter, massive support from central banks and reports of progress in the development of a vaccine are supporting the markets. In addition, after tough negotiations, the EU heads of state and government have agreed on a compromise for an EU-wide aid package. The agreement in principle by the heads of government has already been received by many market participants as a positive signal.

### Supporting central banks and vaccine outlook

A year ago, in August 2019, pfandbrief yields had fallen to historic lows. At that time – even before the corona crisis – the background was the hopes of market participants for a more expansive monetary policy on the part of the European Central Bank (ECB),

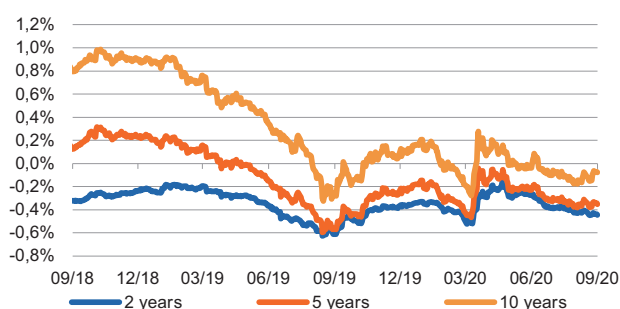
### At the beginning of the corona crisis in Europe pfandbrief yields were on a relatively low level

which was partially fulfilled in September with the announcement that from November onwards the bond holdings would be built up again by EUR 20bn per month under the Asset Purchase Programme (APP). Pfandbrief yields rose slightly from September 2019 to the beginning of 2020 at a very low level. With the arrival of the Covid-19 virus in Europe and the massive distortions on the stock and bond markets, pfandbrief yields also fell back to near their historic lows by March.

The swap spreads of pfandbriefe remained largely stable in the period from August 2019 to March 2020. Risk premiums for ten-year pfandbriefe narrowed by a few basis points, while those for two and five-year pfandbriefe moved sideways. As a result, the steepness of the generic pfandbrief credit curve – i.e. the difference between the swap spread of bonds with a ten and a two year maturity – had flattened during the period mentioned above from around 12 basis points in mid-August 2019 to around 5 basis points in mid-March 2020. At this point, the German DAX index reached its lowest point this year at 8,442 points.

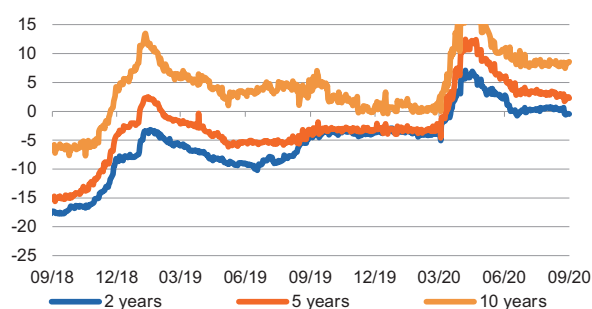
### Slightly flatter credit curve until March 2020

**PFANDBRIEF YIELDS HAVE REMAINED CLOSE TO THEIR HISTORIC LOWS**  
GENERIC YIELDS IN PERCENT



Source: Bloomberg, calculations and presentation DZ BANK Research; data as at 1 September 2020, 17:00h

**LOW YIELDS INHIBIT FURTHER SPREAD NARROWING**  
GENERIC SWAP SPREADS IN BASIS POINTS



Source: Bloomberg, calculations and presentation DZ BANK Research; data as at 1 September 2020, 17:00h

In mid-March 2020, stock markets around the world began a rapid recovery, driven by announcements from major central banks. In Europe, the ECB announced on 12 March 2020 the improved conditions for banks for current long-term tenders (TLTRO III). The interest rates to be paid by financial institutions for central bank loans were reduced by 25 basis points. At the same time, the conditions for obtaining the preferential terms were eased, because banks no longer have to expand their reference loan portfolio for the interest bonus. Since March it has been sufficient to keep the credit volume constant. Other restrictions on the availability of TLTRO III money have also been softened or completely removed. In parallel, the ECB also relaxed the collateral requirements for its central bank loans in April. Collateral that had met the ECB's requirements in March and may be downgraded to the BB (upper non-investment grade) range later remains eligible for repo transactions. The message was well received by the commercial banks within the euro area. They made strong use of the TLTRO III tranche in June. In gross terms, the banks took out loans totalling some EUR 1.3tr in the June tranche of the long-term tender.

### ECB provides banks with plenty of cheap money

Mid-March also marked a turning point in the yield and spread curve for pfandbriefe. Following the ECB's announcement on 12 March, yields on these bonds rose rapidly for a short time, thus sailing in the general interest rate trend at that time. At the same time, the swap spreads of the pfandbriefe widened, with risk premiums rising less sharply than the market as a whole. Since mid-March at the latest, liquidity in the covered bond market can be regarded as thin. The low level of new issuance activity

### New issues put spreads under pressure in late March and early April



in 2020 compared with the previous year, coupled with the renewed increase in ECB bond purchases, were the main reasons for this situation. However, primary market activities did not come to a complete standstill. In March it was mainly Canadian banks that publicly placed euro benchmark covered bonds. In April, French credit institutions took over the baton. Large-volume pfandbriefe were not publicly placed with investors during this period. In this respect, there was a break of more than three months between the beginning of March and the beginning of June on the side of pfandbrief banks. One reason for this was the uncertainty that existed at that time regarding the spreads in the secondary market. At the end of March and the beginning of April in particular, the covered bond market was still in a phase of price discovery process. Large-volume new issues helped to determine market-clearing spreads. Although the new bonds issued by French and Canadian banks met with lively investor interest, these had to be paid for with high spread concessions by the issuers. Accordingly, the new issues also put pressure on the risk premiums of bonds in the secondary market, which generally widened until mid-April. From mid-April spreads began to settle down, which gradually narrowed until mid-June. Since mid-June the swap spreads of covered bonds (including pfandbriefe) moved sideways at the new, lower level. Patience paid off for issuers who had waited with their large-volume new issues. In June 2020, euro benchmark covered bonds with a total volume of EUR 9bn were newly issued, including four benchmark pfandbriefe with a total volume of EUR 4bn, which were publicly placed without a sustained impact on risk premiums in the secondary market.

It remains to be noted that the refinancing needs of the banks were largely satisfied by cheap central bank loans in June. With covered bonds, banks can indeed raise long-term refinancing at comparatively low cost via the capital market. However, in July only one South Korean and one Norwegian bank made use of this possibility. The need for covered bond refinancing also appears to be slowed by the fact that banks currently need additional loss-absorbing debt capital. Against the backdrop of the devastating economic figures for the second quarter of 2020 in Europe, which in the case of Germany were even worse than feared, banks appear to be preparing for a higher need for write-downs within their loan books. Consequently, the need for equity capital or bonds that could absorb losses such as subordinated bonds or bail-inable senior bonds is increasing. To this extent, the mixture of cheap central bank money and the need for bonds with loss-absorbing capacity, brought the new issue activities in the covered bond market to a standstill for an unusual long time from 9 July to 24 August 2020. The pfandbrief banks were also affected by the issuance pause in the summer, which was brought forward this year.

**Early summer break on the primary market for covered bonds**

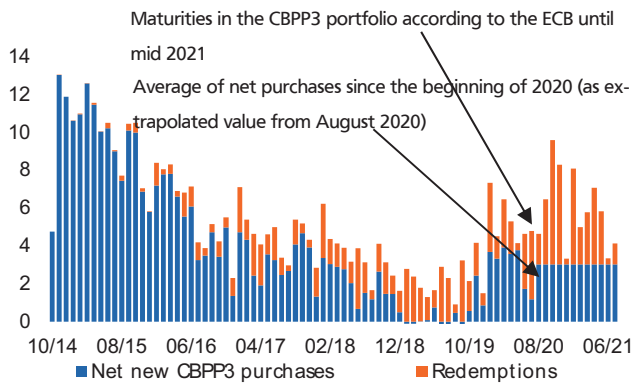
The ECB's monetary policy measures had a major impact on primary market activity in the first half of 2020, but we believe that the question of how strong the impact of bond purchases is on the risk premiums of covered bonds and pfandbriefe cannot be answered unequivocally. As in previous years, ECB purchases declined in the summer weeks. In July, however, ECB net purchases of covered bonds under CBPP3 and the Pandemic Emergency Purchase Programme (PEPP) launched in March remained clearly positive. At the same time, the monthly volume of net new purchases declined seasonally compared with spring 2020. In July, the CBPP3 portfolio increased by only EUR 1.2bn (June: EUR 1.7bn) to around EUR 284.0bn (June: EUR 282.8bn). From January to May 2020, net new purchases under CBPP3 (excluding PEPP) amounted to EUR 3.7bn on average. In addition to the lower new issuance activity during the first summer weeks - not a single CBPP3 eligible bond was issued in the whole of July - the relatively high maturities in the CBPP3 portfolio, at EUR 3.6bn, have recently slowed the growth of the portfolio. In addition, the volume of covered bonds in the ECB's PEPP portfolio remains manageable at EUR 3.1bn at the end of July compared to the

**Impact of ECB purchases on spreads is difficult to determine**



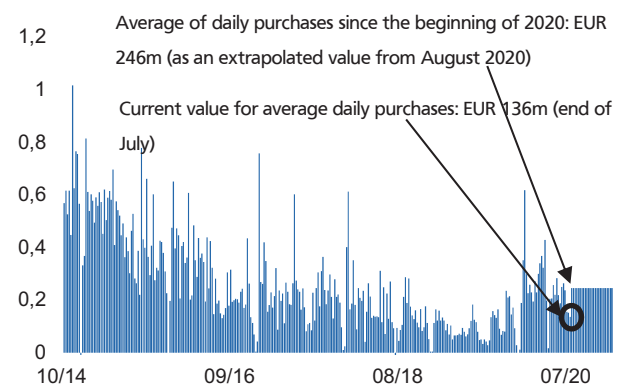
total PEPP volume of EUR 440.1bn. The covered bond purchases (net) under PEPP declined in June and July to a cumulative EUR 1.0bn (after EUR 2.1bn from the end of March to the end of May). Nevertheless, in our view, in view of the latest CBPP3 figures, purchases under PEPP are still significant for the covered bond market.

#### GROSS PURCHASES WILL PICK UP AGAIN IN AUTUMN AT THE LATEST FIGURES IN BILLION EUROS



Source: European Central Bank, presentation and calculations DZ BANK Research, as at end of July 2020

#### AVERAGE PURCHASES PER TRADING DAY WERE BELOW AVERAGE IN THE LAST TWO WEEKS FIGURES IN MILLION EURO

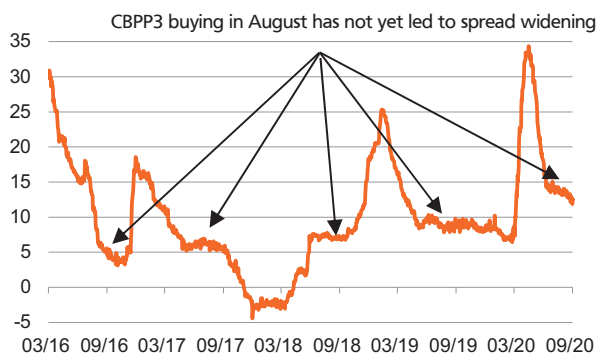


Source: European Central Bank, presentation and calculations DZ BANK Research, as at end of July 2020

The decline in ECB purchases from the second half of July into August did not harm the development of swap spreads. During the summer break, covered bond spreads have always moved sideways since 2016 (relative to the swap spread of the iBoxx € Covered Index). This is initially to be noted as positive. However, the effect of ECB purchases on the covered bond spreads appears to be diminishing overall. The chart below (right) shows the generic swap spreads calculated by DZ BANK Research for five-year covered bank bonds. The data history of the past 12 months covers a very interesting period of time because – as mentioned above – the ECB decided in September 2019 to increase the holdings of the APP – including CBPP3 – again from November 2019 onwards, after no net new purchases for CBPP3 were made on average between January and October 2019. However, there was no reaction in the swap spreads in either September or November. It is also interesting to note that the risk premiums of euro area covered bonds have not systematically outperformed their counterparts outside Europe.

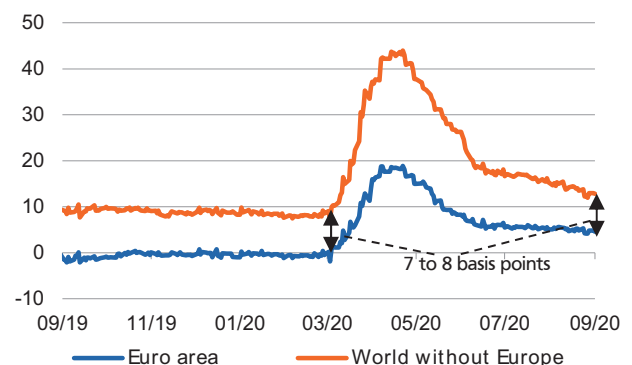
**Net new purchases as of November 2019 with no visible effect on covered bond spreads**

#### LOW CBPP3 PURCHASES IN AUGUST AND STABLE SPREADS SWAP SPREADS OF THE IBOXX € COVERED INDEX IN BASIS POINTS



Source: Markit, presentation and calculations DZ BANK Research; data as of 1 September 2020, 17:00h

#### ECB PURCHASES WITHOUT EFFECT? GENERIC SWAP SPREADS IN BASIS POINTS (5 YEARS)



Source: Bloomberg, Markit, presentation and calculations DZ BANK Research; data as at 1 September 2020, 17:00h

In response to the corona crisis, the ECB had initiated further measures in March in addition to the above-mentioned decisions on TLTRO III. For example, it was announced in March that within the framework of the APP further bonds with a total volume of EUR 120bn were to be purchased by the end of 2020 in addition to the monthly portfolio increase of EUR 20bn. This increase had not led to a significant increase in CBPP3 purchases in April. The PEPP initiated in March, with an original volume of EUR 750bn, which was increased to EUR 1.35tr in June, was not followed by a significant increase in CBPP3 purchases in April. But, as mentioned above, PEPP has led to additional covered bond purchases by the ECB since the end of March with an average volume of EUR 1bn each in April and May and EUR 0.5bn in June and July. The chart above (right) compares the development of the generic spreads for covered bonds from the euro area and outside Europe. According to this chart, the spreads of non-European covered bonds widened much more than those of euro area covered bonds until mid-April. New euro benchmark by Canadian banks (total volume EUR 5.25bn) in March probably contributed to this. By contrast, only two French covered bond issuers were active on the primary market in the same month (these were the only euro area issuers), but these were followed by a total of five French banks in April (total volume in April: EUR 7.0bn and in March: EUR 1.5bn). This may have weighed on secondary market spreads of French covered bonds. However, among issuers outside Europe, Canada has a higher weight than France within the eurozone. Apart from the French, only one Canadian bank raised a euro benchmark covered bond in April. Therefore, the spread development for the eurozone compared to non-European bonds shown in the chart above may have been better because the pressure from new issues was proportionately not as high as outside Europe. Overall, it is difficult to estimate how much of the spread development is attributable to new issues and ECB purchases.

#### **Further ECB measures in times of the corona crisis and effects on new issues**

Two other aspects of the effect of ECB purchases on covered bond spreads should also not be forgotten. The ECB's aim is to make its purchases as market-neutral as possible in order not to distort prices – i.e. spreads – too much. The central bank therefore does not buy all the bonds it is offered at any price. At the same time, it should also be noted that euro area covered bonds are quoted at narrower spread levels on average and in comparison to all other covered bonds. This is due to the fact that large market segments in particular, such as Germany and France, but also Belgium, Finland and the Netherlands, are part of the eurozone, and the covered bonds from these countries are all trading at quite expensive spread levels. Moreover, covered bonds from issuers outside Europe do not enjoy the same privileged regulatory status as covered bonds from the European Union. This difference – especially given that EU banks are an important investor group for covered bonds – is likely to result in a few basis points of spread difference between eurozone and non-European covered bonds. Empirically, however, the gap between eurozone and Canadian & Co. bonds at the beginning of August has returned to the same level of 7 to 8 basis points as it was before the start of the spread widening in March. From this perspective, euro area covered bonds have not been able to outperform despite substantial ECB purchases. This suggests that the effect of ECB purchases on the covered bond spreads is slowly diminishing. Does this suggest that the spreads have already been distorted by the ECB purchases to such an extent that we have already reached the bottom? We think not! The ECB could be even more aggressive in the covered bond market if it were to buy covered bonds at any price. Historically, covered bond spreads have also been left with some room for manoeuvre. After all, at the beginning of September we are still

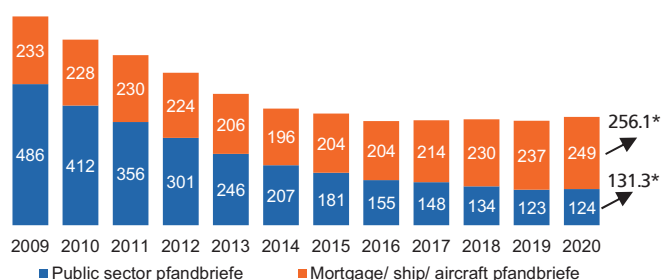
#### **The impact of ECB purchases would be more visible if the central bank were to be more aggressive**

about 6 basis points away from the spread level before the outbreak of the Corona crisis. The absolute spread low of minus 3 basis points in the swap spreads of the iBoxx € Covered Index is even around 16 basis points away (data as of 1 September 2020).

Slight spread narrowing is possible over the next twelve months, although there may be setbacks in the coming weeks – even without a second wave of infection. At this point, it is worth recalling the problems that have been known for years and are still unsolved, such as Brexit or the international trade disputes between the USA and China. The disputes with China have become more explosive since the additional restrictions on the freedom of the people of Hong Kong came into force in July. At the same time, DZ BANK Research assumes that ten-year Bund yields will move sideways until the autumn and then rise slightly to minus 20 basis points in 12 months. This general rise in yields could create scope for pfandbrief and covered bond spreads to narrow in 2021.

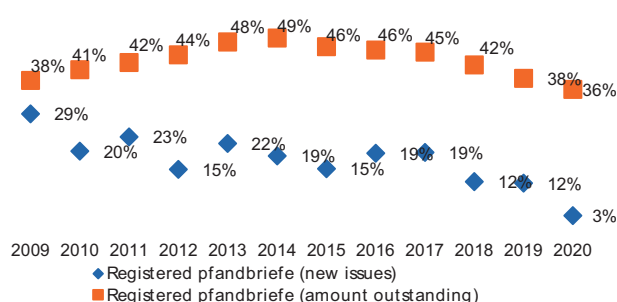
**Slight spread narrowing possible in the next twelve months**

**THE VOLUME OUTSTANDING IN THE PFANDBRIEF MARKET REACHED A VALUE OF AROUND EUR 364BN AT THE END OF 2019**  
FIGURES IN BILLION EUROS



Source: vdp, banks, calculations and presentation DZ BANK Research, data for 2020 as at end of May 2020, \* vdp figures as at end of June

**SHARE OF REGISTERED PFANDBRIEF IN THE TOTAL VOLUME OF PFANDBRIEF HAS DECLINED SLIGHTLY SINCE 2014**



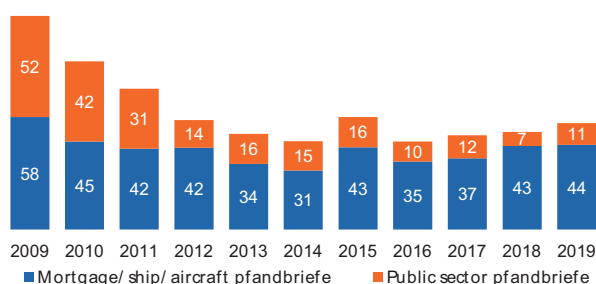
Source: Bundesbank, calculations and presentation DZ BANK Research data for 2020 as at end of May 2020

As already indicated, the corona crisis has had an impact on the issuing behaviour of pfandbrief banks. By the end of 2019, the volume outstanding had fallen slightly year-on-year to EUR 364.1bn (2018: EUR 368.9bn). By contrast, the volume of pfandbriefe outstanding had risen rapidly to around EUR 390bn by the end of June 2020. This is an increase of 7 per cent compared with the beginning of the year. According to our estimates, the volume of mortgage pfandbriefe outstanding had risen to EUR 256.2bn by mid-year (an increase of just under 7 per cent), while the volume of public sector pfandbriefe outstanding rose to EUR 131.3bn (an increase of just under 8 per cent). The last time we saw such a high volume outstanding in Germany was in 2015. The absolute increase of around EUR 26bn in volume outstanding cannot be attributed to the new euro benchmark pfandbriefe issued in the first half of 2020. The volume of new issues in this market segment amounted to only EUR 14bn (gross), compared with euro benchmark pfandbriefe maturing in the full year totalling EUR 13.6bn (data as of 1 September 2020). A not inconsiderable part of the market growth consists of new pfandbriefe retained by the issuers. These bonds are likely to have been deposited as collateral with the ECB. The strong issuance activity of pfandbrief banks in June supports this thesis. According to our calculations, the market volume rose by around EUR 14bn in June alone. These figures are obtained by comparing the data from the Bundesbank (up to and including the end of May) with the latest quarterly data publications up to the end of June from the Association of German Pfandbrief Banks (vdp).

**Strong increase in the volume of pfandbriefe outstanding in the first half of 2020**

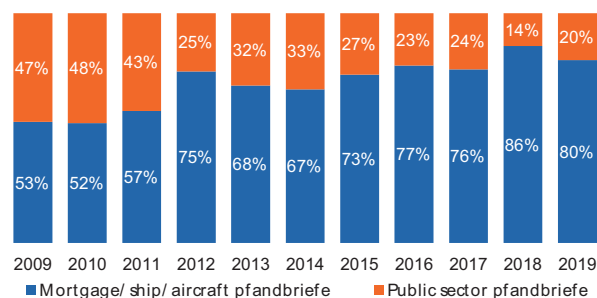
It is also striking in this context that the share of registered pfandbriefe (namen-spfandbriefe) in the volume of new issues had already plummeted to 3 percent by the end of May. This continued the trend that has been in place for several years. Central bank lending was simply unbeatably cheap for many German banks – despite the pfandbrief as a cheap refinancing alternative. No wonder that many pfandbrief banks also took advantage of this. The TLTRO III funds were so attractive that some banks even bought back their own pfandbriefe with very short maturities in June to replace them with cheap central bank loans.

**GROSS NEW ISSUE VOLUMES IN THE PFANDBRIEF MARKET  
SHOULD RISE SIGNIFICANTLY IN 2020**  
FIGURES IN BILLION EUROS



Source: Bundesbank, calculations and presentation DZ BANK Research

**DISTRIBUTION OF THE GROSS NEW ISSUE VOLUME AMONG  
THE VARIOUS TYPES OF PFANDBRIEF**

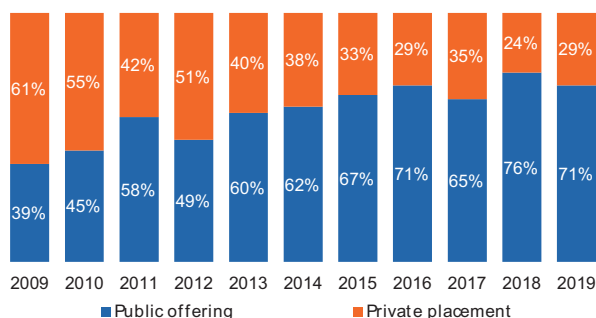


Source: Bundesbank, calculations and presentation DZ BANK Research

Even without this year's special developments, new pfandbrief issues were already on the upswing last year. According to the Bundesbank, gross new issues in 2019 already reached EUR 55bn, the highest level since 2015. Around 80 per cent of the new issues were mortgage pfandbriefe (including ship pfandbriefe) and only 20 per cent were public sector pfandbriefe. Following the very strong first half of 2020, it is very likely that the volume of new issues this year will be significantly higher than in 2019. At this point in time it is still speculation as to how the volume of new issues will be distributed. However, the share of private placements, which also include retained own new issues of the pfandbrief banks, is likely to increase significantly in 2020. So far, the share of privately placed new issues has never exceeded 35 per cent in the past five years (including 2015). In 2019, the low share of registered pfandbriefe among the new issues was one of the reasons for this relatively low figure compared with the 2009 figure. The low share of registered pfandbriefe in the total issue volume should not stop the increase in private placements in 2020.

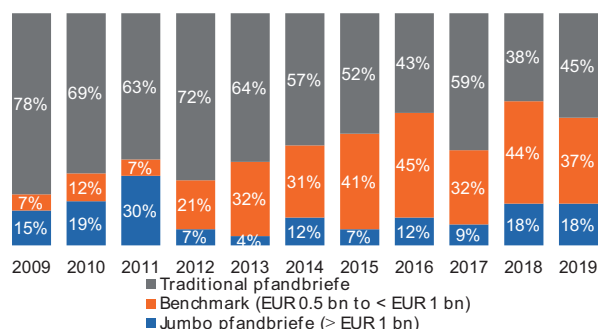
#### Mainly privately placed new issues 2020

#### ISSUE FORMAT: SHARE OF PRIVATELY PLACED PFANDBRIEFES REMAINED BELOW 30 PER CENT AT THE END OF 2019 DISTRIBUTION OF NEW PFANDBRIEF ISSUES



Source: Association of German Pfandbrief Banks, calculations and presentation  
DZ BANK Research

#### BENCHMARK AND JUMBO PFANDBRIEFES MAKE A SIGNIFICANT CONTRIBUTION TO THE BANKS' REFINANCING MIX IN THE PAST DISTRIBUTION OF NEW PFANDBRIEF ISSUES



Source: Association of German Pfandbrief Banks, calculations and presentation  
DZ BANK Research

Jumbo pfandbriefe, which celebrate their 25th anniversary in 2020 (see also the annex to this study, which briefly describes the history of pfandbriefe), will, like euro benchmark pfandbriefe, always be publicly placed with investors. The large-volume bonds "Made in Germany" not only gave new impetus to the German pfandbrief market in the mid-1990s, but also contributed significantly to the development of a global covered bond market. The weakness of private placements in the years 2016 to 2019 can be seen as the strength of large-volume pfandbrief new issues (with a volume of at least EUR 500m) in this period. At EUR 29.2bn, the volume of new issues in the euro benchmark pfandbrief segment in 2019 was almost as high as in 2018, at EUR 30.2bn (there was no longer any large-volume new issues in any year between 2008 and 2019). However, the outlook for this year is clouded by the mixture of favourable central bank lending described above and the banks' need for loss-absorbing liabilities. In our opinion, it would be a success if the new issue volume of euro benchmark pfandbriefe were to pass the EUR 20bn mark this year.

#### Bad year for pfandbrief benchmark new issues, 25 years after the first jumbo

#### JUMBO AND TRADITIONAL PFANDBRIEFES AS DEFINED BY THE VDP

The Association of German Pfandbrief Banks (vdp) has drawn up minimum standards for jumbo pfandbriefe. A minimum volume of EUR 1bn applies to jumbo pfandbriefe. Another key feature is the obligation of the syndicate banks to quote prices on request and to provide bid and ask prices at the client's request. The MIC (Market Maker and Issuer Committee) was set up as a discussion platform. Representatives of syndicate banks and issuers are taking part in the MIC. The task of the MIC is to promote a dialogue between traders and issuers. It meets in the event of trading disruptions.

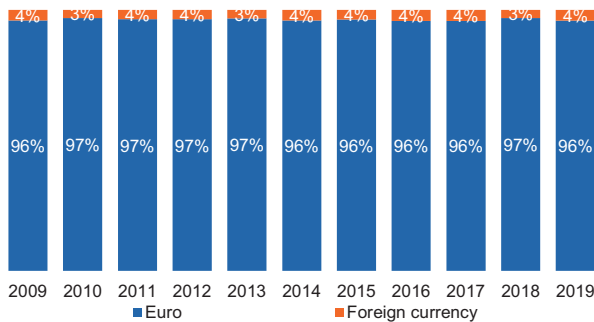
Traditional pfandbriefe are subject to the German Pfandbrief Act just like jumbo pfandbriefe. They differ in their structure and can be issued not only as bearer but also as registered securities (Namenspfandbriefe). Since the structure of traditional pfandbriefe is generally strongly geared to the interests of investors in terms of maturity and interest rate, their issue amounts are significantly lower than those of jumbo pfandbriefe.

Source: Association of German Pfandbrief Banks, DZ BANK Research

Finally, a look at the distribution of the volume outstanding by currency. This shows that the euro was able to defend its dominant position in the German pfandbrief market in 2019, even though the share of new pfandbrief issues (gross) in foreign currency in 2019 increased slightly to 11 per cent from 9 per cent in 2018. The euro will remain the benchmark in the German pfandbrief market. From our point of view, nothing fundamental should change in 2020.

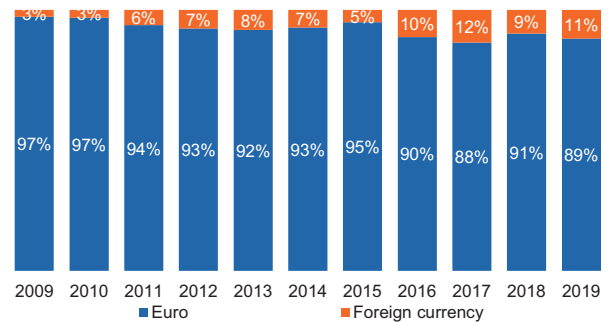
**Euro has a dominant position in the pfandbrief market**

**EURO REMAINS MOST IMPORTANT ISSUING CURRENCY**  
BREAKDOWN OF PFANDBRIEFE OUTSTANDING BY CURRENCY



Source: Association of German Pfandbrief Banks, calculations and presentation  
DZ BANK Research

**SLIGHTLY RISING SHARE OF FOREIGN CURRENCY ISSUES**  
DISTRIBUTION OF NEW PFANDBRIEF ISSUES BY CURRENCY



Source: Association of German Pfandbrief Banks, calculations and presentation  
DZ BANK Research

## GREEN PFANDBRIEFE AND ESG COVERED BONDS

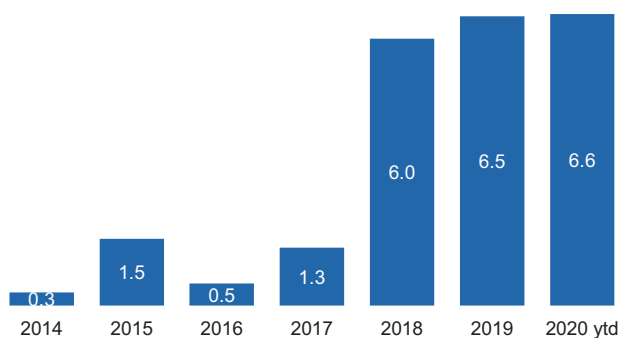
According to the International Capital Market Association (ICMA), the volume of new bond issues for financing projects in the environmental, social or corporate governance (environment, social, governance, or ESG for short) sectors has so far declined significantly this year compared with the previous year due to the corona crisis. According to a statement issued by ICMA in mid-June 2020, the volume of new issues of ESG bonds reached USD 115bn at that time. The decline in green bonds was particularly pronounced with a minus of 42 per cent compared to the same period of the previous year. Higher issuance of social bonds, especially in connection with projects to mitigate the effects of the Covid-19 pandemic, limited the decline in ESG bonds to a total of 16 per cent compared with the previous year.

**Boom in social bonds, but a significant decline in green bonds**

In terms of ESG covered bonds (only euro-denominated covered bank bonds with an issue volume of at least EUR 250m), a growth trend can still be observed. Already at the beginning of July, the new issue volume of this bond class slightly exceeded the level for the whole year 2019 with EUR 6.6bn. Accordingly, the outstanding volume of this still quite young market segment increased to EUR 22.4bn. However, this volume is still manageable both in comparison to the overall market for ESG bonds and within the global covered bond market. A positive factor for the development of the ESG covered bond market is the increasing number of issuers, even if the current level still remains quite low. Issuers from Germany, France and Norway are particularly active in this market. But there are now also two financial institutions from South Korea that issue socially covered bank bonds.

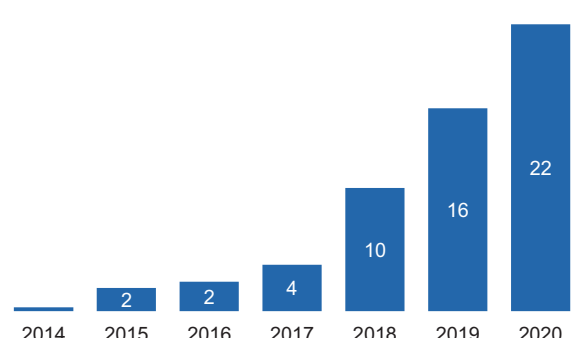
**Market for ESG covered bonds is growing**

**IN JULY, NEW ISSUE VOLUME OF ESG COVERED BONDS ALREADY EXCEEDS THE PREVIOUS YEAR'S LEVEL**  
ESG COVERED BOND NEW ISSUE VOLUME IN EURO BILLION



Source: Bloomberg, calculations and presentation DZ BANK Research data for 2020 as at the end of July

**ESG COVERED BOND VOLUME OUTSTANDING (EURO BONDS ONLY) IS STILL GROWING**  
ESG COVERED BOND VOLUME OUTSTANDING IN EURO BILLION



Source: Bloomberg, calculations and presentation DZ BANK Research data for 2020 as at the end of July

The volume of ESG covered bonds in circulation is still dominated by mortgage covered bonds. Around EUR 18bn was attributable to this asset class at the end of July 2020. As a rule, these bonds fall into the "green" category, accounting for around EUR 14bn of the outstanding volume. Green mortgage covered bonds are typically used to finance the construction or renovation of new homes or even buildings for commercial use, whereby the buildings must meet strict energy efficiency criteria. However, a weakening of the dominance of green mortgage covered bonds could be imminent. Against the backdrop of the corona crisis, it would not be surprising if the share of social covered bonds increases. These bonds, often public sector covered bonds, are used to finance projects to combat the negative effects of the pandemic. The corona crisis is hitting low-income private households particularly hard because

**Covid-19 also provides new accents in the ESG market**



they are disproportionately affected by income losses due to a reduction in working hours or even job losses. Another example is freelance artists who are not allowed to perform or open their exhibitions due to contact restrictions. The lost income can hardly be made up later. It should also be noted that the loss of income is particularly severe for households with below-average incomes, because they generally have only small financial reserves. All in all, the Covid-19 pandemic should also provide new impetus in the ESG covered bond market, for example through social projects to mitigate the effects of the crisis on low-income households.

Despite the current dominance of the corona crisis in general headlines, a lot of work is still done on the topic of climate change. With the European Green Deal, the new EU Commission, which took office at the end of 2019, even placed a focus on climate change in its activities for the coming years. Europe should become a climate-neutral continent by 2050. To achieve this ambitious goal, CO<sub>2</sub> emissions are to be reduced by 50 to 55 per cent by 2030. In order to implement the Green Deal, the EU Commission expects an additional annual investment requirement of at least EUR 260bn, which will be divided between the private and public sectors. The Green Deal's topics include projects in the public transport sector, environmental services and, of course, environmental protection. But the European Green Deal is also important for the real estate sector. The original plans included, for example, an initiative for the renovation of existing properties, which is to start as early as 2020.

In Germany, the political debate on climate protection between social groups and the German government is taking place, among others, in the climate protection working group (Aktionsbündnis Klimaschutz). The aim of this working group is to support the German federal government in achieving its climate protection goals so that the goal of a climate-neutral society by 2050 can be achieved. In this context, the focus is on accompanying the preparation of programmes of measures to support the implementation of adopted measures, facilitate the activation of climate protection potential and identify further options for action. The vdp has joined the climate protection working group 2019. The vdp will focus on topics regarding buildings, the housing industry and private households.

At European level, a consultation on sustainable finance was held in April 2020, during which market participants were able to provide feedback to the EU Commission by 15 July. The issues raised in the consultation relate to an action plan for financing sustainable growth, which was presented by the European Union as early as 2018. In short, it can be stated that this will be used as a basis for a roadmap for new measures to increase private investment in sustainable projects. All this is aimed at supporting the European Green Deal. At the same time, it is also a question of how the management of climate and environmental risks can be integrated into the financial system.

Mortgage loans are among the most important asset classes in the covered bond market, both worldwide and in Germany. At the same time, according to the vdp, buildings account for some 40 per cent of CO<sub>2</sub> emissions in Germany. Covered bond issuers could contribute to reducing CO<sub>2</sub> emissions by offering favourable financing terms for energy-efficient commercial and residential properties, thereby providing incentives for new construction or renovation of existing properties. These could then be re-financed via ESG covered bonds, thus activating private investor capital for climate protection. Since 2019 the vdp has acquired the trademark right for Green Pfandbriefe (Grüner Pfandbrief) and has meanwhile developed minimum standards for issuing green mortgage pfandbriefe. No separate cover pools are maintained for Green Pfandbriefe. The principle remains that there is only one cover pool per pfandbrief category. A green mortgage pfandbrief is therefore secured with the same cover

**The new EU Commission is focusing its activities on the issue of climate change**

**Climate protection working group supports the German federal government**

**Initiatives at European level**

**Favourable financing for energy-efficient buildings**

assets as all other outstanding mortgage pfandbriefe of the same issuer. However, the cover pool contains claims in at least the amount of the Green Pfandbriefe outstanding that meet certain ESG criteria. In any case, the same requirements of the Pfandbrief Act apply to all outstanding mortgage pfandbriefe of an issuer. The same also applies to public sector pfandbriefe, which can be used to refinance, for example, social projects, taking into account corresponding ESG criteria. To our knowledge, however, the trademark social pfandbrief (Sozialpfandbrief) is not yet protected.

It is important for investors to be able to rely on certain sustainability criteria being met. In order to create confidence among investors, the vdp member banks focus on transparency. The issuers of green mortgage pfandbriefe are therefore obliged to publish regular information on green assets or assets that generally qualify for ESG criteria in the cover pool. This will prove that the cover pool contains a sufficient number of sustainable assets that at least equal the volume of green or ESG pfandbriefe outstanding. In addition, the issuer's framework for green issues, the so-called Green Bond Framework, as well as the results of an independent external audit of the green programme are also published.

The vdp website currently features three banks that have issued Green Pfandbriefe (as of July 2020). Their green issuing programs are based on the ICMA's principles for this asset class, the Green Bond Principles (GBP). This means that rules have been established for the use and management of issue proceeds, project selection and reporting for the sustainable covered bonds. The GBPs thus provide a general framework that is brought to life by the issuer individually through specific regulations. When assessing a property finance transaction, the focus is generally on the energy consumption of the building. In detail, however, each pfandbrief bank can develop the optimal framework for its business model. For investors, however, it is not only interesting how the banks use the money. What is also important for them is the impact their investments make to climate protection. Against this background, annual impact reports have also been included in the regulations for Green Pfandbriefe. The minimum standards for Green Pfandbriefe are regularly reviewed by a vdp committee and further developed as necessary. The pfandbrief banks already active in this bond segment are represented on this body.

**Transparency creates trust  
among investors**

**ICMA Green Bond Principles  
form the basis**

**IMPORTANT ICMA DEFINITIONS**

With the Green Bond Principles (GBP) of the International Capital Market Association (ICMA), there has been a standard for years that has met with broad approval among market participants. The ICMA Green Bond Principles require issuers to clearly define the use of the proceeds from green bond issues and to report on them regularly. Green mortgage covered bonds are an important component of the sustainability segment. The covered bond market also includes other bonds whose cover pools include loans to promote social or socially relevant projects. These could include financing for hospitals and kindergartens, for example, but also infrastructure projects in connection with renewable energy. For ESG covered bonds, the ICMA has – similar to the Green Bond Principles – corresponding criteria for Social Bonds (SBP). The criteria for green and social bonds are reviewed and, if necessary, revised by the ICMA on an annual basis. Further details can be found on the ICMA website.

Sometimes it is difficult to make a clear separation along the GBP and SBP or an issuer would like to combine financing for green and social projects in a single ESG covered bond programme. For this purpose, ICMA has created guidelines that apply to sustainability bonds. For these bonds, the same core elements of the GBP and SBP as well as the recommendation to conduct an external review to ensure compliance with the principles apply. An important principle for all these bonds (green bonds, social bonds or sustainability bonds) is that the proceeds from the bond issue can only be used to finance specific, predetermined projects. This must be distinguished from the new sustainability-linked bonds, for which ICMA 2020 has created a framework in the form of guidelines. In the case of sustainability-linked bonds, the issuer undertakes to achieve certain predefined ESG (sustainability performance targets, SPT). This is monitored using key performance indicators (KPI). However, when using the bond proceeds, the issuer is not bound to specific projects.

Source: ICMA, presentation DZ BANK Research

With the minimum standards for Green Pfandbriefe, a certain degree of standardisation has been achieved at national level, in line with international practice. However, common standards for a definition of ESG assets within the European Union remain a challenge (not to mention a global definition). At the end of 2019, progress was made on this issue for the European Union by reaching a compromise on a taxonomy regulation. This EU taxonomy directive was published in June this year. It stipulates that providers of green financial products must declare the proportion of taxonomy-compliant assets in their green financial product. According to the vdp, the lending business of banks and thus their pfandbrief business is not covered by this new directive. With regard to Green Pfandbriefe, however, banks may have an interest in voluntarily fulfilling the taxonomy criteria in order not to lose potential investors.

**EU Taxonomy Regulation  
is a step forward**

A working group (technical expert group on sustainable finance, TEG) was commissioned to develop concrete evaluation criteria. These criteria – which will be incorporated into EU law via delegated acts in the course of 2020 – will be used in future to assess which economic activities can be considered green in terms of taxonomy. In this context, however, the vdp fears a bureaucratic monster. The TEG has already produced a document with around 600 pages for the ecological goals "climate change mitigation" and "climate change adaptation". In the course of 2021, further evaluation criteria for the objectives "sustainable and protection of water and marine resources", "transition to a circular economy", "pollution prevention and control" and "protection and restoration of biodiversity and ecosystems", which are also listed in the EU taxonomy, are to be developed in a working group ("platform on sustainable finance") convened specifically for this purpose. Of particular interest for green mortgage pfandbriefe are the criteria for the real estate sector, for which the TEG has developed the following definitions according to the vdp. According to these, financing is considered green if one of the following conditions is met:

**A uniform definition of  
sustainable assets within the  
EU is being developed**

- » New construction, if the primary energy consumption is 20 per cent below what the national legislator has defined for a "nearly zero energy building" (in Germany the ENEC-2016 standard).
- » Energy-efficient renovations, if they lead to a reduction in the primary energy consumption of at least 30 per cent compared to the basic energy efficiency of the building before the renovation.
- » Individual renovation measures aimed at reducing the energy requirements or CO<sub>2</sub> emissions of buildings.
- » Acquisition of existing properties if they are among the top 15 per cent of the national property portfolio in terms of primary energy consumption. The new construction criteria will apply to existing properties built in 2021 or later.

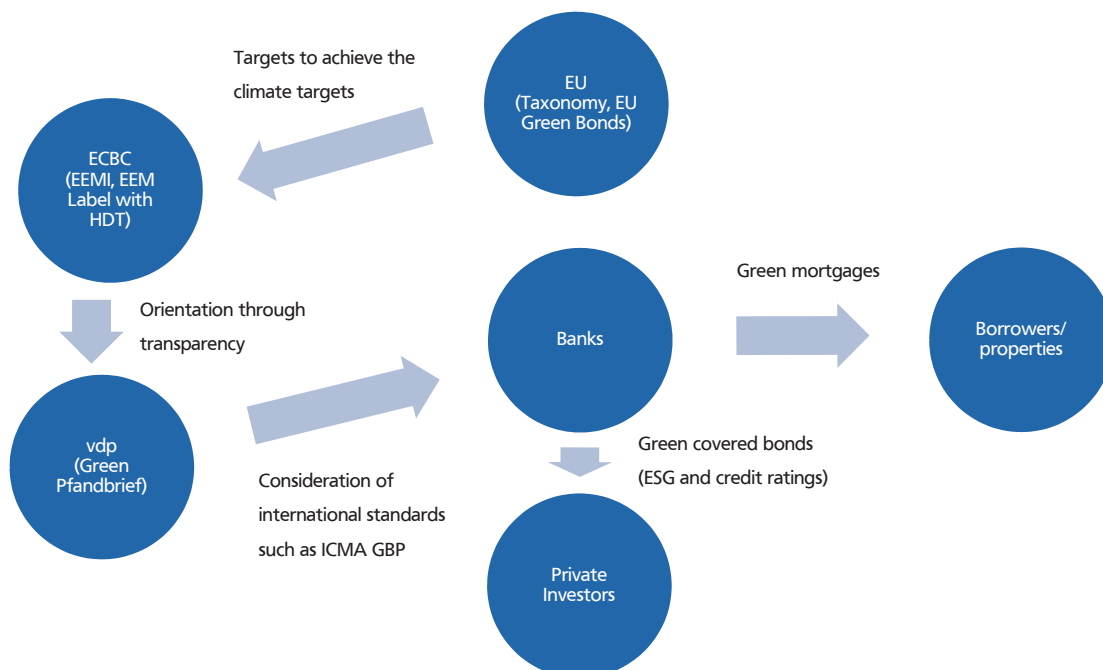
According to the vdp, it will not be easy for the pfandbrief banks to meet these requirements and to prove that they have been met. Moreover, economic activities must not have any significant negative impact on the other ecological objectives (do-no-significant-harm criterion). As an example, the vdp cites potential problems in connection with the financing of new buildings with the aim of "sustainable and protection of water and marine resources". The fittings in the buildings concerned must fall into one of the two best categories of the EU water label. However, there is currently a lack of relevant legal foundations in Germany on this issue, so that pfandbrief banks might find it difficult to provide proof of this at present. In the opinion of the vdp, it will be important for the Green Pfandbrief that the TEG proposals in the delegated legal acts are implemented as practicably as possible. The vdp's aim is to ensure that Green Pfandbriefe can be in line with the EU Green Bond Standard (GBS), which was also proposed by the TEG. The vdp sees no insurmountable hurdles in the requirements for the EU GBS label. However, the requirement that the assets underlying the bond must comply with the EU taxonomy could become a major problem.

#### **EU Green Bond Standards as a measure for the Green Pfandbrief**

The minimum standards for Green Pfandbriefe stipulate that the EU taxonomy for ecologically sustainable economic activities is taken into account. In addition, the vdp is also seeking orientation to the minimum standards for EU GBS. There is also a link to the Energy Efficient Mortgage Initiative (EEMI) of the European Mortgage Federation (EMF)/ European Covered Bond Council (ECBC). Relevant data on sustainable building finance is currently being collected and evaluated via the EEMI, for which the EMF has taken the lead and which is funded by the EU Commission.

#### **Further initiative of the European Mortgage Federation to collect data**

## OVERVIEW OF SUSTAINABILITY FOR COVERED BANK BONDS



Source: DZ BANK Research, EU = European Union, ECBC = European Covered Bond Council, EEMI(l) = Energy Efficient Mortgage (Initiative), HDT = Harmonised Disclosure Template, vdp = Association of German Pfandbrief Banks, ICMA = International Capital Market Association, GBP = Green Bond Principles

In the ECBC's response to the above-mentioned European Union Sustainable Finance Consultation, the association sets out its vision of how the financial industry can contribute to the issue of sustainability. The ECBC focuses on market transparency and wants to improve access to relevant information for energy-efficient mortgages (EEM) by creating a new label (EEM Label), building on the success of the Covered Bond Label. The experience and knowledge gained within the framework of the EEMI will also be incorporated. The reporting obligations under the new green label are to correspond to the data standard (EeDAPP) developed in the EEMI and later – similar to the Harmonised Transparency Template (HTT) for the Covered Bond Label – will be based on a harmonised reporting standard (Harmonised Disclosure Template, HDT). If the HDT is accepted as a market standard, a uniform data basis could be created, which would improve the international comparability of green mortgage portfolios. The ECBC believes that banks could use the HDT as a guideline for collecting and managing data on loans and the energy efficiency characteristics of buildings. The common data basis and the reports in HDT format would promote the development of a green bond market on the part of issuers and investors due to the overall standardisation. According to the ECBC, the other qualitative requirements for the new green label, in addition to the reporting obligations in HDT format, should be based on the specifications of the European Union, such as the taxonomy directive, and should be regularly reviewed and adjusted if necessary. With this proposal, the ECBC hopes to avoid fragmentation of the green bond market from the outset.

### Ideas of the ECBC for the development of a market for green mortgages covered bonds

Even if, like the German pfandbrief banks, credit institutions are committed to the goal of limiting global warming, they can only indirectly contribute to achieving this goal, for example by financing the construction of new buildings or the renovation of existing ones. In order to create incentives for borrowers to make their properties as energy-efficient as possible, banks can offer more favourable conditions than for conventional buildings when providing appropriate financing. At present, this is at the

### Banks have only indirect influence

expense of the banks' margins, as it is currently (as of August 2020) almost impossible to achieve significantly narrower spreads for new Green Pfandbriefe compared to conventional pfandbriefe on the primary market.

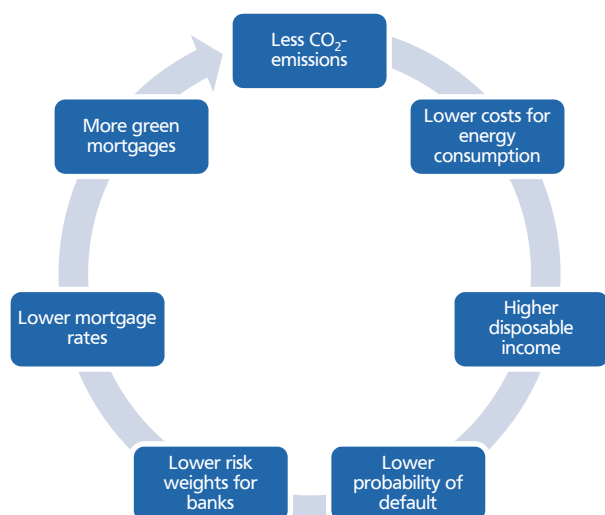
Ultimately, it is up to the customer to decide whether the more favourable credit terms are a sufficient incentive to bear the higher construction costs for energy-efficient buildings. For banks, however, there is another reason, in addition to the promotion of climate targets, to increasingly provide green mortgages, because ESG risks are becoming increasingly important in the management of business and credit risk. Companies are increasingly considering the potential impact of ESG risks on their business success. In the case of banks' lending business, ESG also has an impact on credit risks. The EEMI is therefore not only concerned with collecting data on green mortgages. Rather, it will use the figures collected as a basis for investigations into the default risks of green real estate financing. The thesis that energy efficiency has a positive effect on the credit risk of a financing is to be tested. The ECBC argues in this context as follows: Through greater energy efficiency, the borrower saves money when using the building (for example, due to lower heating costs). The resulting improved income situation makes it easier for the borrower to service the instalments for his low-interest green mortgage. This reduces the probability of default (PD). Moreover, under otherwise identical circumstances, the value of an energy-efficient building is likely to be higher than that of a conventional construction. This means that the expected loss would be lower if the borrower became insolvent and the property (the collateral for the mortgage loan) had to be sold (Loss Given Default, LGD).

**EEMI wants to provide evidence of the lower credit risks of green mortgages**

On 31 August 2020, after 30 months of data collection and market analysis for the EEMI sub-project "Horizon 2020 Energy Efficient Data Protocol & Portal" (EeDaPP), the final report on the relationship between energy efficiency and credit risk was published. The report confirms the above assumption and shows that borrowers with more energy-efficient homes and lower energy bills can better afford their mortgage payments, reducing the financial risk for banks and investors. The econometric evaluations show a negative correlation between energy efficiency (EE) and the probability of default by owners, confirming that EE investments tend to improve the solvency of homeowners/ borrowers. Furthermore, the results show that the degree of energy efficiency also plays a role.

**First results from a sub-project**

#### GREEN MORTGAGES COULD BECOME PART OF AN VIRTUOUS CIRCLE



Source: DZ BANK Research

Should the EEMI succeed in proving the correlation between lower credit risks and energy efficiency, banks would have a strong interest in giving preference to this product in their lending business (the first results from a sub-project within EeDaPP is pointing in this direction). There would also be a possible feedback to regulatory requirements. The ECBC stipulates that a privileged treatment of green mortgages under within the bank regulation framework can further increase the incentives for banks to grant these loans. The privileged treatment could be a reduced capital requirement for green mortgages. Moreover, if empirical evidence is provided, this could also be justified from a purely economic point of view due to the lower credit default risks. The interplay of regulatory incentives, better lending conditions and the positive impact of energy-efficient buildings on slowing climate change could create a virtuous circle from which everyone would ultimately benefit

#### **Potential benefits for banks and borrowers**

Finally, a brief overview of the point of view of regulators on ESG issues. In a press release dated 16 July 2020, the European Banking Authority (EBA) published its response to the EU consultation on sustainable finance. In it, the authority emphasises the importance of consumer and investor protection and recognises the central role of the banking sector, which is growing in the mobilisation of private capital for a climate-friendly transformation of European societies. To protect consumers and investors, EBA advocates internationally consistent reporting standards. A comprehensive taxonomy could contribute to this. The EBA would like to see a robust Europe-wide data platform before making changes in regulatory rules such as the privileging of green mortgages. This information should be used to make decisions about any changes in supervisory arrangements. Finally, the supervisor recognises the need to take more account of ESG issues in its own work.

#### **EBA wants a uniform data basis**

EBA has to deliver various reports and regulatory and implementing technical standards (RTS, ITS) to the European Commission by 2025. The topics range from the future supervisory review and evaluation process (SREP) and disclosure requirements to the examination of possible capital treatment. Specifically, the EBA intends to focus in the coming months on questions of strategy and risk management, disclosure requirements and ratios, scenario analyses and stress testing, and the possible supervisory treatment of ESG risks in Pillar 1. Key issues will include in particular the uniform definition of ESG risks and the examination of whether the financing of sustainable exposures is less risky than other forms of financing. The complexity of these tasks is high, and the authority will tackle the different topics one by one. The EBA's review of the privileged treatment of green mortgages could take some time because of its many other tasks.

#### **Long task list for EBA**



## RATINGS FOR CREDIT AND ESG RISKS

ESG risks are playing an increasingly important role in the rating of credit risks. While the agencies emphasise that all relevant risks have always been adequately considered in their analyses, they also emphasise the need to ensure that the rating agencies are aware of the risks involved. Environmental risks and the impact of potential natural disasters may indeed have played a role in the rating of banks or mortgage portfolios to date. However, the rating agencies have been systematically providing information for a short time now on the extent to which specific ESG risks influence the credit rating of a bank or, as for example Fitch has done, also for the bank's covered bonds. The agency has developed an ESG Relevance Score (ESG.RS) for this purpose. In a study published in July 2020, the agency examined in more detail which ESG risks affect banks and covered bonds and compared the influencing factors (see "Comparing ESG Relevance Score Drivers - Covered Bonds and Banks" of 23 July 2020). Fitch comes to the conclusion that increased ESG risks with regard to a bank, which is expressed in a correspondingly increased value for ESG.RS, do not necessarily have to be reflected in a high ESG.RS for the covered bonds of the same credit institution. The same also applies vice versa. This at first surprising finding can be explained by Fitch's assessment criteria for ESG risks for banks and covered bonds. The aspect of governance plays an important role in both. However, in the case of covered bonds the main focus is on the separation of cover assets in a way that is not likely to lead to insolvency and on securing the liquidity of the cover assets, whereas in the case of banks Fitch gives priority to aspects such as risk controlling or the implementation of corporate strategies. It should be noted that this is about the influence of ESG risks on the creditworthiness of the bank or the covered bonds and not about assessing the sustainability of the company or certain assets. The latter could be summarised under the term sustainability assessments, i.e. with an ESG rating.

### Different ESG risks in the assessment of banks and covered bonds

#### ESG RISKS INFLUENCE THE CREDIT PROFILE OF A BANK OR COVERED BOND



Source: DZ BANK Research

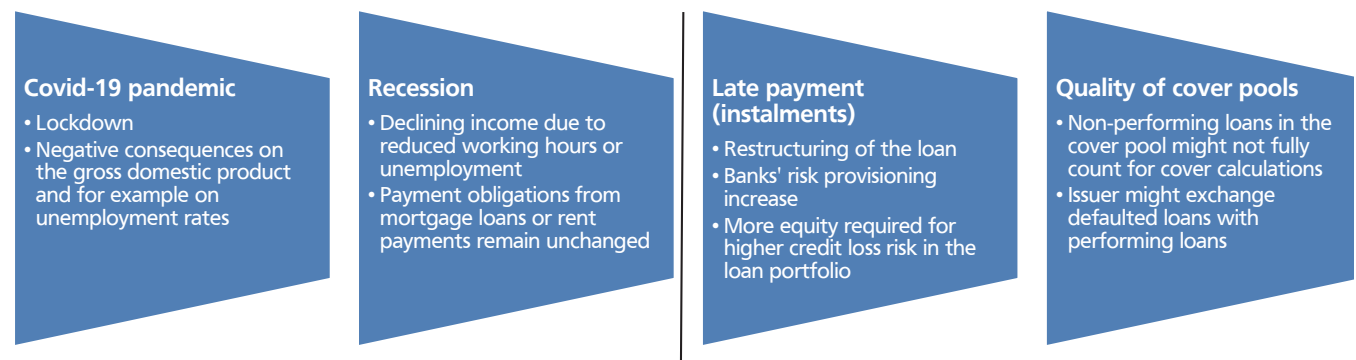
The ECBC believes that there is a natural link between sustainability assessments and credit ratings. The association derives its statement from the fact that market-leading credit rating agencies such as S&P are acquiring ESG rating agencies like RobecoSAM or that Moody's has acquired a majority stake in Vigeo Eiris. Another example is DBRS Morningstar, which acquired a whopping 40 per cent of Sustainalytics in July 2020. Both DBRS Morningstar and Sustainalytics are no strangers to the covered bond market. The judgements of an ESG rating agency are often used for covered bonds, according to the ECBC. However, the association does not spare criticism of ESG rating agencies, which are not under as strict supervision as their credit peers. ECBC believes that the ratings of ESG agencies are of varying quality and sometimes suffer from a

### ECBC harshly criticises ESG rating agencies

lack of reliability, transparency and validity. The association would like to see higher quality ESG ratings to avoid misleading investors and other market participants. The ESG analysts' reports are based on the past and do not include enough forward-looking analysis. This is due, for example, to a lack of staff in the agencies, who do not always have the necessary skills to produce high-quality analyses. In the years following the financial crisis, the credit rating agencies also had to listen to this harsh criticism – not always unjustly. ESG analyses are complex and require experience and knowledge of the local conditions in a region or country. Due to the use of too few analytical resources, the results threaten to be too schematic and formulaic, which cannot do justice to a complex reality. The ECBC also considers that the assessments of different ESG agencies are not comparable. Therefore, the association would like to see greater transparency with regard to the methods and data used and insights into how the indicators used were calculated. All this could increase the value of ESG ratings for market participants.

#### CORONA CRISIS AND POSSIBLE EFFECTS ON THE COVER POOLS

Credit moratoria provide a breathing space



Source: DZ BANK Research

It is unlikely that the rating agencies have reflected a scenario that the Covid-19 pandemic has brought to the world in recent months specifically via ESG criteria in their analyses for covered bonds. However, it is undisputed that the deep recession triggered by the corona crisis will not remain without consequences for the financial sector and the cover pools of covered bond issuers. The chain of effects is easily explained. As a result of the recession, many workers will have to reduce their working hours or even lose their jobs. Freelancers and service providers such as hairdressers are unable to generate income due to an ordered lockdown, which usually cannot be made up later. At the same time, many costs arising from long-term obligations such as rent or loan instalments continue to run. In the case of private households, job losses are a particularly frequent reason for loan arrears. If there is no hope of a financial recovery of the borrower, the loans must be classified as non-performing. The banks may have to increase their risk provisions and back the loans with more equity. Covered bond programmes may also be affected if the non-performing loans are part of the cover pool.

**Covid-19 pandemic was not on the radar of the rating agencies a year ago**

In the event of payment defaults, credit restructuring is not unusual. Repayments can be suspended for a certain period of time until the borrower has recovered financially. However, this presupposes the bank's willingness as a creditor to voluntarily grant the debtor deferrals. Even though it is often enough in the bank's interest and is often handled in this way in practice, the debtor has no legal claim to a creditor's accommodation. For this reason, during the corona crisis, many governments enacted legal

**Payment moratoria offer advantages for debtors and creditors**

regulations for the deferral of loan instalments (and often also rent payments) to protect borrowers (credit or payment moratoria). The regulations vary from country to country and their validity period also varies. In Germany, the statutory payment moratoria expired at the end of June 2020. By contrast, the credit moratoria in Italy, for example, can continue to apply for over a year from today's perspective. All in all, similar to a restructuring, the moratoria provide a breathing space for the debtor. Banks also benefit from this, however, because the loans do not have to be classified as non-performing as quickly. There is no need to set aside provisions or charge the capital base due to higher risk weights for the loans. Admittedly, it is not certain that all borrowers will be able to make their regular instalment payments again at the end of the moratorium. However, many borrowers are also likely to get back on their feet. This will limit the balance sheet burdens for the banks and possibly stretch them over time.

In Germany, commercial real estate financing is an important component of the cover pools for mortgage pfandbriefe, which may also be affected by the effects of the corona crisis. In particular, financing for shopping centres, which have already suffered in recent years due to growing online shopping, and offices are likely to come under further pressure in the first half of 2020. On average, prices for these buildings in Germany have already fallen slightly in the second quarter compared with the first quarter of 2020. For the mortgage pfandbrief, the statutory moratorium rules in the case of private home financing are particularly relevant. With regard to a possible moratorium on commercial property finance, the vdp and its member institutions have developed a model that makes it easier for pfandbrief banks not to have to treat borrowers suffering from corona-related liquidity bottlenecks as defaulters. Without this regulation, the planned supervisory consequences, such as increased capital adequacy requirements, would probably be unavoidable. This gives pfandbrief banks an instrument for crisis management that they can easily fall back on if necessary. According to the vdp, it was already available at the end of April, making it the first of its kind in Germany.

#### **Rules for commercial real estate financing**

The vdp's view is confirmed by the European Banking Authority. The EBA does not classify payment moratoria agreed as a result of the corona crisis and thus combating a systemic risk as ordinary loan restructuring. This means that banks are not penalized by automatically higher risk weights and risk provisions for offering moratoria to their customers with payment difficulties. However, the EBA has established certain framework conditions and requirements for statutory and private moratoria. To justify the exceptional regulatory treatment of corona moratoria, the EBA justifies them as a systemic response to a systemic crisis and therefore seeks to differentiate them in its guidance from individually tailored restructuring for borrowers. The aim is to offer them as broadly and as non-discriminatory as possible in order to specifically reduce the burden of the corona pandemic. Nevertheless, there are major differences between the moratoria.

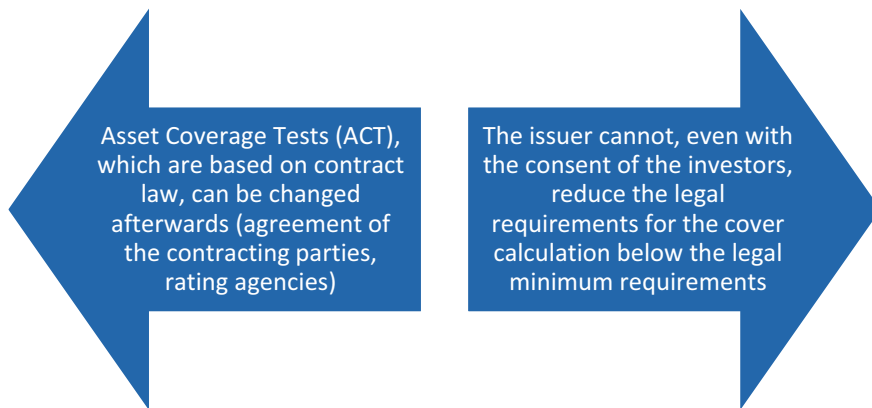
#### **EBA: Moratoria are a systemic response to a systemic crisis**

The percentage of private borrowers making use of the payment moratoria varies quite considerably from country to country. Rating agencies have suggested that the moratoria have been used frequently, especially in those countries where it is less difficult to obtaining a payment moratorium. The percentages are highest in Italy and Great Britain, where 20 per cent of borrowers - in some cases even more - have taken advantage of a credit moratorium at some banks. The payment moratoria also raise questions in connection with the cover pools. In countries such as Italy, there is cur

#### **In some cases a significant proportion of debtors take advantage of payment moratoria**

rently a heated debate as to whether, and if so to what extent, loans affected by payment moratoria can be included in the cover pool. Some banks have recently changed their rules for the cover calculations as laid down in the programme documentation so that moratorium loans can be fully taken into account.

#### LAW VERSUS CONTRACT



Source: DZ BANK Research

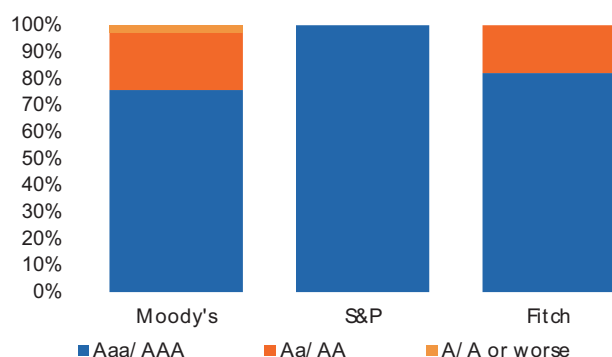
The German Pfandbrief Act attaches great importance to the value of the collateral in the context of the cover calculation. This means that in the case of mortgage loans, the value of the property is of key importance. As long as this value cannot be regarded as substantially reduced by a sustained decline in the house price, the claims from the loan remain fully covered up to the mortgage lending value limit of 60 per cent. In view of the very conservative approach to the mortgage lending value, the vdp believes that the Covid 19 crisis is unlikely to have any major impact on properties valued according to the mortgage lending value method. For subsequent valuations based on the market value, however, the need for adjustment may be higher, depending on how long the crisis lasts. Further details on the mortgage lending value can be found in the chapter "Legal framework" in this study.

**Pfandbrief Act sets minimum requirements for the cover calculation**

The corona crisis has so far done no harm to the ratings of German pfandbriefe. However, times are not rosy. The credit ratings of the banks and thus the points of reference for the pfandbrief ratings are currently under pressure. Most banks have a certain buffer against issuer downgrades. In some cases, however, the credit ratings of the pfandbriefe are also directly linked to the issuer ratings. Of course, the corona crisis is also not good news for the quality of the cover pools. The longer the crisis lasts, the more its consequences are likely to be reflected in the agencies' key figures. Fitch has therefore already raised its standard assumptions on the frequency of payment defaults (foreclosure frequency) in a "B" stress scenario (see Fitch study "Payment Holidays are Not an Immediate Risk for Covered Bonds" of 29 July 2020). S&P had noted in this context that the agency still considers the unemployment rate within an economy to be the best leading indicator of the development of expected credit losses in a mortgage portfolio. If the losses calculated by the agencies in stress scenarios were to increase in the future, issuers could compensate by increasing their excess cover accordingly. In such cases, pfandbrief banks would thus have an opportunity to brace themselves against an impending downgrade. Overall, there is no pfandbrief rating on the review list of any rating agency by mid-2020.

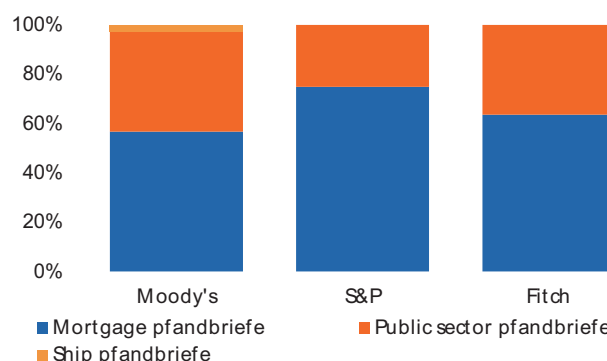
**Pfandbrief ratings unchanged so far, despite corona crisis**

**DISTRIBUTION OF PFANDBRIEF RATINGS (BY NUMBER OF RATINGS AND ONLY BONDS ACCORDING TO THE PFANDBRIEF ACT)**  
DATA AS AT OF THE END OF JUNE 2020



Source: Fitch, Moody's, S&P, calculations and presentation DZ BANK Research

**DISTRIBUTION BY PFANDBRIEF TYPE (BY NUMBER OF RATINGS AND ONLY BONDS ACCORDING TO THE PFANDBRIEF ACT)**  
DATA AS AT OF THE END OF JUNE 2020



Source: Fitch, Moody's, S&P, calculations and presentation DZ BANK Research

Moody's remains by far the dominant rating agency in the German pfandbrief market. The agency has published a total of 37 ratings for covered bonds under the German Pfandbrief Act (as of the end of June 2020). Moody's is also the leading agency in the global covered bond market. Internationally, Fitch and S&P rank roughly on par. In Germany, however, Fitch's eleven published ratings put it well ahead of S&P with only four. In the figures presented in this study we have only included ratings for covered bonds according to the German Pfandbrief Act. The typical rating for a mortgage pfandbrief or public sector pfandbrief is the top rating of Aaa (Moody's) or AAA (Fitch and S&P). Around 18 per cent of the pfandbriefe are rated AA by Fitch, and around 22 per cent by Moody's. There is only one ship pfandbrief with an external rating, which is rated A3 by Moody's. The reason for this low rating for ship pfandbriefe compared with the other pfandbrief types is the high volatility in the shipping market. For this reason, the agency closely links the rating of the ship pfandbriefe to the issuer's creditworthiness. Most ratings are issued for mortgage pfandbriefe. This applies to all rating agencies. In our opinion, this also reflects the increased importance of mortgage pfandbriefe in the German pfandbrief market in recent years.

**Pfandbriefe are typically rated AAA or AA**

In summary, the corona crisis is bad news for pfandbrief ratings. The economic crisis triggered by the pandemic is weighing on private and public budgets and thus potentially on the credit quality of mortgage pfandbriefe and public sector pfandbriefe. Payment moratoria can be a bridge to better times. It remains to be seen how long the Covid-19 pandemic will continue to rage. However, the safety mechanisms for the pfandbrief and the creditworthiness of the pfandbrief banks appear to be strong enough to survive a corona crisis that may last a little longer.

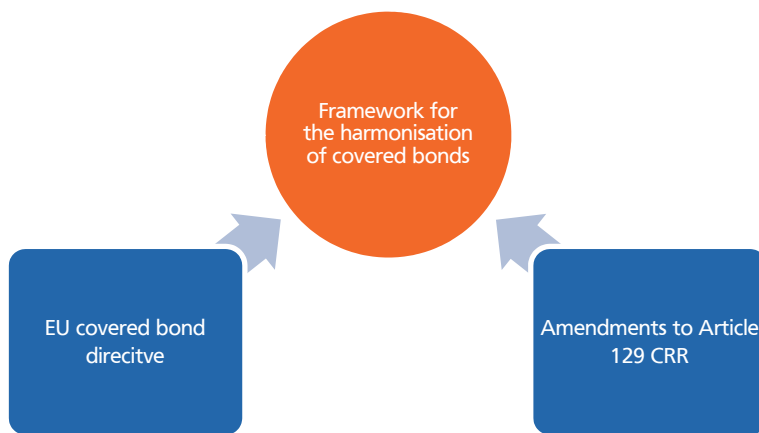
**Corona crisis is not good news for pfandbrief ratings**

## EUROPEAN HARMONISATION OF THE COVERED BOND LAWS

On 10 October 2019, the plenary session of the European Parliament adopted the directive on the harmonisation of covered bank bonds (EU covered bond directive) and the regulation amending Article 129 of the Capital Requirements Regulation for banks (CRR). The European Council followed suit with its decision on 8 November 2019. The EU covered bond directive was published in the EU official journal on 18 December 2019, so that the harmonisation package entered into force on 7 January 2020. The EU covered bond directive and the amendments to the CRR together form the harmonisation package for the European covered bond legislations.

**Harmonisation package came into force at the beginning of 2020**

### FRAMEWORK FOR COVERED BOND HARMONISATION CONSISTS OF TWO PARTS

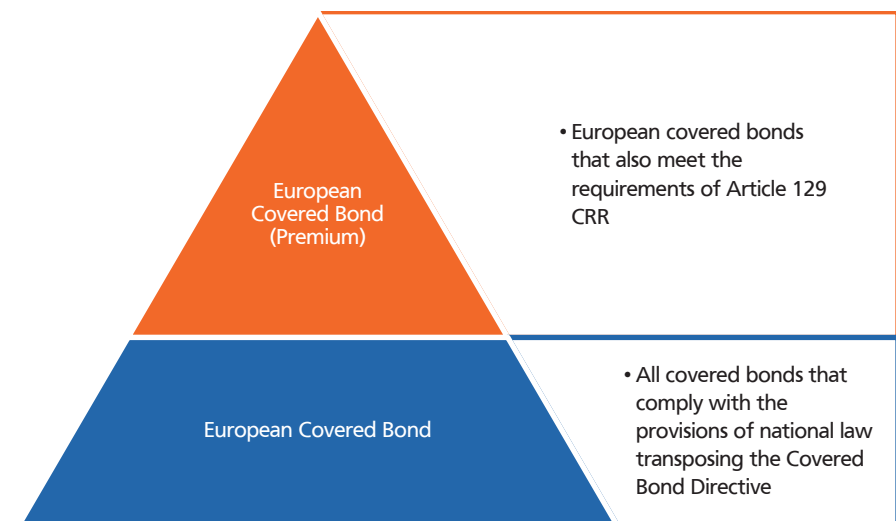


Source: Council of the European Union, presentation DZ BANK Research,  
CRR = EU Capital Requirements Regulation

The EU covered bond directive will replace the UCITS criteria (European directive on undertakings for collective investment in transferable securities, UCITS), which have so far often been cited as a prerequisite for regulatory privileges of covered bonds. Covered bonds that meet the requirements of the EU covered bond directive will in future be allowed to be called "European Covered Bonds". If, in addition, the amended requirements of Article 129 CRR are also met, these covered bonds may be called "European Covered Bond (Premium)".

**New labels for covered bonds**

#### DEFINITION OF LABELS FOR EUROPEAN COVERED BONDS

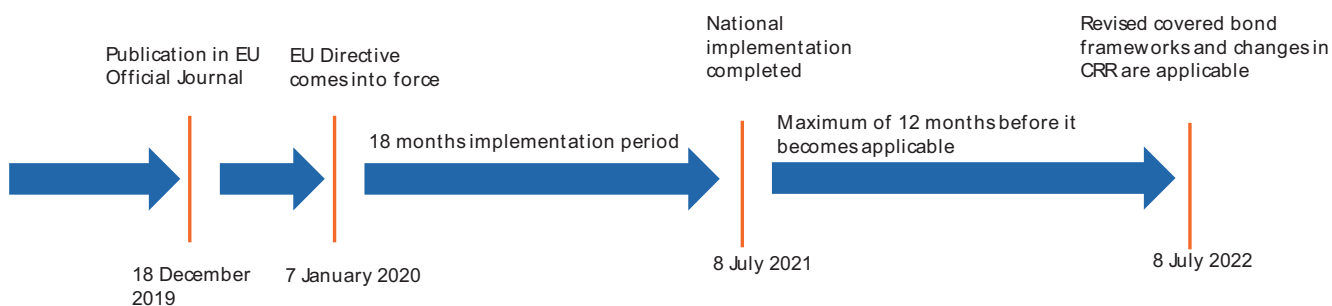


Source: EU covered bond directive, presentation DZ BANK Research

The timetable for the implementation of the harmonisation package in the member states of the European Union stipulates that national implementation must take place by 8 July 2021 and must be applied one year later at the latest. Almost half of the time originally estimated for the implementation of the harmonisation package has lapsed. For this reason, a meeting of the member states will be organised at European level in September 2020 to review progress in the implementation of the harmonisation package and to discuss issues relating to its implementation. The original timetable already appeared ambitious to some market participants in 2019. In recent months, European governments have had their hands full in dealing with the corona crisis. However, in many member states of the European Union some preparatory work seems to have been done to implement the harmonisation package despite the Covid-19 pandemic. In this respect, the original timetable could still be adhered to.

**Are we sticking to the original schedule?**

#### EU HARMONISATION PACKAGE FOR COVERED BONDS: CURRENT TIMETABLE FOR APPLICABILITY



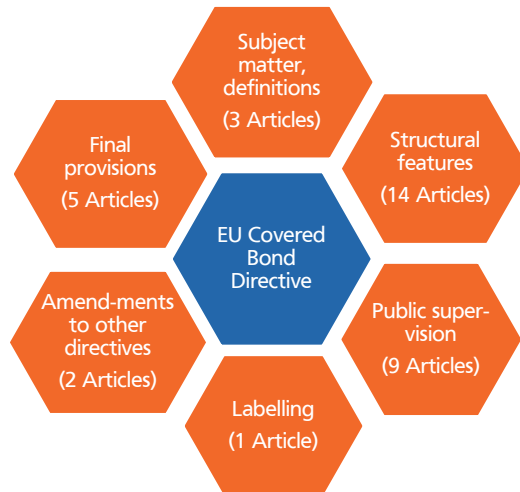
Source: European Union, DZ BANK Research



The harmonisation package is largely based on principles, which in turn are based on criteria and definitions previously developed by EBA. In addition, the EU covered bond directive gives member states a choice in the implementation of certain requirements. The 34 articles of the directive contain a total of 25 of such rights of choice. Despite these degrees of freedom in national implementation, the harmonisation package sets stricter quality standards for covered bonds than the UCITS criteria throughout Europe.

**Harmonisation package is principle based**

#### STRUTURE OF THE COVERED BOND DIRECTIVE



Source: EU covered bond directive, presentation DZ BANK Research

The Association of German Pfandbrief Banks and its members are committed to ensuring that the provisions in the pfandbrief law are adapted in such a way that the status of German pfandbriefe as "European Covered Bonds (Premium)" is secured. Many provisions in the EU covered bond directive seem to have been inspired by German pfandbrief law. The reform package is therefore unlikely to require any major adjustments to the Pfandbrief Act (PfandBG). But the devil is in the detail, as is well known. We present below the amendments to the PfandBG that the vdp believes are necessary, sorted by the relevant articles from the EU covered bond directive and the CRR.

**What changes will the reform package in the PfandBG bring?**

#### Changes to the pfandbrief law required in response to the EU covered bond directive

- » Articles 8 and 9 (joint funding): The vdp is consulting to find out the extent of interest among its members in arrangements being put in place in the PfandBG for joint funding (pooling) through pfandbriefe within a group of companies and in general for banks among themselves. If there is interest, the vdp would support the implementation into German pfandbrief legislation of the optional rules set out in the EU Covered Bond.
- » Article 11 (Derivative contracts in the cover pool): Under the EU Covered Bond Directive, the inclusion of derivatives in the cover pool shall be allowed exclusively to hedge existing market risks. However, it is unclear at which point a derivative would then have to be removed from the cover pool. The Directive mentions that the derivative should be removed when the risk hedged ceases to exist. In this context, we could imagine a case in which a foreign currency-denominated loan is included in the cover pool and the derivative which serves to hedge the

**Joint funding**

**Derivatives in the cover pool**

currency risk is entered into the cover register. If a pfandbrief in the same foreign currency were issued at a later date, then the underlying currency risk would be hedged naturally. Would this already be a case of the risk hedged ceasing to exist, as mentioned in the Directive? The regulation could become a problem if removing the derivative from the cover pool were not to depend solely on the pfandbrief bank in question. This could apply if the removal required the agreement of the counterparty. In the case of the implementation of the Directive, clear provisions would be desirable which would take into account the normal business processes of issuers. At present, derivatives are rarely to be found in the cover pools of German pfandbriefe, and when they are, then their net present value is small in relation to the size of the cover pool.

» Article 13 (obligations of the cover pool monitor to report to the competent authorities): The rules in the PfandBG on the trustee's reporting obligations to the supervisory authority are currently couched in very general terms and will need to be set out slightly more precisely in order to meet the requirements of the EU Covered Bond Directive. The trustee is the equivalent of the cover pool monitor in the Directive which stipulates that there must be an obligation for the cover pool monitor to report to the competent authorities – something which is currently still lacking in the PfandBG.

#### **Reporting obligations of the cover pool monitor**

» Article 14 (transparency obligations): Transparency requirements in the PfandBG already largely meet the requirements set out in the EU Covered Bond Directive. A number of new points will have to be included, e.g. a list of the International Securities Identification Numbers (ISIN) for all outstanding pfandbriefe and the level of any contractual over-collateralisation, if in place. From an editing point of view, moreover, details in relation to credit risks in the cover pool would need to be enhanced. It remains to be seen how registered pfandbriefe which do not have an ISIN are to be taken into account in the new reporting format.

#### **Slightly extended transparency obligations**

» Article 15 (coverage calculation): In contrast to the PfandBG, the EU covered bond directive stipulates that the expected costs for the management and administration of the covered bond programme must be taken into account in the coverage calculation. In addition, the directive distinguishes between obligations arising from the repayment of covered bonds and the interest payments due on covered bonds. In this context, member states must establish rules for the calculation of interest claims and liabilities arising from the covered bonds and the cover assets. Furthermore, Unsecured claims, which are considered unsecured, should not contribute to the coverage of the covered bonds.

#### **Cover pool calculation**

» Article 16 und 17 (Requirement for a cover pool liquidity buffer and conditions for maturity extensions for pfandbriefe): The requirement for a cover pool liquidity buffer for 180 days is already anchored in the PfandBG through a reserve to that effect. The vdp is now considering whether the option of a legal maturity extension (soft bullet) for all outstanding pfandbriefe should be introduced in the event of it being required (as a rule after a default of the issuer). One idea for such an eventuality would be to extend the maturity of all the pfandbriefe in a programme for 12 months at the same time. This way, the original repayment schedule for the outstanding pfandbriefe would be unchanged. This arrangement would pre-empt any repayment overtaking another in the sequence which might arise if the maturity of the pfandbriefe were to be extended one after the other because of isolated liquidity squeeze arising now and again (see also section "Rating Paradox" on this topic). A clear definition of the timing of a maturity extension or of the circumstances which might trigger it would also be desirable

#### **Liquidity buffer for the cover pool**

in order to prevent the threat of arbitrary decisions by individual person in this matter. In principle, there could be various times at which a maturity extension might be considered, e.g. once a cover pool administrator is appointed. However, the timing chosen could be slightly too early because the administrator can be appointed even before a pfandbrief bank becomes insolvent – perhaps in the context of a rescue package. On the other hand, the insolvency of the cover pool resulting from insufficient liquidity could come too late. A middle way should be found in this respect which would satisfy the interests of all those involved while remaining transparent and clearly understandable. The introduction of a maturity extension for pfandbriefe would probably bring with it an adjustment of the 180-day rule, because otherwise, the cover pool liquidity would be doubly secured for the first six months – through the reserve and through the soft-bullet structure. One possibility would be for the 180-day liquidity rule to kick in for the period after the potential maturity extension. If, for example, the statutory maturity extension provided for an extension of 12 months, then the liquidity buffer rule of 180 days would only come into force from the 366th day. Overall, therefore, the cover pool would have sufficient liquidity for a total of one-and-a-half years.

» Article 26 (disclosure requirements from the competent authorities): In future, the competent supervisory authorities (In the case of Germany, the BaFin) will be required to publish a list of programmes which are licensed and authorised to use the "European Covered Bond" label and the "European Covered Bond (Premium)" label within their jurisdiction. These rules will now have to be added in the PfandBG. In future, the competent authorities will therefore have to check whether a bond meets all the criteria of the EU Covered Bond Directive or CRR. Investors will then be able to use the authority's assessment if the question arises of whether or not a covered bond qualifies for supervisory privileges. This is likely significantly to ease the workload for investors.

**New disclosure requirements from the competent authorities**

» Article 27 (labelling): Rules must be put in place in the PfandBG to ensure that the labels "European Covered Bonds" and "European Covered Bonds (Premium)" are only used for bonds which meet the requirements.

**Labelling**

It is important to note that aircraft pfandbriefe are already non-CRR compliant. Consequently, they will not qualify for European Covered Bond (Premium) status, because the CRR does not envisage aircraft mortgages. However, after adjustments in the PfandBG, aircraft pfandbriefe should meet the requirements for the "European Covered Bond" label since the EU Covered Bond Directive allows a much broader spectrum of cover assets in Article 6 than the CRR.

**Aircraft pfandbriefe will not make the premium standard**

In any case, if the aim with mortgage pfandbriefe, public sector pfandbriefe and ship pfandbriefe is for them to secure the status of European Covered Bond (Premium) by meeting the statutory requirements, then the definition of the cover assets in the PfandBG will have to be based on the provisions in Article 129 CRR. At the same time, the more broadly defined rules on the definition of cover assets for European Covered Bonds in Article 6 of the EU Covered Bond Directive could possibly form the basis for new types of pfandbriefe at a later stage. Why not then allow additional asset classes for pfandbriefe? One possibility could be to allow SME loans as cover assets if the pfandbrief banks do not want to wait for the ESN framework.

**Further definition for potential cover assets in the directive**

## Adjustments to the pfandbrief law required in view of changes in the CRR

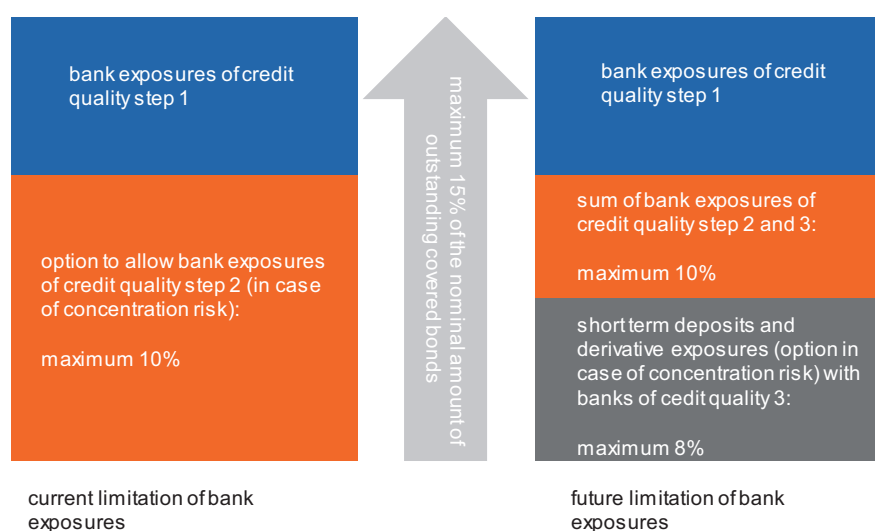
As we have already mentioned, CRR criteria relating to eligible cover assets are stricter than those in the EU covered bond directive. Aircraft pfandbriefe will therefore never be able to make Premium status based on the current legislation. A number of small changes will be needed in the PfandBG in order to achieve the objective of all other pfandbrief types – mortgage pfandbriefe, public sector pfandbriefe and ship pfandbriefe – obtaining Premium status.

- » To-date, bank exposures qualifying for credit quality step 1 (AAA to AA-) may account for up to 15 per cent of the amount of the outstanding covered bonds. The competent authorities may also allow bank exposures that qualify for credit quality step 2 (A+ to A-) to account for up to 10 per cent of the amount of the outstanding covered bonds. This exemption can be granted if it can be shown that the restriction to credit quality step 1 banks might lead to substantial concentration risks. The EBA has to be consulted beforehand in the case of this complicated process which has to be carried out on an annual basis. However, there will soon be a simplification in this respect since, in future, credit quality step 2 bank exposures will generally only be allowed to account for a maximum of 10 per cent of the outstanding nominal volume of the covered bonds.

**Securing premium status will require small changes in the PfandBG**

**Claims against banks**

### CHANGES IN CREDIT QUALITY REQUIREMENTS APPLYING TO BANK EXPOSURES IN THE COVER POOL



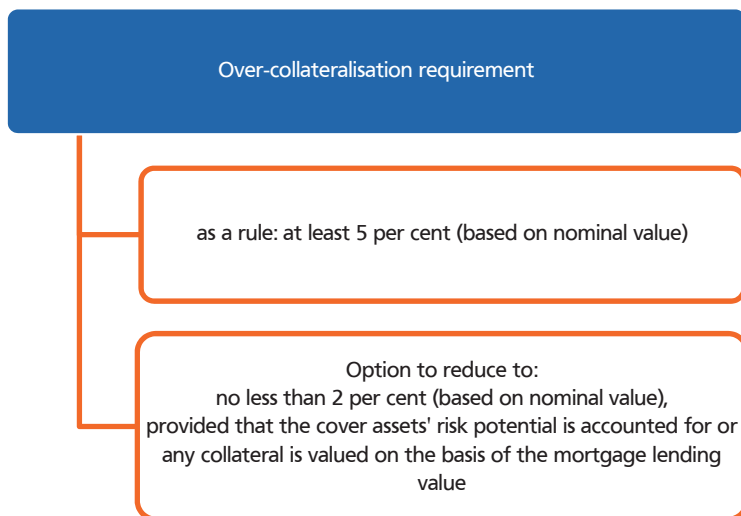
Source: Regulation amending the CRR, DZ BANK Research presentation

In addition, exposures from short-term deposits and derivative transactions with banks which qualify for credit step 3 (BBB+ to BBB-) can amount to a maximum of 8 per cent of the covered bonds outstanding in the cover pool. However, in order to be able to factor in derivative transactions with banks which qualify for credit quality step 3, the competent national covered bond authorities must exercise their right under Article 129 (1a) CRR and demonstrate potential concentration risks as well as consulting the EBA beforehand. The CRR also states clearly that bank exposures also include exposures from derivatives. We expect the current rules in the PfandBG on derivatives in pfandbrief cover pools to be redrafted since, as things stand at present, there is no limit on the currency derivatives, for example, which can be included in the cover pool.

- » The amended Article 129 CRR now includes a minimum over-collateralisation requirement of 5 per cent. However, this requirement does not have to be included in the PfandBG. Instead, over-collateralisation can consist of statutory, contractually committed or voluntary over-collateralisation. In other words: It does not matter why there is over-collateralisation; the cover pool merely has to include a minimum level of over-collateralisation of 5 per cent of the cover pool in order for the covered bond to be eligible for preferential capital treatment. However, the over-collateralisation is calculated based on the nominal value principle. It may only consist of eligible cover assets as per Article 129 (1) CRR. If the over-collateralisation consists of mortgage loans, for example, then they must meet the quality criteria listed in Article 129 CRR, including LTV limits. In our view, it would not be possible for the over-collateralisation in this example to consist solely of those parts of the loans which were above the respective LTV limits. There is also a simplification in relation to over-collateralisation: the limits on bank exposures in the cover pool are not applied in the case of exposures to banks which are part of the over-collateralisation. This means that the over-collateralisation can consist of exposures to banks although the limits which apply in principle to bank exposures may already be reached.

#### Requirements regarding the form of over-collateralisation ...

#### MINIMUM OVER-COLLATERALISATION LIMIT MAY BE REDUCED TO 2 PER CENT FROM 5 PER CENT



Source: Regulation amending the CRR, presentation DZ BANK Research

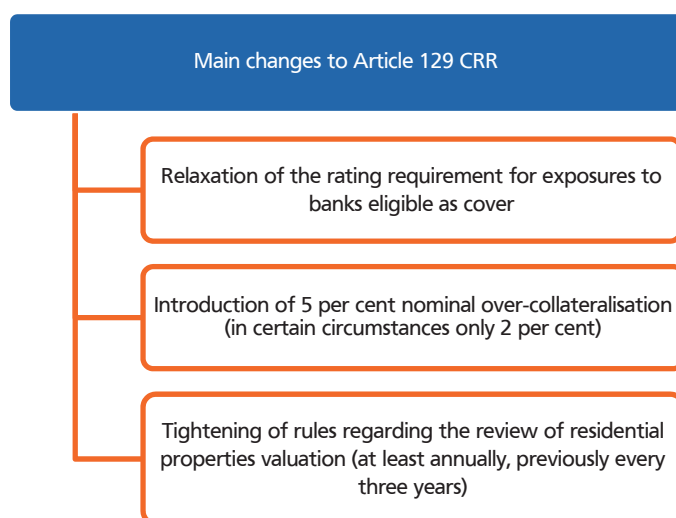
Under certain circumstances, the 5 per cent level can be reduced to as low as 2 per cent. If the over-collateralisation calculation takes into account the underlying risk relating to the cover assets or is subject to an LTV defined in the CRR when carrying out a valuation of the cover assets, then the over-collateralisation can be reduced to 2 per cent or the competent authorities can be empowered to set the level of the over-collateralisation.

... and increase in minimum over-collateralisation to 5 per cent (in exceptional cases 2 per cent)

» The cycle for monitoring the value of residential property has now been tightened in Article 129 CRR which now requires not only the value of commercial property but also a residential property to be monitored annually in future. Statistical methods may be used to monitor the value of immovable property, for example linking the property price to a suitable property index. The work involved for pfandbrief banks in the case of granular cover pools with residential property in particular could increase significantly in future because the review only had to take place every three years in the past.

## Regular review of property valuations

### REQUIREMENTS FOR PREFERENTIAL CAPITAL TREATMENT OF COVERED BONDS IN SOME INSTANCES RELAXED AND IN OTHERS TIGHTENED



Source: Regulation amending the CRR, presentation DZ BANK Research

Article 16 of the EU covered bond directive provides for a liquidity buffer within the cover pool for the next 180 days. In connection with the provisions on the minimum liquidity (liquidity coverage ratio, LCR), this could have resulted in a double burden for covered bond issuers. However, a solution to this problem appears to be emerging. Many programmes provide for a liquidity reserve within the cover pools for covered bonds or coupon payments due within the next 180 days. In Germany or France, this liquidity reserve is even a legal requirement by the relevant covered bond act. Under the general banking rules for the minimum liquidity coverage ratio (LCR), the liquid assets within the cover pool are regarded as encumbered under current law because, in the event of the bank's insolvency, they are available to the covered bond creditors on a priority basis. This view is therefore formally correct. At the same time, it means a double burden for the banks, because they ultimately have to hold twice the rather expensive liquidity for the covered bonds that mature within the next 30 days: On the one hand in the cover pool and on the other in the bank's LCR portfolio. It is comparable to a matryoshka, the Russian egg-shaped wooden figure, of which several identical but differently sized versions are nested together.

## New LCR rules eliminate liquidity matryoshka burdens

In June 2020, a group of experts set up by the European Union in connection with the implementation of the EU covered bond directive drew up a proposal to amend the LCR rules. This proposal stipulates that the liquid assets in the cover pool of covered bonds are to be regarded as "dis-encumbered". The liquidity reserve in the cover pool for the next 30 days could - if this proposal is implemented - be counted under the LCR under certain conditions and remain in the cover pool at the same time. According to the assessment of the European Covered Bond Council (ECBC), the proposal

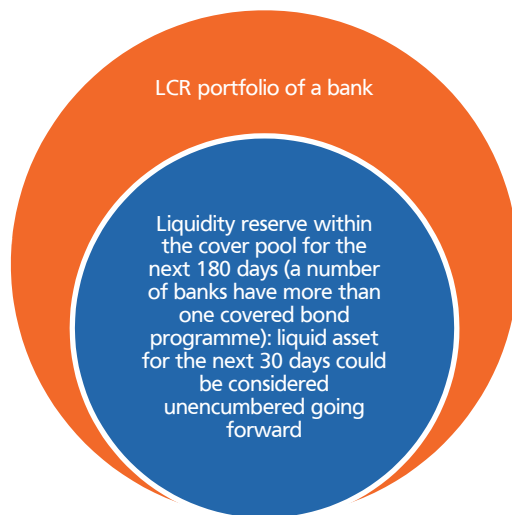
## ECBC expects a consultation procedure in the fourth quarter of 2020

drawn up by the expert group at the end of June appears to be gaining more and more support. The ECBC therefore predicts that a public consultation process for the amendment of the LCR rules will be launched as early as the fourth quarter of 2020.

The expert group would thus have fulfilled its work assignment in good time, which became necessary because the EU covered bond directive provides for a liquidity reserve within the cover pool. The application of which could, however, be suspended by the member states as long as the double burden resulting from the still existing LCR rules prevails. In this respect, there is a greater chance that the member states can immediately make final arrangements for the liquidity protection of covered bonds by mid 2021 as part of the implementation of the EU covered bond directive.

**Mission accomplished on time**

#### LIQUIDITY MATRYOSHKA: NESTED LIQUIDITY RESERVES SHOULD NO LONGER LEAD TO DOUBLE BURDENS IN THE FUTURE



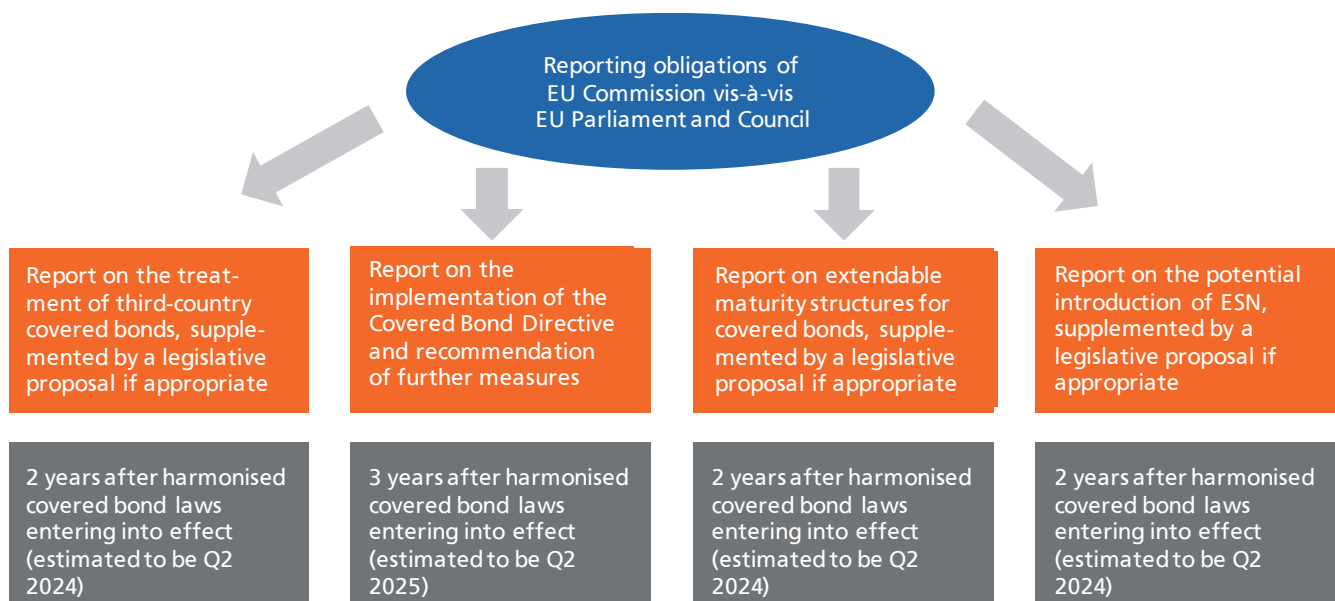
Source: DZ BANK Research

In summary, we believe that the need for amendments to the PfandBG as a result of the harmonisation package will be less than in many other European countries. At the same time, even after a Europe-wide implementation of the new EU framework, the PfandBG is still likely to be among the strongest covered bond frameworks in Europe. As such, the legal principles will remain an important quality feature for the German pfandbrief in future. However, we are likely to see a convergence in the quality of European frameworks for covered bonds, even though there will still be differences – not least in light of the many features in the EU Covered Bond Directive which are merely optional. It remains to be seen whether third countries outside Europe will use the European framework as a yardstick.

**Legal foundations are an important quality feature**



PURSUANT TO ARTICLE 31 COVERED BOND DIRECTIVE, EU COMMISSION MUST ADDRESS FOUR TOPICS IN GREATER DETAIL



Source: EU covered bond directive, presentation DZ BANK Research

In the next chapter we would like to present you with an up-to-date summary of the most important provisions of the Pfandbrief Act, in which we have also incorporated the changes to the Pfandbrief Act that have become necessary as a result of Brexit. Our overview of the legal foundations of the pfandbrief is based largely on Otmar Stöcker's article "Grundzüge des Pfandbriefrechts und des Refinanzierungsregisters" in the Bankrechts-Handbuch (2011). Our study also incorporates the changes made to the Pfandbrief Act since 2011 based on the relevant Bundestag publications. The vdp also makes the documents concerning revisions to the Pfandbrief Act available on its website; they provide interesting insights into the reasoning behind the modifications of Germany's pfandbrief legislation. A summary of these documents can also be found in a study published by the vdp, "10 Years of Pfandbrief Act – Compilation of texts and materials" published in 2015 (German original "10 Jahre Pfandbriefgesetz – Textsammlung und Materialien"), which is a direct continuation of the vdp's publica- tion "The Pfandbrief Act: Text of the Act and materials" published in 2005 (German original "Das Pfandbriefgesetz: Gesetzestext und Materialien").

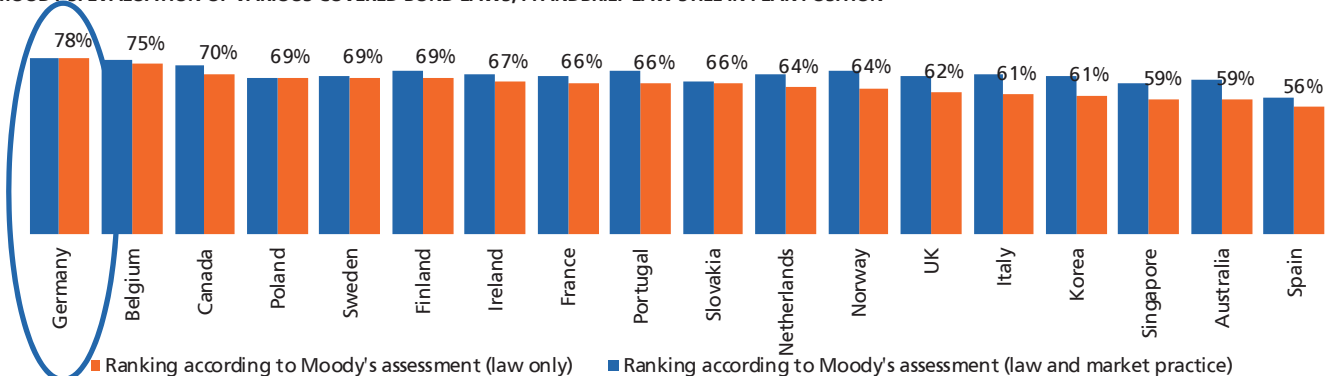
## Current status of the PfandBG

## LEGAL FRAMEWORK

On 2 July 2019 Moody's presented an updated version of a report entitled "Germany – Legal framework for covered bonds". This is one of a series of legal reports, in which the legal bases of 6 rating categories with a total of 47 sub-categories is systematically reviewed. A percentage score is then calculated based on the ratings. The higher the percentage score, the better the rating. In its updated report Moody's has made only one change to its assessment of the Pfandbrief Act and has raised the rating for derivatives in the cover pool (collateral posting/ counterparty replacement). The score of the Pfandbrief Act has thus improved slightly. Germany has consolidated its leading position slightly compared to other laws evaluated by Moody's. In the agency's view, the strengths of pfandbrief law are the loan-to-value concept and strict LTV limits of 60 per cent, as well as mandatory stress tests as part of the net present value calculation, and the 180-day rule to secure cover pool liquidity. Another positive factor highlighted by Moody's is mandatory over-collateralisation (minimum over-collateralisation) which may only be held in the form of certain high quality assets. The legal report also cites the roles of supervisors and cover pool monitor as strengths. The list of advantages also includes rules on the cover pool administrator and the authority they exercise for the liquidation of cover assets and the set-off ban for bank creditors with regard to cover assets. This impressive listing is marred by only two weaknesses, both of which relate to the selection of eligible cover assets. Pfandbriefe can be secured by the financing of commercial property, ships or aircraft. The agency also sees heightened risks for cross-border credit business outside the European Economic Area which is permitted by the Pfandbrief Act. We will discuss all these aspects in great detail on the following pages.

### Moody's gives German Pfandbrief Act a good report

MOODY'S: EVALUATION OF VARIOUS COVERED BOND LAWS; PFANDBRIEF LAW STILL IN PEAK POSITION



Source: Moody's, DZ BANK Research presentation

### Pfandbrief licence

Since 2005, the inclusion of pfandbrief business as banking business within the meaning of the German Banking Act (Kreditwesengesetz) enables all credit institutions which are authorised to engage in banking activities in principle to issue pfandbriefe. However, they need to apply to the BaFin for a licence to issue pfandbriefe. A pfandbrief licence will be issued providing the credit institution in question meets specific minimum requirements. These include the following:

### Requirements to quality for a pfandbrief licence

- » The credit institution must have a licence to engage in pfandbrief business. Pfandbrief issuers must demonstrate to the BaFin through a business plan that they intend to engage in pfandbrief business regularly and on a sustained basis.
- » The bank's core capital must be of at least twenty five million euros.
- » The pfandbrief bank must have a suitable risk management for its pfandbrief business. The credit institution's organisational structure and resources must be geared to the pfandbrief business.

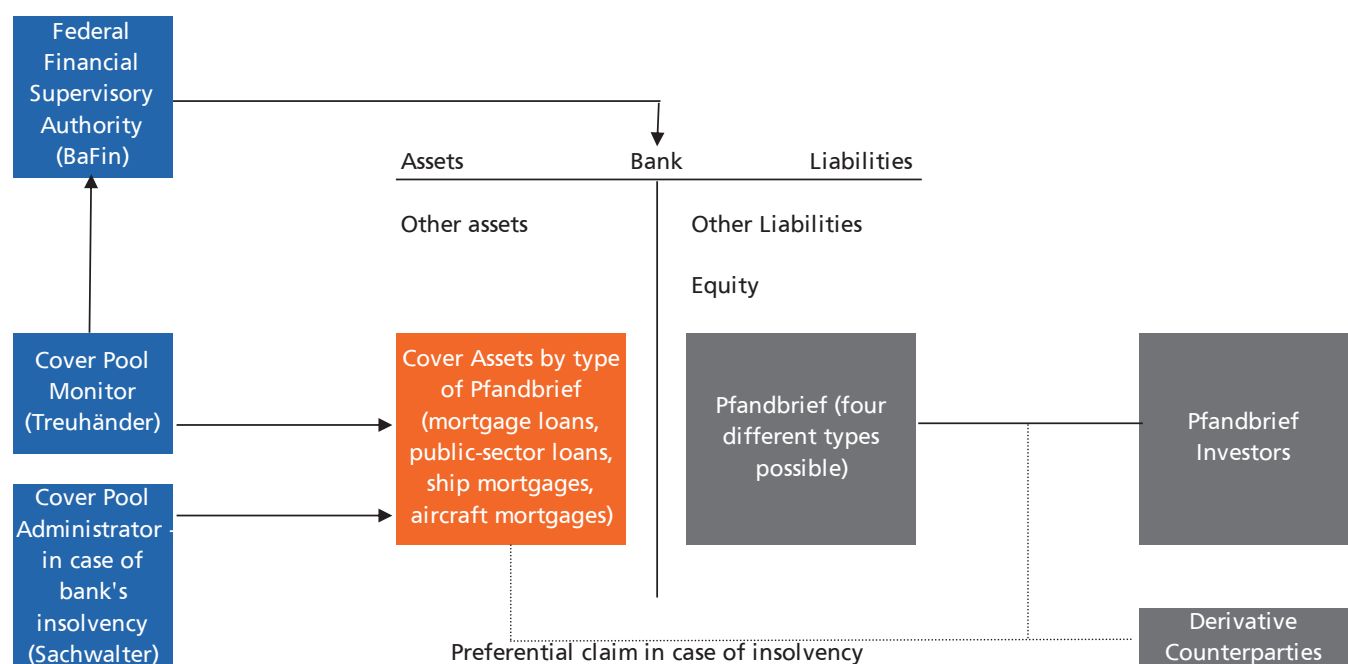
## Regular pfandbrief issues

## Minimum capital and suitable risk management

A pfandbrief licence once issued can also be revoked. However, this would only apply if a bank no longer met the quality requirements under the Pfandbrief Act or if the pfandbrief bank had not issued any more pfandbriefe for two years and there was no prospect of a resumption of the pfandbrief business on a sustained basis within the next six months. If a licence is revoked, the BaFin can order the run-off of the cover pools by an administrator.

## Licence can also be revoked

### GENERAL STRUCTURE OF A GERMAN COVERED BOND (PFANDBRIEF)



Source: DZ BANK Research

There are four different categories of pfandbrief under current pfandbrief legislation: mortgage pfandbriefe, public sector pfandbriefe, ship pfandbriefe and aircraft pfandbriefe. The pfandbrief licence can be restricted by the BaFin to specific types of pfandbrief. The Pfandbrief Act does not stipulate a minimum issuance volume in terms of the total pfandbriefe to be issued. Nor does the Pfandbrief Act explicitly limit the outstanding volume of a bank's pfandbriefe. Instead, an implicit ceiling is set by reference to the bank's assets, in other words, a pfandbrief bank's total assets which are eligible as cover assets. In contrast, covered bond legislation in many other countries – above all outside Europe – specifies a ceiling for covered bonds. This reflects concerns that the growing practice of reserving bank assets (known as asset encumbrance) for the benefit of specific creditor groups could hollow out bank balance sheets. This would increase the risk of losses for unsecured bank creditors in the event of default.

## Four types of pfandbriefe each with their own specific cover requirements

However, covered bonds are just one of a bank's activities where providing underlying collateral is standard practice. The article entitled "Asset Encumbrance and German Pfandbriefe" in the vdp publication "The Pfandbrief 2012/2013 Facts and Figures about Europe's Covered Bond Benchmark" shows in detail that, alongside covered bonds, central bank funding operations, derivatives activities and secured money-market transactions (repos) also contribute to asset encumbrance. The conflict of interest which exists between unsecured and secured bank creditors is moreover inherent to the system and also stems from the intended protection given to pfandbrief creditors in the Pfandbrief Act. Secured refinancing instruments such as pfandbriefe have provided a way for banks to obtain liquidity, precisely in times of crisis. The vdp article therefore concludes that a rigid issuance limit for pfandbriefe is not appropriate.

Actively managing the risk inherent in a credit institution and its cover pool(s) is one of the most important elements in the protection of pfandbrief creditors. In light of the fact that the risks involved in pfandbrief operations can differ from the general risks relating to other banking business, the German legislator has defined specific requirements for the risk management of pfandbrief banks. In accordance with these requirements, each pfandbrief institution must have a risk management system suitable for pfandbrief operations. The risk management system must ensure that all the risks associated with the pfandbrief business such as default risks, interest and exchange-rate risks, as well as operational and liquidity risks can be identified, evaluated, managed and monitored. The risk management system must satisfy a number of requirements, including the following:

- » limit the concentration of risks through a limit system;
- » establish a procedure which ensures a risk is reduced when a particular risk increases and guarantees the timely notification of decisions makers;
- » offer the flexibility to respond to changing conditions and also be subject to at least one annual review;
- » regular presentation (at least quarterly) of a risk report to the Management Board, and
- » clear and detailed documentation on the risk management system.

## **Risk management requirements**

**Limit system and reduction of risks if necessary**

**Flexibility and regular review**

## **General cover requirements and maturity-matching rules**

All assets used as cover for a bank's outstanding pfandbriefe shall be recorded in a separate cover register for the respective pfandbrief type. This makes it possible to identify clearly the assets belonging to the relevant cover pool. A dedicated administrative order (cover register statutory order or Deckungsregisterverordnung) specifies the details of the required form and contents of this cover register and the information to be entered. The cover register was introduced in German pfandbrief law with the Mortgage Bank Act of 1899. The act also stipulated that pfandbrief creditors have a preferential claim in relation to the assets recorded in the cover register in the event of issuer default. The option of a direct lien over the mortgage, such as forerunners of the then Mortgage Bank Act had provided, was rejected. There were practical reasons for this: issuing mortgage certificates for all cover pool loans would have been too laborious. Moreover, at the turn of the 20th century, Germany's land registry was not yet sufficiently or comprehensively developed to serve as an alternative to registered land charges.

**Separate cover register for each pfandbrief category**

The current Pfandbrief Act stipulates that the respective aggregate volume of a bank's outstanding pfandbriefe per type must at all times be covered by assets at least equal to their nominal and net present value. The calculation of this cover based on the net present value of the pfandbriefe in relation to the cover assets is subject to specific regulatory requirements defined in the Pfandbrief Net Present Value Regulation (Pfandbrief-Barwertverordnung). The Regulation requires pfandbrief banks to ensure that the net present value cover is maintained even in stress scenarios. In addition, the pfandbrief issuer must also maintain an over-collateralisation of 2 per cent of the volume outstanding of pfandbriefe (including for stressed net present values).

**Nominal and net present-value cover with minimum over-collateralisation of 2 per cent**

### Stress tests under Pfandbrief law

The Pfandbrief Act requires pfandbrief issuers to test the intrinsic value of their cover pools through weekly stress tests. This is intended to ensure that the cover pool's net present value continues to provide cover for the outstanding pfandbriefe even when the markets are very volatile.

The Net Present Value Regulation (Pfandbrief-Barwertverordnung) stipulates that the pfandbrief bank must also ensure that the outstanding pfandbriefe remain covered in net present-value terms even in the event of interest and exchange-rate changes. The cover assets must be sufficient to guarantee a continuing minimum net present value over-collateralisation of 2 per cent.

The stress scenarios incorporate an interest-rate component and an exchange-rate component. For both components, the issuer has the discretion to choose either a static or a dynamic test. In a static test, the yield curve used to discount the cover assets and outstanding pfandbriefe is subjected to a 250 basis-point parallel shift. In the case of the static exchange-rate stress test, the Net Present Value Regulation specifies set percentage premiums and discounts for potential currencies. In contrast to the set requirements for static tests, in the dynamic test, the stress figures for the shift in the curve and the premiums/discounts applicable to exchange rates are determined by reference to the recorded over the last 250 trading days; however, the curve must always be shifted by at least 100 basis points.

Pfandbrief banks can also use their own risk model for the calculation of the stress tests, providing the model has been checked in advance by the BaFin and deemed satisfactory.

Source: DZ BANK Research based on the Pfandbrief-Barwertverordnung

The traffic light model was the precursor of the net present value cover. Under an agreement reached between the mortgage banks and the BaFin at the end of 2000 which came into force from April 2001, risks arising from movements of interest rate calculated based on net present value could not amount to more than 20 per cent of the regulatory capital of the mortgage bank in question. If net present value risks arising from movements of interest rates exceeded 10 per cent of the regulatory capital, this could be grounds for a review of the bank's risk-bearing capacity. The figure had to be calculated daily and reported once a month to the regulator. Changes in the Mortgage Bank Act of July 2002 anchored the net present value calculation of cover assets in law. The amendment allowed derivatives to be included in the cover pool. The BaFin's ordinances concerning the present value calculation of cover of December 2003 gave more precise details on the implementation of the statutory present value calculation of cover for pfandbriefe. The over-collateralisation requirement of 2 per cent (net present value) mentioned earlier was not introduced until 2004 with the amendment of the Mortgage Bank Act.

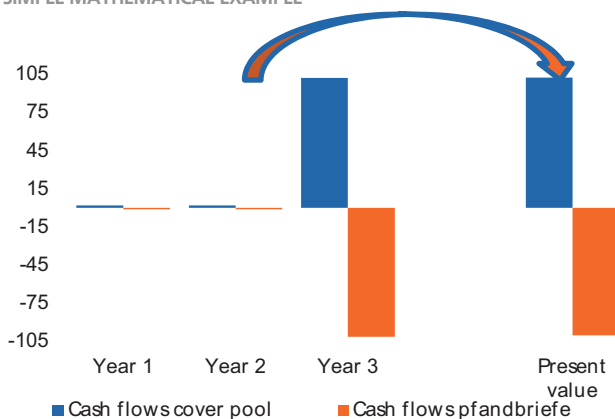
**Traffic light model the precursor of the net present value test**

In our view, the calculation rules applying to the risk-adjusted net present value still appear to be working and therefore help make pfandbriefe a safe investment for holders. However, the current calculation rules for net present value and risk-adjusted

**Net present value calculation makes it easier to adhere to statutory over-collateralisation**

net present value under pfandbrief legislation do not cancel out the effect arising from the fact that the over-collateralisation requirement is tied to the net present value calculation under a stressed scenario. In view of the link between the statutory over-collateralisation and the net present value calculation (under a stress scenario), it is slightly easier for pfandbrief banks to meet coverage requirements in relation to a straightforward nominal value calculation. Moody's criticism regarding the current rules on net present value calculations under German pfandbrief legislation does not go far enough (see Moody's study "Low Interest Rates Limit Protection Offered by Stressed Present Value OC Requirement" of 13 March 2017). What it should say is that the statutory over-collateralisation ratios are not only based on a net present value calculation under stressed scenario, but also that a similarly high over-collateralisation to nominal value should be required. This should not pose all too great a problem for the pfandbrief banks. In any case, as a rule, the rating agencies expect over-collateralisation ratios which are above the statutory 2 per cent. In the course of the implementation of the European harmonisation regulations, an over-collateralisation of at least 2 per cent on a nominal value basis is also likely to be introduced anyway.

**MARGIN ON LENDING BUSINESS MAY LEAD TO HIGHER OVER-COLLATERALISATION UNDER THE NET PRESENT VALUE CALCULATION THAN UNDER THE NOMINAL VALUE CALCULATION**  
A SIMPLE MATHEMATICAL EXAMPLE



Source: DZ BANK Research

	Cash flows cover pool	Cash flows pfandbriefe
Year 1	2	-1.25
Year 2	2	-1.25
Year 3	102	-101.25
	Cover pool	Pfandbriefe
Nominal value	100.0	100.0
Over-collateralisation (Nominal value)	0.0 per cent	
Present value	103.0	-100.7
Over-collateralisation (present value)	2.2 per cent	

Source: DZ BANK Research

Should risks arise for the intrinsic value of the cover pool, BaFin can impose higher individual over-collateralisation requirements on the respective pfandbrief bank. Through this provision, the BaFin can, if necessary, counteract the threat of a deterioration in the cover pool. The provision can have the same effect as an issue ban for a pfandbrief bank. However, in our view, compared with an actual issue ban, the BaFin's power to set a specific over-collateralisation level provides better protection for the interests of pfandbrief creditors. In addition, the Pfandbrief Act makes it clear that pfandbrief creditors shall have a preferential claims over any assets over and above the statutory over-collateralisation or over-collateralisation required by BaFin in the event of the insolvency of the pfandbrief bank.

**Over-collateralisation fully at the disposal of pfandbrief creditors**

The statutory over-collateralisation shall be held in the form of liquid cover assets (statutory or minimum over-collateralisation), which are subject to specific legal requirements. The minimum over-collateralisation (sichernde Überdeckung) can be held in the form of a deposit with the Bundesbank for example or with the ECB or any other European central bank of a member state of the EU. Other eligible assets include sovereign bonds issued by member states of the EEA or deposits with appropriate credit institutions provided they have a Level 1 rating as defined by the European Bank Capital Requirements Regulation. As an exception, BaFin may, after

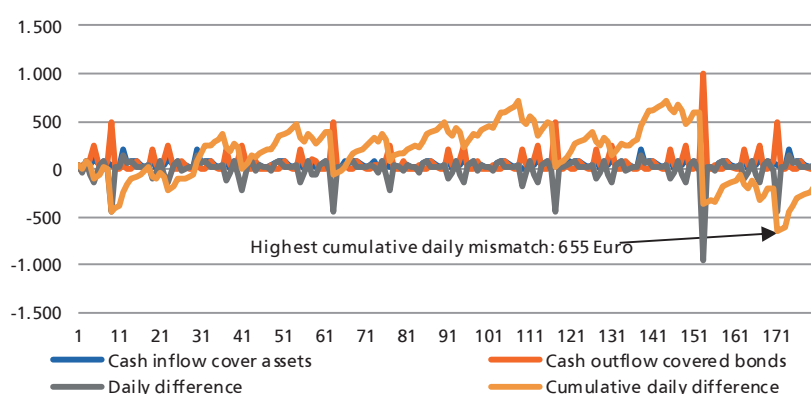
**Over-collateralisation in the form of especially liquid assets**

consultation with EBA, allow to use claims against banks with a Level 2 rating in order to avoid concentration risks. This regulation is intended to ensure that the minimum over-collateralisation is held in as liquid a form as possible so that the cover assets are sufficient for the cover pool to meet its payment obligations even immediately after a separation from the pfandbrief bank.

In addition, in order to safeguard the liquidity of the cover pool immediately after an insolvency of the pfandbrief bank, the Pfandbrief Act requires that the issuer must compare and check, accurately to the day, the next 180 days' claims maturing under recorded cover assets and maturing liabilities under outstanding pfandbriefe. The cumulative daily difference arising shall be calculated for each individual day. The biggest liquidity shortfall identified in this manner must be covered by a reserve of liquid cover assets such as cash deposits or government bonds. The following chart shows an example to illustrate the liquidity cover requirements in the Pfandbrief Act. The biggest cumulative daily difference (light orange line and marked with an arrow) in this example occurs towards the end of the 180-day period and amounts to 655 euros. This would be the amount needed in the cover pool in the form of liquid assets.

**Ability to make next 180 days' payments on pfandbriefe must be guaranteed**

**ILLUSTRATIVE CALCULATION OF 180 DAYS LIQUIDITY NEEDS**  
VERTICAL AXIS: EURO, HORIZONTAL AXIS: TIME IN DAYS



Source: DZ BANK Research

The Pfandbrief Act does not require a perfect matching between the cash flows of the cover pool and the covered bonds outstanding. As mentioned earlier, the Pfandbrief Act requires the issuer to hold the required minimum over-collateralisation and reserves for payment obligations arising during the next 180 days, but not provided for through the anticipated cash inflows from the cover assets, in the form of especially liquid assets. The Pfandbrief Act also defines specific rules for each pfandbrief type, setting out which assets are appropriate as collateral for the pfandbriefe (ordinary or regular cover), which we describe in the following subsections for the individual pfandbrief types in more detail. However, in order to give the pfandbrief banks more flexibility in managing their cover pools, the Pfandbrief Act also allows them to include further cover assets in the pfandbrief cover register, albeit on a limited scale. In this respect, however, the legislator also appears to have had in mind the liquidity of the cover pool over a longer horizon. The eligible further cover assets are slightly less liquid in nature than the standards defined for minimum over-collateralisation assets. However, they appear to be suited to the task of improving the cover pool liquidity in the event of the insolvency of the pfandbrief bank. Claims eligible to serve as further cover assets are identical for all four pfandbrief types, although their percentage in relation to the outstanding volume of covered bonds varies (see also the article

**Other cover assets on top of ordinary cover**



"Further Cover Assets as a Necessary Component of Pfandbrief Cover Pools" in the vdp publication "The Pfandbrief 2012/2013 Facts and Figures about Europe's Covered Bond Benchmark"). In principle, claims defined as eligible for use as further cover assets include the following:

- » Claims against the ECB, the Bundesbank or other central banks of EU member states and claims against suitable credit institutions. Claims against one and the same credit institution may not exceed 2 per cent of the total volume of outstanding pfandbriefe.
- » For mortgage, ship and aircraft pfandbriefe: claims which would qualify as ordinary cover for public sector pfandbriefe.
- » Hedging transactions involving derivatives which cushion against changes in the value of the cover pool through fluctuations in interest and exchange rates can be used as further cover assets and be included in the insolvency-proof pfandbrief register. However, the Pfandbrief Act restricts the use of derivatives for cover purposes. Based on the net present value of the derivatives, the share of the pfandbrief bank's claims under the derivative transactions included in the cover assets and the share of the liabilities resulting from the derivative transactions included in the cover pool in relation to outstanding pfandbriefe must not exceed 12 per cent. However, this 12 per cent ceiling does not take into account derivatives used to hedge exchange-rate positions. All derivatives assigned to the cover pool are subject to special requirements regarding the underlying contractual terms. Among other things, the insolvency of the pfandbrief bank may not trigger the early termination of the derivatives.

**Claims against central banks, credit institutions ...**

**... and public sector debtors**

**Derivatives with suitable counterparties**

The EBA announced in April 2017 that it regards the introduction of a partial waiver of rating requirements for claims against banks in Germany included in cover pools as justified. Article 129 (1c) CRR stipulates that exposures to banks with a maturity exceeding 100 days in the cover pool must not exceed 15 per cent of the nominal amount of outstanding covered bonds and that these banks must at least qualify for credit quality step CQS 1 (at least AA-). If these requirements are not met, then the covered bonds in question of European institutions cannot enjoy preferential treatment in terms of risk weight under CRR. There are currently not many banks with such a high CQS. Consequently, there could be a concentration risk in the cover pool if pfandbrief banks had to be restricted for their other cover assets to just a few banks with a high CQS. After consulting the EBA, the competent national supervisory authorities have the option to waive rating requirements. The minimum rating can be reduced from CQS 1 to CQS 2 (at least A-), and then allow exposures to these banks to be a maximum of 10 per cent instead of 15 per cent of the outstanding covered bonds of the issuing institution.

**EBA sees relaxing of CRR rating requirements as justified**

In the case of mortgage, ship and aircraft pfandbriefe, the further cover assets recorded in the cover register may not exceed 20 per cent of the volume outstanding of each type of outstanding pfandbrief. Claims against the ECB, central banks of EU member states and bonds of suitable credit institutions must not thereby exceed 10 per cent. In the case of mortgage, ship and aircraft pfandbriefe, moreover, issuers may include in their cover pool up to 20 per cent of assets which are eligible as regular cover for public sector pfandbriefe, whereby the claims mentioned above must be included in the calculation. In the case of public sector pfandbriefe, the share of further

**Share of additional cover assets regulated by law**

cover assets is generally limited to 10 per cent of the outstanding volume of the public sector pfandbriefe. However, claims from derivatives transactions do not count towards these ceilings, irrespective of pfandbrief type. They are subject to a separate 12 per cent limit as described previously.

### **Preferential right of pfandbrief creditor and insolvency-proof trust**

The cover assets are intended to be unrestrictedly available to satisfy the claims of the pfandbrief investors in the event of the issuer's insolvency (insolvency-proof cover pool). In the case of public sector and mortgage pfandbriefe, the combined value of cover assets which do not guarantee the priority of pfandbrief creditors in insolvency may not exceed 10 per cent of the total cover assets. In the case of ship and aircraft pfandbriefe, the ceiling is 20 per cent.

Issues in the context of the preferential treatment of pfandbrief creditors in the event of insolvency can arise above all in the international credit business. Our understanding is that all claims on borrowers domiciled in a member state of the EEA, can be regarded as guaranteeing the prior rights of pfandbrief creditors in a bankruptcy scenario in view of standardised European regulations. The EU directive on the reorganisation and winding-up of credit institutions (Winding-up Directive) means that, in the event of the insolvency of a pfandbrief bank, German insolvency legislation will also be recognised in the member states of the EEA. The preferential claim of pfandbrief creditors on cover assets located within the EEA is protected by the fact that there is no threat of secondary insolvency proceedings in a third country. In the case of secondary insolvency proceedings under foreign legislation, there would be no guarantee that cover assets located in a third country would be left out from these insolvency proceedings. It is therefore important to exercise greater caution in the case of cover assets located outside the European Economic Area. In order to preserve the expected equivalent security of the pfandbrief creditors' recourse over cover assets, the directive requires the provision of an additional contractual security in accordance with the corresponding statutory requirements in the third country in question with respect to claims on non-EEA-domiciled debtors and with regard to collateral in the form of real property or equivalent mortgage rights and to ships and aircraft located outside the EEA. This contractual assurance can, for example, provide for the appointment of a double trustee for the pfandbrief creditors while also preserving the interests of the pfandbrief bank. In a crisis situation, the trustee of the foreign assets shall guarantee the protection of the preferential rights of pfandbrief creditors on the foreign cover assets, notwithstanding foreign recognition of German measures under winding-up legislation.

Potential restrictions applying to cover assets outside the EEA shall apply if the pfandbrief bank has failed to ensure that these cover assets are insolvency proof vis-à-vis the pfandbrief creditors through suitable measures. Through experience, approaches have evolved such as the model of the double trustee mentioned above. Moody's comments on these measures which apply to cover assets located in Japan, Canada, the US and Switzerland in its Special Comment of 22 July 2014, "Structural Protection Mechanisms for Non-EEA Assets in German Cover Pools". According to the agency, the trust structures used by banks for US and Swiss cover assets are suitable for limiting the potential risks to pfandbrief creditors in the event of the insolvency of the bank and therefore for guaranteeing their preferential treatment. Moody's also finished the legal analysis on cover assets located in Japan (see Moody's press release "Moody's updates on Japanese assets in German cover pools", published 15. August 2016). Also this trust structure does in Moody's view ensure the priority claim of pfandbrief creditors regarding Japanese cover assets in the event of an insolvency of the pfandbrief issuer.

**Pfandbrief creditors have unconditional preferential claim over cover assets in the event of issuer's insolvency**

**Threat of enforcement action in the case of foreign cover assets**

**Trust model ensures preferential rights of pfandbrief creditors**

The Pfandbrief Act generally gives issuers the option for domestic and international business to include loans and mortgages held in trust by third parties to be used as collateral. This assumes that the assets meet the general requirements of the Pfandbrief Act. Before assets held in trust can be used as collateral for pfandbriefe, it is important to ensure that the pfandbrief bank has unrestricted access to these assets (insolvency-proof trust) in the event of the trustee's insolvency. An insolvency-proof trust can be created for example by entering assets in a refinancing register. Credit institutions can use the refinancing register, which is regulated in the German Banking Act (Kreditwesengesetz) and in the Refinancing Register Ordinance (Refinanzierungsregisterverordnung), to assign mortgage-backed loans to pfandbrief banks while continuing to administer the loans or mortgages in question and retain them on their balance sheet.

Provisions for the refinancing register in the German Banking Act are closely based on the wording of the Pfandbrief Act. The trustee credit institution (or refinancing company) shall properly maintain the refinancing register in which the assets and/or mortgages are recorded for the benefit of the pfandbrief bank. A specially appointed administrator shall audit the proper management of the refinancing register. In the event of the insolvency of the refinancing institution, the German financial services regulator BaFin shall appoint an administrator who will manage the refinancing register independently of the insolvency administrator. If necessary, BaFin can even appoint this administrator who will manage the refinancing register before insolvency proceedings are initiated. Both the terminology and the working used in the German Banking Act provisions are very similar to those in the Pfandbrief Act.

Although recording of claims and mortgages in the refinancing register prevents these assets from falling into the refinancing institution's general bankrupt estate (insolvency-proof trust), the beneficiary (the pfandbrief bank) and the trustee credit institution must still conclude a formal agreement (or contract) which substantiates the pfandbrief bank's claims over the assets. This can be done for example within an agreement between syndicating banks. Entry of the assets in the refinancing register is not sufficient on its own. The refinancing company forwards an excerpt of the refinancing register to the beneficiary, which proves the beneficiary's title to claim the assets. We see three aspects of this situation as particularly important:

- » The agreement between the pfandbrief bank and the refinancing institution must be legally binding and effective. Rating agencies have warned that they will be checking this point as part of their analyses (see for example S&P "German Refinancing Registers Could Help Source Assets for Pfandbriefe", October 2007).
- » The contracts underlying claims on customers (such as loan contracts) must specifically permit the sale and assignment of the claims and, where necessary, the associated collateral (mortgages in the case of property loans).
- » The recording of assets in the refinancing register does not restrict the right of third parties to object and appeal against the registered claims or mortgage securities. As we understand it, one example of this would be the undisclosed (silent) assignment of the loan claims. In this case, the borrower shall not be informed of the transfer of the loan to the pfandbrief bank (at least not immediately). The rights of the borrower, to offset mutual claims against its loan liabilities in the event of the trustee credit institution's insolvency for example, are not affected by the recording of the relevant claim in the refinancing register (see for example Fitch's Special Report "The Refinancing Register in German Structured Finance Transactions", December 2011).

## Trust model for cover assets

## German Banking Act borrows from the Pfandbrief Act

## Refinancing register creates an insolvency-proof trust

## Contract required

## Assets/collateral must be assignable

## Third-party objection rights preserved

The German Banking Act makes it clear that, even in the case of syndicated loans where several banks take only parts of the loan amount and the borrower knows about this arrangement between the banks when the loan agreement is signed (anfänglich offene Konsortialfinanzierung), these loans are subject to the regulations applying to the refinancing register. The provision in the German Banking Act moreover ensures that cover assets recorded in a refinancing register for the benefit of a pfandbrief bank can only be deleted from the register with the agreement of the bank and that of the pfandbrief cover pool monitor (as independent controller of the pfandbrief bank's cover register). The pfandbrief bank is also authorised at any time to demand a statement of the assets recorded for its account in the funding register from the administrator of the funding register. The information right is intended to put the pfandbrief bank in a position to verify the correctness of entries effectively.

**Pfandbrief and refinancing register closely linked**

In contrast to entries in the land register, the refinancing register is not open for public inspection. Pfandbrief creditors have to put their faith in the diligence of the refinancing institution, although the orderly management of the register by the administrator appointed by BaFin is subject to regular monitoring. All in all, the complexity of the transaction structure of a pfandbrief programme is increased by its inclusion in the refinancing register. From the pfandbrief investor's perspective and from the point of view of credit aspects, we believe that the use of a refinancing register also creates a weak link with the refinancing institution's credit rating.

**Greater complexity**

Refinancing registers offer several application options in the context of the pfandbrief business. Commercial banks which do not have a pfandbrief licence can use the mechanism to make cover assets available for pfandbrief banks and thereby benefit indirectly from cheap funding via pfandbriefe, assuming pfandbrief banks offer their services to other credit institutions as refinancing platforms in this way (pooling model).

**Pfandbrief banks as refinancing platform**

In addition, a refinancing register permits several pfandbrief banks to use syndicated loans - including subsequently syndicated loans - to constitute the cover pool for their respective pfandbrief programs, dependent on the risk ratio taken on. The advantage of using the refinancing register route in these examples is that it postpones or even completely obviates the need for any costly and time-consuming formal amendment of land registers to show a transfer of liens on properties and notification of borrowers to a later date (e.g. if this becomes necessary through the insolvency of the refinancing institution).

**Simplifying syndicated loan business**

### **Special requirements for ordinary cover assets for each pfandbrief type**

#### **Public sector pfandbriefe**

The term public sector pfandbrief was not coined until the 1990s, when it replaced the previously customary terms municipal bonds (Kommunalobligation or Kommunalschuldverschreibung). Germany's Pfandbrief Act only permits claims on sovereigns and local and regional governments (sub-sovereigns) or claims on public-law institutions or corporations to be used to provide cover for public sector pfandbriefe if they are either subject to a Maintenance Obligation (Anstaltslast) or Liability Obligation (Gewährträgerhaftung) or explicitly guaranteed by a sub-sovereign entity. Examples of this latter category are claims on public sector development banks or bonds from and monetary claims on public sector companies which are a public-law institution and benefit from Liability Obligation (Gewährträgerhaftung). The Pfandbrief Act lists detailed requirements for potential ordinary cover assets for public sector pfandbriefe; they can be summarised as follows:

**Claims on local and regional governments**

- » Claims on domestic sovereign and sub-sovereign governments or public-law institutions authorised to charge fees, raise levies or impose other taxes.
- » Claims on member states of the EU or of the EEA and/or their central banks and claims on regional and local authorities from member states of the European Union and of the EEA.
- » Claims against British debtors, which are in the cover pool at the time of the departure of Great Britain, will be grandfathered and will remain eligible as cover assets. It is already regulated by law that Great Britain will also be included in the list of eligible third countries upon Brexit, so that new claims from Great Britain can also be eligible as cover assets for the time after the Brexit. However, the Pfandbrief creditors' preferential right in the event of insolvency must be ensured for new British cover assets if they are not to be counted towards the relevant 10 per cent limit.
- » Claims on the United States of America, Japan, Switzerland and Canada or their central banks, on regional and local governments, provided they qualify for Credit Quality Level 1 of the EU Capital Requirements Regulation and Directive (CRR/CRD).
- » Claims on the ECB and other multilateral development banks and international organisations listed in the EU Capital Requirements Regulation and Directive (CRR/CRD).
- » Public sector entities of a EU or EEA member state.
- » Public sector entities within the meaning of the EU Capital Requirements Regulation and Directive (CRD/CRR) domiciled in the United States of America, Japan, Switzerland and Canada, provided they qualify for Credit Quality Step 1 of the EU Banking directive.
- » Claims guaranteed by any of the above states or sub-sovereign entities.
- » Export finance credits benefiting from a guarantee from a public sector institution or government.

#### **Detailed requirements concerning borrowers**

The Treaty Establishing the European Stability Mechanism (ESM treaty) requires the inclusion of collective action clauses (CAC) in the terms and conditions of bonds issued by ESM-treaty signatory states. The documentation governing the sovereign bonds of other countries also includes similar clauses. They allow a retroactive modification of bond terms and conditions (T&Cs), subject to the consent of the majority of the bondholders affected. The Pfandbrief Act makes it clear that sovereign bonds featuring provisions of this kind qualify for use as cover (whether as ordinary cover as in the case of public sector pfandbriefe or as further cover assets for all other pfandbrief categories).

#### **Bonds including collective action clauses are eligible as cover**

### **SME loans and publicly guaranteed export finance as cover for public sector pfandbriefe**

Although unsecured loans to small and midsize enterprises (SMEs) do not qualify as pfandbrief cover assets. Issuers have the option, however, to obtain a guarantee from a public entity (such as KfW) in relation to SME loans; the resulting guaranteed loans satisfy the defined requirements for cover assets backing public sector pfandbriefe. In the same connection, there is another way - frequently used in the past - that allows issuers to include loans relating to SME exports in the cover pool for their public sector pfandbriefe. The precondition is that these export finance arrangements must be guaranteed by, say, Euler Hermes. The use of these guarantees could also permit the inclusion of other assets such as for example aircraft loans or project finance in public sector pfandbrief cover pools in our opinion. In conjunction with Hermes guarantees, serious discussions have been ongoing for some years between the legislator, the regulatory authority, the vdp as the representative of the pfandbrief banks and Euler Hermes. One result of these discussions is that the export credit insurer has been offering a special product for pfandbrief banks since 1 December 2017. This new product is aimed at securing the insolvency pre-emption rights of pfandbrief holders even for claims which are domiciled outside the European Economic Areas (see vdp Infobrief Q1 2018). In future, pfandbrief banks will be able to use an upgraded version of the securitisation guarantee, which also covers the counterparty risks of participating third-party banks.

Source: DZ BANK Research

Export finance credits located outside the EU and guaranteed by a public sector default guarantee must be factored in the 10 per cent cap for loans which do not enjoy the absolute guaranteed preferential claim of pfandbrief creditors in the event of the insolvency of the pfandbrief bank, if the risk of secondary insolvency proceedings over the pfandbrief bank's assets in the third country in question cannot be ruled out with certainty. However, if the public export credit insurance guarantees not only the credit default risk of the export finance debtor but also the preferential claim of pfandbrief creditors on these loans in the event of the insolvency of the pfandbrief bank, then the loans do not count against the 10 per cent cap.

### **Export finance credits with a public sector guarantee in non-European countries**

The Pfandbrief Act allows claims on the public sector entities listed above to be fully recognised in cover calculations, irrespective of the debtor's or guarantor's credit rating. The vdp's member institutions have agreed standards for the recognition of the credit quality of public sector entities in pfandbrief cover calculation, which go beyond the requirements of the Pfandbrief Act. The vdp calls this standardised procedure the "vdp Credit Quality Differentiation Model". When including claims on member states of the EEA and their sub-sovereign entities, vdp member institutions factor rating-based discounts into their cover calculation (a more detailed presentation can be found in the article "The vdp credit quality differentiation model" in the vdp publication "Pfandbrief 2013/ 2014 Facts and Figures about Europe's Covered Bond Benchmark"). The valuation discounts are updated on an ongoing basis. The currently used valuation discounts are shown in the next table.

### **Pfandbrief Act lacks rating rules for public sector debtors**



## RATING-BASED VALUATION DISCOUNTS/ HAIRCUTS IN THE VDP CREDIT QUALITY DIFFERENTIATION MODEL

Rating*	Haircut used until 31 December 2014	Haircut used until 31 December 2015	Haircut used until 31 December 2017	Haircut used until 31 December 2018	Haircut used until 31 December 2019	Haircut used since 1 January 2020
AAA	0%	0%	0%	0%	0%	0%
AA+	0%	0%	0%	0%	0%	0%
AA	0%	0%	0%	0%	0%	0%
AA-	0%	0%	0%	0%	0%	0%
A+	0%	0%	0%	0%	0%	0%
A	0%	0%	0%	0%	0%	0%
A-	0%	0%	0%	0%	0%	0%
BBB+	0%	0%	0%	0%	0%	0%
BBB	0%	0%	0%	0%	0%	0%
BBB-	0%	0%	0%	0%	0%	0%
BB+	9%	10%	11%	9%	8%	7%
BB	11%	12%	13%	11%	11%	10%
BB-	14%	15%	16%	14%	13%	12%
B+	18%	19%	20%	18%	17%	15%
B	21%	23%	24%	21%	20%	19%
B-	26%	27%	28%	26%	24%	23%
CCC	36%	37%	38%	36%	34%	33%
CC	55%	56%	57%	55%	54%	52%
C	80%	81%	81%	80%	79%	79%
D	100%	100%	100%	100%	100%	100%

Source: vdp, presentation DZ BANK Research, as of July 2020, \* ratings of S&P or corresponding Fitch or Moody's rating

**Mortgage pfandbriefe**

The only permitted cover assets for mortgage pfandbriefe are mortgage-backed loans which meet specific conditions. This means for example that only mortgages may be used for cover purposes which are secured on real property, rights equivalent to real property or rights under foreign law which have the same effect as rights equivalent to real property under German law. Further requirements imposed on mortgage loans include mandatory insurance and a loan-to-value (LTV) calculation.

The LTV calculation only recognises the property's long-term sustainable asset value or cost value based on the cost approach (Sachwert) and income value (Ertragswert), and therefore the property's lending value will generally be lower than the market value. The approach for calculating a property's mortgage lending value is specified in detail in the Regulation on the Determination of the Mortgage Lending Value (Beleihungswertermittlungsverordnung or BelWertV). The lending value has to be identified in accordance with the prudential principle, i.e. based solely on the property or land's permanent features and the resulting sustainable yield. The lending value is driven by the income value of the property. The income value is the upper bound for the lending value. If the sustainable asset value for the property is more than 20 per cent lower than the income value, the sustainability of the income generated by the property must be double-checked. In case needed, the income assumption for the property has to be reduced.

The Regulation on the Determination of the Mortgage Lending Value determines the discount factors to be used for the income value, which are derived from the capitalization interest rates. The capitalization interest rates for residential real estate may not be lower than 5 per cent. For commercial real estate at least 6 per cent must be applied, whereby in justified exceptional cases this percentage may be undercut

**Mortgage-backed loans****Cost approach versus income value****Higher capitalisation factors for determining the income value?**



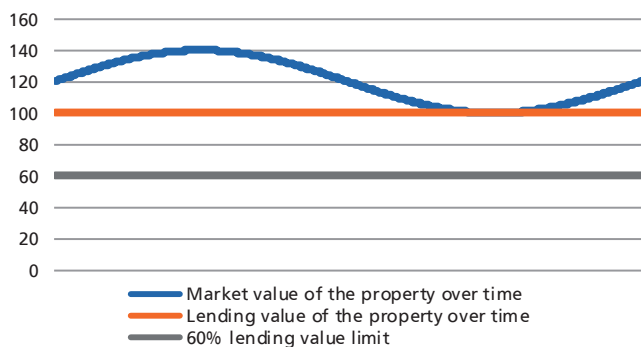
by 0.5 percentage points. Against the background of the sustained fall in interest rates, the vdp had hoped for a debate at the end of 2018 on the level of capitalisation interest rates. As a result of the continuing loose monetary policy, the net initial yields for retail and office buildings in the top segment of the most attractive German cities had fallen to around 3 per cent (as at the end of 2018). Accordingly, there is currently a gap between earnings and market values. The vdp expects that real estate price increases in recent years will not be exaggerated. Lower capitalisation interest rates would also lead to higher income values and thus higher mortgage lending values of the properties due to higher discount factors. This, in turn, would mean that the pfandbrief bank could take a larger proportion of the loan into account in the cover calculation and thus expand the issue volume for mortgage pfandbriefe.

In general the property's lending value does not exceed its market or sale value as it fluctuates over time. The lending value must not contain any speculative element. The lending value has to be identified by an independent appraiser who plays no part in the decision to lend. This person must possess the necessary professional experience and specialist know-how to perform lending value appraisals. The procedures for establishing the lending values of properties in Germany and abroad are subject to the same requirements.

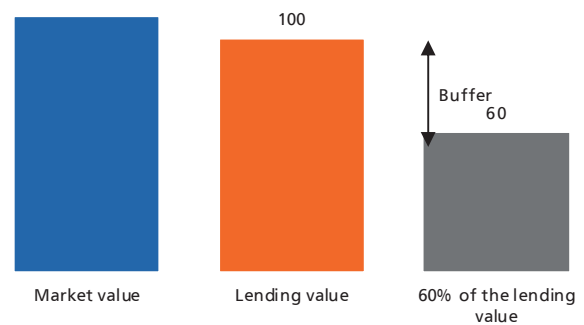
Germany's pfandbrief legislation allows an exception for houses in Germany (owner-occupied). If the building is used partly for commercial purposes, then the proportion of income from this commercial use may not exceed one third of the total gross income generated from the property as a whole. In addition, the loan amount may not exceed 400,000 euros. The amount of such loans in a pfandbrief bank's retail business must factor in potential pre-existing charges on a property. The ceiling is determined by the loan amount to be secured, in other words, the amount of the surety which is entered into the land registry and which is available to the pfandbrief bank. According to the vdp, the bulk of the domestic retail business comes under the small-loans rules (see vdp Infobrief Q4 2015). In such cases, the banks can use a simplified process to calculate the LTV. One concession for small loans is that there is no obligation to carry out a valuation appraisal for the property. In the case of small loans as defined in pfandbrief legislation, simplified documentation is sufficient for the valuation calculation, which can be implemented for example through standardised forms. Automated valuation processes, based on hedonic pricing models, for example, can be used to support the valuation of a home. Assessing the location of the property and its state of upkeep can be done using standardised formulations or through a set scale. A further concession relates to the person carrying out the valuation. The valuer in question must be sufficiently trained; must be independent and may not take the final lending decision. In some cases, it is possible to make do without viewing a property, and external viewing will suffice.

**Lending value calculation only takes into account a building's permanent attributes**

**Less stringent requirements for loans falling below small-loan threshold**

**LENDING VALUE ONLY REFLECTS BUILDING'S PERMANENT ATTRIBUTES**

Source: vdp, presentation DZ BANK Research

**60 PER CENT LTV LIMIT OFFERS ADDITIONAL PROTECTION**

Source: DZ BANK Research

What is special about the lending value concept is that the figure in question should apply over the full term of the loan. The Regulation on the Determination of the Mortgage Lending Value does not affect other laws requiring regular reviews of property valuations, however. Above all in the case of commercial property for example, it is mandatory for the assumptions underlying valuations to be regularly tested. If there is any question about their accuracy, then the lending value may also need to be reassessed. As a rule, therefore, in context of the pfandbrief legislation potential changes in loan to value only arise because the loan is repaid. Increases in value through a rise in property prices (resulting from a rise in market values) have no effect on a property's lending value or therefore on the loan's LTV. However, should property prices fall significantly in a region, then the lending values for properties in this region have to be reviewed and adjusted if necessary. This strategy for accommodating market fluctuations treats a price fall of at least 20 per cent for residential property (minimum of 10 per cent in the case of commercial property) as the threshold which triggers a revaluation of the properties.

**Sharp fall in prices triggers revaluation**

Article 208 (3) CRR which has been in force since 2014 sets out a three-step process in connection with monitoring property values in the context of the credit business. The first step e.g. using statistical methods such as the concept of market changes for commercial (every year) and residential property (every three years) checks whether there are indications of any sustained and significantly fall in house prices. In Germany, granular models have become established which highlight price fluctuations for several types of properties based on postal costs. If there has been a sharp fall in property prices (10 per cent for commercial properties and 20 per cent for residential properties), then the second step in the monitoring process will involve a review of the property valuation. The review must be carried out by a valuer who is independent from the credit decision process and property qualified. Should the review confirm the significant fall in value indicated by the model, then in a third step, a revaluation of the property must be carried out. In order to meet CRR requirements, the market value is used to monitor the lending value of a property, which is per se is conceived as being separate from temporary fluctuations in the market. If the market value of a property falls below the lending value after a revaluation, then its lending value must be reviewed and, where appropriate, the property must be revalued if fluctuations in market price are regarded as lasting.

**Market changes concept as first step in the monitoring process**

# ILLUSTRATIVE LENDABLE VALUE CALCULATION: TWO PILLARS PRINCIPLE USING THE EXAMPLE OF A NEWLY-BUILT OFFICE BUILDING

Income approach (first pillar)		Cost approach (second pillar)	
Land value		Land value	
600 square meter à 5,200 Euro per square meter	3,120,000 Euro	600 square meter à 5,200 Euro per square meter	3,120,000 Euro
Gross income		Value of the building	
2,000 square meters of office space à 30 Euro per square meter and month sustainable rent	720,000 Euro	Building costs: 11,500 cubic meters à 520 Euro per cubic meter	5,980,000 Euro
15 underground parking spaces à 110 Euro per parking space and month	19,800 Euro	Depreciation (0 Euro, as new building)	0 Euro
Gross annual rent	739,800 Euro	Subtotal	5,980,000 Euro
Less operating expenses (costs that are not allocable to tenants)		Plus costs of the outside area (3 per cent)	179,400 Euro
- Management costs (3 per cent of gross income)	22,194 Euro	Subtotal	6,159,400 Euro
- Maintenance costs	31,125 Euro	Less safety margin pursuant to section 16 (2) BelWertV of 10 per cent	615,940 Euro
- Loss of rental income risk (4 per cent of gross income)	29,592 Euro	Subtotal	5,543,460 Euro
Total operating expenses	82,911 Euro	Plus incidental building costs pursuant to section 16 (3) BelWertV of 16 per cent	886,954 Euro
In per cent of gross income	11.2 per cent	Value of the building	6,430,414 Euro
Minimum operating expenses according to BelWertV	15.0 per cent	Land value	3,120,000 Euro
Stated operating expenses	110,970 Euro	<b>Depreciated replacement cost value**</b>	<b>9,550,414 Euro</b>
Net annual income	628,830 Euro	<b>Depreciated replacement cost value (rounded)</b>	<b>9,550,000 Euro</b>
Capitalisation rate: 6.00 per cent			
Expected return on land	187,200 Euro	Income value / depreciated replacement cost value - 1	6.83 per cent
Net income of building	441,630 Euro	The depreciated replacement cost value is only 6.83 per cent below the income value (which is less than 20 per cent), therefore the lending value is based on the income value (the sustainability of the income generated by the property has not to be double-checked in this case).	
Income value of the building*	7,136,741 Euro		
Land value	3,120,000 Euro		
<b>Income value*</b>	<b>10,256,741 Euro</b>	<b>Mortgage lending value (income properties)</b>	<b>10,250,000 Euro</b>
<b>Income value (rounded)</b>	<b>10,250,000 Euro</b>	<b>Inclusion in cover (lending limit 60 per cent)</b>	<b>6,150,000 Euro</b>

Source: vdp, presentation DZ BANK Research, BelWertV = determination of the mortgage lending value or Beleihungswertermittlungsverordnung,

\* capitalisation rate 6 per cent, remaining useful life 60 years, multiplier 16.16 according to Annex IV of BelWertV, \* income value (Ertragswert), \*\* cost value or sustainable asset value (Sachwert)

The prudential principle which is reflected in the lending values has the effect of smoothing LTV changes over time. Rising or moderately falling property prices do not affect the current LTV. Another objective of the lending value rules is to achieve cautious property valuations which are sustainable in the long term. However, this comes at the cost of transparency, since lending-value based LTVs do not reflect current property values.

Under the terms of the Pfandbrief Act, only first-lien mortgage loans with the first ranking 60 per cent of the property's lending value may be used as cover for mortgage pfandbriefe. This ceiling applies irrespective of whether the loan is on a residential-use or commercial-use building. Although loans whose current LTV is above 60 per cent can be included in the cover pool, the cover they provide is calculated solely on the prime portion of the loan up to the 60 per cent limit (soft LTV limit); this is because the pfandbrief creditors' preferential claim over the loans in the event of the pfandbrief bank's insolvency is capped at this 60 per cent ceiling. We regard this regulation as an extremely strong provision which protects pfandbrief creditors.

Fitch's report "Market vs. Mortgage Lending Values in Pfandbriefe" of 4 September 2017 highlights the advantages of the mortgage lending value (MLV) in relation to the market value of a property from a lending point of view. The use of the MLV in conjunction with a loan to mortgage lending value (LTMLV) limit of 60 per cent under

## Lending-value concept smoothes LTV trend

## Blanket LTV ceiling of 60 per cent

## Fitch analysis confirms positive impact of LTV concept

the Pfandbrief Act creates a substantial safety cushion for cover assets. In the report of September 2017 mentioned above which takes into account the mortgage pfandbriefe valued by Fitch at that time, the agency comes to the conclusion that house prices could fall by 50 per cent without the loans in the cover pool suffering any losses. Fitch highlights two reasons for this. Firstly, the LTMVT would not be above market value from the time of its conception, but rather below that; and secondly, any later increases in house prices would create a buffer for the valuations. As mentioned, any later increase in property values is not factored in subsequently into the original LTMVLV. However, the agency stresses that these buffers would disappear again in the event of falling property prices.

#### LENDABLE VALUE CONCEPT GENERATES VALUATION RESERVES WHEN HOUSE PRICES RISE

	Example 1: Property is not revalued	Example 2: Property is revalued
LTV limit	60 per cent	60 per cent
Loan size	90	90
<b>Starting situation:</b>		
- Property value	100	100
- Qualifying loan value for cover pool purposes	60 (= 100 * 60 per cent)	60 (= 100 * 60 per cent)
percentage house price can fall by before the cover pool suffers a potential liquidation loss	40 per cent (= (100 - 60)/100)	40 per cent (= (100 - 60)/100)
<b>Position after house prices rise by 50 per cent:</b>		
- New property value	150	150
- Qualifying loan value for cover pool purposes	60 (= 100 * 60 per cent)	90 (= 150 * 60 per cent)
percentage house price can fall by before the cover pool suffers a potential liquidation loss	60 per cent (= (150 - 60)/150)	40 per cent (= (150 - 90)/150)

Source: Moody's, presentation DZ BANK Research

Moody's also highlights two strengths of the German approach - the 60 per cent LTV ceiling (strict by international standards) and the conservative valuation rules which flow from the Determination of the Mortgage Lending Value. The study "German Mortgage Covered Bonds: Pfandbrief Act is Conservative in its Treatment of Rising House Prices" of 24 June 2013 uses a numeric example to demonstrate how, in a rising property market, the lending value concept leads to a gradual accumulation of valuation reserves which ultimately bolster the security of pfandbrief creditors (see example one in the following table). In other countries, rises in house prices can be used to increase the portion of the mortgage which is eligible as collateral. Rises in house prices therefore lead (more or less automatically) to an increase in the size of the cover pool (see example two in the table above), a fact which hampers the build-up of latent valuation reserves as in the case of the German LTV concept.

**Also Moody's highlights lending value concept as positive factor**

As with public sector pfandbriefe, mortgage pfandbriefe are also subject to geographical restrictions on top of the cover asset requirements discussed. Cover assets need to originate in the European Economic Area, Australia, Canada, Japan, New Zealand, Singapore, Switzerland or the US. Claims against British debtors, which are in the cover pool at the time of the departure of Great Britain, will be grandfathered and will remain eligible as cover assets. It is already regulated by law that Great Britain will also be included in the list of eligible third countries upon Brexit, so that new claims from Great Britain can also be eligible as cover assets for the time after the Brexit. However, the Pfandbrief creditors' preferential right in the event of insolvency must be ensured for new British cover assets if they are not to be counted towards the relevant 10 per cent limit

**Geographical restrictions**

As already mentioned earlier, only mortgages on land, or leasehold rights or similar rights under a foreign legal system can be used as cover assets which are comparable with leasehold rights under German law. In 2005, the vdp formed a round table which regularly carries out a comparison of international security rights over real property. The method used is described in the article by Andreas Luckow "Grundpfandrechte – internationaler Vergleich auf einen Blick" in the magazine Immobilien & Finanzierung issue 03 – 2016. A detailed description can be found in volume 54 of the vdp publication series "Grundpfandrechte 2016 in Europa und darüber hinaus". The analysis is well thought out and very soundly based. The panel of international experts sitting at vdp's round table works out a standardised set of questions for each country. Responses are evaluated using a scoring process designed to enable a comparison of different legal systems. The comparison looks at four different perspectives, which are then combined into a whole. At first, the four perspectives take into account the various interests of the lending bank, of the borrower, of the subordinated and unsecured creditors and the general applicability of the security rights, separately from one another.

- » Bank's perspective/enforcement: the issue here is how quickly the holder of a mortgage could exploit the security and get proceeds in line with its ranking.
- » Perspective of the owner of the property: the interests of the owner of the property are diametrically opposed to the interests of the lending bank in questions of realising the value of an asset. All legal frameworks try to ensure that there is a reconciliation of interests in order to ensure a fair enforcement process.
- » Bank's perspective/usability: As regards the issue of the usability of a mortgage, the interests of the borrower and lender are fairly even. The issue here is how flexibly the mortgage can be used. For example, can it be used for several exposures? In this case, vdp's round table comes to the conclusion that non-accessory mortgages which envisage a separation between the loan claim and the mortgage and which are linked through a security agreement offer crucial advantages.
- » Perspective of the legislator: this regroups aspects such as how the legislator reconciles interests between the parties involved and how it protects the rights of subordinated or unsecured lenders.

Taking the assessment of vdp's round table as a whole, the security rights which ultimately form the basis for securing the mortgage pfandbrief stand out especially well in Germany, Norway, Sweden and Switzerland. In contrast, security rights in Belgium, Italy and Slovakia have the weakest rating (as of 2017). The laborious, detailed and very soundly-based analysis carried out by vdp's round table shows just how multi-tiered the role of security rights is. The analyses also show how much individual legal frameworks can differ and that a closer look at these issues is well worth it.

There are provisions under the Pfandbrief Act for mandatory insurance against risks depending on the type and location of a building if loans in the cover pool are secured against these properties. In the event of the pfandbrief bank becoming insolvent, the insurance benefits also stand the pfandbrief creditors in good stead. In practice, these general building-insurance requirements come up against real life which is where there are always new challenges for pfandbrief banks in the international lending business through changes in the insurance industry. It is often impossi-

**Foreign mortgages must be comparable with German law**

**Enforcement**

**Factoring in the interests of the borrower**

**Advantages for non-accessory mortgages**

**Format of reconciliation of interests**

**Marked differences in individual legal systems**

**Building insurance mandatory**

disasters such as tornadoes and flooding at replacement value of the property. However, using statistical methods and based on location, it is possible to predict fairly accurately the probable maximum loss, or PML, depending on the fabric of the building. The total sum insured can then be set based on the PML. Companies which own several buildings often take out a blanket insurance for all the buildings. If the buildings are located in different places for example, the total sum insured in the policy is not calculated simply by adding the value of all the buildings. The total sum insured can be smaller because of an imperfect correlation between the probability of fire damage for example happening to all properties at the same time.

In addition, some property owners agree an excess for their building insurance which aims to reduce the insurance premium. The Pfandbrief Act takes these aspects into account in so far as it allows three options with regard to level of insurance:

- » expected replacement costs of the building;
- » probable maximum loss which is very unlikely to be exceeded,
- » respective outstanding claims on the loan.

A more detail presentation of this issue can be found in the article by Andreas Luckow on new arrangements for building insurance for cover assets for mortgage pfandbriefe "Neuregelung der Gebäudeversicherung bei Deckungswerten für mortgage pfandbrief" in Immobilien & Finanzierung, issue 03 - 2015 of February 2015.

### Ship pfandbriefe

Loan rights backed by ship mortgages qualify to serve as ordinary cover assets for ship pfandbriefe. The loans may only relate to ships or ships under construction which are recorded in a public register. The loan term may not extend beyond 20 years from launch. The regulator may permit exceptions in individual cases. Loans secured by foreign registered ships or ships under construction can only be included in the cover pool under certain conditions defined by the Pfandbrief Act. Ships and ships under construction have to be insured for at least one hundred and 10 per cent of the loan's residual sum through the term of the loan.

The calculation of the lending value of ships and ships under construction is also subject to explicit rules, including the same 60 per cent LTV ceiling for assets that applies to mortgage pfandbriefe. The lending value for ships and ships under construction must be determined by an independent and expert appraiser. The valuation must take account of the ship's long-term characteristics (permanent features) as well as its age and possible uses. The valuation process must include an inspection of the ship. The calculation of the ship's lending value must have regard to the following four market values/prices:

- » The current market value is an estimate for the price that a ship might fetch in the normal course of business on the valuation date, when both buyer and seller are acting with the requisite prudence and without duress (i.e. no fire sale).
- » The average market value refers to the average market value fetched by comparable ships over the ten years preceding the year of valuation.

### Excess reduces insurance premium

### Rights in ships and ships under construction

### 60 per cent LTV and duty to insure

### Current market value

### Average market value



- » The new-build price is the construction price agreed with the yard plus reasonable standard add-on costs.
- » The purchase price is the contractually agreed price for acquiring the ship being valued.

#### **New-build price**

#### **Purchase price**

The ship's lending value may not be higher than the current and/or average market value. If the average market value for the last ten years cannot be established, then additional safety discounts must be applied: either 15 per cent (if the average relates to less than ten but more than three years) or 25 per cent (if the average is based on three years or less). If neither the current nor the average market value can be determined, then another suitable method must be used, but in this case, the ship's lending value must not exceed 75 per cent of the new-build price or purchase price.

#### **Ship's lending value based on lower of cost or market principle**

The ship's lending value should reflect its long-term value. If however there should be good reason subsequently to question whether the assumptions underlying the valuation might not have deteriorated significantly, then these assumptions must be tested and amended if necessary. The Regulation on the Determination of the Mortgage Lending Values of Ships and Ships under Construction (Schiffsbeleihungswertermittlungsverordnung) stipulates that this applies particularly in cases where the general market price level has fallen sharply. As with property loans, the Regulation on the Determination of the Mortgage Lending Values of Ships and Ships under Construction does not affect other laws requiring regular reviews of ships' lending values.

#### **Fall in price can trigger revaluation**

### **Aircraft pfandbriefe**

Loans secured by a right in rem in aircraft (aircraft mortgage) qualify as ordinary cover assets for aircraft pfandbriefe. Only aircraft recorded in a public register are eligible. The registered lien or foreign aircraft mortgage must also cover the engines, which account for a large proportion of the value of an aircraft. As we saw with ship mortgages, the duration of the loan on an aircraft may not exceed 20 years. The regulatory authority can allow exceptions in individual cases. Loans secured by foreign registered aircraft may also be included in the cover pool under certain conditions defined in the Pfandbrief Act. The aircraft must be insured throughout the term of the loan for at least one hundred and 10 per cent of the respective loan outstanding.

#### **Aircraft mortgages which extend to the engines**

As in the case of property and ship loans, the aircraft loan may not exceed the first 60 per cent of the value of the aircraft (aircraft lending value) in order to qualify as cover asset. The underlying lending value of the collateral for aircraft pfandbriefe is also subject to explicit rules defined in the Regulation on the Determination of Aircraft Lending Values (Flugzeugbeleihungswertermittlungsverordnung), and these are similar to the provisions governing ships. The aircraft lending value must be determined by an independent expert appraiser. The valuation must focus on the aircraft's long-term features. In contrast to the methodology for identifying the lending values of ships, the process for aircraft essentially focuses on the market price and the average market price in the last ten years along with the plane's value given well-balanced market conditions and in relation to the aircraft's average state (the aircraft's estimated value factoring in its maintenance condition). The lending value shall not exceed any of these three figures. If the average market price of the last ten years is not available, then the value based on the aircraft's average state is assumed to be the lending value, subject to a 10 per cent markdown. As we saw with the valuation of real property and ships, the valuation of aircraft is also subject to possible review. The

#### **Independent expert must appraise the aircraft's value**



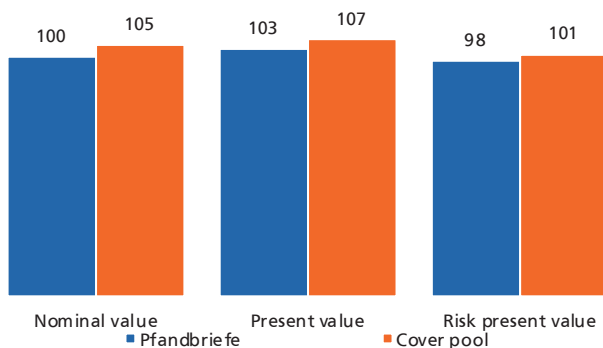
Regulation on the Determination of Aircraft Lending Values cites strong fluctuations in aircraft prices as one reason which could make a revaluation necessary. However, the Regulation does not affect other rules requiring the review of aircraft lending values.

### Transparency regulations applying to quarterly reports

Investors information needs have increased over the last years. The legislator is trying to meet the greater needs of investors for information by repeated additions to the existing reporting obligations of pfandbrief issuers in order to improve transparency with respect to the composition of the cover pools for market participants through every amendment. All pfandbrief banks are required to publish a minimum standard of information on the outstanding pfandbriefe and cover assets in a publicly accessible form on a quarterly basis. For example, the Pfandbrief Act requires the pfandbrief banks to disclose the respective total volume of the outstanding pfandbriefe in each category as well as the corresponding cover pools in the amount of the nominal value, the net present value and the risks-adjusted net present value. In the case of the risk-adjusted net present value, only the result of the stress scenario which leads to the smallest over-collateralisation has to be disclosed. The pfandbrief banks must also provide a breakdown of the maturity structure (broken down by fixed-interest periods) of the pfandbriefe and of the cover pools in the given maturity bands. Cover assets and pfandbriefe with a fixed-interest period of up to 24 months must reported in four bands of six months each. This is followed by three further maturity bands of one year each up to a maximum fixed-rate term of five years. The last two maturity bands are five to ten years and over ten years. In order to give investors a feeling for possible interest-rate or currency mismatches in the context of a bank's pfandbrief business, mandatory disclosures include a breakdown of the cover pool and outstanding pfandbriefe based on fixed and variable rates. In addition, the net present value of open currency positions between cover assets and pfandbriefe has to be disclosed and the current net present value of the derivatives in the cover pool must be disclosed.

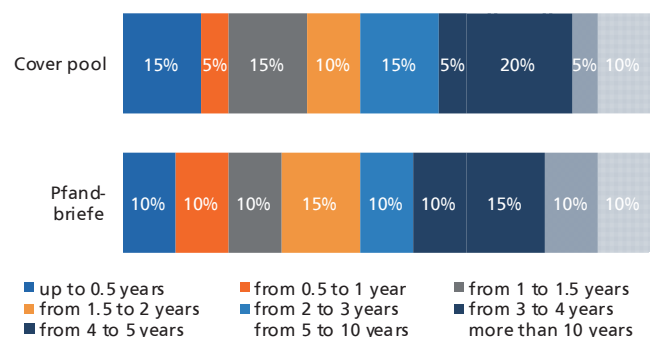
### Mandatory reporting statutes

**AGGREGATED COVER POOL AND OUTSTANDING PFANDBRIEF VALUES**  
ARBITRARY NUMERIC EXAMPLE: IN EURO



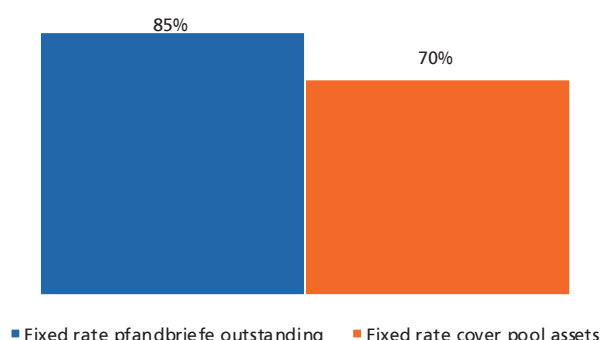
Source: DZ BANK Research

**FIXED-INTEREST PERIODS OF COVER POOL AND OUTSTANDING PFANDBRIEFE**  
ARBITRARY NUMERIC EXAMPLE



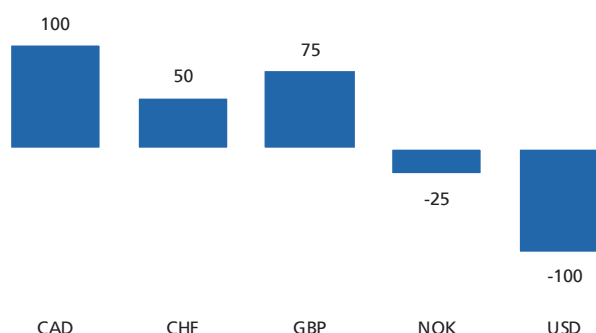
Source: DZ BANK Research

#### INTEREST ON THE COVER POOL AND OUTSTANDING PFANDBRIEFE ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

#### CURRENCY MISMATCHES BETWEEN PFANDBRIEFE AND COVER POOL ARBITRARY NUMERIC EXAMPLE: NET PRESENT VALUE IN EURO



Source: DZ BANK Research

Issuers are required to report separately for each pfandbrief type the aggregate amount of non-performing loans (in arrears by over 90 days). This shall solely include loans whose arrears are equivalent to 5 per cent or more of the total claim on the loan in question. In addition, the geographical breakdown of the cover pool by country also has to be disclosed. This must include details of ordinary and further cover assets.

#### Information on non-performing loans and geographical breakdown

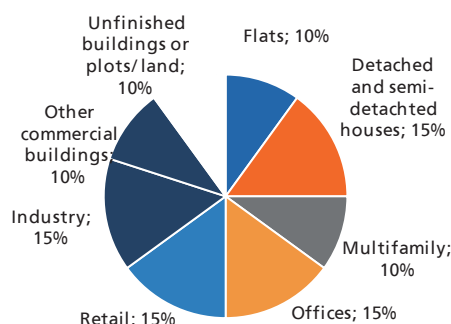
Issuers are also required to report the amount of assets which form part of the cover pool but against which they cannot issue pfandbriefe because of restrictions or ceilings imposed in the Pfandbrief Act. One such example would be further cover assets; their percentage share in the cover pool is capped by the Pfandbrief Act. If for example, the proportion of further cover assets in the cover pool should exceed the statutory ceiling, then these surplus further cover assets must be reported separately. In addition, there is also a cap on the amount of cover pool assets located outside the EEA for which preferential claim of pfandbrief creditors in the case of bankruptcy of the issuer is not established beyond doubt. Pfandbrief banks are required to report any breaches of this ceiling. Moreover, there are further regular disclosure requirements for each pfandbrief type.

#### Assets which exceed defined caps to be shown separately

Issuers have to disclose the breakdown of the property loans in their mortgage pfandbrief cover pool by property type and loan receivables volume. They must also disclose the volume-weighted average seasoning of the loans in the cover pool. This figure is to be reported on an aggregated basis for all the property loans and not separately for residential and commercial property. The seasoning figure is an interesting parameter above all in the case of owner-occupied homes. Empirical data and statistics show that the longer a household services its loan, the more the probability of this borrower falling into arrears dwindles over time. In our view and in principle, it would therefore be better to show the seasoning of home loans and commercial loans separately. However, this poses a practical difficulty, namely in which category to assign mixed-use properties. A borderline case could be for example that of a self-employed architect who lives and works in the same building, which also serves as collateral for the loan.

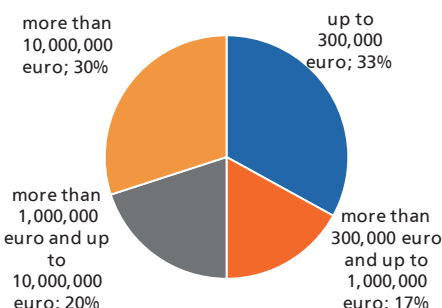
#### Specific information on mortgage pfandbriefe

**MORTGAGE PFANDBRIEF: STRUCTURE OF COVER POOL PROPERTY LOANS BY PROPERTY TYPE**  
ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

**MORTGAGE PFANDBRIEF: BREAKDOWN OF LOANS BY SIZE CATEGORY**  
ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

Pfandbrief banks are also under obligation to report regularly the average LTV of the cover pool backing their mortgage pfandbriefe. In the following table, we have shown an illustrative calculation for the average LTV.

#### ILLUSTRATIVE LTV CALCULATION

	Loan 1	Loan 2
Prime mortgage	20	400
Second-lien mortgage	80	600
Lendable value	100	1.000
Reckonable value of primary-lien loan	20	400
Reckonable value of secondary-lien loan	30	550
LTV of prime cover loan*	20 per cent	40 per cent
LTV of secondary cover loan**	50 per cent	60 per cent

Source: DZ BANK Research

\* LTV of prime loan: reckonable value of prime loan relative to lendable value.

\*\* LTV of secondary loan: reckonable value of secondary loan plus the value of the prime loan relative to lendable value. Both are subject to an absolute top limit of 60 per cent (statutory limit on the recognition of mortgages as collateral in mortgage pfandbrief cover pools).

A loan's LTV is calculated by setting the loan principal against the lending value of the plot of land or property, including any up-front expenses. Only the loan components recognised for cover-calculation purposes feed into the LTV calculation; in other words, no loan's LTV will ever exceed the statutory ceiling of 60 per cent. The loans are weighed with the respective current principal. In the example shown below (which assumes that all loans are recognised in the cover pool as far as possible), the average LTV comes out at 59.2 per cent.

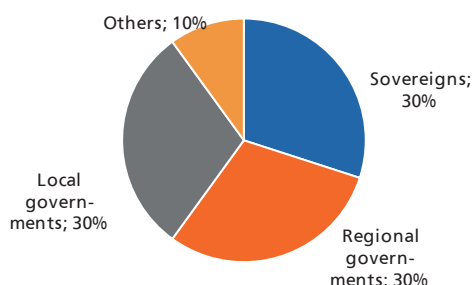
In the case of public sector pfandbriefe, a breakdown of municipal and state loans in the cover pool by borrower type must be disclosed in line with the structure level of the regional and municipal authority. Issuers must also disclose the proportion of export finance credits with a public guarantee in the cover pool. Although the specific state level guaranteeing the export financing is not explicitly disclosed, it is fair to assume that, as a rule, the central government guarantees that the terms of the loan are met in the case of public sector guaranteed export finance credits. The claims must also be split by group size, although the breakdown of these groups is different from what it is in the case of mortgage pfandbriefe.

#### Illustrative average LTV calculation

#### Weighting with loan value

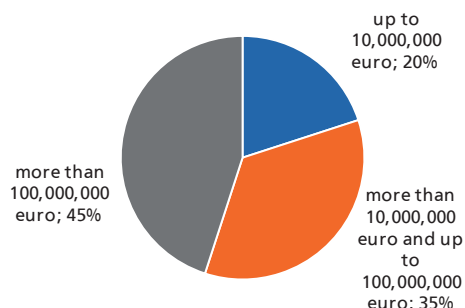
#### Proportion of public sector guaranteed export finance credits must be disclosed

**PUBLIC SECTOR PFANDBRIEF: STRUCTURE OF COVER POOL STATE-SECTOR  
LOANS BY BORROWER TYPE**  
ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

**PUBLIC SECTOR PFANDBRIEF: BREAKDOWN OF LOANS BY SIZE**  
ARBITRARY NUMERIC EXAMPLE

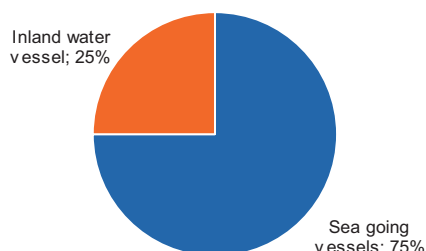


Source: DZ BANK Research

The statutory requirements in the context of transparency rules for aircraft and ship pfandbriefe are less detailed than they are in the case of mortgage pfandbriefe. In the case of ship pfandbriefe, issuers are merely required to disclose whether the ships used as collateral for the mortgage are sea-going or inland waterway vessels. In the case of aircraft pfandbriefe, there is not even a roughly comparable breakdown of the cover assets by type of aircraft. The pfandbrief bank merely has to indicate the share of aircraft mortgages in relation to the cover assets overall. In the case of aircraft and ship pfandbriefe, claims also have to be broken down into the prescribed size categories, whereby other size categories apply than in the case of mortgage and public sector pfandbriefe. Pfandbrief banks which issue aircraft and ship pfandbriefe often give detailed information of cover assets in investor presentations and therefore go beyond legal requirements. The low level of detail required by the Pfandbrief Act in the case of these pfandbrief types may reflect the fact that they are both niche products in the pfandbrief market.

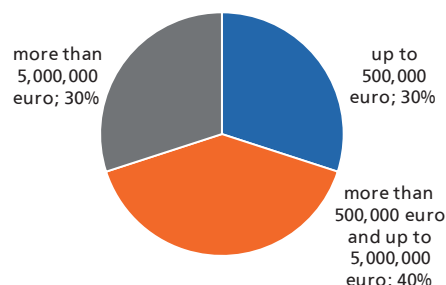
**Few details in the case of aircraft and ship pfandbriefe**

**SHIP PFANDBRIEF: BREAKDOWN BY TYPE OF SHIP**  
ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

**AIRCRAFT AND SHIP PFANDBRIEF: BREAKDOWN OF LOANS BY SIZE**  
ARBITRARY NUMERIC EXAMPLE



Source: DZ BANK Research

For years now, the vdp has provided the compulsory disclosures of its member institutions on their pfandbrief programmes in standardised form on its website. Reports can now be found on the vdp's website which conform with an international standard of the Harmonised Transparency Template (HTT) for over half the vdp member banks. The Covered Bond Label launched by the ECBC assumes regular reporting in the HTT. Only a few pfandbrief bank carry the Covered Bond Label. The major of vdp

**Information can be downloaded centrally from the websites of banking associations**

pfandbrief banks voluntarily provide quarterly reports in HTT format on top of their statutory disclosures, even without a covered bond label. Detailed information on the cover pools of individual pfandbrief banks can also be found in DZ BANK Research's "Covered Bond Monitor: Germany".

Moody's examined the reporting obligations of the Pfandbrief banks set out in paragraph 28 of the Pfandbrief Act (see Moody's study "Pfandbriefe lead the way in market transparency" of 16 December 2019). The agency positively emphasizes the wealth of data available in the quarterly reports. Moreover, the data quality of the reports would be very high due to the strict monitoring of the Pfandbrief banks by the cover pool monitor and the supervisory authority (BaFin). In the study, the agency sets out in detail the credit relevance of the data. With the paragraph 28 information provided by the pfandbrief banks and the other statutory regulations in mind, Moody's calculated the credit default risks for the cover pool in the event of the issuer's insolvency for a stressed scenario for the mortgage pfandbriefe of some banks. The result of this is the collateral score, which reflects the possible losses due to loan defaults as a percentage. For a cover pool with mainly owner-occupied home financing, this gives a collateral score of 10 per cent, and in the case of mixed cover pools with residential and commercial mortgages, the corresponding figure is 24 per cent. Even if the credit analysis is possible on the basis of the paragraph 28 information, the results are significantly higher and therefore more cautious than in the case where the issuer provides the information requested by the agency in full. The average collateral scores are then reduced to 3 per cent and 9 per cent respectively (based on data as of 2019).

**Moody's praises the available information for German pfandbriefe and the data quality**

AVERAGE COLLATERAL SCORES FOR MORTGAGE PFANDBRIEFE

	Data basis: Report in accordance with paragraph 28 PfandBG and taking into account further provisions in the PfandBG	Data basis: Moody's information catalogue for the agency's regular performance reviews
Predominantly home financing	10%	3%
Mixed mortgage portfolios	24%	9%

Source: Moody's, representation DZ BANK Research, status 2019

**Independent monitoring by cover pool monitor**

A new concept in German pfandbrief law was created as long ago as 1899 to oversee compliance with statutory cover requirements, namely the cover pool monitor (Treu-händer). As was the case back then, every pfandbrief bank is still required to appoint a cover pool monitor and at least one deputy for this post, whose task it is to ensure that the cover register is properly maintained and to check the prescribed cover for the pfandbriefe. The appointment is made by the BaFin after consultation with the pfandbrief bank. The cover pool monitor operates independently to ensure compliance with the statutory and supervisory requirements relating to the pfandbrief cover. The pfandbrief bank needs the prior consent of the cover pool monitor to issue new pfandbriefe or to remove assets from the cover pool. Prior to the issue of new pfandbriefe, the cover pool monitor is required to issue a certificate confirming that there will still be sufficient cover after the issue to comply with statutory requirements.

**Cover pool monitor checks compliance with statutory requirements on ongoing basis**

In order to enable the cover pool monitor to perform his duties, he is empowered at any time to inspect any bank documents that are relevant to pfandbriefe and to ask for any information about the bank's outstanding pfandbriefe and the assets entered in the cover register. In addition, the Pfandbrief Act also stipulates that both the cover

**Extensive information rights**

pool monitor and its deputies must have the expertise and experience necessary to perform their duties. The Pfandbrief Act does not explicitly stipulate any formal qualification requirement such as chartered tax adviser or accountant. The law only voices the assumption that a qualification as certified auditor or sworn accountant would suggest that the "requisite expertise is given".

### Special supervision by BaFin

In addition to its independent control through a cover pool monitor, BaFin also exercises a special public supervisory role over a bank's pfandbrief business. Pfandbrief issuers are therefore not only subject to supervision by the relevant banking authorities such as the ECB as banks, but also subject to special supervision by BaFin in relation to their pfandbrief business. BaFin is empowered to issue any instructions that are appropriate and necessary for the operations of the pfandbrief bank to continue to comply with the Pfandbrief Act and any related ordinances. Of crucial importance is the right of the supervisory authority to audit samples of pfandbrief cover pools in order to check their compliance with legal requirements. As a rule, these checks take place once every two years (for more details, see article "The supervision of Pfandbrief banks" in the vdp's publication "The Pfandbrief 2013/2014 Facts and Figures about Europe's Covered Bond Benchmark").

In addition, BaFin is empowered at any time to take measures of its own such as issuing recommendations for management or appointing monitors for the cover pool. BaFin proposes a cover pool administrator (Sachverwalter) at the latest at the start of the insolvency of a bank. For a more detailed discussion of the role of the administrator and provisions in the event of a pfandbrief bank's insolvency, see the later section "Administrator of a pfandbrief bank with limited business activities".

Under the European banking union framework, the ECB took over the supervision of some, but not all, pfandbrief banks in November 2014. At the same time, within the context of the reporting system on the economic situation of cover pools and of the special supervision of the German pfandbrief market, the BaFin is in a strong position, including for banks for which the ECB has taken over responsibility. As the responsible regulatory and supervisory authority for the German banks' pfandbrief business, BaFin has the power to define specific cover add-ons for each individual cover pool. The intention is to give the BaFin administrative power to order a cover add-on if it considers the general statutory minimum over-collateralisation requirement to be inadequate to the task in light of the cover pool's specific composition. This is intended to give BaFin the ability to react to individual variations in the collateralisation of pfandbrief liabilities. The rationale for this part of the Pfandbrief Act cites the following examples of when a higher minimum cover requirement might be justified:

- » The cover pool assets' market values deviate considerably from the value assumptions factored into the cover calculation.
- » There are significant risk concentrations in the cover pool.
- » The cover pool contains a considerable proportion of assets whose intrinsic value depends on the solvency of companies associated with the pfandbrief bank.
- » Significant interest and exchange-rate mismatches exist between the cover assets and pfandbrief liabilities where these are not already adequately taken into account through the requirement to provide appropriate risk cover based on the risk-adjusted cover calculation.

**BaFin usually audits cover pools every two years**

**BaFin also plays key role in the event of issuer insolvency**

**Information rights and intervention powers for BaFin**

Potential mismatches between outstanding pfandbriefe and the cover pool assets are likely to play a central role in the imposition of individual cover add-ons. A difficult issue to judge, although luckily purely hypothetical so far, is how a bankruptcy court which has appointed a cover pool administrator would rule on the possible transfer of parts of the cover pool to the bankrupt estate. There are considerable hurdles in the way of reassigning cover pool assets. At the same time, however, the potential official imposition of a minimum over-collateralisation for a pfandbrief bank by BaFin is a strong statement which a bankruptcy court is likely to take into account when ruling on this issue.

#### **Administrator of a pfandbrief bank with limited business activities**

In the event of the issuer's insolvency, a pfandbrief bank's cover pools become a pfandbrief bank with limited business activity. In spite of its insolvency, the original issuer remains the legal entity responsible for the cover pool. After the insolvency of the pfandbrief bank, it is no longer represented by its executive board but rather by a cover pool administrator. At the request of BaFin, the competent court shall appoint one or two natural persons to act as cover pool administrator. A cover pool administrator can even be appointed by the competent court before the pfandbrief bank defaults if BaFin deems this necessary. The administrator shall continue to conduct the pfandbrief bank's pfandbrief operations separately from the bank's bankruptcy estate as an insolvency-free fund. The pfandbriefe shall not automatically be called in for redemption upon opening of insolvency proceedings against the pfandbrief bank; instead, they shall be repaid in line with the originally agreed maturity from cover pool cash flows. In addition, the pfandbrief creditors will not be involved in any potential restructuring process of the issuer. Pfandbrief creditors are therefore not forced to forfeit part of their secured claims against the issuer in order to participate in the bank's rescue (bail-in).

The number of pfandbrief banks with limited business activities corresponds to the number of cover pools. If a pfandbrief bank has several cover pool registers, for example one for public sector pfandbriefe and one for mortgage pfandbriefe, then there will be one pfandbrief bank with limited business activities for each cover pool after the issuer's insolvency. The administrator therefore performs legal transactions required to wind up the cover pool while ensuring the full and timely satisfaction of the pfandbrief creditors. The administrator may assign all or parts of the cover pool together with the corresponding pfandbriefe to another solvent pfandbrief bank. In this case, the solvent pfandbrief bank would assume the liabilities arising from the pfandbriefe of the original pfandbrief bank and take over the administration of the cover pool. Should it prove impossible to find a solvent pfandbrief bank, then the administrator shall oversee an orderly run-off the cover assets. Only when all the pfandbrief creditors' claims have been satisfied in full can any remaining cover assets be used to meet the claims of the bank's other creditors.

The liquidation of the cover pools can give rise to liquidity risks if the duration of the cover assets exceeds that of the outstanding pfandbriefe. The refinancing risks arising from liquidity gaps are a particular focus of attention for the rating agencies which see this as a major source of risks in their rating analysis. The Pfandbrief Act gives the cover pool administrator full authority to do everything necessary to ensure the timely repayment of the pfandbriefe. The administrator has the discretion for example to take out bridging loans or to sell cover assets in order to ensure the prompt fulfilment of the payment obligations associated with the pfandbriefe. In order further to limit liquidity risks following the insolvency of the pfandbrief bank, the Pfandbrief Act even provides a formal option for the administrator to enter into funding operations with

**Will reassignment of voluntary over-collateralisation become more likely?**

**Cover pool administrator continues to administer pfandbrief business of non-bankrupt estate**

**Assignment of cover pool plus pfandbriefe to third-party pfandbrief banks**

**Liquidity gaps under scrutiny**



the Bundesbank in order to bridge any temporary liquidity shortfalls, namely by treating the non-bankruptcy estate as a pfandbrief bank with limited business activities, thus meeting the formal criteria for access to central bank liquidity.

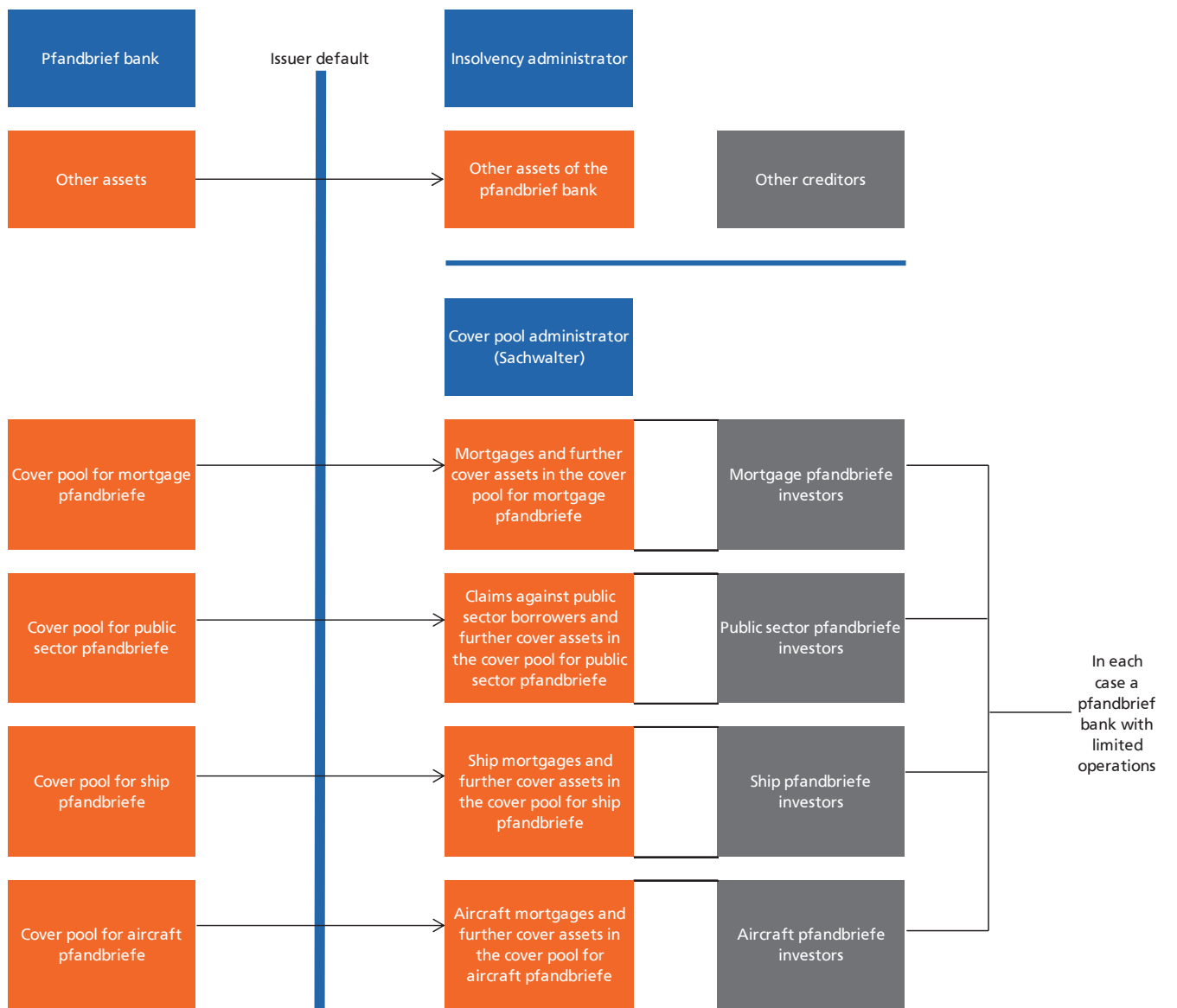
However, the ECB has decided that institutions whose business purpose is to wind down their activities, i.e. "wind-down entities", would no longer qualify for repo transactions with the central bank in future. This decision was announced in July 2017. In our view, it is unlikely that the ECB wanted to invalidate arrangements laid out in the Pfandbrief Act with this new rule. However, in our opinion a pfandbrief bank with limited business activity would fit in well with the ECB's definition of a "wind-down entity". A pfandbrief bank with limited business activities would then probably no longer meet the amended formal ECB requirements for access to central bank liquidity. The Bundesbank could then provide liquidity for the cover pool by purchasing pfandbriefe newly issued by the administrator, if the bonds were taken onto the Bundesbank's own books. As things stand at present, however, these are mere theoretical conjectures.

A more technical question concerns the operational risks that could present following the insolvency of a pfandbrief bank, namely the issue of what resources are at the disposal of the administrator in the performance of his duties. The Pfandbrief Act makes it clear that the cover pool administrator is entitled to use the pfandbrief bank's staff and infrastructure in order to fulfil his function. The cover pool shall cover any actual costs incurred. However, there is still the issue of how long it takes before the administrator can start his work and what happens to the cover pool during the transition period, especially if payments are due. The rules laid down by the Pfandbrief Act, namely the minimum over-collateralisation and the requirement to maintain 180 days of cover-pool liquidity, give the administrator a certain amount of time immediately after the start of insolvency proceedings against the pfandbrief bank and after the split of the cover assets from the rest of the pfandbrief bank's assets.

**New ECB rules likely to bar administrator access to refinancing via the Bundesbank**

**Operational risks: Who administers the cover pool?**

## PFANDBRIEF CREDITORS' PRIORITY IN BANKRUPTCY



Source: vdp, presentation DZ BANK Research

We believe that the regulations concerning the role of the cover pool administrator in the Pfandbrief Act target operational risks and attempt to make the administration of the cover pool as efficient as possible following the insolvency of a pfandbrief bank. For example, if a pfandbrief bank faces the threat of insolvency, BaFin is empowered to appoint a special representative who can subsequently take over the role of cover pool administrator if necessary. This special representative shall only have access to information which is intended to prepare him for the possible subsequent function of administering the pfandbrief bank with limited business activities (the insolvent pfandbrief bank's cover assets). This gives the persons involved the necessary time to work their way into the cover pool's complex administration without causing a public stir.

**Special representative with information rights**

The provisions of the Pfandbrief Act assign clear authorities. The responsibilities for the court decisions concerning the nomination and appointment of the cover pool administrator are defined in insolvency law. BaFin has the right to propose a candidate when an administrator is appointed – this can be even before the pfandbrief bank

**Clear responsibilities**

becomes insolvent. However, the actual appointment of the administrator is always reserved for the competent court, irrespective of whether the pfandbrief bank has already defaulted or not. The Pfandbrief Act also makes it clear that the cover pool administrator and the pfandbrief bank's insolvency administrator are equal partners. The pfandbrief bank's insolvency administrator has no power to dispute the cover pool administrator's actions performed in the proper course of his duties. The preamble to the law is quite clear that this is the case even if the action has the effect of reducing the insolvent pfandbrief bank's entitlements.

The Pfandbrief Act writes the cover pool administrator's entitlement to remuneration into law. The specific terms of an appropriate compensation package for services rendered and the reimbursement of outlays will be regulated by an administrative order which the Federal Ministry of Finance is empowered to issue in the Pfandbrief Act. On the other hand, the administrator is liable to the pfandbrief bank with limited business activities for any losses caused by breaches of his duties. The Pfandbrief Act also stipulates that a business decision does not constitute a breach of the administrator's duties if the administrator could reasonably assume that he was acting in the interests of the pfandbrief creditors based on appropriate information. Another provision is the administrator's power to appoint a committee of up to five members. This body of expert shall support the cover pool administrator and provide advice on complex issues where necessary. The advisory panel is a way for the administrator of avoiding the need to call on external advice on specific urgent issues. At the end of 2012, the rating agency Fitch noted on record that the administrator faces a very complex task with the resolution and/or administration of the cover pool. This slightly more critical stance in relation to previous assessments of this aspect has meant that an interim result in the context of the qualitative assessment of pfandbriefe has turned out one notch lower, although, all in all, the change did not have a negative impact on the overall valuation (see Fitch press release: "D-Cap Unchanged for 18 German Covered Bond Programmes" of 4 December 2015).

If the cover pool administrator determines, however, that it is not possible to assign the cover pool and outstanding pfandbriefe to another solvent pfandbrief bank and that the intrinsic value of the cover assets is no longer sufficient to fully satisfy the creditors' claims, then a separate insolvency procedure needs to be initiated for the cover pool. In this event, the pfandbriefe would be called in and the cover pool liquidated. The proceeds would be paid out to the pfandbrief creditors in equal parts. The Pfandbrief Act also gives the administrator the option to continue to operate an illiquid or over-indebted pfandbrief bank with limited business activities for its own account. In this scenario, BaFin now has the option - as an alternative to initiating bankruptcy proceedings over the cover pool - to order it to continue its core operations if this is in the creditors' interest (self-administration of the cover pool or Eigenverwaltung). Should the creditors committee oppose this option unanimously, the competent court would decide whether or not to uphold the continuation order. Although running off the cover pool assets on the basis of self-administration could take longer than a normal insolvency process, recovery rates could be higher. We believe that the flexibility created by this additional option should it become necessary to wind up the cover pool is helpful as a way of avoiding a fire-sale situation due to forced liquidation. This provision serves the interests of the pfandbrief creditors in our view. This repayment options substantially reduces the refinancing and liquidity risk for the cover pool.

#### **Advisory committee to advise cover pool administrator**

#### **Run-off of cover assets on self-administration basis might be a long-winded process**

## Residual legal risks following the insolvency of a pfandbrief bank

The options we have described above for administering the cover pool (or a pfandbrief bank with limited business activities) following the insolvency of the issuer mainly aim to mitigate operational risks and secure the pfandbrief creditors' preferential claim on the cover pool. When analysing the potential issuer insolvency scenario, rating agencies investigate the extent of the threat to the cover pool's intrinsic value in specific circumstances. In this context, we consider the following legal issues:

- » The Pfandbrief Act ensures that pfandbrief creditors have a preferential claim over the entire cover pool (including the entire over-collateralisation). As regard the liquidity of the cover pool, as we have described earlier, the issuer has to maintain the necessary over-collateralisation in the form of liquid cover assets. In addition, the 180-day rule aims to ensure that sufficient liquidity is available to cover payment obligations in connection with the cover pool during the next six months. However, the pfandbrief bank's insolvency administrator can attempt to reclaim some of this over-collateralisation. In order to do so, however, he must demonstrate to the competent court that the assets in question will clearly not be needed to satisfy the pfandbrief creditors' claims. BaFin's ability to impose individual over-collateralisation levels on pfandbrief banks now gives a further reference point for bankruptcy courts to use when coming to a decision. We believe that the hurdles in the way of a potential reassignment (claw back risk) of parts of the cover pool to the bankrupt estate of the insolvent pfandbrief bank are generally very high. They should prevent any available free over-collateralisation being automatically handed back to the pfandbrief bank's bankrupt estate.
- » Pfandbrief bank customers who have both cash on deposit at the bank and a loan from the bank could try to offset opposing (or mutual) claims against each other after the issuer's insolvency. However, the Pfandbrief Act obviates this potential set-off risk to pfandbrief creditors if for example the pfandbrief bank's cover pool assets are to be netted off against for example (due) deposits held with the insolvent bank. Cover pool assets and liabilities falling due can be netted off however; the aim in this case is to reduce the volume of the cover pool and the volume of the outstanding pfandbriefe by the same amount.
- » It is unlikely to be the norm for pfandbrief banks that all their cover pool related cash flows will be accounted for separately and booked to a separate clearing account even before the insolvency of the issuer. For this reason, the rating agencies point out that there is a risk for the cover pools that, after the insolvency of the issuer, the cover pool administrator might not have direct access to all cash flows into the cover pool. In the worst-case scenario, it could become impossible to separate cash inflows from the bankrupt estate and they could therefore become entirely lost to the cover pool. We believe that this risk is mitigated by the fact that a cover pool administrator can be appointed even before the pfandbrief bank defaults. The administrator would then have the opportunity to initiate appropriate precautionary measures such as the prompt redirection of cash flows. The Pfandbrief also makes it clear that cash inflows which replace assets in the cover pool automatically belong to the cover pool. However, this assumes that cash inflows are booked to accounts listed in the cover register for the pfandbriefe. We understand this phrasing as intended to give the pfandbrief banks the option to limit the pfandbrief creditors' potential loss risk which can arise through the irreversible commingling of cover pool receipts with the pfandbrief bank's other assets and eventual loss of the bankrupt estate, especially in the event of the bank's insolvency.

## Other issues in the context of the insolvency of a pfandbrief bank

### Reassignment of cover assets (claw back risk)

### Set-off risks

### Commingling of cash flows

Even though the residual legal risks for pfandbrief creditors in the event of the insolvency of the issuer outlined here as examples cannot be excluded with absolute certainty, there are nevertheless regulations in the Pfandbrief Act which limit these risks and contribute to avoiding them at best. In our view, these are quality features of the legal framework of German pfandbriefe.

#### **Provisions against residual legal risks**

#### **Our assessment**

The Pfandbrief Act offers pfandbrief creditors a high level of protection – including by international standards. This helps explain why the pfandbrief is currently one of the safest investments available. We also believe that the rest of the financial sector would probably provide mutual support in the event of a pfandbrief bank getting into difficulties, since protecting the pfandbrief "brand" would be very much in the interests of German banks.

#### **Pfandbrief Act offers very high level of protection**

Repeated revisions of the Pfandbrief Act since its creation in 2005 underline the fact that the German legislator is prepared to respond to changing general conditions and to adjust the legal framework governing German pfandbriefe promptly. This phenomenon is nothing new, merely a continuation of established practice since the introduction of the Mortgage Bank Act. However, the frequency of changes to the Pfandbrief Act has increase compared to the frequency of amendments implemented during the reign of the Mortgage Bank Act. At the same time, it is a good thing in our view that, so far, the legislator has regularly reviewed the legal framework and, where necessary, realigned it to a continually changing regulatory environment and new market standards. The harmonisation of European covered bond laws under discussion has led to a certain need to adapt the German Pfandbrief Act in order to ensure the status of mortgage pfandbriefe, public sector pfandbriefe and ship pfandbriefe as European Covered Bonds (Premium). From our point of view this proves that the regular amendments to Pfandbrief Act will result in a modern framework that complies with current international standards and can even be regarded as a model for this.

#### **Adaptability of German pfandbrief a strength**

## TABULAR SUMMARY OF THE PFANDBRIEF ACT

Covered bond categories/designation	Mortgage pfandbriefe, public-sector pfandbriefe, ship pfandbriefe, aircraft pfandbriefe
Issuers	Banks holding a pfandbrief license
Transaction structure	Integrated model
Special public supervision	Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)
Independent, periodic cover pool monitoring	✓ (Treuhänder)
Main categories of permitted "regular" cover assets	Depends on pfandbrief category: mortgage loans, government/municipal loans, ship finance or aircraft finance
Other permitted cover assets	For all pfandbrief categories: claims on the ECB, central banks and other qualifying financial institutions (up to 10 per cent), derivatives Additionally for mortgage, ship and aircraft pfandbriefe: claims on public-sector entities (up to 20 per cent including asset types named above)
Geographical restrictions on cover assets	Public sector pfandbrief: EEA, Switzerland, USA, Canada, Japan Mortgage pfandbrief: EEA, Australia, Canada, Japan, New Zealand Singapore, Switzerland, USA Aircraft pfandbrief, ship pfandbrief: no restrictions
Loan-to-value (LTV) ceilings	Residential mortgages: 60 per cent Commercial mortgages: 60 per cent Ship mortgages: 60 per cent Aircraft mortgages: 60 per cent
Basis for calculating LTV	Mortgage lending value
Do covered bond creditors have a prior claim on the portions of loans in excess of the LTV ceiling?	✗
Specific cover regulations	Aggregate claims on a single credit institution may not exceed 2 per cent of outstanding pfandbrief volume Present value of derivatives: max. 12 per cent Cap on pool share of non-EEA countries that do not guarantee priority of pfandbrief creditors in bankruptcy: max. 10 per cent
Statutory minimum over-collateralisation	2 per cent (in present-value terms in stress test context)
Do covered bond creditors also have a prior claim on cover assets in excess of the statutory minimum over-collateralisation?	✓
Issuance limit for covered bonds?	✗
Cover calculation / matching and liquidity rules	Present-value and nominal cover required, issuer must maintain a 180-days liquidity buffer
Stress test included in cover calculation rules?	✓
Special regulations governing covered bond repayment modalities	✗
Independent administrator of the cover pool upon issuer's insolvency	Cover pool administrator (Sachwalt), BaFin may appoint the Sachwalter even prior to issuer's insolvency
Treatment of covered bonds in insolvency event	Servicing continues as per issue T&Cs
Article 52 (4) UCITS Directive satisfied?	✓
Do cover assets meet the criteria of article 129 (1) CRR?*	✓ (except aircraft pfandbriefe)
Covered bonds in principle LCR-eligible?*	✓
Covered bonds in principle ECB repo-eligible?	✓
Covered bonds are exempted from bail-in (i.e. covered bonds are not bail-in-able)**	✓

Source: European Covered Bond Council (ECBC), DZ BANK Research, ECB = European Central Bank, EEA = European Economic Area, \* see also the section "Regulatory Treatment of German Pfandbriefe" \*\* unsecured claims of covered bond creditors may be affected by a bail-in, ✓ = yes, ✗ = no

The amendments made to the Pfandbrief Act since its creation in 2005 underline the willingness of the legislator to respond to the changing environment and to adapt the legal regulations for German Pfandbriefe in line with the times. This phenomenon is not new. The legislator is thus merely continuing the course it has taken since the introduction of the Mortgage Bank Act, even though the frequency of amendments to the Pfandbrief Act has increased compared with the times of the Mortgage Bank Act. At the same time, we believe it is good that the legislator is constantly reviewing regulations that have proven their worth to date and, where necessary, adapting them to the constantly changing regulatory environment and new market standards. The harmonisation of European Covered Bond legislation under discussion suggests that the German Pfandbrief Act will require some adjustments to ensure that Mortgage Pfandbriefe, Public Pfandbriefe and Ship Pfandbriefe retain their status as European Covered Bonds (Premium). In the opinion of this side, this proves that the regular amendments to the Pfandbrief Act will result in a modern framework that meets the current international standards or can even be regarded as a model for them.

**Adaptability of the German  
Pfandbrief is a strength**



## REGULATORY TREATMENT OF GERMAN PFANDBRIEFE

Covered bonds and therefore also pfandbriefe are more and more recognised worldwide. In its revision of the Basel III accord, the Basel Committee on Banking Supervision (the Basel Committee) makes provision for privileged capital status for covered bonds, bringing it in line with European banking law ("Basel III: Finalising post-crisis reforms" of December 2017). This means that, under the credit risk standardised approach, a lower risk weight will apply in future to a covered bond than to senior unsecured bank debt. The Basel Committee's formulations are largely based on European banking law. The UCITS criteria have formed the basis for the definition of the covered bond concept in the Basel III rules. For the covered bonds to qualify for privileged treatment, the cover pool may contain only claims on public sector entities or mortgage loans. No mention is made of ship or aircraft loans. Up to 15 per cent of the cover pool may nevertheless consist of claims on financial institutions if the risk weight does not exceed 30 per cent. Duties of disclosure are also formulated for the covered bond programme, which are in line with those contained in the European Capital Requirements Regulation (CRR). However, one aspect of the Basel Committee's criteria goes beyond the applicable European law: nominal over-collateralisation of 10 per cent must be maintained at all times for a covered bond which qualifies for privileged status. The Basel Committee is thus sticking to its principles here. Very similar criteria, including the 10 per cent over-collateralisation requirement, were also already formulated in April 2014 as a precondition for assigning a reduced exposure value to covered bonds when calculating large exposures.

**Revised Basel III accord makes provision for privileged capital status for covered bonds and is thus based on European standards**

German pfandbriefe meet the requirements of article 52(4) of the Directive regulating Undertakings for Collective Investment in Transferable Securities (UCITS). Pfandbriefe are also eligible in principle for use as collateral for funding operations with the ECB. With the exception of aircraft pfandbriefe, all other categories of pfandbriefe also meet the criteria defined by the CRR. In principle, banks can use any type of pfandbrief for their liquidity portfolios in the context of the Liquidity Coverage Ratio (LCR), assuming the bonds meet specific requirements, e.g. in relation to issue volume and ratings. On 22 September 2017, the EBA issued a statement (Single Rulebook Q&A, [click on this link](#)), saying that covered bonds secured by aircraft loans do not meet the requirements for eligibility as high-quality assets in the context of calculating the LCR (neither as Level 1 assets or Level 2A or Level 2B assets). The EBA's interpretation would mean that the requirements for preferential treatment always had to be met in order for covered bonds to be eligible for LCR purposes. In our view, however, this does not conform to the underlying LCR rules. A fundamental requirement for LCR eligibility in Article 10(1)(f)(i) LCR Regulation is that covered bonds should meet the general requirements of Article 52(4) of the UCITS Directive or meet the prerequisites for preferential treatment as per paragraph 4 or 5 of Article 129 CRR. This "or" rule would no longer have any meaning whatsoever if the EBA interpretation were applied. There is another curious rule. In principle, aircraft, mortgage and ship pfandbriefe qualify as high-quality liquid assets (HQLA) so long as they are rated at least A3 or A-. If the rating for aircraft and ship pfandbriefe along with mortgage pfandbriefe, which are partly secured by commercial property loans, falls below this threshold, then a classification in the HQLA 2B category is still possible. Financings for aircraft, commercial real estate or ships are explicitly excluded from HQLA category 2B.

**Criteria of UCITS and CRR/ CRD met**

## SUMMARY OF THE REGULATORY TREATMENT OF PFANDBRIEFE

Relevant regulation	Treatment/assessment of Pfandbriefe
Criteria of article 52 (4) UCITS directive satisfied?	Yes
Do the cover assets meet the criteria of article 129 (1) CRR?	Yes (mortgage pfandbriefe, public sector pfandbriefe, ship pfandbriefe), No (aircraft pfandbriefe)
LCR eligible in principle?	Yes, but pfandbriefe backed by aircraft, commercial property or ship financings and rated lower than A3 or A-, are not HQLAs.
ECB eligible in principle?	Yes

Source: DZ BANK Research

Article 129 CRR regulates under what circumstances investors in the banking sector may apply a privileged risk weight when calculating their regulatory capitalisation requirement (credit risk standard approach). In the first paragraph of this article, a conclusive list is given of those assets which may be included in the cover pool for a privileged treatment of the covered bonds to be possible in principle. Aircraft loans are not included in the assets listed in article 129 CRR.

### Definition of cover assets

In addition, in order for the covered bonds ultimately to qualify for a privileged risk weight, investors must also be in a position to demonstrate that they have access to information on the cover assets which is updated at least half-yearly. According to the vdp, the transparency requirements of the Pfandbrief Act should meet CRR requirements.

### Transparency requirements must also be met

#### PFANDBRIEFE ARE GILT-EDGE (MÜNDELSICHER) INVESTMENTS UNDER GERMAN LAW

German law authorises certain forms of "gilt-edged" investments as safe destinations for the funds of wards of court and require their trustees/guardians to use these gilt-edge (mündelsicher) investments. The treatment of such funds is regulated in §1805 following of the German Civil Code (Bürgerliches Gesetzbuch). All assets are defined as gilt-edged where the legislature considers the possibility of losses of the investment to be virtually excluded. These include sovereign bonds along with German Pfandbriefe.

Up to 1940, the regulation in Germany for this gilt-edge aspect of pfandbriefe was uneven. The Regulation of 7 May 1940 on trustee/gilt-edge investments recognised all pfandbriefe and public-sector bonds in Germany as gilt-edge investments. Prior to that, there had been differences between pfandbriefe from southern and northern Germany issuers. In the South, all the pfandbriefe of most mortgage banks were recognised as gilt-edge, but public-sector bonds only in exceptional cases. In contrast, in the North, most public-sector bonds enjoyed that privilege, but it only allowed the mortgage banks' pfandbriefe in exceptional cases.

Source: Bellinger/ Kerl (1995) "Hypothekendarbankgesetz – Kommentar"

## APPENDIX: TERMS, CONCEPTS AND DEVELOPMENTS FROM MORE THAN 250 YEARS OF PFANDBRIEF HISTORY

### A brief history of the pfandbrief

The origins of today's pfandbrief legislation go all the way back to a cabinet order of 29 August 1769 from the Prussian king Frederik II. Pfandbriefe therefore celebrated their 250th birthday in 2019, although the Silesian "Landschaft" (cooperative of noble landowners) issued the very first pfandbrief in December 1770. A complete history of the pfandbrief, interesting though it is, would go far beyond the scope of this study. Friederike Sattler and Fritz Engelhard's anniversary publication "Der Pfandbrief 1769-2019 – Von der preußischen Finanzinnovation zur Covered Bond Benchmark" gives a very vivid and detailed account of the turbulent history of the pfandbrief. We have taken a few highlights from this anniversary publication which we touch in our study.

Pfandbrief legislation has changed frequently since August 1769 in order to remain successful. The pfandbriefe of 1769 and those of the present day are therefore very different. Many of the rules which are now regarded as a matter of course are only very recent when measured against the pfandbrief's long history. A few of these rules were only included in the Pfandbrief Act (PfandBG) which was passed in 2005 and in its many subsequent amendments. For example, the legal basis for aircraft pfandbriefe was first introduced in the PfandBG in 2009. Transparency rules put in place in 2005 to make up for the loss of the specialist bank principle were first extended in 2009. The requirement for the 180-day liquidity in the cover pool was also enshrined in the PfandBG in 2009 along with a clearer segregation of bankruptcy and cover assets, which have since been referred to as insolvency-free assets. The separation principle in the event of the pfandbrief bank's insolvency was only introduced in paragraph 30 PfandBG in 2010 along with the description of the pfandbrief programme as "pfandbriefbank with limited business activity". In addition, in the same year, a link was also establish in paragraph 36a PfandBG between pfandbrief legislation and restructuring legislation. A further important change in the PfandBG was finally passed in 2014 by virtue of which the Federal Financial Supervisory Authority (BaFin) is entitled by administrative act to set the level of over-collateralisation for a pfandbrief bank individually.

The 2014 EU Bank Recovery and Resolution Directive (BRRD) created rules on bail-in in the event of a bank being rescued. An exception applies to covered bank bonds or liabilities of a bank that are backed by collateral. Covered bonds cannot be used for a bail-in. Only the unsecured claims of covered bond creditors is at risk to be affected by a bail-in. However, a shortfall in the cover pool for covered bonds would not be compatible with the legal provisions, which generally even provide for an over-collateralisation for the covered bonds. This exception from a general bail-in gave German pfandbriefe and other covered bonds from Europe much praise from the rating agencies, which had a positive impact on their credit ratings. Similar to the bail-in rules, many of the above-mentioned changes in the regulatory rules for banks were reactions to the financial and sovereign debt crisis in the years after 2008.

**Roots of pfandbrief law go back 250 years**

**Big differences between then and now a testament to the pfandbrief's adaptability**

**Exception rule for bail-in supports covered bond ratings**

## Conversion of pfandbriefe into shares during the major banking crisis after 1900

The first few years of the 20th century were marked by a major mortgage bank crisis during which two banking groups, the Preußenbank Group with Preußische Hypotheken Actien-Bank and the Deutsche Grundschuldbank along with the Pommernbank Group with the Pommersche Hypotheken-Aktien-Bank and the Mecklenburg-Strelitzsche Hypothekenbank were involved. The banking crisis was triggered by excessive risk-taking in lending and refinancing business activities during a period of economic stagnation following the great stock market crash (Gründerkrach) of 1873 after the boom of the founders' period (Gründerjahre). Bankruptcy proceedings only had to be opened for one of the institutions listed above – the Deutsche Grundschuldbank. The crisis was caused by transactions predating 1900 which were not permissible under Mortgage Bank Act rules. However, the restructuring of the other institutions meant that pfandbrief holders had to waive coupon payments or accept their postponement along with the conversion of interest claims into equity. In addition, a certain number of pfandbriefe were also converted into equity, whereby pfandbrief holders even had to waive part of the nominal value. The meetings of pfandbrief holders at the time had agreed to this approach. This rescue plan is very similar to the scenario of a present-day bail-in. The only difference is that current bail-in rules generally exempt holders of secured covered bonds from a haircut. However, the gains on banking shares which materialise after the bank rescues offset the losses of pfandbrief holders at the time.

Source: DZ BANK Research based on Tim Lassen's article "Lehren aus der Hypothekenbankkrise von 1900" (Lessons learned from the mortgage bank crisis), Immobilien & Finanzierungen, issue 18 – 2003

However, not all the changes were reactions to current developments. Often enough, there is simply a willingness to make adjustments aimed at a continuous improvement in the pfandbrief legislation. The regulations of neighbouring countries frequently provide a model for changes in the law. Covered bond ideas have been moving between European countries since 1769 and have served as mutual inspiration. However, there have always been differences between the various legal frameworks, and consequently, the wish for harmonisation was already voiced for the first time during the 70s. It took a while longer for a Europe-wide harmonisation of pfandbrief legislation to be discussed at an international conference. This took place in Munich in 1981. This idea was taken a step further in a subsequent conference which took place in 1984 on the Chiemsee, where core elements of a pfandbrief directive were drawn up. However, the first attempt to create a European covered bond directive failed in the 1980s. In 1985, on the basis of the preparatory work and discussions which had been carried out, a definition of covered bank bonds was included in the European UCITS directive (EU directive on undertakings for collective investments in transferable securities), which has since then played a central role in the prudential treatment of covered bonds. With the implementation of the European harmonisation package, the famous UCITS criteria will be replaced by the EU covered bond directive after more than 35 years. The spirit of Chiemsee, however, led not only to the UCITS criteria, but also to the establishment of the Mortgage Bond Committee in 1992 within the European Mortgage Foundation, from which the European Covered Bond Council (ECBC) was born in 2004. In the end, it was the ECBC which campaigned hard for the regulation package for the harmonisation of the covered bond frameworks in the European Union (EU).

The harmonisation package did not take into account the idea of European Secured Notes (ESN). The idea of ESNs developed by the ECBC provides for a secured claim against a bank (dual recourse), similar to a covered bond. However, infrastructure projects and claims against small and medium-sized enterprises (SME loans) would be permissible as collateral. It is possible that there will be another attempt to create this asset class in the coming years. The corona crisis in the first half of 2020 clearly showed that the spread differentiation between covered bonds and unsecured bank bonds was large enough to make sensible use of a product like ESN. It is to be hoped that the ESN project will be more successful than previous attempts, which go back almost

**Willingness to adjust led to package of measures to harmonise European covered bond legislation**

**European Secured Notes were not taken into account in the EU covered bond directive**

100 years. There were already attempts during the Weimar Republic to set up industrial credit institutions ("Industrieschaft"), following the model of the Landschaften (institutions lent to large landholders) and Stadtschaften (the city equivalent of Landschaften) as self-help organisations for SMEs, which would then have issued pfandbriefe. Ultimately, the attempt failed because the value of an industrial firm was subject to stronger fluctuations than those applying to land or buildings. This would have meant that the value of industrial companies had to be recalculated on an ongoing basis, and ultimately, this would have had an impact on the lending limit and hence also on the possibility of issuing pfandbriefe. The only exception thanks to stringent lending criteria and a guarantee from Saxony for the pfandbriefe it issued was the "Industrieschaft Sächsisches Landespfandbriefanstalt" (Saxon State Mortgage Institution - a non-profit, public institution).

### **Jumbo pfandbriefe have been around since 1995**

The foundation stone for the jumbo pfandbrief market was laid with Frankfurter Hypothekbank's new issue on 26 May 1995. The public sector pfandbrief initially had a volume of DEM 500m, which was increased to DEM 1bn within a few months. Up to this point, the sale of pfandbriefe was strongly focused on German investors, with the issue volume of individual pfandbriefe rarely exceeding DEM 200m. The outstanding volume of the pfandbrief market, which at the end of 1994 had already reached a remarkable EUR 564bn (the equivalent of DEM 1.1tr), was spread over some 16,000 individual bonds. The average issue volume per pfandbrief was thus around DEM 70m. The pfandbrief market was therefore considered to be confusing and not transparent. With greater price and market transparency, new investors, especially outside Germany, were to be attracted to the pfandbrief. The idea of offering large-volume bonds, for which the issuer promised, as in the case of Frankfurter Hypothekbank, to provide bid prices up to a volume of DEM 10m per request, hit the nail on the head.

**The idea of the jumbo pfandbrief hit the nail on the head**

Frankfurter Hypothekbank was followed by other pfandbrief issuers. First, Bayerische Vereinsbank issued a ten-year mortgage pfandbrief with a volume of DEM 500m on 27 July 1995, the nominal value of which was increased to DEM 2bn within a few months. For this bond, the issuer undertook to provide bid and ask prices for enquiries of up to DEM 50m, with the difference between the buying and selling price amounting to only 10 pfennigs (penny or cent). The name affix "jumbo" was used for the first time when distributing this bond. The next milestone was set on 21 August 1995 by Deutsche Pfandbriefbank (Depfa) with the issue of a public sector pfandbrief with a term of five years and a volume of DEM 3bn. The special feature of this pfandbrief was that the bond was not distributed by the issuer, as was usually the case, but was brought to the market via a banking syndicate. As a result, jumbos in the format of mortgage pfandbriefe and public sector pfandbriefe very quickly emerged. The first jumbo ship pfandbrief was issued much later by HSH Nordbank on 8 January 2008.

**Milestones in the jumbo market**

#### THE ADDITION OF THE NAME "JUMBO" WAS WELL CHOSEN

The word "jumbo" is used as a synonym for size. The Boeing 747, the Association of German Pfandbrief Banks has used a picture of this airplane for some time in its advertising, is also known as a jumbo jet and is the largest model of the American aircraft manufacturer. The term was made popular by a bull elephant, which caused a furore in the zoos of Paris and London in the 19th century and was allegedly so named. In Swahili, "jambo" means "hello". Even against this background, "jumbo" is appropriate for large-volume pfandbriefe, because issuers wanted to draw attention to their securities, especially among investors outside Germany.

Source: Wikipedia, presentation DZ BANK Research

The market for jumbo pfandbriefe grew rapidly in the first few months and by the end of March 1996 had already reached a volume of DEM 71,5bn. In March 1996, the Association of German Mortgage Banks (VDH) therefore laid down minimum requirements for jumbo pfandbriefe, which included the following points: the listed pfandbrief had to be fixed-interest, have a final maturity (hard bullet) and have a volume of at least DEM 1bn. The volume outstanding was not allowed to fall below this threshold as a result of repurchases by the issuer. At least three of the syndicate banks involved in the issue of the bond had to ensure a market for this pfandbrief (market making), in which executable bid and ask prices for customer enquiries had to be provided in the amount of DEM 25m per ticket. These criteria, especially the market making requirements, were reformed several times over the course of time. Particularly in times of crisis, the regulations on market making for jumbo pfandbriefe have even proven to be harmful, so that today they have been reduced in essence to the original idea - executable bid and ask prices for investors.

The introduction of the euro is likely to have boosted the development of the jumbo pfandbrief, because investors within the eurozone no longer had to bear any currency risks when buying euro-denominated pfandbriefe, and investors' interest in the pfandbrief thus also grew outside Germany. Overall, the jumbo has succeeded in broadening the investor base for pfandbriefe from Germany. The VDH, the predecessor of the Association of German Pfandbrief Banks (vdp), presented figures in 1996, after some 11% of the pfandbrief volume outstanding was in the hands of investors domiciled outside Germany (as of the end of 1995). Starting from this level, demand from international investors had already risen markedly from late 1995 to late 1996. In the first quarter of 2020 a share of around 37% of the new issue volume of euro benchmark pfandbriefe was placed with investors outside Germany, Austria and Switzerland. The statistics are not directly comparable with each other because the figures from the 1990s relate to bond holdings and the current figures only to large-volume new issues. However, according to VDH estimates at the time based on Bundesbank data, around 20% of new jumbo pfandbriefe were sold to foreign investors in 1996. In our opinion, it can therefore be said that the jumbo has enabled the investor base for pfandbriefe to be more strongly diversified internationally to date.

As the investor base became increasingly international, the idea of the pfandbrief as a covered bond spread to other countries. A detailed description of this development would go beyond the scope of this study. For this reason, a few figures are provided here to outline the internationalization of the covered bond market. At the end of 1998, the issuers in the iBoxx € Covered Index came from either Germany or France, with German issuers clearly dominating with 94% of the index volume. The market share of German issuers has gradually declined since 1998. Again and again, either

#### First formulated industry standards in March 1996

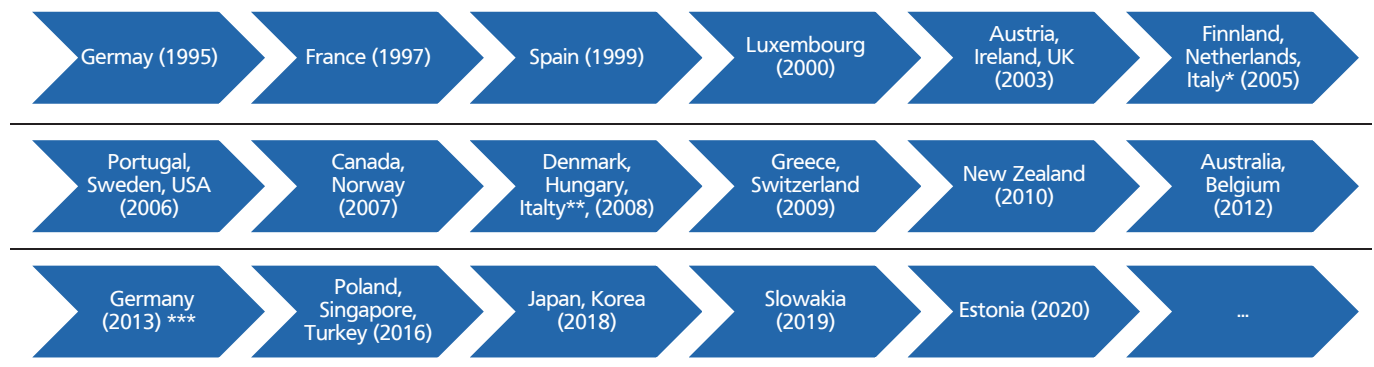
#### Upcoming introduction of the euro favoured the approach of international investors

#### Pfandbrief idea spread in many countries



new covered bond laws were created (for example Luxembourg or Ireland), which were then used by banks. In other countries, structured covered bond programmes (covered bank bonds that imitated the characteristics of pfandbriefe on the basis of contract law) were created by financial institutions, in which general standards for covered bonds were later set by way of a binding law (for example, the UK and the Netherlands). As a rule, the new issuers launched bonds in jumbo format with an issue volume of EUR 1bn.

**DEVELOPMENT OF THE MARKET FOR EURO BENCHMARK COVERED BONDS SINCE THE JUMBO PFANDBRIEF**  
YEAR REFERS TO THE FIRST NEW EURO BENCHMARK COVERED BOND ISSUE FROM THE RESPECTIVE COUNTRY



Source: DZ BANK Research, \* bonds issued by Cassa Depositi e Prestiti, which were considered to be part of the covered bond market; \*\* covered bank bonds (Obbligazioni Bancarie Garantite, OBG) based on the general covered bond law, \*\*\* structured covered bond secured with receivables from small and medium-sized companies

With the introduction of the euro, the minimum volume for a jumbo was increased to EUR 1bn (equivalent to around DEM1.96bn) as the new market standard. In the financial crisis of 2008/ 2009, however, another industry standard emerged, which was strongly influenced by the European Central Bank. For its first covered bond purchase programme (CBPP1), it stipulated that CBPP1 eligible covered bonds had to have an issue volume of at least EUR 500m. During the programme, which ran from mid-2009 to mid-2010, the term *jumboliño* was coined for fixed-interest covered bonds with a nominal value of EUR 500m. These bonds are now generally recognised as benchmark covered bonds.

**From Jumbo to Jumboliño and Benchmark**



## Glossary of terms from over 250 years of pfandbrief history

### Pfandbriefe and covered bonds prior to the introduction of the Pfandbrief Act (up to 2005)

Güterpfandbriefe (pfandbriefe on a specific property), pfandbriefe issued by "Landschaften"	Güterpfandbriefe (pfandbriefe on a specific property) were issued at the end of the 18th century by Landschaften (cooperative of noble landowners such as the Silesian Landschaft). Initially, Landschaften were compulsory public-law cooperatives of noble landowners with large estates (Rittergüter) in a particular region (e.g. Silesia or Eastern Prussia). The Landschaften helped their members access credit by issuing pfandbriefe which were then handed out to borrowers and sold on by them to creditors. The Landschaft guaranteed the pfandbriefe which were issued for which in turn all the members (initially) stood as guarantors jointly and severally. The credit framework for each individual member was dependent on the respective earning power of that member's estate who could lend up to half its value.
Pfandbriefe issued by "Stadtschaften"	In the 19th century, "Stadtschaften" also emerged modelled on the Prussian Landschaften. These Stadtschaften were an association including urban house owners among others. The local Stadtschaften were regrouped in the Prussian Central Stadtschaft in order to better coordinate their pfandbrief issues. Looking back, this is a precursor of the pooling idea.
Pfandbriefe issued by "Industrieschaften"	"Industrieschaften" in turn copied the model of the Landschaften and Stadtschaften. They were associations of small and medium-sized enterprises which aimed to provide funding for their members through the issue of pfandbriefe. In the end, however, this precursor of SME covered bonds could not gain a foothold.
Rentenbriefe	Agricultural reforms in Prussia in the early 19th century were aimed at enabling farmers to buy their freedom from compulsory labour and other obligations towards the landowners. However, farmers often lacked the necessary means. A solution to this problem was offered by the Rentenbanken which date from the same time with the issue of tradable "Rentenbriefe" or annuity bonds, which were handed over to the landowners as a form of compensation. The farmers paid interest and principal to the Rentenbanken, with which the latter in turn serviced the Rentenbriefe. Rentenbriefe differ significantly from Güterpfandbriefe in so far as they did not envisage compulsory membership of all farmers in a specific region who would be jointly and severally liable for each other. Farmers were free to decide to sign an agreement with the Rentenbank and were only liable for their own debt to the Rentenbank which in turn were liable to the bondholders. This fundamental innovation was also used by the mortgage banks which sprang up at the same time and gradually also established itself with the Landschaften.
Pfandbriefe issued by mortgage banks under the Mortgage Bank Act (HBG)	In the mid-19th century, mortgage banks developed as limited companies which were allowed to issue pfandbriefe. In general, the mortgage banks lending business was strictly limited and concentrated on property financing. There were also mixed mortgage banks with a broader spectrum of activities. Any pfandbriefe issued always had to be covered to a sufficient degree by mortgage loans. The Mortgage Bank Act was passed in 1899 under the German Reich in order to standardise the legal principles for pfandbriefe; the act came into force on 1 January 1900. The HBG was only replaced by the Pfandbrief Act on 19 July 2005. The trademark "pfandbrief" was first registered in 1930. Rules were approved in 1940 making pfandbriefe gilt-edge instruments.
Public-sector bonds (Kommunalschuldverschreibungen) or pfandbriefe under the Act relating to Pfandbriefe and Similar Instruments issued by Public Credit Institutions (ÖPG)	Mortgage banks have issued municipal bonds (Kommunalschuldverschreibungen) since the end of the 19th century for the purpose of funding loans to the public sector. In this manner, the special credit institutions opened up a new business activity. There were also issuers of municipal bonds which were could be involved in a much broader spectrum of credit activities than the mortgage banks which were regulated by law (including industrial loans). These banks also issued pfandbriefe which became the object of a debate in the 1920s under the heading "Pfandbrief ohne Pfand (or pfandbrief without pledge). Ultimately, this debate led to the Act relating to Pfandbriefe and Similar Instruments issued by Public Credit Institutions (ÖPG) of 21 December 1927 which was replaced from 19 July 2005 by the Pfandbrief Act. Key provisions in the ÖPG are modelled on the HBG. The ÖPG made provisions for matching cover of loans and issued covered bonds, for a cover register to be kept and for the preferential claim of bondholders in the event of a default of the issuer.
Pfandbriefe under the Ship Banking Act (SchBG)	The Ship Banking Act was approved on 14 August 1933; the Act regulated the issue of pfandbriefe backed by ship mortgages; it was replaced by the Pfandbrief Act on 19 July 2005.
Liquidation-gold pfandbriefe (liquidation pfandbrief or Liquidationspfandbrief)	After hyperinflation in Germany had been overcome in 1923, the value of mortgages and bond claims was raised by law, in order slightly to offset the huge losses incurred by bondholders after the devaluation of the currency. The value of pfandbriefe was raised slightly more than that of other asset classes, as a result of which, pfandbrief holders suffered slightly smaller losses. However, pfandbrief issuers were unable to compensate the increase in value of the old issue immediately in cash. Holders of the old pfandbriefe received liquidation pfandbriefe in compensation, which were paid interest and repaid after a few years.

Source: "Der Pfandbrief 1769-2019 - Von der preußischen Finanzinnovation zur Covered Bond Benchmark", DZ BANK Research presentation

### Modern pfandbriefe as per Pfandbrief Act (post 2005)

Aircraft pfandbriefe	Only claims secured by registered liens on aircraft or foreign aircraft mortgages may be used as cover for aircraft pfandbriefe. The legal basis was set out in the Pfandbrief Act in 2009.
Mortgage pfandbriefe	Only mortgages may be used as cover for mortgage pfandbriefe insofar as they meet the requirements of the Pfandbrief Act. They are the oldest type of pfandbrief.
Public sector pfandbriefe	The Pfandbrief Act defines the debtors (public-sector bodies and public institutions) whose claims may be used in the cover pool for public pfandbrief. The term "public sector pfandbrief" was first coined at the beginning of the 1990s and was aimed at making a clear distinction in relation to mortgage pfandbriefe. The terms commonly used before that were "Kommunalobligation" or "Kommunalschuldverschreibungen" (public-sector bonds or municipal bonds).
Ship pfandbriefe	Only loan claims which are secured by ship mortgages may be used as cover for ship pfandbriefe insofar as they meet the requirements set out in the Pfandbrief Act. Today's ship pfandbriefe go back to the pfandbriefe under the Ship Banking Act of 1933.

Source: "Der Pfandbrief 1769-2019 - Von der preußischen Finanzinnovation zur Covered Bond Benchmark", DZ BANK Research presentation

### Market relevant criteria for pfandbriefe

All the pfandbriefe shown in the table below only differ in terms of the format of their issue and are subject to the same collateral requirements. As explained in detail in the section on the Pfandbrief Act, all pfandbriefe of a specific type (e.g. mortgage pfandbriefe) from a particular issuer are collateralised against the same cover pool.

Bearer pfandbriefe	Bearer pfandbriefe are freely tradable securities and can be securitised by a certificate. The transfer of a bearer pfandbrief does not require the prior approval of the issuer.
Registered pfandbriefe	Registered pfandbriefe differ from bearer pfandbriefe in so far as they are issued individually in line with the needs of investor and issued in the latter's name. Consequently, they are not fungible and any transfer to other investors is an onerous task.
Traditional pfandbriefe	Traditional pfandbriefe have an issue volume of under EUR 500m. Unlike in the case of benchmark or jumbo pfandbriefe, there is no market-making on offer involving at least three banks. Other so-called sub-benchmarks also come under this label; these have an issue volume of at least EUR 250m - a relevant issue size for the minimum liquidity ratio. As a rule, this category includes privately placed bonds, among which not least registered pfandbriefe.
Benchmark pfandbriefe	Benchmark pfandbriefe have an issue volume of at least EUR 500m and are placed publicly. The syndicate of banks which manages the placement is committed to quote bid and ask prices on demand, also for the time after the new issue has been launched. Benchmark pfandbriefe with an issue volume of EUR 1bn or over are called "jumbo" pfandbriefe. Benchmark pfandbriefe became popular in the wake of the ECB's first covered bond purchase programme (CBPP1) and were also called "Jumbolinos" at the beginning. Markit includes euro-denominated benchmark pfandbriefe (or benchmark covered bonds) in its iBoxx € Covered Index if they have a minimum maturity of over one year and an investment grade rating.
Jumbo pfandbriefe	The minimum size of jumbo pfandbriefe is EUR 1bn and they are placed publicly. The syndicate of banks involved in the placement of such pfandbriefe are committed to provide bid and ask price, also for the time after the new issue has been launched. Like benchmark pfandbriefe, jumbo pfandbriefe also qualify for inclusion in the iBoxx € Covered Index for example, if they also meet relevant criteria regarding the minimum maturity and rating.
Sub-benchmark pfandbrief	The size of sub-benchmark pfandbriefe is less than EUR 500m but at least EUR 250m. This minimum level is important in the context of rules about the minimum liquidity ratio of banks, because, under certain conditions such as rating, covered bonds with an issue volume of at least EUR 250m can qualify as Level 2A assets.
Foreign-currency pfand-briefe	Typically, pfandbriefe tend to be denominated in euro, the official currency in Germany. However, they can also be denominated in other currencies. Non-euro-denominated pfandbriefe are also called foreign currency pfandbriefe from the German point of view.
Zero-coupon pfandbriefe	Interest is paid for depositing money, and in the case of bonds such as pfandbriefe, interest is in the form of a coupon (fixed or variable rate). For pfandbriefe with a coupon of 0 per cent (or a zeron coupon), attracting investors for the money handed over for the duration of the pfandbrief is the difference between the issue price at the time of purchase or issue and the repayment amount at the maturity of the pfandbrief. In view of generally very low interest rates since 2019, situations could arise in which the pfandbriefe are issued above par and repaid at par even though there was no coupon payment during the lifetime of the bond. In such cases, the pfandbrief's (issue) yield is negative. The advantage for investors is merely that other similar forms of investment lead to higher losses.

Source: Verband deutscher Pfandbriefbanken, DZ BANK Research

### Special repayment agreements for pfandbriefe in last 250 years

Pfandbriefe with termination rights	If the necessary agreements are made at the time of the issue of the bond, issuers can repay their bond before it matures. This termination option has been available for a long time. In the past, it was used to help manage matching maturities between the refinancing of the mortgage bank and its lending business (back then, pfandbriefe with a 50-year maturity were not unusual). Calling partial amounts of the volume outstanding of a pfandbrief was also possible, whereby repayments to individual series were determined by random selection. In the 19th century, there were also pfandbriefe with holder termination rights (to make the pfandbrief more attractive). However, termination rights are no longer allowed in the case of modern pfandbrief holders in order to protect the issuer's liquidity and that of the cover pool.
Redemption pfandbriefe	Under an old rule in the Mortgage Bank Act, for a suitable share of newly issued pfandbriefe, repayment had to begin after one third of the term of the bonds had elapsed. A share of 40% was regarded as appropriate and it could also include pfandbriefe with an original maturity of less than 15 years. This rule was therefore of no practical relevance.
Gold pfandbriefe along with grain pfandbriefe on rye and wheat	In the case of some pfandbriefe dating back from the period of hyperinflation in Germany in the 1920s, the repayment amount of the bond was pegged to the value of a specific amount of gold or grain types such as rye and wheat in order to ensure that the pfandbrief kept its value in real terms. The pfandbriefe were securitised by mortgage loans, as usual.
Bonus pfandbriefe	Bonus pfandbriefe were repaid during their life based on a fixed repayment and bonus plan. In addition to the regular capital repayments, there were annual prize draws in which specific series of outstanding pfandbriefe were identified which then received a bonus payment. The aim of the lottery was to promote the attraction of pfandbriefe against sovereign bonds in order to increase the sale of pfandbriefe. The issue of bonus pfandbriefe was banned in 1871.
Premium pfandbriefe and index pfandbriefe	In the case of premium pfandbriefe, the bonds' redemption value exceeds their nominal or face value. Prior to the introduction of the Mortgage Bank Act, there were pfandbriefe which were repaid with a premium of 10 to 20% against the nominal value upon termination. However, premium pfandbriefe were banned with the introduction of the Mortgage Bank Act. Pfandbriefe with a step-up-coupon, however, are still allowed. In addition, according to the Mortgage Bank Act, indexed pfandbriefe are also permissible for which the redemption value is higher than the nominal value, so long as the maximum redemption value is known at the time of issue.
Existing savers' (Altsparer) pfandbriefe	After WWII, pfandbriefe as well as cash were devalued based on a ratio of 10:1 through the currency reform in 1948 in the western German occupied zone. The gains of mortgage debtors through the devaluation of the loan claims were confiscated by law and put towards the general equalisation of the war burden (Lastenausgleich). Consequently, part of the intrinsic value of the properties underlying the cover pool for the mortgage pfandbriefe as collateral was withdrawn. To offset this, existing savers (i.e. those with holdings at 1 January 1940) received compensation of 10%. Bonds which had been converted and were still denominated in Reichsmark were combined into Altsparerpfandbrief series and were moreover exempt from tax. In exchange for the compensation paid to former investors, the mortgage banks received claims on the state (central government body).

Source: "Der Pfandbrief 1769-2019 - Von der preußischen Finanzinnovation zur Covered Bond Benchmark", DZ BANK Research presentation

### Pfandbriefe with a societal impact

ESG pfandbrief	Issue proceeds from ESG pfandbriefe are only used to finance public-sector projects or property financings which meet a fairly broad definition of sustainability criteria (environmental, social & governance, ESG). The cover used for these pfandbriefe is the same as in the case of all other bonds of this type.
Green pfandbrief	The Verband deutscher Pfandbriefbanken holds the right to the trademark "Grüner Pfandbrief" or "Green pfandbrief" ( <a href="http://www.gruener-pfandbrief.de">www.gruener-pfandbrief.de</a> ). To date there have only been green mortgage pfandbriefe and the proceeds from these issues have mainly been used to finance especially energy-efficient buildings. Like ESG pfandbriefe, green pfandbriefe relate to the same cover pool as all other bonds of the same type.
Rentenbriefe	See above under "Pfandbriefe and covered bonds prior to the introduction of the Pfandbrief Act (up to 2005)"
Social pfandbriefe	Social pfandbriefe were pfandbriefe and public-sector bonds of which 90 per cent of the proceeds were used to promote social housing construction. They were used in the post-war era to alleviate the housing shortage in Germany. Interest on social pfandbriefe was made tax-free in 1952 with the first Act to Promote the Capital Market. These tax-advantaged social pfandbriefe have all been repaid already.

Source: "Der Pfandbrief 1769-2019 - Von der preußischen Finanzinnovation zur Covered Bond Benchmark", DZ BANK Research presentation

## BOND OVERVIEW

## EURO BENCHMARK AND SUB-BENCHMARK PFANDBRIEFE

	ISIN	Maturity	Repayment type	Coupon (in percent)	Volume outstanding (in million euros)	Indicative swap spreads (in basis points)	LCR category
DZ HYP	DE000A2883Y4	05.10.2020	Hard Bullet	0.010%	250	-5	2A
DZ HYP	DE000A2883Z1	04.01.2021	Hard Bullet	0.010%	250	-15	2A
DZ HYP	DE000A12T606	21.01.2021	Hard Bullet	0.250%	500	-15	1
DZ HYP	DE000A11QBA6	21.07.2021	Hard Bullet	0.875%	500	-8	1
DZ HYP	DE000A2TSD63	23.08.2021	Hard Bullet	0.010%	300	2	2A
DZ HYP	DE000A2TSD22	13.01.2022	Hard Bullet	0.010%	250	1	2A
DZ HYP	DE000A1MLZQ1	29.03.2022	Hard Bullet	2.500%	500	-2	1
DZ HYP	DE000A11QA72	24.06.2022	Hard Bullet	1.250%	325	6	2A
DZ HYP	DE000A14KK32	29.07.2022	Hard Bullet	0.500%	500	-3	1
DZ HYP	DE000A14KKJ5	30.09.2022	Hard Bullet	0.125%	500	-2	1
DZ HYP	DE000A161ZU5	24.03.2023	Hard Bullet	0.200%	500	0	1
DZ HYP	DE000A2G9HC8	30.06.2023	Hard Bullet	0.250%	500	-3	1
DZ HYP	DE000A161ZL4	27.10.2023	Hard Bullet	0.625%	500	-2	1
DZ HYP	DE000A2TSD55	29.01.2024	Hard Bullet	0.010%	750	-1	1
DZ HYP	DE000A2BPJ45	01.03.2024	Hard Bullet	0.125%	500	0	1
DZ HYP	DE000A13SWZ1	05.06.2024	Hard Bullet	0.625%	500	-1	1
DZ HYP	DE000A12UGG2	18.09.2024	Hard Bullet	1.125%	750	0	1
DZ HYP	DE000A2AAW12	06.12.2024	Hard Bullet	0.050%	500	-1	1
DZ HYP	DE000A14J5C9	26.02.2025	Hard Bullet	0.625%	250	13	2A
DZ HYP	DE000A2AASB4	06.06.2025	Hard Bullet	0.375%	750	0	1
DZ HYP	DE000A2G9HE4	13.11.2025	Hard Bullet	0.500%	1,000	-1	1
DZ HYP	DE000A161ZQ3	02.02.2026	Hard Bullet	0.750%	875	2	1
DZ HYP	DE000A14KKM9	31.03.2026	Hard Bullet	0.375%	500	1	1
DZ HYP	DE000A2BPJ78	16.06.2026	Hard Bullet	0.500%	500	2	1
DZ HYP	DE000A2AAX45	31.08.2026	Hard Bullet	0.100%	500	3	1
DZ HYP	DE000A2AAW53	30.09.2026	Hard Bullet	0.500%	500	3	1
DZ HYP	DE000A2TSDW4	15.01.2027	Hard Bullet	0.010%	1,000	2	1
DZ HYP	DE000A14J5J4	01.04.2027	Hard Bullet	0.500%	750	3	1
DZ HYP	DE000A2G9HD6	30.06.2027	Hard Bullet	0.750%	500	2	1
DZ HYP	DE000A2BPJ86	30.08.2027	Hard Bullet	0.625%	750	4	1
DZ HYP	DE000A2TSDY0	12.11.2027	Hard Bullet	0.010%	500	3	1
DZ HYP	DE000A2GSP56	22.03.2028	Hard Bullet	0.875%	750	5	1
DZ HYP	DE000A289PA7	23.06.2028	Hard Bullet	0.010%	1,000	3	1
DZ HYP	DE000A2G9HL9	30.01.2029	Hard Bullet	0.875%	750	5	1
DZ HYP	DE000A2TSDV6	29.06.2029	Hard Bullet	0.050%	750	4	1
DZ HYP	DE000A13SR38	18.01.2030	Hard Bullet	0.875%	750	4	1
DZ HYP	DE000A2NB841	17.04.2034	Hard Bullet	0.875%	500	8	1
DZ HYP	DE000A2TSDZ7	10.11.2034	Hard Bullet	0.375%	500	8	1
DZ HYP	DE000A2BPJ60	23.03.2037	Hard Bullet	1.375%	250	19	2A

Source: Bloomberg, DZ HYP, DZ BANK Research; spread data as at 2 September 2020, 10:00h

## I. Imprint

This study has been carried out by DZ BANK AG, Research and Economy Division, on behalf of and in cooperation with DZ HYP AG

**Published by:**

DZ HYP AG

**Hamburg Head Office**

Rosenstrasse 2, 20095 Hamburg

Phone +49 40 3334-0

**Münster Head Office**

Sentmaringer Weg 1, 48151 Münster

Phone +49 251 4905-0

**Homepage:** [www.dzhyp.de](http://www.dzhyp.de)

**E-Mail:** [info@dzhyp.de](mailto:info@dzhyp.de)

**Represented by the Board of Managing Directors:**

Dr. Georg Reutter (Chairman), Jörg Hermes, Manfred Salber

**General Executive Managers:** Markus Wirsén

**Chairman of the Supervisory Board:** Uwe Fröhlich

**Head office of the company:**

Registered as public limited company in Hamburg,

Commercial Register HRB 5604 and Münster, Commercial Register HRB 17424

**Competent supervisory authorities:**

DZ HYP AG is subject to the supervision of the Federal Financial Supervisory Authority (60439) and the European Central Bank (ECB).

**VAT ident. no.:** DE 811141281

**Protection schemes:**

DZ HYP AG is a member of the officially recognised BVR Institutssicherung GmbH and the additional voluntary Sicherungseinrichtung des Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V. (Protection Scheme of the National Association of German Cooperative Banks): [www.bvr-institutssicherung.de](http://www.bvr-institutssicherung.de)  
[www.bvr.de/SE](http://www.bvr.de/SE)

**Responsible for the contents:**

Anke Wolff, Head of Communications,  
Marketing & Events

This document may only be reprinted, copied or used in any other way with the prior consent of DZ HYP AG

## II. Mandatory Disclosures for Other Research Information and further Remarks

### 1. Responsible Company

- 1.1 This Other Research Information has been prepared by DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main (DZ BANK) as an investment firm.

Other Research Information is independent client information which does not contain any investment recommendations for specific issuers or specific financial instruments. Such information makes no allowance for any individual investment criteria.

- 1.2 The mandatory disclosures for Research Publications (Financial Analyses and Other Research Information) as well as further remarks, especially regarding the Conflicts of Interest Policy of DZ BANK Research, used methods, procedures and statistics, can be read and downloaded free-of-charge under [www.dzbank.com/disclosures](http://www.dzbank.com/disclosures).

### 2. Competent Supervisory Authorities

DZ BANK is supervised as a credit institution and as an investment firm by:

– European Central Bank - [www.ecb.europa.eu](http://www.ecb.europa.eu)

Sonnemannstrasse 20 in 60314 Frankfurt / Main and

– Federal Financial Supervisory Authority (BaFin) - [www.bafin.de](http://www.bafin.de)

Marie-Curie-Strasse 24 - 28 in 60439 Frankfurt / Main

### 3. Independent Analysts

- 3.1 The Research Publications (Financial Analyses and Other Research Information) of DZ BANK are independently prepared by its employed analysts or by competent analysts commissioned in a given case on the basis of the binding Conflicts of Interest Policy.

- 3.2 Each analyst involved in the preparation of the contents of this Research Publication confirms that
- this Research Publication represents his independent specialist evaluation of the analysed object in compliance with the Conflicts of Interest Policy of DZ BANK and
  - his compensation depends neither in full nor in part, neither directly nor indirectly, on an opinion expressed in this Research Publication.

### 4. Categories for Evaluations / Statements in Other Research Information

Not every item of Other Research Information contains a statement on a certain investment or a valuation of this investment. The categories for evaluations / statements used in Other Research Information of DZ BANK are defined as follows.

#### 4.1 Statements on Isolated Aspects of an Investment Decision

Statements on the isolated evaluation of specific aspects that precede an investment recommendation on a financial instrument and / or an issuer - especially according to the sustainability criteria defined by DZ BANK, its defined value approach, its defined asset allocation (DZ BANK Sample Portfolio), its defined sector strategy Euro-Stoxx (DZ BANK Sector Favorites), its defined valuation of payments to beneficiaries (DZ BANK Dividend Aristocrats), its country weightings for covered bonds and its CRESTA-SCORE MODEL - are not investment categories and therefore do not contain any investment recommendations.

These isolated statements alone are not sufficient to form the basis of an investment decision. Reference is made to the explanation of the used relevant methods.

#### 4.2 Sustainability Analysis

Issuers of shares and bonds are analysed on the basis of predefined sustainability factors and classified in isolation as 'sustainable' or 'non sustainable'. For sovereigns, a classification as 'transformation state' can be made that lies between these two classifications.

#### 4.3 Share Indices

For defined share indices, share price forecasts are made at regular intervals. From the comparison between the current prices and the prepared forecasts on the development of such equity indices, investment recommendations that are not generally definable and that cannot be defined in advance may be developed.

#### 4.4 Currency Areas

The assessment of an investment in a currency area is geared to the aggregate return expected from an investment in that currency area. As a rule, this aggregate return is primarily derived from the forecast change in the exchange rates. Aspects such as the general interest rate level and changes in the yield level of bonds on the relevant bond market that are possibly to be taken into consideration are also included in the assessment.

„Attractive“ refers to the expectation that an investment in a currency area can deliver an above-average and positive return over a horizon of six to twelve months.

„Unattractive“ refers to the expectation that an investment in a currency area can deliver only very low returns or even losses over a horizon of six to twelve months.

„Neutral“ refers to the expectation that an investment in a currency area can deliver low or average returns over a horizon of six to twelve months.

The aforementioned returns are gross returns. The gross return as success parameter relates to bond yields before deduction of taxes, remunerations, fees and other purchase costs. This compares with the net return of a specific investment, which is not calculated and can deliver significantly lower returns and which measures the success of an investment in consideration of / after deducting these values and charges.

#### 4.5 The prevailing factor for the allocation of market segments and country weightings for covered bonds is the comparison between a sub-segment and all the sub-segments on the relevant market as a whole:

„Overweight“ refers to the expectation that a sub-segment can deliver a significantly better performance than all the sub-segments as a whole.

„Underweight“ refers to the expectation that a sub-segment can deliver a significantly poorer performance than all the sub-segments as a whole.

„Neutral weighting“ refers to the expectation that a sub-segment will not deliver any significant performance differences compared with all the sub-segments as a whole.

#### 4.6 Derivatives

For derivatives (Bund futures, Bobl futures, treasury futures, Buxl futures) the arrows (↑) (↓) (→) merely indicate the trend direction and do not contain any investment recommendation. The trend direction is derived solely from the use of generally recognised technical analysis indicators without reflecting an analyst's own assessment.

#### 4.7 Commodities

„Upward arrow (↑)“ means that the absolute price increase expected in the next twelve months is greater than 10 percent.

„Downward arrow (↓)“ means that the absolute price decline expected in the next twelve months is greater than 10 percent.

„Arrow pointing to the right (→)“ means that the absolute price change expected in the next twelve months will lie between +10 percent and -10 percent.

#### 4.8 Credit Trend Issuers

Based on the assessment of the rating development of the agencies and the DZ BANK CRESTA-SCORE forecast model, the following classifications apply:  
„Positive“ is given if the agencies S&P, Moody's and Fitch are expected to make a rating upgrade in the next twelve months,  
„Negative“ is given if the agencies S&P, Moody's and Fitch are expected to make a rating downgrade in the next twelve months,  
„Stable“ is given if the agencies S&P, Moody's and Fitch are expected to leave their ratings unchanged in the next twelve months  
If none of the agencies S&P, Moody's and Fitch have given a rating, no assessment is made of the credit trend for the issuer concerned.

#### 5. Updates and Validity Periods for Other Research Information

5.1 The frequency of updates of Other Investment Information depends in particular on the underlying macroeconomic conditions, current developments on the relevant markets, the current development of the analyzed companies, measures undertaken by the issuers, the behavior of trading participants, the competent supervisory authorities and the competent central banks as well as a wide range of other parameters. The periods of time named below therefore merely provide a non-binding indication of when an updated investment recommendation may be expected.

5.2 No obligation exists to update an Other Investment Information. If an Other Research Information is updated, this update replaces the previous Other Research Information with immediate effect.

If no update is made, investment recommendations end / lapse on expiry of the validity periods named below. These periods begin on the day the Other Investment Information was published.

#### 5.3 The validity periods for Other Research Information are as follows:

Sustainability analyses:	twelve months
Analyses according to the value approach:	one month
Asset allocation analyses (DZ BANK Sample Portfolio):	one month
Euro Stoxx Sector Strategy (DZ BANK Sector Favourites):	one month
Dividends (DZ BANK Dividend Aristocrats):	three months
Credit trend issuers:	twelve months
Share indices (fundamental):	three months
Share indices (technical / chart analysis):	one week
Share indices (technical daily):	publication day
Currency areas:	six to twelve months
Allocation of market segments:	one month
Country weightings for covered bonds:	six months
Derivatives (Bund futures, Bobl futures, treasury futures, Buxl futures):	one month
Commodities:	one month

5.4 In a given case, updates of Other Research Information may also be temporarily suspended without prior announcement on account of compliance with supervisory regulations.

5.5 If no updates are to be made in the future because the analysis of an object is to be discontinued, notification of this shall be made in the final publication or, if no final publication is made, the reasons for discontinuing the analysis shall be given in a separate notification.

#### 6. Avoiding and Managing Conflicts of Interest

6.1 DZ BANK Research has a binding Conflicts of Interest Policy which ensures that the relevant conflicts of interest of DZ BANK, the DZ BANK Group, the analysts and employees of the Research and Economics Division and persons closely associated with them are avoided, or - if such interests are effectively unavoidable - are appropriately identified, managed, disclosed and monitored. Material aspects of this policy, which can be read and downloaded free-of-charge under [www.dzbank.com/disclosures](http://www.dzbank.com/disclosures) are summarized as follows.

6.2 DZ BANK organizes its Research and Economics Division as a confidentiality area and protects it against all other organizational units of DZ BANK and the DZ BANK Group by means of Chinese walls. The departments and teams of the Division that produce Financial Analyses are also protected by Chinese walls and by spatial separation, a closed doors and clean desk policy. Beyond the limits of these confidentiality areas, communication may only take place in both directions according to the need-to-know principle.

6.3 The Research and Economics Division does not disseminate Research Publications on issues of DZ BANK or on financial instruments issued by companies of the DZ BANK Group.

6.4 In principle, employees of the Research and Economics Division and persons closely associated with them may not unrestrictedly invest in financial instruments covered by them in the form of Financial Analyses. For commodities and currencies, DZ BANK has also defined an upper limit based on the annual gross salary of each employee which, in the opinion of DZ BANK, also excludes the possibility of personal conflicts of interest among employees in the preparation of Other Research Publications.

6.5 Other theoretically feasible, information-based personal conflicts of interest among employees of the Research and Economics Division and persons closely associated with them are avoided in particular by the measures explained in sub-paragraph 6.2 and the other measures described in the policy.

6.6 The remuneration of employees of the Research and Economics Division depends neither in whole nor in the variable part directly or materially on the earnings from investment banking, trade in financial instruments, other securities related services and / or trade in commodities, merchandise, currencies and / or on indices of DZ BANK or the companies of the DZ BANK Group.

6.7 DZ BANK and companies of the DZ BANK Group issue financial instruments for trading, hedging and other investment purposes which, as underlying instruments, may refer to financial instruments, commodities, merchandise, currencies, benchmarks, indices and / or other financial ratios also covered by DZ BANK Research. Respective conflicts of interest are primarily avoided in the Research and Economics Division by means of the aforementioned organizational measures.

#### 7. Recipients, Sources of Information and Use

##### 7.1 Recipients

Other Research Information of DZ BANK is directed at eligible counterparties as well as professional clients. They are therefore not suitable for dissemination to retail clients unless (i) an Other research Information has been explicitly labelled by DZ BANK as suitable for retail clients or (ii) is disseminated by an investment firm properly authorized in the European Economic Area (EEA) or Swiss to retail clients, who evidently have the necessary knowledge and sufficient experience in order to understand and evaluate the relevant risks of the relevant Other Research Information.

Other Research Information is authorized for dissemination by DZ BANK to the aforementioned recipients in in Member States of the European Economic Area and Switzerland.

It is neither allowed to provide Other Research Information to customers in the United States of America (USA) nor to conclude corresponding transactions with them.

The dissemination of Other Research Information in the Republic of Singapore is in any case restricted to DZ BANK AG Singapore Branch.



**7.2 Main Sources of Information**

For the preparation of its Research Publications, DZ BANK uses only information sources which it considers itself to be reliable. However, it is not feasible to make own checks of all the facts and other information taken from these sources in every case. If in a specific case, however, DZ BANK has doubts over the reliability of a source or the correctness of facts and other information, it shall make specific reference to this in the Research Publication.

The main sources of information for Research Publications are:

Information and data services (e.g. Reuters, Bloomberg, VWD, Markit), licensed rating agencies (e.g. Standard & Poors, Moody's, Fitch, DBRS), specialist publications of the sectors, the business press, the competent supervisory authorities, information of the issuers (e.g. annual reports, securities prospectuses, ad-hoc disclosures, press and analyst conferences and other publications) as well as its own specialist, micro and macro-economic research, examinations and evaluations.

**7.3 No individual investment recommendation**

Under no circumstances can or should an Other Research Information replace a specialist investment advice necessary for a specific investment. For this reason an Other Research Information cannot be used as sole basis for an investment decision.

**8. Summary of used Methods and Procedures**

Detailed information on generally recognized as well as proprietary methods and procedures used by DZ BANK Research can be read and downloaded free-of-charge under [www.dzbank.com/disclosures](http://www.dzbank.com/disclosures).

**III. Disclaimer**

1. This document is directed at eligible counterparties and professional clients. Therefore, it is not suitable for retail clients unless (a) it has been explicitly labelled as appropriate for retail clients or (b) is properly disseminated by an investment firm authorized in the European Economic Area (EEA) or Switzerland to retail clients, who evidently have the necessary knowledge and sufficient experience in order to understand and evaluate the relevant risks of the relevant evaluation and / or recommendations.  
It was prepared by DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, Germany („DZ BANK“) and has been approved by DZ BANK only for dissemination to the aforementioned recipients in Member States of the EEA and Switzerland.  
If this document is expressly marked as 'Financial Analysis' in sub-section 1.1 of the Mandatory Disclosures, its distribution to recipients is subject to the section International Restrictions of Use and these additional rules:  
This document may only be brought into the Republic of Singapore by DZ BANK via the DZ BANK Singapore Branch, but not by other persons, and may only be disseminated there to 'accredited investors' and / or 'expert investors' and used by them.  
This document may only be brought into the United States of America (USA) by DZ BANK and via Auerbach Grayson, but not by other persons, and may only be disseminated there to 'major U.S. institutional investors' and used by them, if it solely comprises equity research. DZ BANK is neither allowed to bring documents on debt instruments into the USA nor to conclude transactions in debt instruments.  
If this document is expressly marked as 'Other Research Information' in sub-section 1.1 of the Mandatory Disclosures, its dissemination to recipients is subject to these additional rules:  
It is neither allowed to provide Other Research Information to customers in the United States of America (USA) nor to conclude corresponding transactions with them.  
The dissemination of Other Research Information in the Republic of Singapore is in any case restricted to DZ BANK AG Singapore Branch.  
In all before named countries, this document may only be distributed in accordance with the respective applicable laws and rules, and persons obtaining possession of this document should inform themselves about and observe such laws and rules.
2. This document is being handed over solely for information purposes and may not be reproduced, redistributed to other persons or be otherwise published in whole or in part. All copyrights and user rights to this document, also with regard to electronic and online media, remain with DZ BANK.  
Whilst DZ BANK may provide hyperlinks to web sites of companies mentioned in this document, the inclusion of a link does not imply that DZ BANK endorses, recommends or guarantees any data on the linked page or accessible therefrom. DZ BANK accepts no responsibility whatsoever for any such links or data, nor for the consequences of its use.
3. This document is not to be construed as and does not constitute an offer, or an invitation to make an offer, to buy securities, other financial instruments or other investment objects.  
Estimates, especially forecasts, fair value and / or price expectations made for the investment objects analyzed in this document may prove incorrect. This may occur especially as a result of unpredictable risk factors.  
Such risk factors are in particular, but not exclusively: market volatility, sector volatility, measures undertaken by the issuer or owner, the general state of the economy, the non-realizability of earnings and / or sales targets, the non-availability of complete and / or precise information and / or later occurrence of another event that could lastingly affect the underlying assumptions or other forecasts on which DZ BANK relies.  
The estimates made should always be considered and evaluated in connection with all previously published relevant documents and developments relating to the investment object and to the relevant sectors and, in particular, capital and financial markets.  
DZ BANK is under no obligation to update this document. Investors must inform themselves about the current development of business as well as of any changes in the business development of the companies.  
During the validity period of an investment recommendation, DZ BANK is entitled to publish a further or other analysis based on other, factually-warranted or even missing criteria on the investment object.
4. DZ BANK has obtained the information on which this document is based from sources believed to be essentially reliable, but has not verified all of such information. Consequently, DZ BANK does not make or provide any representations or warranties regarding the preciseness, completeness or accuracy of the information or the opinions contained in this document.  
Neither DZ BANK nor its affiliated companies accept any liability for disadvantages or losses incurred as a result of the distribution and / or use of this document and / or which are connected with the use of this document.

5. DZ BANK and its affiliated companies are entitled to maintain investment banking and business relationships with the company or companies that are the subject of the analysis contained in this document. Within the limits of applicable supervisory law, DZ BANK's research analysts also provide information regarding securities-related services and ancillary securities-related services.  
Investors should assume that (a) DZ BANK and its affiliated companies are or will be entitled to engage in investment banking operations, security operations or other business transactions from or with the companies that are the subject of the analysis contained in this document, and that (b) analysts involved in the preparation of this document can generally be indirectly involved in the conclusion of such business transactions to the extent permitted by supervisory law.  
DZ BANK and its affiliated companies and their employees may have positions in securities of the analyzed companies or investment objects or effect transactions with these securities or investment objects.
6. The information and recommendations of DZ BANK contained in this document do not constitute any individual investment advice and, depending on the specific investment targets, the investment horizon or the individual financial situation, may therefore be unsuitable or only partially suitable for certain investors. In preparing this document DZ BANK has not and does not act in the capacity of an investment advisor to, or asset manager for, any person.  
The recommendations and opinions contained in this document constitute the best judgment of DZ BANK's research analysts at the date and time of preparation of this document and are subject to change without notice as a result of future events or developments. This document constitutes an independent appraisal of the relevant issuer or investment objects by DZ BANK; all evaluations, opinions or explanations contained herein are those of the author of this document and do not necessarily correspond with those of the issuer or third parties.  
Any decision to effect an investment in securities, other financial instruments, commodities, merchandise or other investment objects should not be made on the basis of this document, but on the basis of independent investment analyses and methods as well as other analyses, including but not limited to information memoranda, sales or other prospectuses. This document can be no replacement for individual investment advice.
7. By using this document, in any form or manner whatsoever, or referring to it in your considerations and / or decisions, you accept the restrictions, specifications and regulations contained in this document as being exclusively and legally binding for you.

#### **Additional Information of Markit Indices Limited**

Neither Markit, its affiliates or any third party data provider makes any warranty, express or implied, as to the accuracy, completeness or timeliness of the data contained herewith nor as to the results to be obtained by recipients of the data. Neither Markit, its affiliates nor any data provider shall in any way be liable to any recipient of the data for any inaccuracies, errors or omissions in the Markit data, regardless of cause, or for any damages (whether direct or indirect) resulting therefrom.

Markit has no obligation to update, modify or amend the data or to otherwise notify a recipient thereof in the event that any matter stated herein changes or subsequently becomes inaccurate.

Without limiting the foregoing, Markit, its affiliates, or any third party data provider shall have no liability whatsoever to you, whether in contract (including under an indemnity), in tort (including negligence), under a warranty, under statute or otherwise, in respect of any loss or damage suffered by you as a result of or in connection with any opinions, recommendations, forecasts.

# DZ HYP ADDRESSES

## Hamburg Head Office

Rosenstrasse 2  
20095 Hamburg, Germany  
PO Box 10 14 46  
20009 Hamburg, Germany  
Phone: +49 40 3334-0

## Münster Head Office

Sentmaringer Weg 1  
48151 Münster, Germany  
Mailing address:  
48136 Münster, Germany  
Phone: +49 251 4905-0

## Commercial Real Estate Investors

### Real Estate Centre Berlin

Pariser Platz 3  
10117 Berlin, Germany  
Phone: +49 30 31993-5101

### Real Estate Centre Düsseldorf

Ludwig-Erhard-Allee 20  
40227 Düsseldorf, Germany  
Phone +49 211 220499-30

### Real Estate Centre Frankfurt

CITY-HAUS I, Platz der Republik 6  
60325 Frankfurt/Main, Germany  
Phone: +49 69 750676-21

### Real Estate Centre Hamburg

Rosenstrasse 2  
20095 Hamburg, Germany  
Phone: +49 40 3334-3778

### Real Estate Centre Munich

Türkenstrasse 16  
80333 Munich, Germany  
Phone: +49 89 512676-10

### Real Estate Centre Stuttgart

Heilbronner Strasse 41  
70191 Stuttgart, Germany  
Phone: +49 711 120938-0

## Hanover Regional Office

Berliner Allee 5  
30175 Hanover, Germany  
Phone: +49 511 866438-08

## Kassel Regional Office

Rudolf-Schwander-Str. 1  
34117 Kassel, Germany  
Phone: +49 561 602935-23

## Leipzig Regional Office

Schillerstrasse 3  
04109 Leipzig, Germany  
Phone: +49 341 962822-92

## Mannheim Regional Office

Augustaanlage 61  
68165 Mannheim, Germany  
Phone: +49 621 728727-20

## Münster Regional Office

Sentmaringer Weg 1  
48151 Münster, Germany  
Phone: +49 251 4905-7314

## Nuremberg Regional Office

Am Tullnaupark 4  
90402 Nuremberg, Germany  
Phone: +49 911 940098-16

## Institutional Clients

Rosenstrasse 2  
20095 Hamburg, Germany  
Phone: +49 40 3334-2159

## DZ HYP ADDRESSES CONTINUED

### Housing Sector

#### DZ HYP Berlin

Pariser Platz 3  
10117 Berlin, Germany  
Phone: +49 30 31993-5080

#### DZ HYP Düsseldorf

Ludwig-Erhard-Allee 20  
40227 Düsseldorf, Germany  
Phone: +49 251 4905-3830

#### DZ HYP Frankfurt

CITY-HAUS I, Platz der Republik 6  
60325 Frankfurt/Main, Germany  
Phone: +49 211 220499-5833

#### DZ HYP Hamburg

Rosenstrasse 2  
20095 Hamburg, Germany  
Phone: +49 40 3334-4705

#### DZ HYP Munich

Türkenstrasse 16  
80333 Munich, Germany  
Phone: +49 89 512676-55

#### DZ HYP Stuttgart

Heilbronner Strasse 41  
70191 Stuttgart, Germany  
Phone: +49 89 512676-55

### Retail Customers

#### DZ HYP Berlin

Pariser Platz 3  
10117 Berlin, Germany  
Phone: +49 40 3334-4706

#### DZ HYP Düsseldorf

Ludwig-Erhard-Allee 20  
40227 Düsseldorf, Germany  
Phone: +49 211 220499-5830

#### DZ HYP Frankfurt

CITY-HAUS I, Platz der Republik 6  
60325 Frankfurt/Main, Germany  
Phone: +49 69 750676-12

#### DZ HYP Hamburg

Rosenstrasse 2  
20095 Hamburg, Germany  
Phone: +49 40 3334-4706

#### DZ HYP Munich

Türkenstrasse 16  
80333 Munich, Germany  
Phone: +49 89 512676-41

#### DZ HYP Stuttgart

Heilbronner Strasse 41  
70191 Stuttgart, Germany  
Phone: +49 711 120938-39

### Public Sector

Sentmaringer Weg 1  
48151 Münster, Germany  
Phone: +49 251 4905-3333

**DZ HYP AG**

**Rosenstrasse 2  
20095 Hamburg  
Germany  
Phone +49 40 3334-0**

**Sentmaringer Weg 1  
48151 Münster  
Germany  
Phone +49 251 4905-0**

**[dzhyp.de](http://dzhyp.de)**