



Covered Bond & SSA View

NORD/LB Markets Strategy & Floor Research



Agenda

Mar		

Covered Bonds	3
SSA/Public Issuers	6
The covered bond market and the ECB: a gradual farewell?	9
Beyond Bundeslaender: Focus on Greater Paris (IDF and VDP)	13
Charts & Figures	
Covered Bonds	15
SSA/Public Issuers	21
ECB tracker	
Asset Purchase Programme (APP)	24
Pandemic Emergency Purchase Programme (PEPP)	26
Overview of latest Covered Bond & SSA View editions	27
Publication overview	28
Contacts at NORD/LB	29

Floor analysts:

Covered Bonds/Banks

Dr Frederik Kunze

Dr Norman Rudschuck, CIIA

frederik.kunze@nordlb.de

Melanie Kiene, CIIA

melanie.kiene@nordlb.de

Stefan Rahaus

stefan.rahaus@nordlb.de

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



Market overview Covered Bonds

Authors: Dr Frederik Kunze // Melanie Kiene, CIIA // Stefan Rahaus

Primary market: a week of relative calm on the covered bond market, before the ECB switches its focus to QT and the secondary market

We can look back on what, at least in the EUR benchmark segment, was a comparatively quiet trading week. As such, the last few trading days prior to the ECB opening a new QT chapter for the APP securities purchase programme in March ended with just two new covered bond deals from two issuers to report on and a new issue volume of EUR 1.75bn (cf. NORD/LB Fixed Income Special from 02 February). With a view to the covered bond market and the CBPP3, the imminent pivot to the secondary market has recently also been the focus of market comments. In the current month of February, the central bank has already reduced the order rate on the primary market from 20% to 10%. It is more or less an open secret that a 0% order share has already been agreed for March for some time now. The CBPP3 volume most recently amounted to EUR 302.4bn, with maturities in the months of March up to and including June 2023 of around EUR 13.6bn. Over this period, the reinvestments for the APP will be cut by an average of EUR 15bn per month. According to our calculations, only around EUR 7.3bn of the CBPP3 maturities of EUR 13.6bn are to be reinvested by the ECB, although we continue to assume that the ECB will not stick to a rigid monthly target. Market neutrality will remain a key decision-making criterion for the active portfolio managers. Up to now, the ECB has opted not to provide details regarding the approach from July 2023 onwards and has therefore also left open the question as to whether reinvestments in the APP will be reduced to zero from this point in time. What is certain is that further repayments in the amount of EUR 10.7bn are pending under the CBPP3 in the period from July through to December 2023. Yesterday, an issuer from Germany and a bank from Canada made an appearance on the primary market, while things have otherwise remained quiet since our last weekly publication. With its covered bond in the amount of EUR 750m (5y; ms +1bp), BerlinHyp (BHH) increased the volume of Pfandbrief deals in 2023 to EUR 14.5bn. The HSBC Canada bond marks only the second deal in 2023 from Canada. HSBC Canada, which is in the process of being acquired by Royal Bank of Canada (RBC), placed EUR 1.0bn for five years at ms +32bp. After an above-average share of the EUR issuance volume came from the eurozone in the first two months of 2023, for reasons that have already been established, we now expect issuers from outside the eurozone to make more frequent appearances on the market over the coming months.

Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
HSBC Bank Canada	CA	28.02.	XS2595029344	5.0y	1.00bn	ms +32bp	AAA / Aaa / -	-
Berlin Hyp AG	DE	28.02.	DE000BHY0JY1	5.0y	0.75bn	ms +1bp	- / Aaa / -	-

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



Greater investor focus on the secondary market

The primary market activity discussed at the beginning (which is lower than in the previous weeks) means that greater attention is being paid to events on the secondary market. With regard to the newly placed deals in recent trading weeks, it is striking that these were consistently able to narrow versus the respective re-offer spread. This also applies in particular to new issues from those jurisdictions for which larger premiums versus mid-swap compared with German Pfandbriefe can be seen. In terms of maturities, the shorter end remains more in demand, with narrowing of one to two basis points again in evidence here. Long maturities (10y and longer) were stable, with the flat to inverse yield curve still the decisive factor behind this situation.

DBRS now rates Portuguese covered bonds as "systemically important"

In its rating approach for covered bonds, which we have explained in more detail here, the rating agency DBRS takes into account the importance of covered bonds for the respective domestic market and/or for the issuer. If covered bonds are viewed as a systemically important financing instrument in a country, there may be an uplift of one or two notches when it comes to determining the covered bond rating. Following the amendment of covered bond legislation by the Portuguese legislature, DBRS has added Portugal to the list of European countries that, from the perspective of the rating agency, use covered bonds as a systemically important financing tool. In addition to Portugal, this list also includes France, Germany, Spain, Italy as well as Denmark, Sweden and Ireland. The decisive factors for inclusion on this list are, among other aspects, the degree of interconnectedness of covered bonds, economic activity and the financial sector, as well as the strength of the legal and regulatory framework and the historical background of covered bonds as a financing vehicle. Since 2006, Portuguese banks have made regular use of covered bonds for refinancing purposes. The systemic importance is underlined by the volume of outstanding covered bonds measured against GDP, real estate financing or bank liabilities overall. In this way, the Portuguese market is similar to the jurisdictions already classified as systemically important. In France, according to DBRS, the share of outstanding covered bonds against GDP is considerable and the high proportion of real estate financing, which is funded by mortgage-backed bonds, illustrates the strong interdependence between the real economy and the covered bond market. In Germany, the legal framework for Pfandbriefe has been established for a long time. It is considered to be a particularly strict framework and has been updated regularly so that we can look back on decades of successful practical use of the Pfandbrief market. In addition, the supervisory authority has considerable powers of intervention. Even if the share of covered bonds against GDP has steadily declined in Germany, in particular due to a declining volume of public-sector Pfandbriefe while GDP is rising at the same time, the size of the covered bond market in Germany means that a high degree of interdependence between the real economy and the financial sector is still implied. In Spain and Italy, the systemic importance of covered bonds is reflected in the high proportion of covered bonds in the long-term liabilities of credit institutions. Furthermore, a significant proportion of loans for home purchases in these countries is financed through the issuance of mortgage bonds.



Moody's comments on revised covered bond legislation in Iceland

Iceland only finalised the implementation of the EU Covered Bond Directive in its domestic covered bond law in February this year. The rating agency Moody's has now taken a closer look at the framework and takes a generally positive view of this for Icelandic covered bonds, although it does also highlight some weaknesses. According to the rating agency, the following aspects contribute to reducing the risk of cover and market risks: (1) full alignment of the domestic legal framework with the EU directive, (2) strict rules for eligible collateral, (3) minimum overcollateralization of 5% (nominal and present value), (4) requirements for extending the term, (5) cooperation obligations to protect investors when the issuer is wound up, (6) requirements for regulatory supervision and monitoring and (7) measures to reduce the risk of mixing. Moody's sees the limited protection against liquidity risk as the greatest weakness of Iceland's legal framework. Here, as in many other European countries, a 180-day liquidity buffer is maintained. However, for the calculation this only relates to the final maturity date, which means that there is no need to hold liquidity for principal payments on soft bullet bonds prior to the term being extended. Other points of criticism include the lack of an obligation to appoint a cover pool manager, a lack of provisions on liquidity management after an issuer default event as well as no mitigation of offsetting risks. The atypical market practices mentioned above have both positive and negative effects on the credit quality of covered bonds. The positive impact is due to a track record of good covered bond performance even in times of crisis and a strong domestic investor base. On the negative side, there are significant asset/liability mismatches from inflation-linked exposures and a lack of international swap counterparties to hedge currency risks.

Rating agency Fitch sees Canadian covered bonds in fine shape

Despite falling house prices, high inflation rates and rising interest rates, Fitch continues to award a stable outlook to the covered bonds of Canadian EUR benchmark issuers (AAA rating across the board). In a peer review, the rating agency refers to the outstanding credit quality of the cover pools and the high issuer ratings. For Fitch, this results in different buffers against a downgrading of the Issuer Default Rating (IDR). The following banks have a buffer of seven notches with a rating of AA-: Bank of Montreal (BMO), Bank of Nova Scotia (BNS), Canadian Imperial Bank of Commerce (CIBC), Fédération des Caisses Desjardins du Québec (CCDJ) and Royal Bank of Canada (RY). National Bank of Canada (NACN; IDR: A+) and HSBC Bank Canada (HSBC; IDR A; pending acquisition by RY) have lower buffers of six and three notches respectively. All cover pools consist solely of senior secured mortgages on Canadian residential real estate. The cover pools have had only minimal defaults since the programmes were launched. As at 31 December 2022, real estate loans overdue by more than 30 days averaged just 0.02%, according to pool reports. In the focus article entitled "Canada in the spotlight", we took a closer look at the Canadian covered bond market at the end of January 2023. In mid-February, we revised our 2023 covered bond issuance forecast for EUR benchmarks from Canada downwards from EUR 25.0bn to EUR 17.0bn.



Market overview SSA/Public Issuers

Authors: Dr Norman Rudschuck, CIIA // Valentin Jansen // Jan-Phillipp Hensing

PEPP reinvestments: All Quiet on the Western Front

As part of our weekly publication, we seek not only to regularly provide the most up-todate data on PEPP reinvestments in the Appendix, but also take a closer look at this data in the articles. The ECB gives us reason to do so every two months since unfortunately it does not publish updated data any more frequently. Moreover, the ECB does not disclose the precise amount of maturities – unlike in the case of the Asset Purchase Programme (APP). More detailed information is only provided about the reinvestment of the portfolio in relation to individual jurisdictions in the context of the public sector. It is fair to ask why we regard these reinvestments as so interesting. Since July 2022, the ECB has "theoretically" had a new tool at its disposal in the form of the Transmission Protection Instrument (TPI). It can be activated in order to counter unwarranted, disorderly market dynamics. In the event of activation, the Eurosystem could purchase securities from individual countries in order, for example, to combat any deterioration in financial conditions that would be unwarranted from a fundamental point of view. However, PEPP reinvestments are to be used as first line of defence before the new instrument is taken out of the ECB's tool kit. The role of the PEPP was underlined once again at the ECB's most recent interest-rate decision: "The Governing Council will continue applying flexibility in reinvesting redemptions coming due in the PEPP portfolio, with a view to countering risks to the monetary policy transmission mechanism related to the pandemic." But just how necessary does the ECB regard this flexibility? The table below makes it clear that the ECB has tended once again, if anything, to reduce holdings from periphery countries in the previous reporting period and has not regarded net investments as necessary. On the contrary: with a marked reduction in Spanish paper, the ECB is currently operating more in accordance with the adjusted capital key in order to smooth out any percentage differences. In our view, reinvestments clearly show that the ECB regards the ability of the markets to function as a given and that it sees no reason to activate the TPI either in the short or medium term.

Public sector PEPP net purchases in selected states (EUR m)

Country	Net purchases Oct 22 – Nov 22	Net purchases Dec 22 – Jan 23	Cumulative net purchases at end-January 23
Germany	2,551	593	398,297
Netherlands	1,689	-1,171	83,388
France	14	2,093	301,844
Total	+4,254	+1,515	783,529
Spain	-1,418	-1,382	193,376
Italy	-794	631	287,658
Greece	729	-1,847	37,760
Portugal	-1,068	-516	33,909
Total	-2,551	-3,114	552,703
Supranationals	0	1,173	147,088

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



Agence Française de Développement: 2023 funding programme set at EUR 9.0bn

At the end of January, the supervisory board of Agence Française de Développement (Ticker: AGFRNC) approved the funding programme volume for 2023 of EUR 9.0bn. By comparison: AFD's total issuance volume in 2022 was EUR 9.52bn, split across 27 separate issues. As the French state's main instrument for the purpose of promoting development in emerging countries and overseas territories, AFD is expected to contribute to total spending of 0.7% of French GDP on development aid by 2025. To this end, AFD has an EMTN programme amounting to EUR 60.0bn at its disposal. Reference is made in a press release relating to 2023 funding activities to at least two EUR-denominated benchmark bonds and up to two GBP-denominated benchmark issues, which will be placed in the mid to longterm segments. Moreover, the AFD is committed to issuing between 40% and 50% of its funding programme for 2023 based on its Sustainable Development Goals Bond Framework, which was developed based on established ICMA Principles and Guidelines. The AFD was again active in the ESG segment last year when it placed a EUR benchmark bond (EUR 1.2bn) with a maturity of ten years in mid-October. The press release also states that, as in the past, the issuer takes an open view of taps and floating rate notes in the form of both public and private placements. The French state is implicitly liable for the promotional institute's debts through the AFD's legal status as an établissement public à caractère industriel et commercial (EPIC).

Netherlands: BNG Bank presents "Going Green" climate plan

There is no let-up in the current flood of recently launched sustainability programmes and declarations coming from all the sectors we cover regularly: The "Going Green" climate plan published at the beginning of February by BNG Bank (Bank Nederlandse Gemeenten; Ticker: BNG) sets out how the Dutch bank aims to bring the CO₂ emissions associated with its operations and above all its credit portfolio into line with the Paris Agreement. As part of its staggered targets, BNG plans to reduce the carbon emissions associated with its credit portfolio by 25% by 2025 and by as much as 43% by 2030 compared with 2019; by 2050, the credit portfolio should be fully carbon neutral. In so doing, the bank is striving to meet stiffer sustainability requirements in the context of its public mission. As part of its new climate plan, BNG will focus mainly on carbon reduction in its core activities which involve providing financing for housing associations, healthcare and educational bodies and municipalities. Taking the example of future activities in the housing associations sector, as the market leader in the Netherlands, BNG is committed to phasing out energy efficiency categories which no longer meet requirements. Moreover, natural gas is to be replaced in the long term as a source of energy. Municipal financing activities currently account for 31% of the credit portfolio and are responsible for 22% of greenhouse gases. According to BNG's climate plan, CO² intensity in this area is to be reduced to just 2.8% (2050) of the current level. BNG Bank's credit business is secured to a large extent by the guarantee funds Waarborgfonds Sociale Woningbouw (WSW) and Waarborgfonds voor de Zorgsector (WFZ), for which the Dutch state is the ultimate guarantor. There is therefore an implicit state guarantee for a large part of the credit portfolio. Along with a separate analysis of BNG, our readers will find an overview of the Dutch agency market in our NORD/LB Issuer <u>Guide 2022 – Dutch Agencies</u>.



Primary market

In today's look at the SSA primary market, we can identify six deals which are listed in the table below. In chronological order, they are as follows: Investitionsbank Berlin (ticker: IBB) launched a ten-year EUR 500m bond at ms +2bp. It is worth noting that the guidance was also at ms +2bp area and that no details were disclosed relating to the order book. Moreover, any interested party had to look closely to find out who the actual issuer was last week; Landesbank Berlin (SNP), Berlin Hyp or in fact IBB. A lot is going on in Germany's capital – and not just in the aftermath of the election. The above was followed by a deal from another one of Germany's city states, namely BREMEN, as per its ticker. Bremen chose the same duration and size as IBB. Pricing was three basis points tighter at ms -1bp, while the order book size was disclosed on this occasion: EUR 575m. Here, too, there was no further movement to be seen against the guidance. The next deal under scrutiny was from North Rhine-Westphalia, where Düsseldorf opted for a 50-year maturity. Obviously, such maturities are not easy to price, especially against a background where many issuers are concentrating on a maximum of ten years. The initial guidance stood at ms +106bp. The order book grew to over EUR 6bn, so that by the end of the book-building process a volume of EUR 2bn had changed hands at ms +104bp. The coupon for such a deal currently stands at 3.4%. There are still the three deals to discuss from yesterday: of particular importance for us was the issue of a seven-year bond by Frankfurter Rentenbank, for which we published the accompanying research. Initial guidance for the deal was ms -1bp area. The order books closed at over EUR 4.6bn with a spread of ms -3bp. The issuer was therefore able to opt for a volume of EUR 1.5bn. Jumping now to Spain where Galicia has issued its third sustainable bond under the JUNGAL ticker. All ESG bonds from this issuer have been issued in benchmark form. This is definitely worth mentioning given a total of only nine bonds outstanding. The EUR 500m bond came with a six-year maturity, while the deal was more than three times oversubscribed. The A/Baa1 rating is certainly among the weaker ratings in the SSA segment. Accordingly, the deal was priced at SPGB +25bp above the Spanish reference bond. However, the spread is directly overshadowed by CAF: Corporação Andina de Fomento (headquarters: Venezuela) issues at least one EUR benchmark every year. In this case, EUR 1bn changed hands for five years at ms +110bp. Initial guidance was even as high as ms +115bp area, while the order books closed at EUR 2.3bn. In addition, the monthly EU auction took place at the end of the month. Around EUR 3.5bn was raised via taps. On the same subject: apart from auctions, the EU has issued an RfP to the relevant groups and we can therefore expect further transactions in the near future. This also fits in with the issue diary as it currently stands and with the indicative windows listed therein. By yesterday afternoon, there was a further mandate on the list, namely the forthcoming deal from Investitionsbank Schleswig-Holstein (IB.SH), which is based in Kiel (EUR 500m, WNG, 8v).

	\ -	,	- / - / /					
Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
CAF	SNAT	27.02.	XS2594907664	5.0y	1.00bn	ms +110bp	AA- / Aa3 / AA-	-
JUNGAL	ES	27.02.	ES0001352626	6.4y	0.50bn	ms +31bp	- / Baa1 / A	Χ
RENTEN	DE	27.02.	XS2595650222	7.5y	1.50bn	ms -3bp	AAA / Aaa / AAA	-
NRW	DE	27.02.	DE000NRW0N26	50.0y	2.00bn	ms +104bp	AAA / Aa1 / AA	-
BREMEN	DE	22.02.	DE000A30V356	10.0y	0.50bn	ms -1bp	AAA / - / -	-
IBB	DE	21.02.	DE000A30V216	10.0v	0.50bn	ms +2bp	AAA / - / -	_

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



Covered Bonds

The covered bond market and the ECB: a gradual farewell?

Authors: Dr Frederik Kunze // Melanie Kiene, CIIA

Influence of ECB monetary policy on the covered bond market

We have often looked at the impact of ECB monetary policy on the covered bond market in our weekly publication, focusing on both the primary and secondary markets. In our comments, we also regularly distinguished between distortions caused by the Eurosystem on the demand side versus the supply side. With the CBPP3 purchase programme, for example, the ECB siphoned off significant shares of the primary market volume and greatly diminished covered bond supply through the additional liquidity provided by the central bank. At its peak, the third round of targeted longer-term refinancing operations (TLTRO III) ultimately provided no less than around EUR 2,339.3bn to commercial banks in the euro area, which significantly reduced the need for covered refinancing via the capital market. Although a notable share of this volume has already been repaid, the TLTRO III chapter has not yet been concluded. In today's issue of the NORD/LB Covered Bond & SSA View, we shall discuss why we would say there tends to be talk of a "gradual farewell" for the covered bond market, even in times of quantitative tightening and rising interest rates and long after the final TLTRO III allocation. In doing so, we examine both the funding side of commercial banks and the correlations with the issuing potential of covered bond institutions.

Targeted longer-term refinancing operations to support lending

Let's begin with a brief recap: back in June 2014, the ECB Governing Council decided on the first targeted longer-term refinancing operations. This first series of TLTRO aimed at improving bank lending to the non-financial private sector in the euro area (cf. ECB press release dated 5 June 2014) to enhance the functioning of the monetary policy transmission mechanism. A second series - TLTRO II - followed in 2016, again to strengthen the transmission of monetary policy and, in conjunction with this objective, to further incentivise bank lending to the real economy (cf. especially ECB press release dated 10 March 2016). The same aim was then announced three years later with TLTRO III in 2019 (cf. announcement on 7 March 2019 and the ECB press release dated 6 June 2019 on the specifics of the transactions starting in September 2019). Ultimately, the Eurosystem provided additional liquidity through ten TLTRO III transactions. The allocations of these ten tenders (TLTRO III.1 to TLTRO III.10) covered the period September 2019 to November 2021. In fact, in the wake of the coronavirus pandemic in spring 2020, the conditions of TLTRO III were made much more appealing for banks, so that commercial banks in the euro area to a very large extent resorted to the then "extremely cheap" TLTRO III refinancing (last tender transaction at the end of November 2021). In particular, these crisis measures from 2020 also have an effect up to the present in the context of TLTRO III. As mentioned earlier, the ECB ultimately issued a total of EUR 2,339.3bn in loans via TLTRO III, of which EUR 1,218.3bn is currently still outstanding. TLTRO III.4 remains the largest tender with an outstanding volume of EUR 548.7bn.



TLTRO III and (retained) covered bonds as eligible collateral

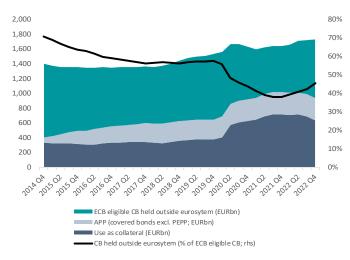
In the context of refinancing via central bank liquidity, commercial banks in the euro area provide collateral in accordance with the requirements of the ECB Collateral Framework. Covered bonds are also of great significance in this respect, which is especially due to the fact that banks can deposit their own retained covered bonds as collateral ("own use" or "retained"). From the point of view of covered bond issuers, the programmes for covered bond placement and the cover pools will then prove to be refinancing vehicles even if the bond is not issued publicly. In our weekly publication, we have often concluded that covered bonds especially fulfil their role as a valuable funding instrument in times of crisis, even though the market would be deprived of investment potential. In connection with TLTRO III, in particular, there had to be talk of a downright cannibalisation of the primary market in the EUR benchmark segment: after covered bonds amounting to EUR 134.8bn were placed here in 2019, only EUR 92.2bn followed in 2020 and EUR 95.7bn in 2021. According to this interpretation, it was not until 2022 that banks were again "forced" to offer their goods to mainstream investors at market conditions without new TLTRO tenders. This direct market distortion of the primary market by the ECB therefore no longer had an equally strong dampening effect on supply in 2022, resulting in EUR 198.6bn being placed last year. On the demand side, the ECB "still" acts as a relevant buyer. However, the central bank has also gone into reverse here by lowering the ECB's order sizes on the primary market from 40% to 10%. From March of this year, the central bank will focus on the secondary market alone. While the ECB's order sizes have recently been particularly relevant for reducing the risk of execution, the interdependencies of TLTRO III and "retained" covered bonds remain of great importance for our supply forecast. For example, in a world without TLTRO, the need for refinancing via public covered bond issuance is greater, while the issuance potential for the EUR benchmark segment at the same time increases with a lower need for ECB collateral. Finally, the cover assets reserved for "retained" covered bonds become free as soon as the corresponding bonds are "repaid".

Outstanding TLTRO III tender (in EUR bn)

Tender Settlement Maturity **Allotted** Outst. 20210155 22.12.21 18.12.24 51.97 44.2 20210119 29.09.21 25.09.24 97.57 90.93 20210078 24.06.21 26.06.24 109.83 76.35 20210034 24.03.21 27.03.24 330.5 290.17 20200248 20.12.23 45.97 16.12.20 50.41 20200207 30.09.20 27.09.23 174.46 89.79 20200131 24.06.20 28.06.23 1308.43 548.74 20200029 25.03.20 29.03.23 114.98 32.15

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

ECB share of covered bond market





A detailed look at collateral recognised by the ECB

The graph on the right above demonstrates the ECB's continuing influence on the covered bond market. For example, we use the covered bonds approved as collateral by the central bank to approximate for the market as a whole. We initially compare this with covered bonds actually used as collateral. Here it can be assumed that a significant proportion is attributable to TLTRO III. The supply of publicly placed deals pushed back by ECB monetary policy can therefore be gleaned from the graph, while the demand side is expressed by the volume of the CBPP3. For today's article, we are particularly interested in eligible or used collateral. Our data is based on the ISINs listed by the ECB as eligible collateral (reference date 23 February 2023) and we limited this universe to the covered bond categories. In order to draw conclusions about the status of the deal ("retained" or "public"), we also used the Bloomberg field "Retained Deal". Even though some of the TLTRO III market operations have already matured or, as was last the case on 22 February 2023, have been repaid early (penultimate additional early repayment date following subsequent adjustment to conditions), a comparatively large share of this "submarket" can still be identified. The "retained" volume on the part of issuers from the euro area is EUR 328.8bn, spread between 240 covered bonds (all denominated in EUR, bar two USD bonds) from 51 institutions (some of which were groups from different entities/SPVs) from 13 countries.

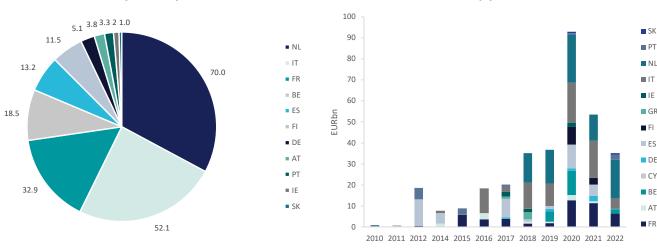
Of the "retained" deals issued since 2019, EUR 213bn are still outstanding

When considering this sub universe further, it should be borne in mind that not all "retained" covered bonds should be considered in the context of TLTRO. In addition, we look at the outstanding bonds and thereby exclude those deals that have now matured or been repaid. We also assume that the bonds in the universe outlined above, issued between 2019 and 2021, have to a significant extent been placed to be deposited with the ECB as collateral in the context of refinancing via TLTRO III. This assessment fits in with the high proportion of the outstanding volume attributable to the issue years 2019 and 2020. However, the retained bonds from 2021 and 2022 are in our view relevant for the analysis. For example, the cover pools of commercial banks at the ECB are dynamic and it is quite conceivable that some institutions will replace maturing collateral from their "holdings" with fresh retained issues. This means that "retained" covered bonds issued after 2021 also have a theoretical significance in the TLTRO III-specific analysis. This results in a EUR denominated universe of EUR 213.2bn. The largest volume is attributable to the Netherlands with EUR 70bn, followed by Italy (EUR 52.1bn) and France (EUR 32.9bn). Belgium, which follows in fourth place, nevertheless accounts for EUR 18.5bn. In our weekly publication on 18 January, we previously discussed the notable potential for "new" bonds that can be derived from this figure using Belgium as an example. For comparative purposes with retained bonds, the Belgian EUR benchmark segment currently has a volume of EUR 17.25bn.



Retained covered bonds by country (in EUR bn)

Retained covered bonds by year of issuance



Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research; outstanding covered bonds (Bloomberg flag: "retained deal"); status: 23 February 2023

Conclusion

These figures and the preceding considerations therefore allow a very high issuance potential for publicly placed covered bonds to be assumed. Even if the "retained" covered bonds can be used as collateral for other open market operations with the ECB, it can be assumed that a large part of the collateral will be released. This view also fits with the expectation that the central bank will sharply reduce its own balance sheet total. A high proportion will be attributable to the approaching end of TLTRO III. Here, the actual need for refinancing via covered bonds also plays a very important role. It is therefore reasonable to conclude that certain shares of TLTRO III are still pending to be refinanced by the institutions. However, we also see arguments for strong activity on the covered bond primary market in other areas. Specifically, we are thinking of the trend in deposits. For example, deposit growth in the euro area was negative in 2022, which had otherwise only been the case in 2020 and during the financial markets crisis. All these considerations are not new. However, it is clear that the Eurosystem continues to have an influence on the primary market. Our forecast for the 2023 issue year also takes into account these thoughts on refinancing requirements and issuance potential. At EUR 155.0bn, the Netherlands, Italy and France account for almost two-thirds of all retained covered bonds based on our definition of the universe of recognised collateral at the ECB. As a result, we anticipate increased primary market activity from these countries as well. However, while the Netherlands (EUR 7.0bn ytd, 2022: EUR 9.8bn) and France (EUR 19.4bn ytd, 2022: EUR 43.5bn) were already present on the market with new issues, this is not yet possible for Italian issuers (cf. last week's focus article). The ECB's shift in monetary policy also means a gradual weakening of the distortions on both the supply and demand sides triggered by the Eurosystem. However, we would continue to speak of a "gradual farewell" and have been taking this into account in our supply forecast for some time. For 2023 as a whole, we expect an extremely active primary market. Overall, we anticipate EUR 189.5bn. Looking at maturities in 2023 totalling EUR 115.5bn, this results in a net supply of EUR 74.0bn.



SSA/Public Issuers

Beyond Bundeslaender: Focus on Greater Paris (IDF and VDP)

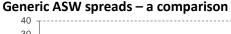
Authors: Dr Norman Rudschuck, CIIA // Valentin Jansen

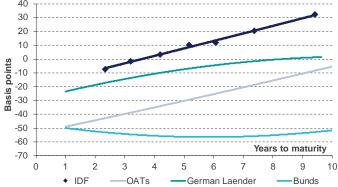
Public Issuer Special – Beyond Bundeslaender: Greater Paris (IDF and VDP) updated

Having already published an update on our established publication <u>Beyond Bundeslaender</u>: <u>Belgium</u> back in mid-January, in the recent edition of <u>Beyond Bundeslaender</u>: <u>Greater Paris</u> (<u>IDF and VDP</u>) published in mid-February we once again take a look at the French capital market-relevant region Île-de-France (IDF) and the local authority Ville de Paris (VDP). Both issuers represent an interesting investment alternative for ESG investors in particular. As part of our <u>Public Issuer Special</u> series, we are always interested in seeing your growing interest in "niche products". We will therefore continue to develop the "Beyond Bundeslaender" segment: This year, we are also planning relevant research publications on Spain and Canada. In the following, we would like to provide you with a brief overview of the two issuers in focus, which - together with the economic, political and regulatory framework conditions - are examined in detail in the publication linked above.

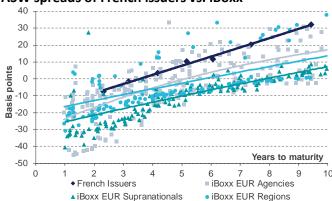
Paris regions vs. iBoxx € Regions and German Laender

Even compared with the iBoxx € Regions, both Paris regions trade with premiums. At the long end, the spread difference can reach up to 20 basis points or so. In the medium maturity segment – IDF has only one benchmark bond outstanding with terms of less than three years – the spread is lower. The differences versus Supras are greater. Compared with Supras, which boast even better average ratings, and the generally far higher liquidity of the bonds from these regular issuers, this is hardly surprising. This applies in comparison with both German and French sovereign bonds and in relation to the German Laender. Overall, as the sole benchmark issuer, IDF in particular features the widest spreads versus its peers and could therefore – with limited liquidity – generate a pick-up for investors. In addition, both issuers (IDF and VDP) may well be open to private placements and meeting certain yield expectations of institutional investors.





ASW spreads of French issuers vs. iBoxx



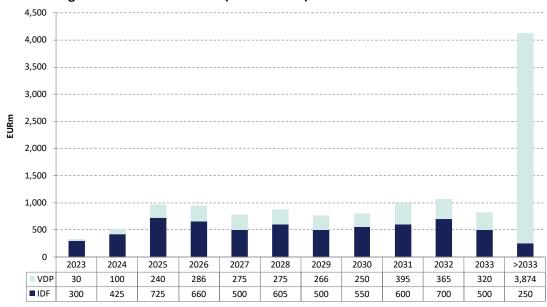
Source: Bloomberg, NORD/LB Markets Strategy & Floor Research; data from 14 Feb. 2023



IDF and VDP: Outstanding volumes up again

Of course, the two tickers that form the focus of our attention here - IDF and VDP - do not represent the entirety of French regions. Various other local authorities and regional vehicles/agencies are also active on the capital market (e.g. Auvergne-Rhône-Alpes (ARA), Pays de la Loire (PDLL), MARSE (City of Marseilles) and CUDM (Communauté urbaine Marseille Provence Métropole). Nevertheless, based on our narrow definition of the relevant universe, a total of 82 bonds are now outstanding (2022: 73). This already indicates a certain granularity when it comes to Parisian regional bonds. A total of EUR 13.0bn is outstanding. In terms of foreign currency deals from these two issuers, we have identified just a single transaction (IDF) denominated in JPY. The FX segment accordingly accounts for just a fraction of the liabilities breakdown. At the end of 2020, IDF still had other FX bonds outstanding (denominated in AUD). As a result, around 99% of the outstanding volume is diversified across maturities rather than currencies. Around EUR 4.1bn will not fall due until 2033, which suggests that very long-term refinancing is the preference (largely attributable to VDP). Side note: all nine benchmark bonds pertain to the IDF ticker, meaning that EUR 5.1bn of the overall outstanding volume of EUR 6.3bn can be described as large-volume and liquid. VDP, nevertheless, has 64 ISINs outstanding, comprising a volume of EUR 6.7bn.

Outstanding bonds of French issuers (IDF and VDP)



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

Conclusion

The Île-de-France region has become increasingly well-established on the capital market in recent years. As a result of its activities in the ESG segment along with outstanding green and sustainable bonds, it offers an interesting investment option, especially for investors that are keen to support sustainability and social projects. In addition, IDF boasts comparatively strong economic framework conditions and qualifies for ratings of Aa2 and AA from Moody's and Fitch respectively. As a result of the rapid recovery of the French economy after the outbreak of the pandemic, France returned to a pre-crisis level as early as 2021. The economic data for 2022 also indicates that economic growth will continue, despite the impacts of the Russia-Ukraine war. Further positive effects can be expected over the next years if the national programme of reforms, which was thwarted by the pandemic, regains momentum and lays the crucial foundations for potential future growth at a regional level.

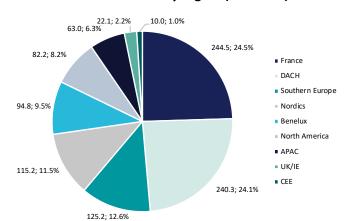


Charts & Figures Covered Bonds

EUR benchmark volume by country (in EURbn)

119.9; 12.0% 244.5: 24.5% ■ FR 32.3: 3.2% ■ DE 32.9; 3.3% ■ CA = NL 46.3; 4.6% ES ■ AT 47.8: 4.8% ■ NO ■ IT 48.3: 4.8% ■ FI 191.3; 19.2% = AU 75.9; 7.6% Others 76.1; 7.6% 82.2; 8.2%

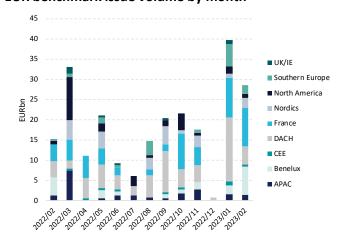
EUR benchmark volume by region (in EURbn)



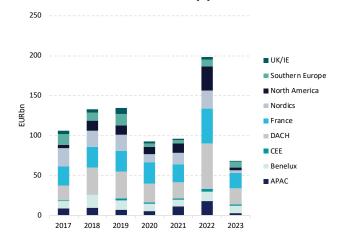
Top-10 jurisdictions

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	244.5	236	16	0.96	9.6	5.3	1.09
2	DE	191.3	273	31	0.65	8.1	4.3	0.88
3	CA	82.2	63	0	1.26	5.6	2.8	0.64
4	NL	76.1	76	2	0.94	10.9	6.7	0.98
5	ES	75.9	61	6	1.14	10.9	3.7	1.90
6	AT	48.3	83	4	0.58	8.8	5.5	1.06
7	NO	47.8	57	11	0.84	7.2	3.7	0.50
8	IT	46.3	57	2	0.79	9.2	3.7	1.24
9	FI	32.9	35	3	0.93	7.4	3.9	0.90
10	AU	32.3	32	0	1.01	7.6	3.8	1.19

EUR benchmark issue volume by month

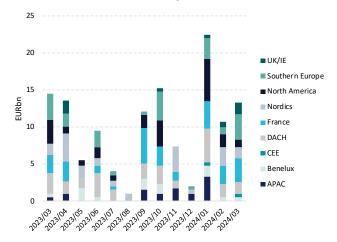


EUR benchmark issue volume by year

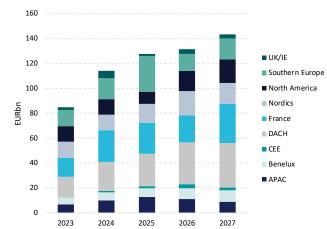




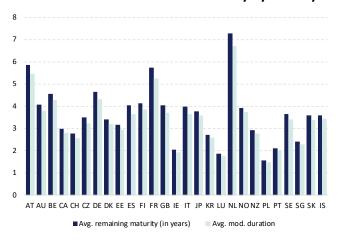
EUR benchmark maturities by month



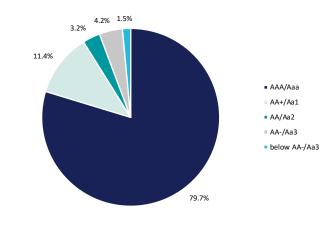
EUR benchmark maturities by year



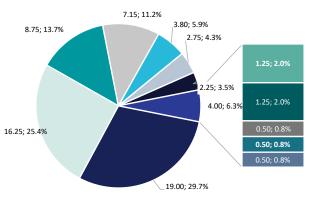
Modified duration and time to maturity by country



Rating distribution (volume weighted)

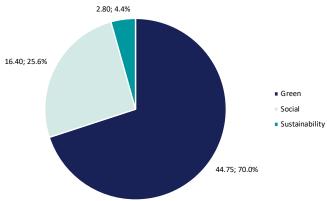


EUR benchmark volume (ESG) by country (in EURbn)



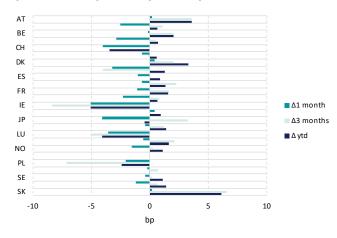
■ DE = FR ■ NO = KR ■ ES = FI ■ AT = IT ■ NL = PL ■ SK = GB

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

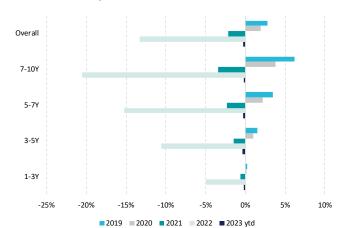




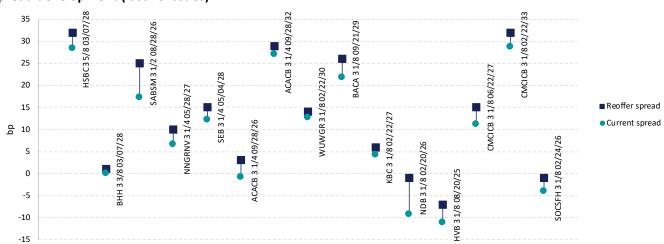
Spread development by country



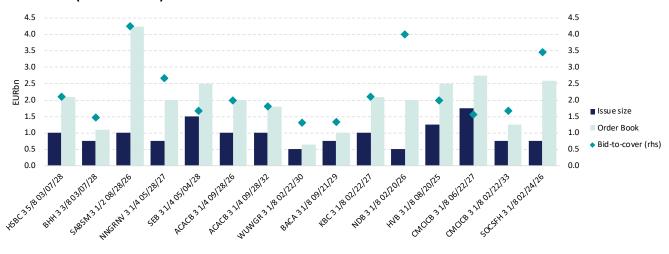
Covered bond performance (Total return)



Spread development (last 15 issues)

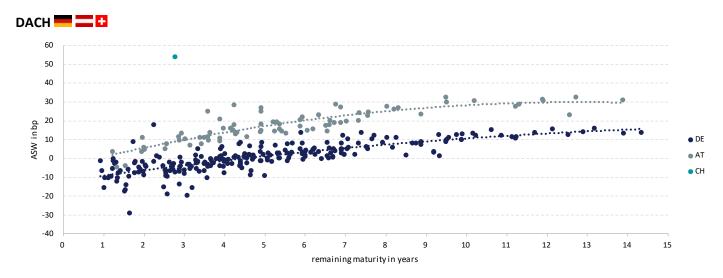


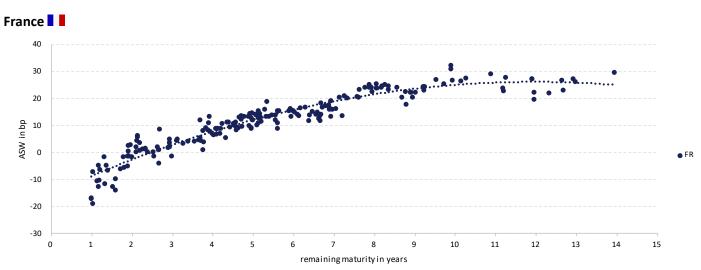
Order books (last 15 issues)

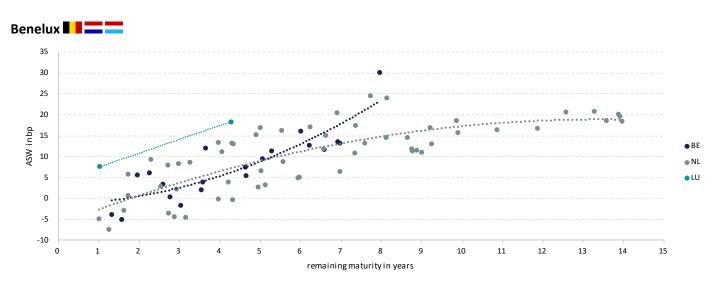




Spread overview¹

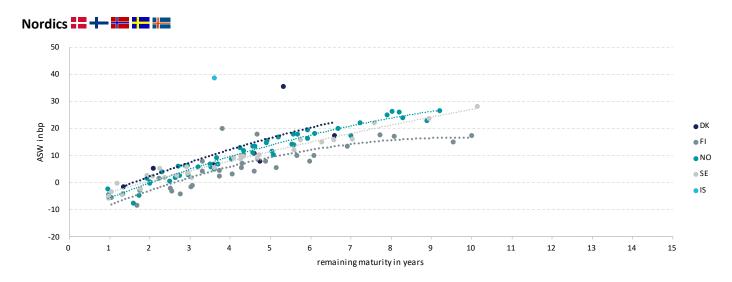


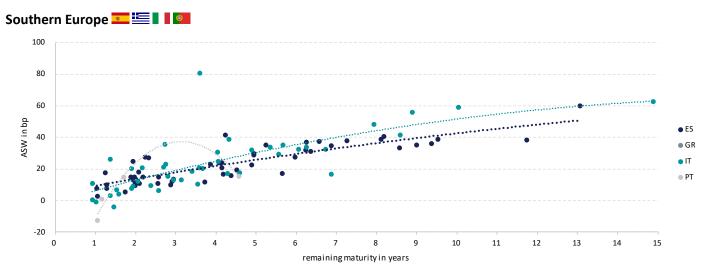


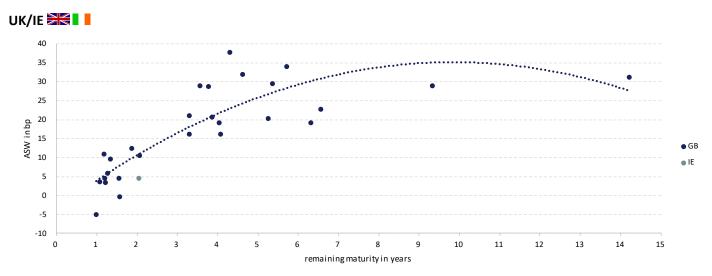


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research 1 Time to maturity $1 \le y \le 15$

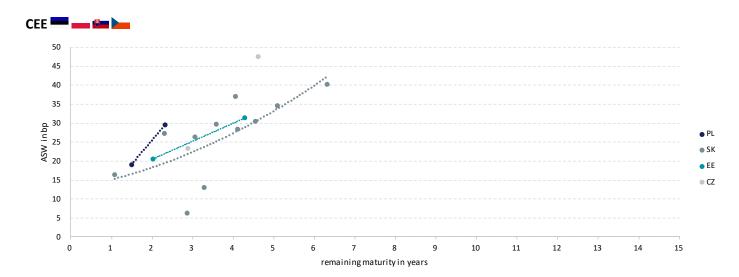


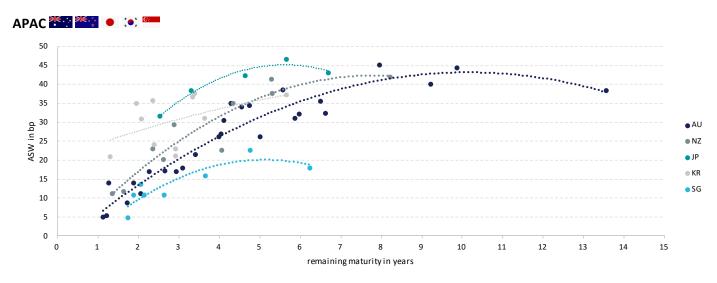


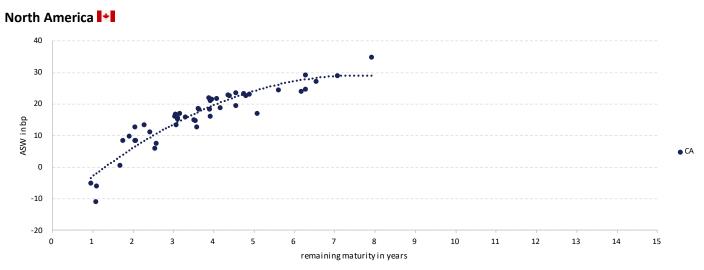








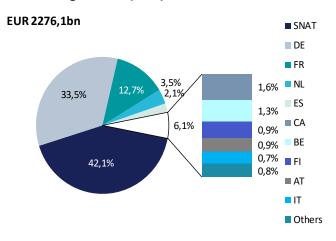






Charts & Figures SSA/Public Issuers

Outstanding volume (bmk)



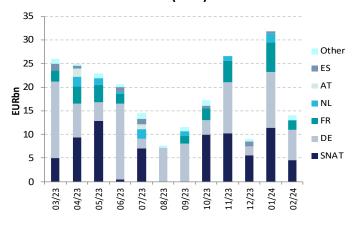
Top 10 countries (bmk)

Country	Vol. (€bn)	No. of bonds	ØVol. (€bn)	Vol. weight. ØMod. Dur.
SNAT	958,4	225	4,3	8,0
DE	763,1	565	1,4	6,3
FR	288,1	190	1,5	6,2
NL	78,7	70	1,1	6,5
ES	48,3	64	0,8	4,6
CA	35,5	25	1,4	4,5
BE	29,5	33	0,9	11,5
FI	21,1	24	0,9	5,2
AT	19,6	22	0,9	4,4
IT	15,5	20	0,8	4,8

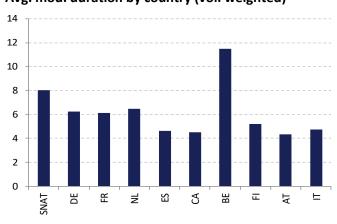
Issue volume by year (bmk)



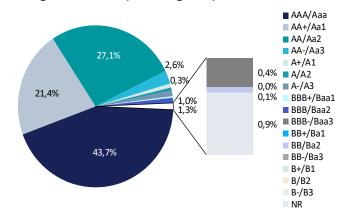
Maturities next 12 months (bmk)



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

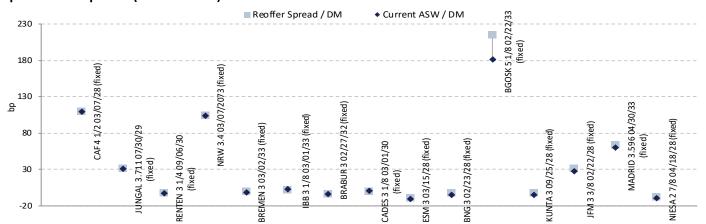


Rating distribution (vol. weighted)





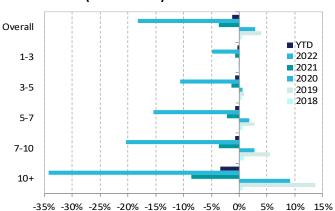
Spread development (last 15 issues)



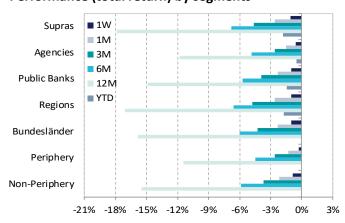
Spread development by country



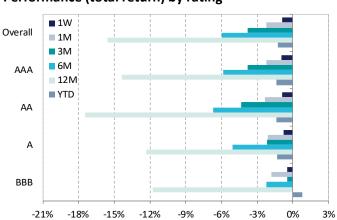
Performance (total return)



Performance (total return) by segments

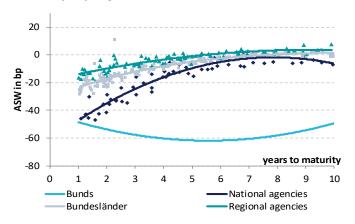


Performance (total return) by rating

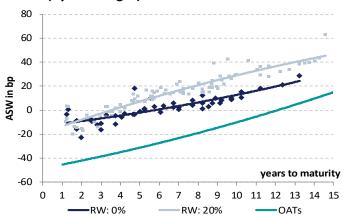




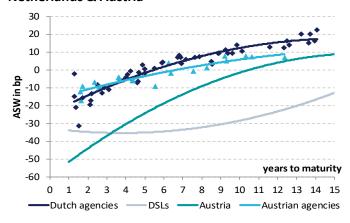
Germany (by segments)



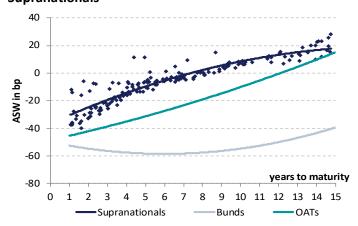
France (by risk weight)



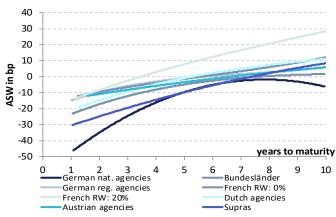
Netherlands & Austria



Supranationals

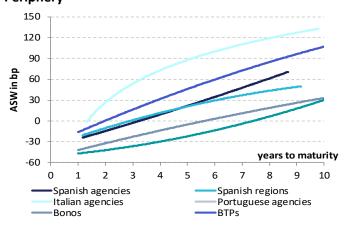


Core



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

Periphery





ECB tracker

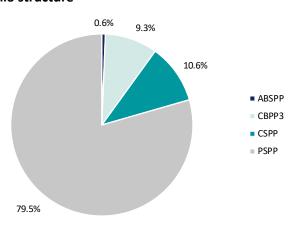
Asset Purchase Programme (APP)

	ABSPP	СВРР3	CSPP	PSPP	APP
Dec-22	22,895	301,973	344,119	2,584,666	3,253,653
Jan-23	20,835	303,269	344,010	2,584,798	3,252,912
Δ	-2.060	+1.296	-109	+132	-741

Portfolio development

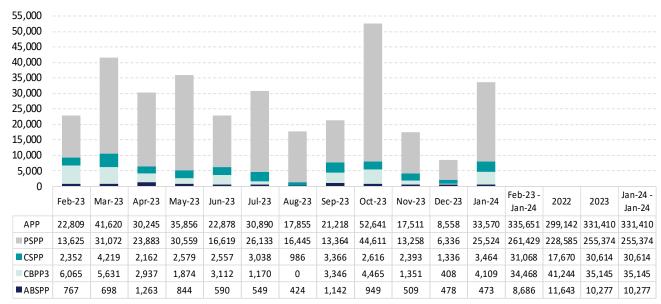
3,500 3,000 2,500 1,500 1,000 1,

Portfolio structure



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

Expected monthly redemptions (in EURm)

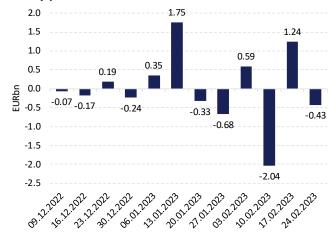


Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

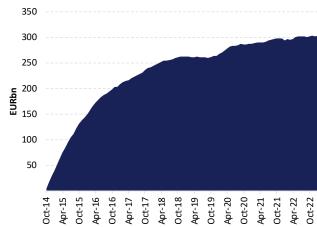


Covered Bond Purchase Programme 3 (CBPP3)

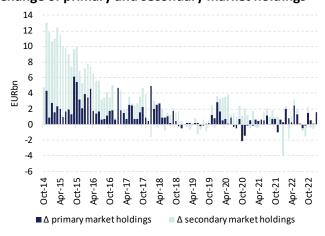
Weekly purchases



Development of CBPP3 volume



Change of primary and secondary market holdings

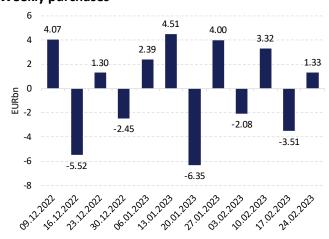


Distribution of CBPP3 by country of risk



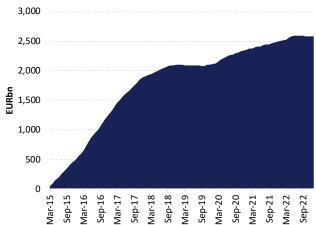
Public Sector Purchase Programme (PSPP)

Weekly purchases



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

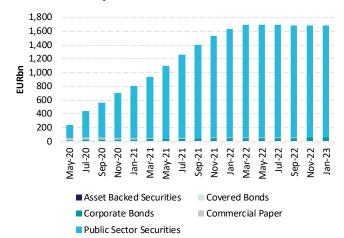
Development of PSPP volume



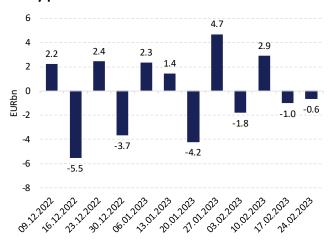


Pandemic Emergency Purchase Programme (PEPP)

Portfolio development



Weekly purchases



Breakdown of public sector securities under the PEPP

Jurisdiction	Holdings (in EURm)	Δ Holdings previous period	Adj. distribution key ¹	PEPP share	Deviations from the adj. distribution key²	Current WAM ³ (in years)	WAM of eligible universe ⁴ (in years)
AT	44,037	-671	2.6%	2.7%	0.0%	7.5	7.4
BE	55,795	-698	3.3%	3.4%	0.1%	6.3	9.3
CY	2,493	4	0.2%	0.2%	0.0%	8.3	8.1
DE	398,297	2,551	23.7%	24.0%	0.3%	6.7	6.9
EE	256	0	0.3%	0.0%	-0.2%	7.4	8.0
ES	193,376	-1,418	10.7%	11.6%	0.9%	7.4	7.3
FI	26,953	-173	1.7%	1.6%	0.0%	7.4	7.5
FR	301,844	14	18.4%	18.2%	-0.2%	7.6	7.8
GR	37,760	729	2.2%	2.3%	0.0%	8.5	9.4
IE	25,998	-503	1.5%	1.6%	0.0%	8.8	10.2
IT	287,658	-794	15.3%	17.3%	2.0%	7.2	6.9
LT	3,256	14	0.5%	0.2%	-0.3%	9.5	9.1
LU	1,922	19	0.3%	0.1%	-0.2%	5.9	6.5
LV	1,911	0	0.4%	0.1%	-0.2%	7.9	7.4
MT	607	1	0.1%	0.0%	-0.1%	10.4	8.6
NL	83,388	1,689	5.3%	5.0%	-0.3%	7.7	8.7
PT	33,909	-1,068	2.1%	2.0%	-0.1%	6.8	7.3
SI	6,627	19	0.4%	0.4%	0.0%	8.5	9.4
SK	8,031	0	1.0%	0.5%	-0.5%	8.1	8.2
SNAT	147,088	0	10.0%	8.9%	-1.1%	10.2	8.8
Total / Avg.	1,661,205	-281	100.0%	100.0%	0.0%	7.5	7.6

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

³ Current WAM of public sector securities holdings under the PEPP ⁴ WAM of eligible universe of public sector securities holdings under the PEPP Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research



Appendix

Markets Strategy & Floor Research

Overview of latest Covered Bond & SSA View editions

Publication	Topics
07/2023 ♦ 22 February	■ The Italian market for EUR benchmark covered bonds
	European supranationals - an overview
06/2023 ♦ 15 February	Maturity premiums on covered bonds
	 Development of the German property market
	Spotlight on the EU: a mega issuer spawned by the crisis
05/2023 ♦ 08 February	January 2023: record start to the new covered bond year
	 SSA monthly review: dynamic issuance activity to kick off the new year
04/2023 ♦ 01 February	Focus on covered bond jurisdictions: Canada in the spotlight
	 Focus on covered bond jurisdictions: Slovakia and Czech Republic in the spotlight
	 26th meeting of the Stability Council (December 2022)
03/2023 ♦ 25 January	ECB preview: all eyes and ears on the press conference
	 Successful start to the year for EUR sub-benchmarks as well
	 ESG covered bonds from France: La Banque Postale SFH issues inaugural social covered bond
02/2023 ♦ 18 January	Focus on covered bond jurisdictions: Belgium in the spotlight
	The Moody's covered bond universe: an overview
	Beyond Bundeslaender: focus on Belgian issuers
01/2023 ♦ 11 January	ECB review: 2022 entailed all manner of monetary policy action
	Covered Bonds Annual Review 2022
	SSA: Annual review of 2022
39/2022 ♦ 14 December	Our view of the covered bond market heading into 2023
	 SSA outlook 2023: ECB, NGEU and the debt brake in Germany
38/2022 ♦ 07 December	ECB preview – next hike but total assets (finally) reduced?!
	Covered bond jurisdictions in the spotlight: a look at Spain
37/2022 ♦ 30 November	■ Transparency requirements §28 PfandBG Q3 2022
	ECB repo collateral rules and their implications for Supranationals & Agencies
36/2022 ♦ 23 November	ESG covered bonds - another record year
50/1012 ¥ 25 NOVERNOCE	Current LCR classifications for our SSA coverage
35/2022 ♦ 16 November	Covered bond jurisdictions in the spotlight: a look at Austria
33/ LOLL V 10 NOVERIBEI	Development of the German property market
	EIB goes Blockchain again!
34/2022 ♦ 09 November	Covered bond jurisdictions in the spotlight: a look at Norway
<u>54/2022 </u>	Tenth edition of the NORD/LB Issuer Guide Covered Bonds
	SSA primary stats ytd before the final sprint
33/2022 ♦ 26 October	 Repayment structures on the covered bond market: EU harmonisation project consigns hard bullets to the
JO, EVER Y EU OCTOBEL	shadows
	■ The debt brake at Laender level
NORD/LD.	NORD/LB: NORD/LB: Bloomberg:
NORD/LB:	NORD/LB: NORD/LB: Bloomberg:

Covered Bond Research

SSA/Public Issuer Research

RESP NRDR <GO>



Appendix Publication overview

Covered Bonds:

Issuer Guide Covered Bonds 2022

Covered Bond Directive: Impact on risk weights and LCR levels

Risk weights and LCR levels of covered bonds (updated semi-annually)

Transparency requirements §28 PfandBG Q3/2022 (quarterly update)

Covered bonds as eligible collateral for central banks

SSA/Public Issuers:

Issuer Guide – German Laender 2022

<u>Issuer Guide – German Agencies 2022</u>

<u>Issuer Guide – Dutch Agencies 2022</u>

Beyond Bundeslaender: Belgium

Beyond Bundeslaender: Greater Paris (IDF/VDP)

Spotlight on Spanish regions (Update planned in 2023)

Fixed Income Specials:

ESG-Update 2022

ECB interest rate decision: Roadmap to QT

ECB: The Wishing-Table, the Gold-Ass, and the Cudgel in the Sack

ECB interest rate decision: delivered as expected?

ECB acts as the 'House of Hikes' – or: Winter is coming!



Appendix Contacts at NORD/LB

Markets Strategy & Floor Research



Dr Frederik KunzeCovered Bonds/Banks

+49 172 354 8977 frederik.kunze@nordlb.de



Melanie Kiene Covered Bonds/Banks

+49 172 169 2633 melanie.kiene@nordlb.de



Stefan RahausCovered Bonds/Banks

+49 172 6086 438 stefan.rahaus@nordlb.de



Dr Norman Rudschuck SSA/Public Issuers

+49 152 090 24094 norman.rudschuck@nordlb.de



Jan-Phillipp Hensing SSA/Public Issuers

+49 172 425 2877 jan-phillipp.hensing@nordlb.de

Sale	es
------	----

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

Trading

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

Origination & Syndicate

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

Sales Wholesale Customers

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

Treasury

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

Relationship Management

Institutionelle Kunden	rm-vs@nordlb.de
Öffentliche Kunden	rm-oek@nordlb.de



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 in dependence of investment research and is not subject to any prohibition of trading following the dissemination of investment research. Likewise, this information does not constitute an investment recommendation or investment strategy recommendation within the meaning of the Market Abuse Regulation (EU) No. 596/2014.

This report and the information contained herein have been compiled and are provided exclusively for information purposes. The present information is not intended as an investment incentive. It is provided for the Recipient's personal information, subject to the express understanding, which shall be acknowledged by the Recipient, that it does not constitute any direct or indirect offer, recommendation, solicitation to purchase, hold or sell or to subscribe for 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. For the preparation of this information, NORD/LB uses issuer-specific financial data providers, own estimates, company information and public media. 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 set forth in the present Report (irrespective of whether such losses are incurred due to any negligence on the part of these 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 provide 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 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.

Time of going to press: Wednesday, 01 March 2023 (08:50)

Distribution: 01.03.2023 15:23:51