



Covered Bond & SSA View

NORD/LB Markets Strategy & Floor Research





Agenda

B 4 -		OVAC	
11/12	ILKOT	OVAL	ΠΩΝΑ

Covered Bonds	3
SSA/Public Issuers	5
ASB Finance opens primary market "Down Under": Our outlook for the rest of the year	7
Development of the German property market	11
ECB tracker	
Asset Purchase Programme (APP)	14
Pandemic Emergency Purchase Programme (PEPP)	19
Aggregated purchase activity under APP and PEPP	22
Charts & Figures	
Covered Bonds	23
SSA/Public Issuers	29
Overview of latest Covered Bond & SSA View editions	32
Publication overview	33
Contacts at NORD/LB	34

Floor analysts:

Dr Frederik Kunze	Dr Norman Rudschuck, CIIA	Henning Walten, CIIA
Covered Bonds	SSA/Public Issuers	Covered Bonds
frederik.kunze@nordlb.de	norman.rudschuck@nordlb.de	henning.walten@nordlb.de

NORD/LB:NORD/LB:NORD/LB:Bloomberg:Markets Strategy & Floor ResearchCovered Bond ResearchSSA/Public Issuer ResearchRESP NRDR <GO>



Market overview Covered Bonds

Author: Henning Walten, CIIA

The market reveals its lively side

With four transactions with an aggregate volume of EUR 3.5bn, the primary market has again revealed its lively side in the past five trading days. It started with DNB Boligkreditt, placing its second EUR benchmark of 2021. With a term to maturity of seven years, the deal is not only shorter than the January issue, but at EUR 1.0bn is also somewhat smaller than at the beginning of the year (EUR 1.5bn). After the deal was initially marketed at ms +3bp area, it was ultimately brought to market at ms flat. With demand of EUR 1.8bn, the transaction was also almost twice oversubscribed. At around 30% each, the largest shares of the bond went to investors from the UK/Ireland and the DACH region. Additional volume went to the Benelux countries (15%), France (11%) and Scandinavia (10%). In line with the regional breakdown, two groups also dominated in terms of investor type. Banks were allocated 44%, asset managers 43%. The remaining 13% went to Central Banks/Official Institutions. SpareBank 1, from Norway, was also active in the market last week. For the first time since September 2020, the issuer approached its investors and placed at least EUR 1.0bn as usual. At EUR 1.8bn, demand was on a par with the DNB transaction, while pricing was three basis points higher at ms +3bp, which is probably due to the longer maturity, among other things. At 67%, DACH investors were by far the dominant buyer group. Smaller portions went to Benelux (11%), the Nordics (7%), Asia and France (6% each). At 53%, banks also dominated the buyer type. Central banks/OI received 26%, asset managers 19%. Yesterday, two more issuers followed. While Berlin Hyp (EUR 750m; 12.0y; ms -2bp) launched its third EUR benchmark of 2021, ASB Finance from New Zealand provided a sign of life from Down Under. The most recent EUR benchmark market activity from the region was Bank of Queensland (May 2019), whereas it has been over two years since we have seen a EUR transaction from New Zealand (Westpac NZ in January 2019). At ten years, it was not only ASB Finance's longest EUR benchmark, but also the largest deal ever issued, at EUR 750m. The soft bullet bond was initially marketed with a guidance of ms +15bp area, but was priced three basis points tighter at ms +12bp based on an order book of EUR 1.1bn. The four recent deals increased the volume of EUR benchmarks issued in 2021 from EUR 30.25bn to EUR 33.75bn, up +11.6%.

Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
ASB Finance	NZ	11.05.	XS2343772724	10.0y	0.75bn	ms +12bp	AAA / Aaa / -	-
Berlin Hyp	DE	11.05.	DE000BHY0HW9	12.0y	0.75bn	ms -2bp	- / Aaa / -	-
SpareBank 1	NO	06.05.	XS2342589582	10.0y	1.00bn	ms +3bp	- / Aaa / -	-
DNB	NO	05.05.	XS2341719503	7.0y	1.00bn	ms flat	- / Aaa / AAA	-

Source: Bloomberg, NORD/LB Markets Strategy & Floor Research, (Rating: Fitch / Moody's / S&P)



Amendment to the German Pfandbrief Act clears last hurdle

Last Friday, the German Bundesrat approved the amendment of the Pfandbrief Act. The German Bundestag had already passed the corresponding law in mid-April. The amendments to the Pfandbrief Act contain, on the one hand, the necessary adjustments resulting from the Covered Bond Directive within the framework of the harmonisation of the European covered bond market and, on the other hand, further adjustments that are not connected with the harmonisation initiative. Some changes will already come into force on 01 July of this year, while other changes will take place together with the entry into force of the amended requirements of Article 129 CRR on 08 July 2022. The most important adjustment, which will also take effect on 01 July 2021, is the introduction of the extendable maturity structure for German Pfandbriefe. This applies to both new issues and outstanding bonds and, within a narrow legal framework, allows the cover pool administrator to extend the maturity of Pfandbriefe by up to twelve months under certain conditions. Overall, the adjustments made to the German Pfandbrief underpin its claim to be an international benchmark with regard to the design of the covered bond product. Moreover, Germany is likely to be one of the few jurisdictions to meet the specified timetable with regard to the implementation of the Covered Bond Directive. Fitch's risk experts also expressed their opinions in connection with the adjustments to the legal basis. They view the upcoming change in the maturity structure for German Pfandbriefe positively. On the one hand, the experts do not expect any direct rating upgrades, but the rating buffers against issuer downgrades are likely to increase. Specifically, the payment continuity uplift (PCU) is to be raised from four (mortgage bonds) or five (public sector bonds) to six notches due to the change to soft bullet structures. In combination with the 180-day liquidity buffer, the changed maturity structure could also lead to lower break-even OCs as a result of better asset-liability matches.

AEGON Bank launches soft bullet programme, taking NN Bank's lead

After AEGON Bank had already thought about launching a soft bullet programme in November 2020 to complement the existing CPT programme, these considerations have now been realised. The institution, which currently has four outstanding EUR benchmarks with a CPT structure, therefore follows NN Bank, which as a former CPT issuer has placed two soft bullet bonds in the EUR benchmark segment since the end of June 2020. With Achmea Bank, another institution announced at the beginning of February 2021 that it was working on launching a soft bullet programme. As things stand, NIBC and Van Lanschot may be the only remaining pure CPT issuers in the Netherlands, as we expect both AEGON Bank and Achmea Bank's next primary market appearances to be in the form of soft bullet bonds, as these deals offer advantages over conditional pass-through structures in terms of both maturity and investor base. Moody's recently also commented not on the continuing shift from CPT to soft bullet structures, but on rating ratios. According to this, the risk experts see the development of covered bond issues and the share of funding of Dutch institutions in recent years and the upcoming legal adjustments within the framework of the harmonisation initiative as underpinning the importance of covered bonds in the Netherlands and have adjusted their assessment with regard to refinancing margins (lowering of the required margins) and TPI (increase from probable to probable-high).



Market overview SSA/Public Issuers

Author: Dr Norman Rudschuck, CIIA

KfW Municipal Panel – general information

The KfW Municipal Panel represents a survey of the finance departments of cities and municipalities with more than 2,000 inhabitants as well as all administrative districts. Since 2009, this survey and representative extrapolation has been carried out by the Deutsches Institut für Urbanistik (Difu) urban planning think tank on behalf of KfW. The survey centres on aspects regarding the financial position, investment activities and financing of local authorities. In our view, the extrapolation regarding the perceived investment backlog of local authorities merits particular attention. A different special topic, the key figures in the financial statistics and information about any current municipal policy debates complete the final report.

KfW Municipal Panel 2021

As a result of financial support from the federal government (Bund) and the Laender, local authorities closed the 2020 survey year with a small surplus. For local authorities, this certainly is a positive situation, because the Bund bears the main burden of the cost of the (consequences of the) pandemic. There is no other explanation for the Bund's record debt level in the primary market. However, the Bundeslaender are also shouldering a considerable (debt) burden. Yet, according to KfW, the major uncertainty about the further financial trend has the potential to adversely affect both public sector investment and voluntary tasks, for example in sport and culture. In our view, the current KfW Municipal Panel 2021 therefore highlights an urgent need to stabilise the options for short-term and mediumterm measures of local authorities, in order to ensure that the major societal challenges and the perceived investment backlog of meanwhile an estimated EUR 149bn can be sustainably tackled. In this context, we had already criticised the fact that the federal government had not applied for more money from the EU pots (e.g. under Next Generation EU). According to KfW, the local authorities surveyed expect investment spending to rise to approx. EUR 39.2bn, with the medium-term impact of the coronavirus crisis still representing major uncertainty in terms of whether implementation of this planning will actually be possible. Despite an increase in investment spending in recent years, it was not possible to cover the rising requirement for investment. Based on the nationwide extrapolation, the perceived investment backlog at local authority level totals EUR 149bn. This represents an increase of approx. EUR 2bn on the previous year. Furthermore, at EUR 46.5bn, the major share of the investment backlog relates to schools. Highways are next at EUR 33.6bn, and the backlog relating to administrative buildings amounts to EUR 16.4bn. We believe that in the era of digital and home working, authorities should also proceed wisely and judiciously in this regard. The investment backlog accumulated over a period of many years, hardly surprisingly, differs between local authorities and areas of investment. This relates to the amount of the backlog, the assessment of urgency and the causes.



KfW: investment financing and debt burden

In addition to discussing the weaknesses (and, above all, strengths) of the survey method, we are certain of establishing a very relevant informative value of the results of this report. The method description helps the interested reader to better understand the conclusions resulting from the KfW Municipal Panel. In local authority investment financing, the share of the different instruments varies only slightly, and this also applies in the time of the coronavirus crisis. Accordingly, local authority financing is based on four stable pillars: 36% of investment was financed by local authorities from their own funds, comprising a share of 19% from general revenue (tax revenue and the code for allocation of funds) as well as liquid funds from previous years (17%). Other important aspects are development funds (20%) and earmarked investment allocation (16%). Debt financing based on public sector loans accounted for 14% of local authority investment financing. Other instruments that are highly relevant to us in the capital market, such as bonds and Schuldscheindarlehen, played a minor role overall. The importance of the various instruments differs primarily in relation to population size and the budgetary situation. In future, the finance departments expect the importance of development funds and public sector loans for their investment financing to increase, whereas the share of own funds is expected to decrease, because these funds have been particularly badly affected by the crisis.

NRW investor call - update on sustainability framework

On 11 May 2021, the NRW Funding Team provided an update on its renewed sustainability framework during an investor call. The additions and revisions seem very sensible to us in the context of Covid-19. NRW will remain loyal to the high-profile topic that is ESG on a sustained basis, with at least one annual bond issue. As well as the framework and coronavirus, the update also provided a funding outlook: from 2022, market participants should expect an amount more in the range of EUR 10bn per year rather than the EUR 20bn+most recently seen.

Primary market

In what has been a surprisingly sparse week in terms of new bond issues, today for once started with the Federal Republic of Germany. Yesterday, the Bund placed its first 30y green bond, continuing the strategy first implemented in 2020 of facilitating access to green benchmark bonds for investors worldwide. Dr Tammo Diemer explained: "Demand for this long-dated bond issue has been very impressive, both in amount and diversity. The high level of interest received again confirms the success of our innovative twin concept. We are very motivated to continue it and, with it, contribute to the further development of a sustainable financial market." Germany has set ambitious climate targets for itself, both nationally and internationally, and intends to achieve net zero carbon before 2050. Green Federal government securities form part of the German government's sustainable finance strategy. As well as NRW (see above) is also on the EIB, which raised EUR 3bn for its EARN programme. The 7y deal was placed at ms -10bp. The order book amounted to EUR 7.7bn. Furthermore, we await the EU's SURE programme. The relevant RfP has already been made available to originators worldwide. KfW also gave a mandate for 15y bonds (EUR 3bn WNG).

Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
EIB	SNAT	10.05.	XS2343538372	7.3y	3.00bn	ms -10bp	AAA / Aaa / AAA	-

 $Source: Bloomberg, NORD/LB\ Markets\ Strategy\ \&\ Floor\ Research\ (Rating:\ Fitch\ /\ Moody's\ /\ S\&P)$



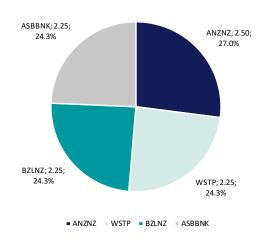
Covered Bonds ASB Finance opens primary market "Down Under": Our outlook for the rest of the year

Author: Dr Frederik Kunze

First EUR benchmark from Australia or New Zealand for almost two years - possible catalyst for a more dynamic year now?

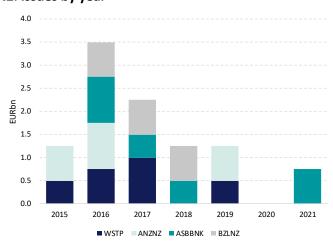
In regard to the mandating of ASB Finance for a EUR benchmark reported on Monday at the start of the new trading week and the successful placement of the bond on the market already yesterday, we would definitely call this a pleasant surprise. After all, this is the first sign of life from the primary market Down Under for almost two years. Most recently, Bank of Queensland approached investors with an Australian covered bond at the end of May 2019. Furthermore, we had previously expected an appearance from New Zealand and Australia more in the second half of 2021 and therefore after the summer recess. Now, however, it would not surprise us if other issuers were to follow ASB Finance's example in the coming trading days or weeks. Overseas markets (especially AU, NZ, SG and CA) have seen more concentrated issuance activity in the past, not least due to the prevalence of attractive market conditions. In addition to the willingness of investors to accept new issues, considerations regarding the appropriateness of potential issue currencies or hedging opportunities are influencing investors' decisions. In the following, we would like to provide an up-to-date overview of the jurisdictions of Australia and New Zealand, focusing in particular on the composition of the respective benchmark segment. In this context, we also consider the expected issuance volume for the rest of the year.

NZ: Outstanding volume by issuer (EURbn)



Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

NZ: Issues by year

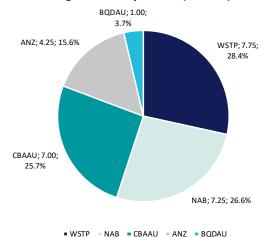




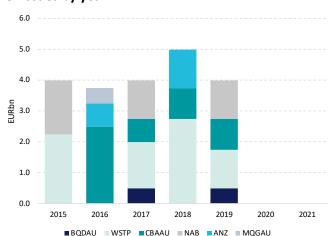
New Zealand's EUR benchmark segment: EUR 9.25bn in outstanding covered bonds

The New Zealand EUR benchmark segment currently has a total volume of EUR 9.25bn, spread over 13 bonds and four issuers. ASB Finance has an outstanding volume of EUR 2.25bn spread over four bonds. The country's other issues are also distributed among ANZ Bank New Zealand (ANZNZ; EUR 2.5bn; 3 bonds), Westpac New Zealand (WSTP; EUR 2.25bn; 3 bonds) and the Bank of New Zealand (BZLNZ; EUR 2.25bn; 3 bonds).

AU: Outstanding volume by issuer (EURbn)



AU: Issues by year



Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

Australia's EUR benchmark segment: EUR 27.25bn in outstanding covered bonds

In Australia, on the other hand, a total of five issuers currently have outstanding EUR benchmarks: Westpac Banking Group (WSTP; EUR 7.75bn; 8 bonds), National Australia Bank (NAB; EUR 7.25bn, 7 bonds), Commonwealth Bank of Australia (CBAAU; EUR 7bn; 7 bonds), Australia & New Zealand Banking Group (ANZ; 4.25bn; 4 bonds) and Bank of Queensland (BQDAU; EUR 1bn; 2 bonds). There were no primary market transactions to report from Australia in 2020 and 2021. As indicated above, Bank of Queensland's most recent appearance on the market was on 23 May 2019, when it placed a EUR Benchmark bond worth EUR 500m (BQDAU 0 1/8 06/04/24). Since its last EUR benchmark (MQGAU 0 3/8 03/03/21) matured in March this year, Macquarie Bank currently has no outstanding bonds in this format.

New Zealand: is expected issuance volume for 2021 about to be revised upwards?

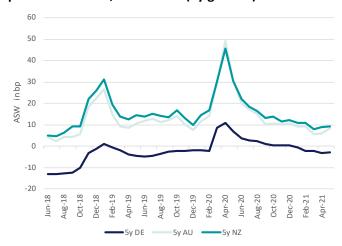
In terms of our expectations for the issuance volume in 2021, we had previously assumed the placement of a EUR benchmark from New Zealand (EUR 500m). Given the expected maturities (EUR 2bn), there would be a relatively significant negative net supply (EUR 1.5bn). In the course of the forecast adjustments in March, we did not make any changes here for NZ and accordingly did not adjust the expected volume downwards. New Zealand's issuance volume to date is now on par with our forecast. In fact, we consider it increasingly likely that at least one more benchmark issuer will approach investors. Should there be no copycats in the short term, a corresponding transaction for the second half of the year would remain a very realistic possibility.



Australia: certain potential for early momentum

The EUR benchmark segment in Australia is also on the verge of a significant contraction in 2021. Based on our current forecast (EUR 1bn) and the impending maturities in 2021 (EUR 5.5bn), a negative net supply of EUR 4.5bn would be recorded. However, since we do not consider the Australian and New Zealand markets as a single entity, but would certainly assume significant parallels with regard to the decision-making parameters for or against a EUR benchmark transaction, a successful New Zealand deal could also spill over to Australia. In this respect, at least the probability of early primary market appearances increases. This means that, contrary to our prior expectations, one issuer or another could already appear on the market before the summer break. This could in turn also have implications for the issuance volume. Therefore, in March we were forced to adjust the issuance expectations for Australia for 2021 from EUR 2bn to EUR 1bn. Early primary market appearances in the first half of the year could, in conjunction with an increasing momentum across all jurisdictions, make an issuance volume of EUR 2bn more likely again.

Spread trends: DE, NZ and AU (5y generic)



Spread trends: DE vs. AU and DE vs NZ (5y generic)

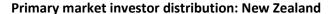


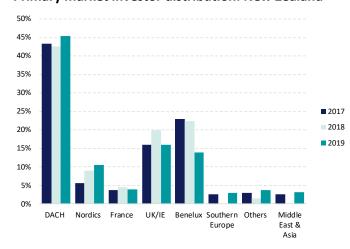
Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

Investor interest and spread considerations

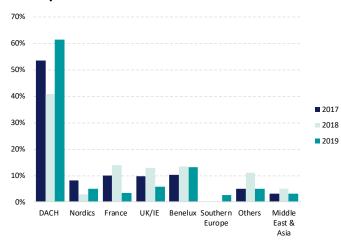
On the basis of generic spreads (5y), a stable spread compared to Pfandbriefe can be seen for both New Zealand and Australia, among others. The differences in the ASW spread that could be observed here in the wake of the outbreak of the coronavirus crisis have accordingly declined sharply. In terms of primary market allocation, the largest shares of issues from Australia and New Zealand were allocated to investors in the DACH region in the past, with the shares for deals from Australia being significantly higher here - at least at times (see figures below). New Zealand deals, on the other hand, partly recorded higher shares in the UK/Ireland and Benelux countries in terms of investor distribution. However, it should be borne in mind that no deals were recorded in 2020 and 2021, therefore providing little indication of more recent investor interest. Given low supply and tremendous Eurosystem demand for EMU deals, some investors are likely to welcome new deals from Down Under with open arms.







Primary market investor distribution: Australia



Source: Market data, NORD/LB Markets Strategy & Floor Research

Conclusion

The sign of life from Down Under provided by ASB Finance is expressly an encouraging development for the EUR benchmark segment. We even see some potential for a catalytic effect in regard to revitalised issuance activity. Should there actually be increasing momentum from New Zealand and Australia before the summer break, this could even be good news for 2021 as a whole. An investor or two from the DACH region, but also from the UK/Ireland and the Benelux countries, should more than welcome such a development. In this context, we also see it as confirmation of this assessment that ASB Finance was able to successfully place its largest EUR benchmark to date on the market at EUR 750m.



Covered Bonds Development of the German property market

Author: Henning Walten, CIIA

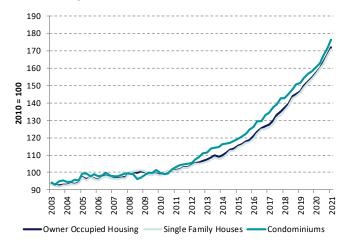
Property segments differently affected by the pandemic

The Association of German Pfandbrief Banks (vdp) has published information about the trend in its property price indices for the past twelve months. This is the first period to have been completely dominated by the pandemic, following the announcement of the first lockdown in Germany at the end of March 2020. The figures reflect the non-uniform picture, which had already started to emerge in the last few quarters. While the sub-index for residential property climbed 8.4% compared with the previous year, with the sharpest rise in prices since Q2/2018, the index for commercial property was down by 1.5%. The index for commercial property last fell in the period from Q1/2009 to Q1/2010. The overall index for the property price trend was up by 6.2% and therefore rose at a similar rate to prices in 2019. The top 7 index for residential property, which reflects the price trend in the cities Berlin, Hamburg, Frankfurt/Main, Munich, Stuttgart, Düsseldorf and Cologne climbed 5.3% in the past twelve months. The last sharp rise in this index was also a while back. Two years ago (Q1/2018 to Q1/2019), prices rose by 5.6%. The pandemic caused the price trend in the residential property market to accelerate, whereas the commercial sector was hard hit by lockdown measures and the resultant reduced use of both office and retail property.

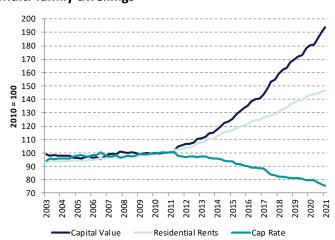
Price trend for owner-occupied property at unprecedented level

As indicated above, the various segments followed differing paths in the last twelve months. Only very few could have expected the German market for residential property to experience the trend described below during a global pandemic when the coronavirus first arrived in Europe. Since the first quarter of 2020, prices of owner-occupied property have risen by 9.4%, with the increase for owner-occupied houses amounting to 9.3% and that for owner-occupied flats to as much as 9.8%. All three rates of price increase represented record values since the introduction of the index in 2003 – and by some margin too. Key influencing factors included ongoing favourable financing terms and new construction activity, which still remains limited in some areas. At the same time, use and therefore importance is likely to have appreciated markedly in recent months, which probably further boosted demand for owner-occupied property. How long this trend will continue cannot currently be forecast, in our view. However, the gradual return to a (new) normal could certainly have a decisive influence. Unsurprisingly, monetary policy and construction activity remain other relevant factors.

Owner-occupied homes



Multi-family dwellings



Source: vdp, NORD/LB Markets Strategy & Floor Research

Rent and prices of multi-family dwellings

The market trend for multi-family dwellings over the 12-month period was also unaffected by the pandemic. At +7.6% (previous quarter: +6.7%), the price increase over the past twelve months was significant, although not at record level. The reasons were the same as for owner-occupied residential property: favourable financing terms and a high level of excess demand. Despite the ongoing considerable increase in prices, multi-family dwellings continue to be in high demand among German and international investors, regardless of the fact that the rise in rent under new contracts has continued to slow down at +2.3%. Consequently, the index for yields was considerably down over the 12-month period.

Prices of office property declining

Unlike the market for residential property, the commercial sector was considerably impacted by the pandemic and its side effects. Office property prices have fallen by 1.2% since the first quarter of 2020. This was the first downward trend in prices recorded over a 12-month period since Q1/2010. Office rents were also down by 0.9%. More challenging times may yet be to come for the office property market, given that the boost in digital triggered by the pandemic as well as more flexible schemes for where and when employees work are likely to result in a decline in demand for office space.

Retail property prices see marked negative impact

Just as the office sector is potentially facing accelerated change, retail has also been facing numerous challenges for some time now, which have only deepened as a result of the coronavirus pandemic. In addition, retail has been the property sector hardest hit by lockdown measures. Over the 12-month period, prices were down by 2.1%. In some areas, prices had already been decreasing before the pandemic. The index was already down by around 2% in each of the previous two quarters, considering a 12-month period in each case. The coming years and quarters will reveal the extent to which the pandemic accelerated ongoing changes in consumer behaviour or the extent to which such change might temporarily slow down in terms of retail after restrictions are lifted. For the time being, the market for retail property remains the most challenging segment of the German property market.



Office property

Retail property



Source: vdp, NORD/LB Markets Strategy & Floor Research

Top 7 in the housing market – steady growth

The separate index reflecting the trend in the housing markets of the above-mentioned top 7 cities in Germany pointed slightly more upward again over a 12-month period. Irrespective of the coronavirus pandemic, prices rose by 5.7% in the past twelve months, after increasing 'only' 2.9% a year ago. The sharpest growth was recorded in the sub-index for owner-occupied flats in the top 7 cities, with prices climbing 7.9%. Similar to the national trend in the residential property market, no negative coronavirus effect was therefore evident on the market in the top 7 German cities. In fact, prices rose at an even faster rate than immediately before the pandemic.

Conclusion

During the pandemic, the German property market has reflected both sides of the coin. While prices for residential property have been considerably boosted since the first lock-down was imposed at the end of March 2020, prices in the segment of office and retail property declined. Both trends had already begun to emerge in the previous quarters. The structural change in the segment of commercial property is likely to remain topical in the coming quarters and years. Important influencing factors remained more flexible working arrangements as well as changing consumer behaviour and demand for retail space. The rise and increasing popularity of working from home has the potential to further boost the value of homes and accordingly push demand.



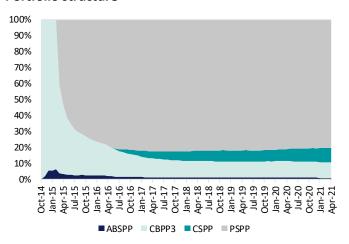
ECB tracker

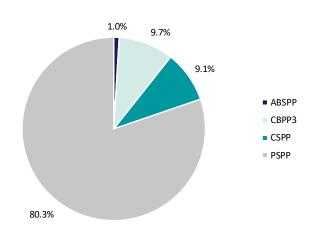
Asset Purchase Programme (APP)

Holdings (in EURm)

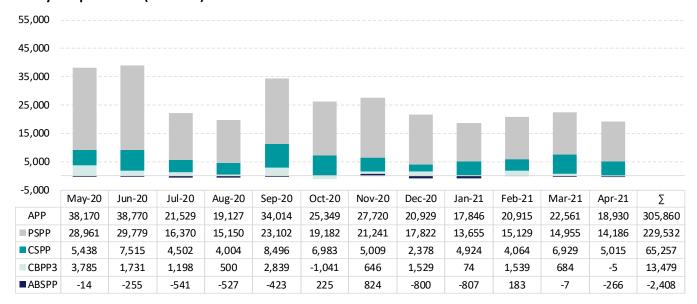
	ABSPP	СВРР3	CSPP	PSPP	APP
Mar-21	28,709	289,424	266,060	2,379,053	2,963,246
Apr-21	28,443	289,418	271,075	2,393,239	2,982,176
Δ	-266	-5	+5,015	+14,186	+18,930

Portfolio structure





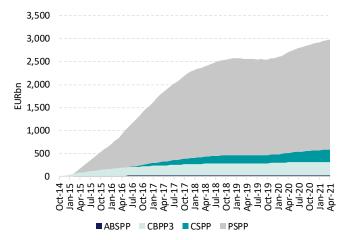
Monthly net purchases (in EURm)



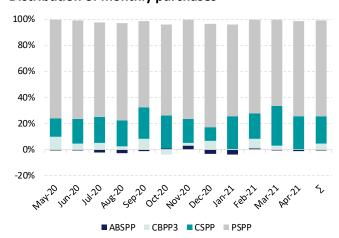
Source: ECB, NORD/LB Markets Strategy & Floor Research



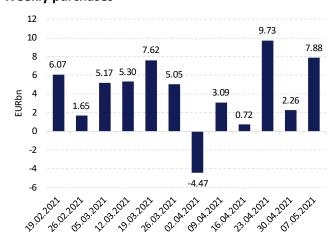
Portfolio development



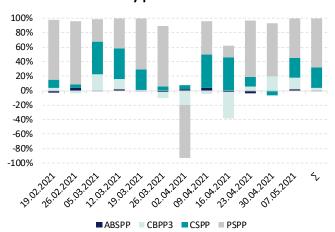
Distribution of monthly purchases



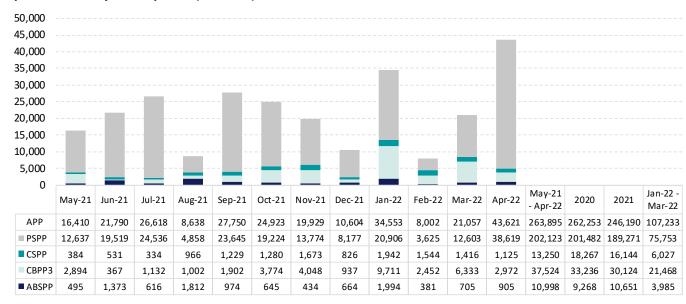
Weekly purchases



Distribution of weekly purchases



Expected monthly redemptions (in EURm)

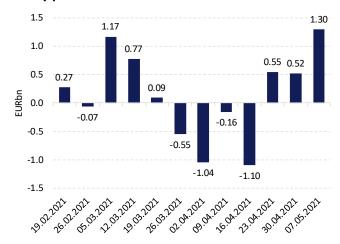


Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

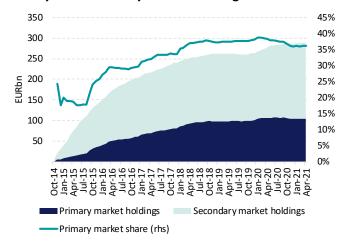


Covered Bond Purchase Programme 3 (CBPP3)

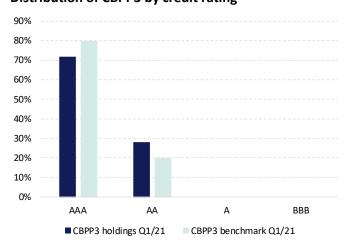
Weekly purchases



Primary and secondary market holdings

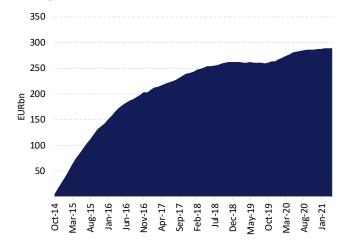


Distribution of CBPP3 by credit rating



Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

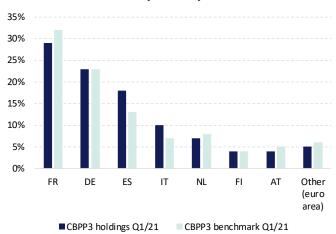
Development of CBPP3 volume



Change of primary and secondary market holdings



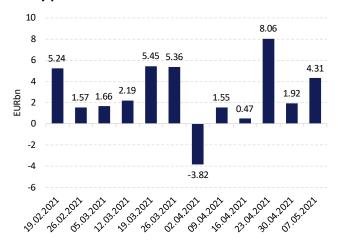
Distribution of CBPP3 by country of risk





Public Sector Purchase Programme (PSPP)

Weekly purchases



Development of PSPP volume



Overall distribution of PSPP buying at month-end

Jurisdiction	Adjusted distribution key ¹	Purchases (EURm)	Expected purchases (EURm) ²	Difference (EURm)	Avg. time to maturity ³ (in years)	Market average ³ (in years) ³	Difference (in years)
AT	2.7%	70,653	68,094	2,559	7.5	7.6	-0.1
BE	3.4%	89,126	84,760	4,366	8.0	10.2	-2.2
CY	0.2%	3,611	5,006	-1,395	9.9	8.8	1.1
DE	24.3%	598,996	613,295	-14,299	6.6	7.6	-1.0
EE	0.3%	372	6,554	-6,182	9.2	7.5	1.7
ES	11.0%	296,991	277,424	19,567	8.0	8.4	-0.4
FI	1.7%	36,318	42,734	-6,416	6.9	7.7	-0.8
FR	18.8%	494,566	475,168	19,398	7.2	8.1	-0.9
GR	0.0%	0	0	0	0.0	0.0	0.0
IE	1.6%	38,881	39,396	-515	8.5	10.1	-1.6
IT	15.7%	424,762	395,235	29,527	7.1	7.9	-0.8
LT	0.5%	4,927	13,465	-8,538	10.2	10.6	-0.4
LU	0.3%	3,301	7,664	-4,363	5.6	7.2	-1.7
LV	0.4%	2,808	9,065	-6,257	11.3	10.4	0.9
MT	0.1%	1,229	2,440	-1,211	9.5	9.2	0.3
NL	5.4%	122,372	136,342	-13,970	7.7	9.0	-1.4
PT	2.2%	46,005	54,451	-8,446	7.0	7.2	-0.2
SI	0.4%	9,112	11,202	-2,090	9.9	10.2	-0.3
SK	1.1%	15,494	26,644	-11,150	8.2	8.3	-0.1
SNAT	10.0%	261,517	252,104	9,413	7.7	8.9	-1.2
Total / Avg.	100.0%	2,521,042	2,521,042	0	7.3	8.2	-0.9

 $^{^{\}mathrm{1}}$ Based on the ECB capital key, adjusted to include supras and the disqualification of Greece

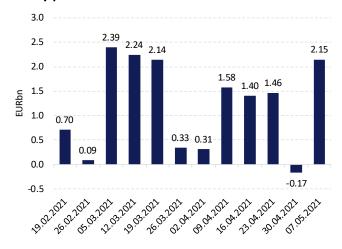
² Based on the adjusted distribution key

³ Weighted average time to maturity of the bonds eligible for purchasing under the PSPP (semi-annual data, Q1/2021) Source: ECB, NORD/LB Markets Strategy & Floor Research

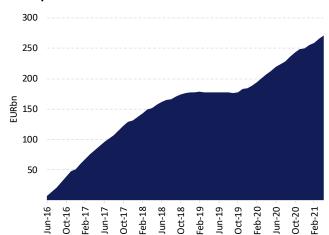


Corporate Sector Purchase Programme (CSPP)

Weekly purchases

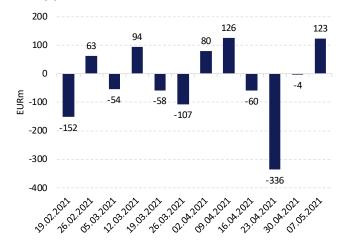


Development of CSPP volume



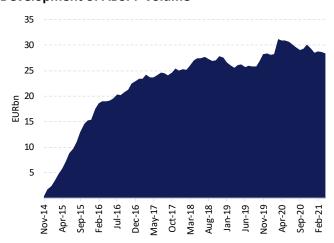
Asset-Backed Securities Purchase Programme (ABSPP)

Weekly purchases



Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

Development of ABSPP volume

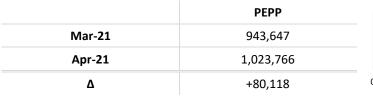


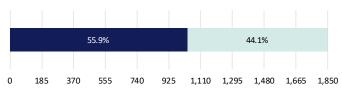


Pandemic Emergency Purchase Programme (PEPP)

Holdings (in EURm)

Volume already invested (in EURbn)





Estimated portfolio development

Assumed pace of purchases

Weekly net purchase volume

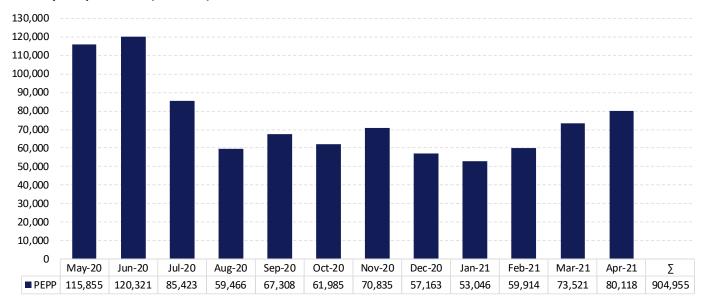
PEPP limit hit in ...

Average weekly net purchase volume so far

EUR 17.8bn

46 weeks (25.03.2022)

Monthly net purchases (in EURm)



Weekly purchases

25 22.2 21.1 19.0 19.0 20 17.2 14.0 15 12.0 11.9 10 5 Ø5.03.2021 09.04.2022 12.03.202 19.03.2022 26.03.2022 02.04.2022 16.04.2022 23,04,202

Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

Development of PEPP volume

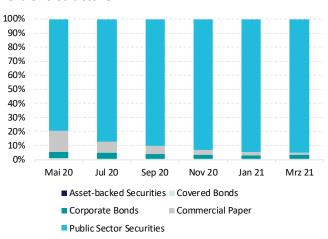


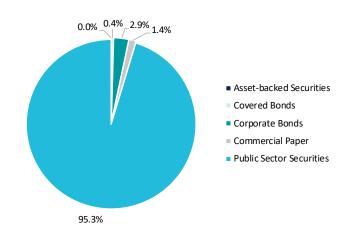


Holdings under the PEPP (in EURm)

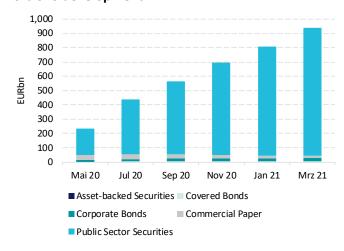
	Asset-backed Securities	Covered Bonds	Corporate Bonds	Commercial Paper	Public Sector Securities	PEPP
Jan-21	0	3,120	22,315	16,611	764,710	806,756
Mar-21	0	4,055	27,058	12,766	893,844	937,723
Δ	0	+935	+4,743	-3,845	+129,134	+130,967

Portfolio structure

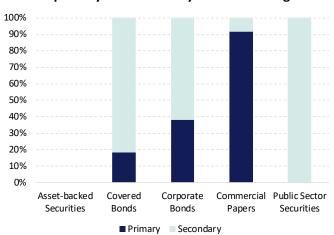




Portfolio development



Share of primary and secondary market holdings



Breakdown of private sector securities under the PEPP as of March 2021

	Asset-back	ed securities	Covere	d bonds	Corpora	ite bonds	Commercial papers	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
Holdings in EURm	0	0	745	3,310	10,333	16,725	11,716	1,050
Share	0.0%	0.0%	18.4%	81.6%	38.2%	61.8%	91.8%	8.2%

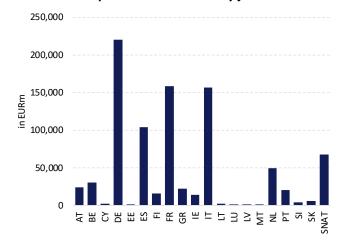
Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research



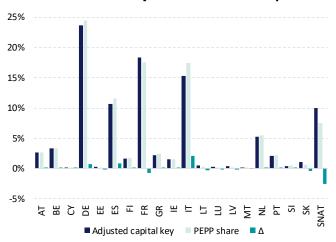
Breakdown of public sector securities under the PEPP

Jurisdiction	Holdings (in EURm)	Adj. distribution key ¹	PEPP share	Deviations from the adj. distribution key ²	ø time to maturity (in years)	Market average ³ (in years)	Difference (in years)
AT	24,225	2.6%	2.7%	0.1%	9.7	7.0	2.7
BE	30,478	3.3%	3.4%	0.1%	6.7	9.3	-2.6
CY	1,899	0.2%	0.2%	0.0%	10.1	8.4	1.7
DE	220,519	23.7%	24.5%	0.8%	5.6	6.7	-1.1
EE	255	0.3%	0.0%	-0.2%	8.8	7.5	1.4
ES	104,227	10.7%	11.6%	0.9%	8.4	7.5	0.9
FI	15,347	1.7%	1.7%	0.1%	7.2	7.1	0.1
FR	158,231	18.4%	17.6%	-0.8%	8.4	7.5	0.9
GR	21,936	2.2%	2.4%	0.2%	8.8	10.1	-1.3
IE	14,162	1.5%	1.6%	0.0%	9.0	9.4	-0.4
IT	156,819	15.3%	17.4%	2.1%	6.8	7.0	-0.2
LT	2,365	0.5%	0.3%	-0.3%	11.5	10.2	1.3
LU	1,371	0.3%	0.2%	-0.1%	6.6	6.7	-0.2
LV	1,105	0.4%	0.1%	-0.2%	9.7	9.9	-0.3
MT	290	0.1%	0.0%	-0.1%	7.7	8.1	-0.4
NL	49,023	5.3%	5.4%	0.2%	5.1	7.9	-2.8
PT	20,126	2.1%	2.2%	0.1%	6.7	6.8	-0.1
SI	4,224	0.4%	0.5%	0.0%	9.6	9.5	0.1
SK	5,892	1.0%	0.7%	-0.4%	8.8	8.3	0.6
SNAT	67,236	10.0%	7.5%	-2.5%	10.3	8.2	2.1
Total / Avg.	899,731	100.0%	100.0%	0.0%	7.3	7.4	0.0

Distribution of public sector assets by jurisdiction



Deviations from the adjusted distribution key



 $^{^{\}mathrm{1}}$ Based on the ECB capital key, adjusted to include supras $^{\mathrm{2}}$ Based on the adjusted distribution key

³ Weighted average time to maturity of the bonds eligible for purchasing under the PEPP Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

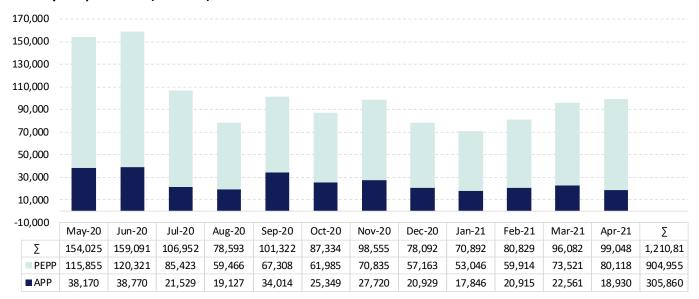


Aggregated purchase activity under APP and PEPP

Holdings (in EURm)

	APP	PEPP	APP & PEPP
Mar-21	2,963,246	943,647	3,906,893
Apr-21	2,982,176	1,023,766	4,005,942
Δ	+18,930	+80,118	+99,048

Monthly net purchases (in EURm)

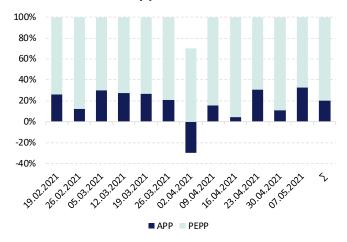


Weekly purchases



Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

Distribution of weekly purchases



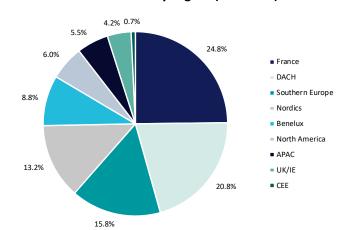


Charts & Figures Covered Bonds

EUR benchmark volume by country (in EURbn)

126.8; 14.1% 222.9; 24.8% = DE 30.3; 3.4% ES 31.0; 3.5% = NL 34.0; 3.8% CA IT ■ NO 51.5: 5.7% ■ GB AT 51.7; 5.8% 153.6; 17.1% ■ SE Others 54.0; 6.0% 58.4; 6.5% 84.2; 9.4%

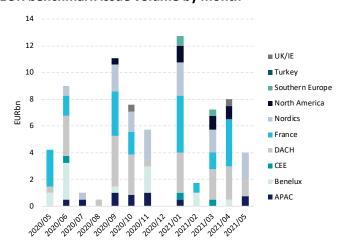
EUR benchmark volume by region (in EURbn)



Top-10 jurisdictions

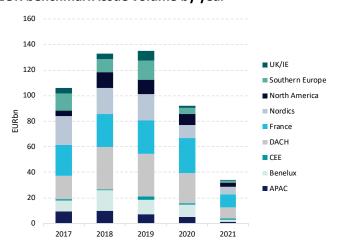
Rank	Country	Amount outst. (EURbn)	No. of BMKs	There of ESG BMKs	Avg. issue size (EURbn)	Avg. initial maturity (in years)	Avg. mod. Duration (in years)	Avg. coupon (in %)
1	FR	222.9	206	8	0.96	10.2	5.5	1.10
2	DE	153.6	229	13	0.60	8.4	4.7	0.44
3	ES	84.2	69	3	1.13	11.2	3.9	1.77
4	NL	58.4	59	0	0.93	11.2	7.3	0.90
5	CA	54.0	47	0	1.12	6.1	3.2	0.27
6	IT	51.7	60	1	0.83	9.1	4.3	1.41
7	NO	51.5	57	7	0.90	7.3	4.0	0.52
8	GB	34.0	40	0	0.88	8.5	3.6	1.02
9	AT	31.0	57	1	0.54	9.7	6.2	0.65
10	SE	30.3	36	0	0.84	7.5	3.5	0.47

EUR benchmark issue volume by month



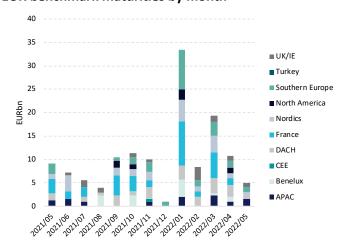
Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

EUR benchmark issue volume by year

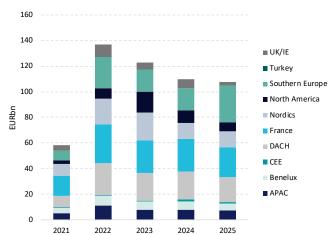




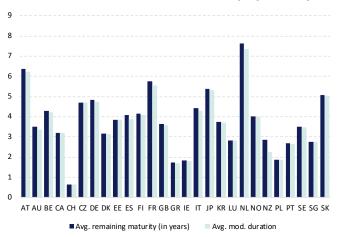
EUR benchmark maturities by month



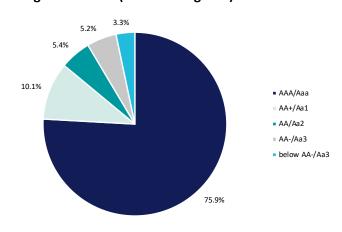
EUR benchmark maturities by year



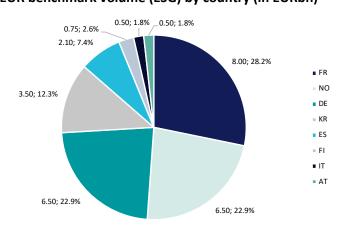
Modified duration and time to maturity by country



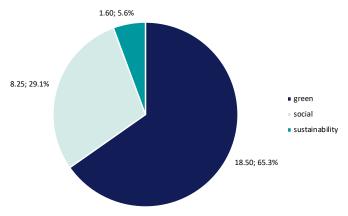
Rating distribution (volume weighted)



EUR benchmark volume (ESG) by country (in EURbn)



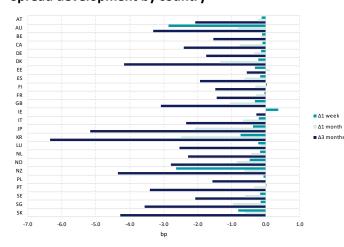
EUR benchmark volume (ESG) by type (in EURbn)



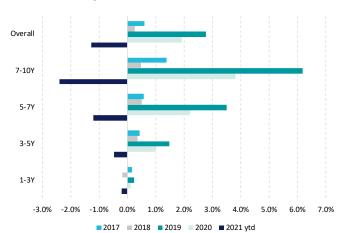
Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research



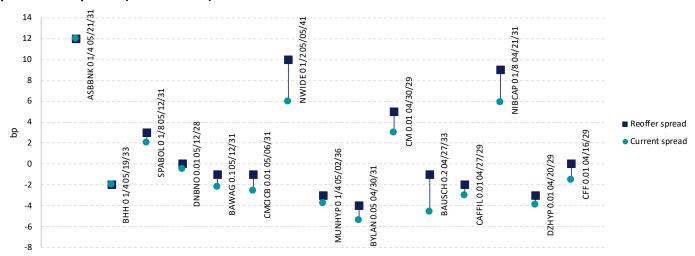
Spread development by country



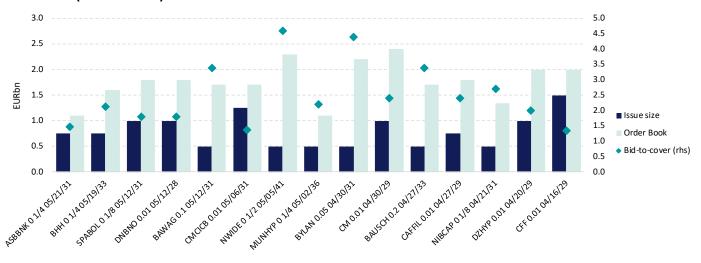
Covered bond performance (Total return)



Spread development (last 15 issues)



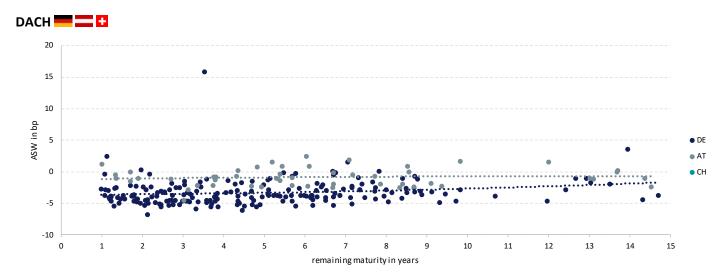
Order books (last 15 issues)

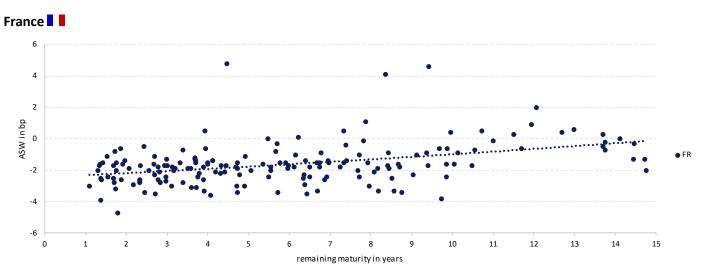


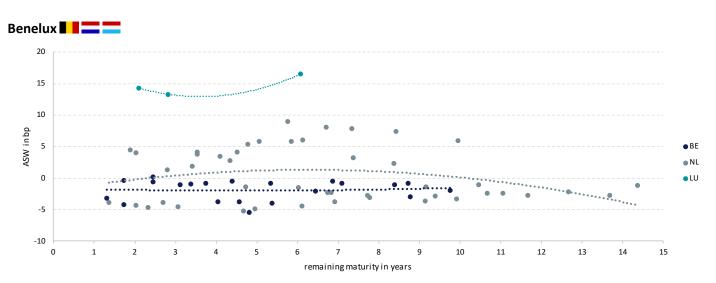
Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research



Spread overview¹

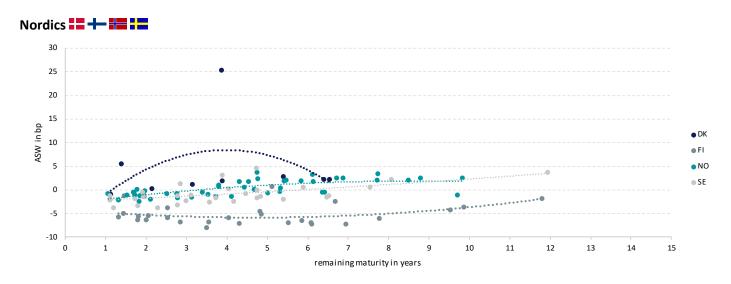


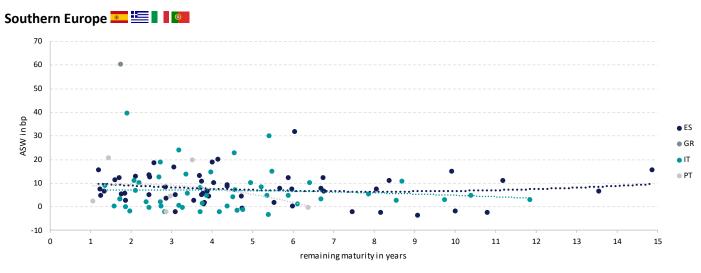


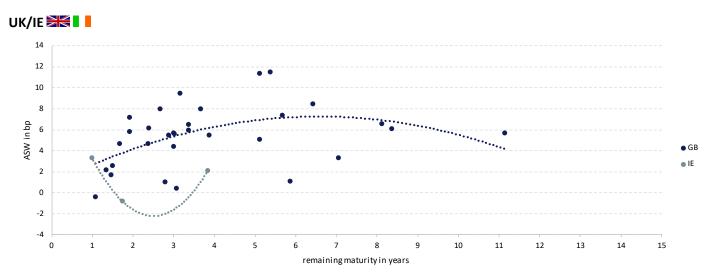


Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research 1 Time to maturity $1 \le y \le 15$



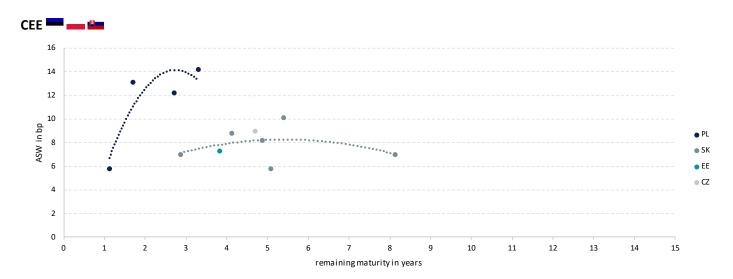


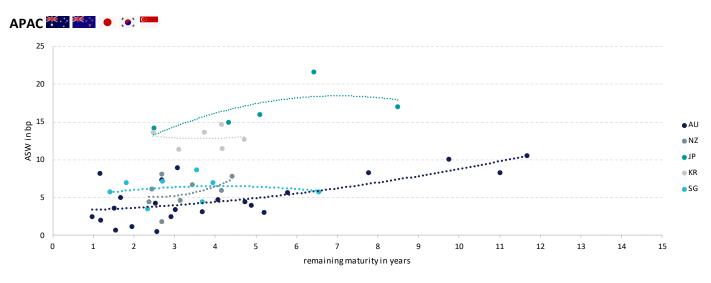


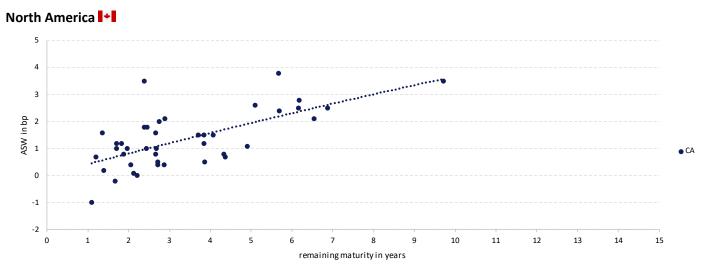


Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research







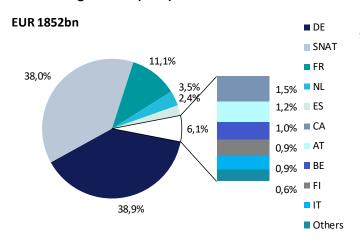


Source: Market data, Bloomberg, NORD/LB Markets Strategy & Floor Research



Charts & Figures SSA/Public Issuers

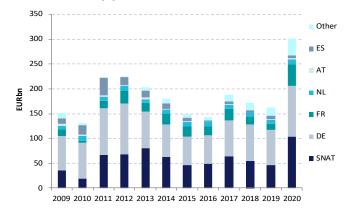
Outstanding volume (bmk)



Top 10 countries (bmk)

Country	Vol. (€bn)	No. of bonds	ØVol. (€bn)	Vol. weight. ØMod. Dur.
DE	721,0	559	1,3	6,7
SNAT	703,9	187	3,8	8,1
FR	205,7	141	1,5	5,5
NL	64,4	65	1,0	6,7
ES	44,4	54	0,8	5,3
CA	27,5	19	1,4	5,7
AT	21,8	23	0,9	5,2
BE	18,7	22	0,9	14,9
FI	17,0	22	0,8	5,9
IT	15,8	20	0,8	5,7

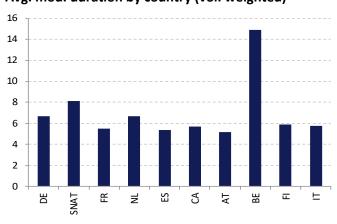
Issue volume by year (bmk)



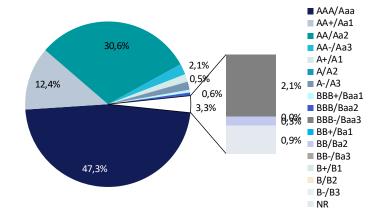
Maturities next 12 months (bmk)



Avg. mod. duration by country (vol. weighted)



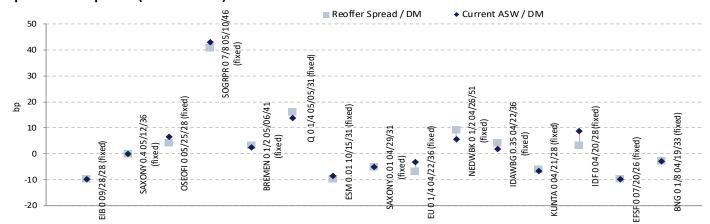
Rating distribution (vol. weighted)



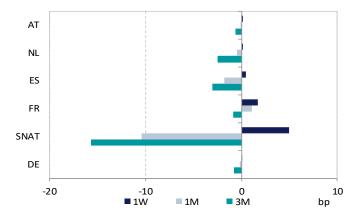
Source: Bloomberg, NORD/LB Markets Strategy & Floor Research



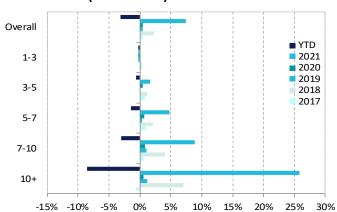
Spread development (last 15 issues)



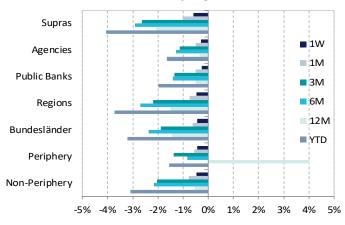
Spread development by country



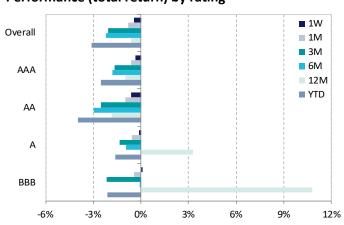
Performance (total return)



Performance (total return) by regions



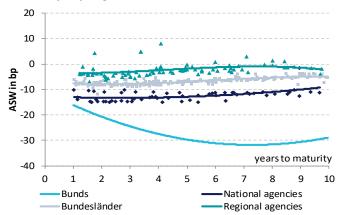
Performance (total return) by rating



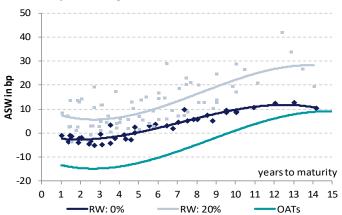
Source: Bloomberg, NORD/LB Markets Strategy & Floor Research



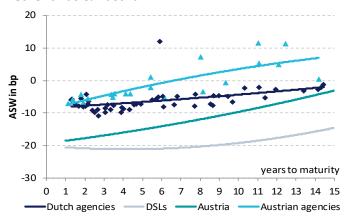




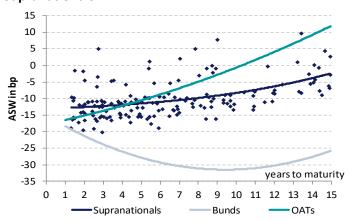
France (by risk weight)



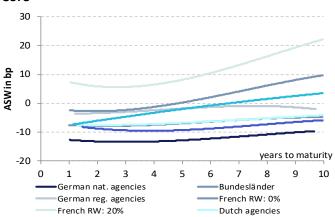
Netherlands & Austria



Supranationals

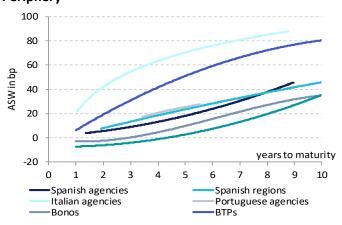


Core



Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

Periphery





RESP NRDR <GO>

SSA/Public Issuer Research

Appendix

Markets Strategy & Floor Research

Overview of latest Covered Bond & SSA View editions

Publication	Topics
16/2021 ♦ 05 May	 Austria implements requirements of the covered bond directive and harmonises existing legal framework
	■ EIB goes Blockchain
15/2021 ♦ 28 April	 EU Taxonomy meets the market for sustainable covered bonds
14/2021 ♦ 22 April	 LCR levels and risk weights of EUR benchmarks
	 NextGenerationEU: NGEU is taking shape
13/2021 ♦ 14 April	Predominant ECB strategy: wait-and-see but remain proactive
	 PEPP reporting: First year done; a second (at least) now follows
	 OSFI abandons temporarily increased 10% limit with immediate effect: (in)direct implications for Canadian benchmarks
12/2021 ♦ 31 March	 Unusual Q1 and revised supply forecast for 2021
	■ Collective Action Clauses (CACs)
11/2021 ♦ 24 March	 Surprising dynamic: Eurosystem lends EUR 331bn to EMU banks via TLTRO III.7
	German Pfandbrief savings banks in Q4 2020
10/2021 ♦ 17 March	■ Transparency requirements §28 PfandBG Q4/2020
	 Credit authorisations for German Bundeslaender in 2021
09/2021 ♦ 10 March	■ Moody's covered bond universe – an overview
	 Oldenburgische Landesbank expands sub-benchmark segment
08/2021 ♦ 03 March	 Repayment structures on the covered bond market
	ECB in a tight spot: litmus test for PEPP flexibility and preview of the second interest rate meeting of the year
07/2021 ♦ 24 February	 An overview of the EUR sub-benchmark segment
	■ ECB: crowding-out effects take hold
	■ PEPP vs. PSPP: Similarities and differences
06/2021 ♦ 17 February	■ Insights into the iBoxx EUR Covered
	Development of the German property market
05/2021 ♦ 10 February	 PEPP reporting: upswing in public sector assets continues; covered bonds inconsequential
04/2021 ♦ 03 February	Argenta Spaarbank expands Belgian market for EUR benchmarks
	 An overview of the Fitch covered bond universe
	January 2021 packs a punch to kick off the new year
03/2021 ♦ 27 January	An unusual – albeit expected – start to the year?
•	A look at USD benchmarks
	ESM reform – restructuring continues
02/2021 ♦ 20 January	Spread considerations – APAC covered bonds riding the wave of ECB purchase programmes?
	 Return of the Danish market for EUR benchmark bond issues
	 22nd meeting of the Stability Council (Dec. 2020)
NORD/LB:	NORD/LB: NORD/LB: Bloomberg:

Covered Bond Research



Appendix Publication overview

Covered Bonds:

Issuer Guide Covered Bonds 2020

Risk weights and LCR levels of covered bonds

Transparency requirements §28 PfandBG

Transparenzvorschrift §28 PfandBG Sparkassen (German only)

SSA/Public Issuers:

Issuer Guide - Supranationals & Agencies 2019

Issuer Guide – Canadian Provinces & Territories 2020

Issuer Guide - German Bundeslaender 2020

Issuer Guide - Down Under 2019

Fixed Income:

ESG update

Analysis of ESG reporting

ECB holds course, but ups the ante – PEPP running until 2022

ECB launches corona pandemic emergency

ECB responds to corona risks



Appendix Contacts at NORD/LB

Markets Strategy & Floor Research



Melanie Kiene
Banks
+49 511 361-4108
+49 172 169 2633
melanie.kiene@nordlb.de



Dr Frederik Kunze
Covered Bonds
+49 511 361-5380
+49 172 354 8977
frederik.kunze@nordlb.de

Dr Norman Rudschuck
SSA/Public Issuers
+49 511 361-6627
+49 152 090 24094
norman.rudschuck@nordlb.de



Henning Walten
Covered Bonds
+49 511 361-6379
+49 152 545 67178
henning.walten@nordlb.de

Sales

Institutional Sales	+49 511 9818-9440
Sales Sparkassen & Regionalbanken	+49 511 9818-9400
Sales MM/FX	+49 511 9818-9460
Sales Europe	+352 452211-515

Origination & Syndicate

Origination FI	+49 511 9818-6600
Origination Corporates	+49 511 361-2911

Treasury

Collat. Management/Repos	+49 511 9818-9200
Liquidity Management	+49 511 9818-9620
Liquidity ividilagement	+49 511 9818-9650

Trading

Covereds/SSA	+49 511 9818-8040
Financials	+49 511 9818-9490
Governments	+49 511 9818-9660
Laender/Regionen	+49 511 9818-9550
Frequent Issuers	+49 511 9818-9640

Sales Wholesale Customers

Firmenkunden	+49 511 361-4003
Asset Finance	+49 511 361-8150



Disclaimer

The present report (hereinafter referred to as "information") was drawn up by NORDDEUTSCHE LANDESBANK GIROZENTRALE (NORD/LB). The supervisory authorities responsible for NORD/LB are the European Central Bank (ECB), Sonnemannstraße 20, D-60314 Frankfurt am Main, and the Federal Financial Supervisory Authority in Germany (Bundesanstalt für Finanzdienstleitungsaufsicht; BaFin), Graurheindorfer Str. 108, D-53117 Bonn and Marie-Curie-Str. 24-28, D-60439 Frankfurt am Main. The present report and the products and services described herein have not been reviewed or approved by the relevant supervisory authority.

The present information is addressed exclusively to Recipients in Austria, Belgium, Canada, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Indonesia, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Poland, Portugal, Singapore, Portugal, Spain, Sweden, Switzerland, the Republic of China (Taiwan), Thailand, the United Kingdom and Vietnam (hereinafter referred to as "Relevant Persons" or "Recipients"). The contents of the information are disclosed to the Recipients on a strictly confidential basis and, by accepting such information, the Recipients shall agree that they will not forward it to third parties, copy and/or reproduce this information without the prior written consent of NORD/LB. The present information is addressed solely to the Relevant Persons and any parties other than the Relevant Persons shall not rely on the information contained herein. In particular, neither this information nor any copy thereof shall be forwarded or transmitted to the United States of America or its territories or possessions, or distributed to any employees or affiliates of Recipients resident in these jurisdictions.

The present information does not constitute financial analysis within the meaning of Art. 36 (1) of the Delegate Regulation (EU) 2017/565, but rather represents a marketing communication for your general information within the meaning of Art. 36 (2) of this Regulation. Against this background, NORD/LB expressly points out that this information has not been prepared in accordance with legal provisions promoting the independence of investment research and is not subject to any prohibition of trading following the dissemination of investment research. This information also constitutes an investment recommendation or investment strategy recommendation within the meaning of Market Abuse Regulation (EU) No. 596/2014 and complies with the applicable provisions of this regulation and Delegated Regulation (EU) 2016/958 as well as the Securities Trading Act (see the supplementary details at the end of this information).

This information has been prepared by the Markets Strategy & Floor Research division, which is organisationally assigned to the Markets trading division within NORD/LB and which offers comprehensive securities services to the clients of the bank. Information may therefore be exchanged between the Floor Research and Trading divisions which may influence the content of this information. Against this background, the possibility cannot be ruled out that NORD/LB has its own holdings in the financial instruments described herein or in the issuers described herein and participates in the issue of such financial instruments as well as providing other services to such issuers or has other financial interests in these financial instruments or issuers. It also cannot be ruled out that the remuneration of the employees of the Markets Strategy & Floor Research division is indirectly linked to the overall performance of the Markets division, however, a direct linking of remuneration to transactions in investment services or trading fees is prohibited. Against this background, there are potential conflicts of interest that could fundamentally influence the objectivity of the recommendations contained herein.

NORD/LB has, however, taken extensive precautions to deal with potential conflicts of interest and to avoid them:

Arrangements for dealing with and avoiding conflicts of interest and for the confidential treatment of sensitive client and business data:

Business areas that may have regular access to sensitive and confidential information are classified as confidentiality areas by the Compliance Office and separated from other areas in terms of function, location and technical data processing measures. The trading division (Markets) is classified as such a confidentiality area. The exchange of information between individual confidentiality areas requires the approval of the Compliance Office.

The forwarding of confidential information which may have an impact on securities' prices is monitored by the NORD/LB Compliance Office, which is independent of the trading, business and settlement departments. The Compliance Office can issue any trading prohibitions and restrictions which may be necessary to ensure that information which may have an influence on securities' prices is not misused and to prevent confidential information from being passed on to areas which may only use publicly accessible information. Employees of the Markets Strategy & Floor Research unit are obliged to inform the Compliance Office of all transactions (including external) that they carry out for their own account or on behalf of a third party or in the interests of a third party. This will enable the Compliance Office to identify any unauthorised transactions by these employees.

Further information on this can be found in our Conflict of Interest Policy, which is available on request from the NORD/LB Compliance Office.

Supplementary important information:

This information and the details contained herein have been prepared and are provided for information purposes only. It is not intended to be an incentive for investment activities. It is provided for the personal information of the Recipient with the express understanding, acknowledged by the Recipient, that it does not constitute a direct or indirect offer, an individual recommendation, solicitation to buy, hold or sell, an invitation to subscribe or acquire any securities or other financial instruments, nor any measure by which financial instruments might be offered or sold.

All actual details, information and statements contained herein were derived from sources considered reliable by NORD/LB. However, since these sources are not verified independently, NORD/LB cannot give any assurance as to or assume responsibility for the accuracy and completeness of the information contained herein. The opinions and prognoses given herein on the basis of these sources constitute a non-binding evaluation of the employees of the Markets Strategy & Floor Research division of NORD/LB. Any changes in the underlying premises may have a material impact on the developments described herein. Neither NORD/LB nor its governing bodies or employees can give any assurances as to or assume any responsibility or liability for the accuracy, appropriateness and completeness of this information or for any loss of return, any indirect, consequential or other damage which may be suffered by persons relying on the information or any statements or opinions expressed in the present Report (irrespective of whether such losses are incurred due to any negligence on the part of such persons or otherwise).



Past performance is not a reliable indicator of future performance. Exchange rates, price fluctuations of the financial instruments and similar factors may have a negative impact on the value and price of and return on the financial instruments referred to herein or any instruments linked thereto. Fees and commissions apply in relation to securities (purchase, sell, custody), which reduce the return on investment. An evaluation made on the basis of the historical performance of any security does not necessarily give an indication of its future performance.

The present information neither constitutes any investment, legal, accounting or tax advice nor any assurance that an investment or strategy is suitable or appropriate in the light of the Recipient's individual circumstances, and nothing in this information constitutes a personal recommendation to the Recipient thereof. The securities or other financial instruments referred to herein may not be suitable for the Recipient's personal investment strategies and objectives, financial situation or individual needs.

Moreover, the present report in whole or in part is not a sales or other prospectus. Accordingly, the information contained herein merely constitutes an overview and does not form the basis for any potential decision to buy or sell on the part of an investor. A full description of the details relating to the financial instruments or transactions which may relate to the subject matter of this report is given in the relevant (financing) documentation. To the extent that the financial instruments described herein are NORD/LB's own issues and subject to the requirement to publish a prospectus, the conditions of issue applicable to any individual financial instrument and the relevant prospectus published with respect thereto as well NORD/LB's relevant registration form, all of which are available for download at www.nordlb.de and may be obtained free of charge from NORD/LB, Georgsplatz 1, 30159 Hanover, shall be solely binding. Furthermore, any potential investment decision should be made exclusively on the basis of such (financing) documentation. The present information cannot replace personal advice. Before making an investment decision, each Recipient should consult an independent investment adviser for individual investment advice with respect to the appropriateness of an investment in financial instruments or investment strategies subject to this information as well as for other and more recent information on certain investment opportunities.

Each of the financial instruments referred to herein may involve substantial risks, including capital, interest, index, currency and credit risks in addition to political, fair value, commodity and market risks. The financial instruments could experience a sudden and substantial deterioration in value, including a total loss of the capital invested. Each transaction should only be entered into on the basis of the relevant investor's assessment of his or her individual financial situation as well as of the suitability and risks of the investment.

NORD/LB and its affiliated companies may participate in transactions involving the financial instruments described in the present information or their underlying basis values for their own account or for the account of third parties, may issue other financial instruments with the same or similar features as those of the financial instruments presented in this information and may conduct hedging transactions to hedge positions. These measures may affect the price of the financial instruments described in the present information.

If the financial instruments presented in this information are derivatives, they may, depending on their structure, have an initial negative market value from the customer's perspective at the time the transaction is concluded. NORD/LB further reserves the right to transfer its economic risk from a derivative concluded with it to a third party on the market by means of a mirror-image counter transaction.

More detailed information on any commission payments which may be included in the selling price can be found in the "Customer Information on Securities Business" brochure, which is available to download at www.nordlb.de.

The information contained in the present report replaces all previous versions of corresponding information and refers exclusively to the time of preparation of the information. Future versions of this information will replace this version. NORD/LB is under no obligation to update and/or regularly review the data contained in such information. No guarantee can therefore be given that the information is up-to-date and continues to be correct.

By making use of this information, the Recipient shall accept the terms and conditions outlined above.

NORD/LB is a member of the protection scheme of Deutsche Sparkassen-Finanzgruppe. Further information for the Recipient is indicated in clause 28 of the General Terms and Conditions of NORD/LB or at www.dsgv.de/sicherungssystem.

Additional information for Recipients in Australia

NORD/LB IS NOT A BANK OR DEPOSIT TAKING INSTITUTION AUTHORISED UNDER THE 1959 BANKING ACT OF AUSTRALIA. IT IS NOT SUPERVISED BY THE AUSTRALIAN PRUDENTIAL REGULATION AUTHORITY.

NORD/LB does not provide personal advice with this information and does not take into account the objectives, financial situation or needs of the Recipient (other than for the purpose of combating money laundering).

Additional information for Recipients in Austria

None of the information contained herein constitutes a solicitation or offer by NORD/LB or its affiliates to buy or sell any securities, futures, options or other financial instruments or to participate in any other strategy. Only the published prospectus pursuant to the Austrian Capital Market Act should be the basis for any investment decision of the Recipient. For regulatory reasons, products mentioned herein may not be on offer in Austria and therefore not available to investors in Austria. Therefore, NORD/LB may not be able to sell or issue these products, nor shall it accept any request to sell or issue these products to investors located in Austria or to intermediaries acting on behalf of any such investors.

Additional information for Recipients in Belgium

Evaluations of individual financial instruments on the basis of past performance are not necessarily indicative of future results. It should be noted that the reported figures relate to past years.



Additional information for Recipients in Canada

This report has been prepared solely for information purposes in connection with the products it describes and should not, under any circumstances, be construed as a public offer or any other offer (direct or indirect) to buy or sell securities in any province or territory of Canada. No financial market authority or similar regulatory body in Canada has made any assessment of these securities or reviewed this information and any statement to the contrary constitutes an offence. Potential selling restrictions may be included in the prospectus or other documentation relating to the relevant product.

Additional information for Recipients in Cyprus

This information constitutes an analysis within the meaning of the section on definitions of the Cyprus Directive D1444-2007-01 (No. 426/07). Furthermore, this information is provided for information and promotional purposes only and does not constitute an individual invitation or offer to sell, buy or subscribe to any investment product.

Additional information for Recipients in the Czech Republic

There is no guarantee that the invested amount will be recouped. Past returns are no guarantee of future results. The value of the investments may rise or fall. The information contained herein is provided on a non-binding basis only and the author does not guarantee the accuracy of the content.

Additional information for Recipients in Denmark

This Information does not constitute a prospectus under Danish securities law and consequently is not required to be, nor has been filed with or approved by the Danish Financial Supervisory Authority, as this Information either (i) has not been prepared in the context of a public offering of securities in Denmark or the admission of securities to trading on a regulated market within the meaning of the Danish Securities Trading Act or any executive orders issued pursuant thereto, or (ii) has been prepared in the context of a public offering of securities in Denmark or the admission of securities to trading on a regulated market in reliance on one or more of the exemptions from the requirement to prepare and publish a prospectus in the Danish Securities Trading Act or any executive orders issued pursuant thereto.

Additional information for Recipients in Estonia

It is advisable to closely examine all the terms and conditions of the services provided by NORD/LB. If necessary, Recipients of this information should consult an expert.

Additional information for Recipients in Finland

The financial products described herein may not be offered or sold, directly or indirectly, to any resident of the Republic of Finland or in the Republic of Finland, except pursuant to applicable Finnish laws and regulations. Specifically, in the case of shares, such shares may not be offered or sold, directly or indirectly, to the public in the Republic of Finland as defined in the Finnish Securities Market Act (746/2012, as amended). The value of investments may go up or down. There is no guarantee of recouping the amount invested. Past performance is no guarantee of future results.

Additional information for Recipients in France

NORD/LB is partially regulated by the "Autorité des Marchés Financiers" for the conduct of French business. Details concerning the extent of our regulation by the respective authorities are available from us on request.

The present information does not constitute an analysis within the meaning of Article 24 (1) Directive 2006/73/EC, Article L.544-1 and R.621-30-1 of the French Monetary and Financial Code, but does represent a marketing communication and does qualify as a recommendation pursuant to Directive 2003/6/EC and Directive 2003/125/EC.

Additional information for Recipients in Greece

The information contained herein gives the view of the author at the time of publication and may not be used by its Recipient without first having confirmed that it remains accurate and up to date at the time of its use.

Past performance, simulations or forecasts are therefore not a reliable indicator of future results. Investment funds have no guaranteed performance and past returns do not guarantee future performance.

Additional information for Recipients in Indonesia

This report contains generic information and has not been tailored to the circumstances of any individual or specific Recipient. This information is part of NORD/LB's marketing material.

Additional information for Recipients in the Republic of Ireland

This information has not been prepared in accordance with Directive (EU) 2017/1129 (as amended) on prospectuses (the "Prospectus Directive") or any measures made under the Prospectus Directive or the laws of any Member State or EEA treaty adherent state that implement the Prospectus Directive or such measures and therefore may not contain all the information required for a document prepared in accordance with the Prospectus Directive or the laws.

Additional information for Recipients in Japan

This information is provided to you for information purposes only and does not constitute an offer or solicitation of an offer to enter into securities transactions or commodity futures transactions. Although the actual data and information contained herein has been obtained from sources which we believe to be reliable and trustworthy, we are unable to vouch for the accuracy and completeness of this actual data and information.

Additional information for Recipients in South Korea

This information has been provided to you free of charge for information purposes only. The information contained herein is factual and does not reflect any opinion or judgement of NORD/LB. The information contained herein should not be construed as an offer, marketing, solicitation to submit an offer or investment advice with respect to the financial investment products described herein.



Additional information for Recipients in Luxembourg

Under no circumstances shall the present information constitute an offer to purchase or issue or the solicitation to submit an offer to buy or subscribe for financial instruments and financial services in Luxembourg.

Additional information for Recipients in New Zealand

NORD/LB is not a bank registered in New Zealand. This information is for general information only. It does not take into account the Recipient's financial situation or objectives and is not a personalised financial advisory service under the 2008 Financial Advisers Act.

Additional information for Recipients in the Netherlands

The value of your investment may fluctuate. Past performance is no guarantee for the future.

Additional information for Recipients in Poland

This information does not constitute a recommendation within the meaning of the Regulation of the Polish Minister of Finance Regarding Information Constituting Recommendations Concerning Financial Instruments or Issuers thereof dated 19 October 2005.

Additional information for Recipients in Portugal

This information is intended only for institutional clients and may not be (i) used by, (ii) copied by any means or (iii) distributed to any other kind of investor, in particular not to retail clients. The present information does not constitute or form part of an offer to buy or sell any of the securities covered by the report, nor should it be understood as a request to buy or sell securities where that practice may be deemed unlawful. The information contained herein is based on information obtained from sources which we believe to be reliable, but is not guaranteed as to accuracy or completeness. Unless otherwise stated, all views contained herein relate solely to our research and analysis and are subject to change without notice

Additional information for Recipients in Sweden

This information does not constitute (or form part of) a prospectus, offering memorandum, any other offer or solicitation to acquire, sell, subscribe for or otherwise trade in shares, subscription rights or other securities, nor shall it or any part of it form the basis of or be relied on in connection with any contract or commitment whatsoever. The present information has not been approved by any regulatory authority. Any offer of securities will only be made pursuant to an applicable prospectus exemption under the EC Prospectus Directive (Directive (EU) 2017/1129), and no offer of securities is being directed to any person or investor in any jurisdiction where such action is wholly or partially subject to legal restrictions or where such action would require additional prospectuses, other offer documentation, registrations or other actions.

Additional information for Recipients in Switzerland

This information has not been approved by the Federal Banking Commission (merged into the Swiss Financial Market Supervisory Authority (FINMA) on 1 January 2009). NORD/LB will comply with the Directives of the Swiss Bankers Association on the Independence of Financial Research (as amended). The present information does not constitute an issuing prospectus pursuant to article 652a or article 1156 of the Swiss Code of Obligations. The information is published solely for the purpose of information on the products mentioned herein. The products do not qualify as units of a collective investment scheme pursuant to the Federal Act on Collective Investment Schemes (CISA) and are therefore not subject to supervision by FINMA.

Additional information for Recipients in Singapore

This information is directed only at accredited investors or institutional investors under the Securities and Futures Act in Singapore. This information is intended for general distribution only. It does not constitute investment advice and does not take into account the specific investment objectives, financial situation or particular needs of the Recipient. It is recommended that advice be obtained from a financial adviser regarding the suitability of the investment product in light of the specific investment objectives, financial situation and special needs of the Recipient before agreeing to purchase the investment product.

Additional information for Recipients in the Republic of China (Taiwan)

This information is provided for general information only and does not take into account the individual interests or requirements, financial status and investment objectives of any specific investor. Nothing herein should be construed as a recommendation or advice for you to subscribe to a particular investment product. You should not rely solely on the information provided herein when making your investment decisions. When considering any investment, you should endeavour to make your own independent assessment and determination on whether the investment is suitable for your needs and seek your own professional financial and legal advice.

NORD/LB has taken all reasonable care in producing this report and trusts that the information is reliable and suitable for your situation at the date of publication or delivery. However, no guarantee of accuracy or completeness is given. To the extent that NORD/LB has exercised the due care of a good administrator, we accept no responsibility for any errors, omissions, or misstatements in the information given. NORD/LB does not guarantee any investment results and does not guarantee that the strategies employed will improve investment performance or achieve your investment objectives.

Information for Recipients in the United Kingdom

NORD/LB is subject to partial regulation by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA). Details of the scope of regulation by the FCA and the PRA are available from NORD/LB on request. The present information is "financial promotion". Recipients in the United Kingdom should contact the London office of NORD/LB, Investment Banking Department, telephone: 0044 / 2079725400, in the event of any queries. An investment in financial instruments referred to herein may expose the investor to a significant risk of losing all the capital invested.



Additional information

Time of going to press: 12 May 2021 08:49h (CET)

Disclosure of possible conflicts of interest at NORD/LB in accordance with Section 85 (1) of the German Securities Trading Act (WpHG) in conjunction with Article 20 of the Market Abuse Regulation (EU) No. 596/2014 and Articles 5 and 6 of Regulation (EU) 2016/958.

None

Sources and price details

For the preparation of investment recommendations, we use issuer-specific financial data providers, our own estimates, company information and publicly available media. Unless otherwise stated in the information, price information refers to the closing price of the previous day. Fees and commissions are incurred in connection with securities (purchase, sale, custody), which reduce the return on the investment.

Basis of valuation and frequency of updates

For the preparation of investment recommendations, we use company-specific methods from fundamental securities' analysis, quantitative / statistical methods and models as well as from technical information processes. It should be noted that the results of the information are snapshots and past performance is not a reliable indicator of future returns. The basis of valuation may change at any time and in an unforeseeable manner, which may lead to divergent assessments. The recommendation horizon is 6 to 12 months. The above information is prepared on a weekly basis. Recipients have no right to publish updated information. For more detailed information on our assessment bases, check under: www.nordlb-pib.de/Bewertungsverfahren.

Recommendation system

Positive: Positive expectations for the issuer, a bond type or a bond placed by the

Neutral: Neutral expectations for the issuer, a bond type or a bond of the issuer.

Negative: Negative expectations for the issuer, a type of bond or a bond placed by the issuer. **Relative Value (RV):** Relative recommendation to a market segment, an individual issuer or a

range of maturities.

Breakdown of recommendations (12 months)

Positive: 37% Neutral: 55%

Negative: 8%

Recommendation record (12 months)

For an overview of our overall pension recommendations for the past 12 months, please visit www.nordlb-pib.de/empfehlungsuebersicht_renten. The password is "renten/Liste3".

Issuer / security Date Recommendation Bond type Cause

Distribution: 12.05.2021 14:50