Covered Bond & SSA View

NORD/LB Markets Strategy & Floor Research

10 May 2023 ♦ 16/2023

Marketing communication (see disclaimer on the last pages)

Agenda

Floor analysts:

Covered Bonds/Banks

Dr Frederik Kunze
frederik.kunze@nordlb.de

Melanie Kiene, CIIA
melanie.kiene@nordlb.de

Stefan Rahaus
stefan.rahaus@nordlb.de

SSA/Public Issuers

Dr Norman Rudschuck, CIIA
norman.rudschuck@nordlb.de

Valentin Jansen
valentin.jansen@nordlb.de

NORD/LB: Markets Strategy & Floor Research

NORD/LB: Covered Bond Research

NORD/LB: SSA/Public Issuer Research

Bloomberg: RESP NRDR <GO>

Market overview
Covered Bonds

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

Primary market remains receptive, long maturities are still shunned

The fact that the last two trading weeks were curtailed meant that issuance activity for covered bonds in EUR benchmark format was relatively quiet compared with the average of the year to date until yesterday. Key meetings at the Fed and the ECB last week also made investors more cautious. In this week's publication, we examine our assessment of the effects of the European Central Bank's decisions on the covered bond market as part of an article entitled "The ECB and the covered bond market: influences old and new". Into the end of April, we saw three appearances on the market totaling EUR 1.85bn. Following its first social bond in 2021, Hana Bank (South Korea) placed its second social bond and therefore increased the number of new covered bonds with an ESG background in the EUR benchmark segment to twelve in 2023. At the end of April, the total new issuance volume in the current year stood at EUR 105.2bn, while sustainable covered bonds accounted for a share of EUR 7.85bn (7.5%). To date, the month of May has been dominated by issuers from the Eurozone, with three mortgage Pfandbriefe from Germany and one from Austria, as well as a covered bond from France. The fact that only a few new issues fall outside the three to six-year maturity segment is still striking. In particular, there have been no maturities of longer than 7.5 years for two months now, although, in our opinion, there should definitely be a need for ten-year funding too. Apparently, issuers are afraid of not being able to generate sufficient demand from investors in this maturity segment because of the inverse swap curve without having to make far-reaching concessions in terms of pricing. Oversubscription ratios decreased somewhat recently, which should lead, combined with our expectation of continuing high levels of new issues, to new issue premiums widening modestly.

Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
CFF	FR	09.05.	FR001400HZD5	6.0y	1.00bn	ms +27bp	- /Aaa/AAA	-
Hypo Vorarlberg Bank	AT	09.05.	AT0000A34CR4	4.8y	0.50bn	ms +27bp	- / Aaa / -	-
Hamburger Sparkasse	DE	09.05.	DE000A351M80	5.3y	0.50bn	ms +7bp	- / Aaa / -	-
UniCredit Bank	DE	09.05.	DE000HV2AZT8	4.0y	0.75bn	ms +7bp	- / Aaa / -	-
Spk. Pforzheim Calw	DE	03.05.	DE000A351TH2	6.0y	0.50bn	ms +11bp	AAA/ - / -	-
Hana Bank	KR	26.04.	XS2594123585	3.0y	0.60bn	ms +47bp	AAA/ - /AAA	X
LF Bank	SE	26.04.	XS2618711068	6.0y	0.50bn	ms +22bp	- / Aaa / AAA	-
BAWAG PSK	AT	26.04.	XS2618704014	3.0y	0.75bn	ms +16bp	- / Aaa / -	-

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

Secondary market unimpressed by ECB's decisions so far

In the last two trading weeks, our records showed spreads trending sidewards on the secondary market, while trading volumes were below average. Trading activity only picked up after the ECB meeting, although spreads remained unchanged. Most sales took place in April's new issues and maturities up to three years remained most popular. Here, too, we blame the inverse swap curve.

EU: Revision of bank resolution – focus on small and medium-sized banks
In April this year, the European Commission presented a draft on the Reform of the crisis management and deposit insurance framework. This is expected to be negotiated by 2024 and be largely implemented by Member States within 18 months of adoption. As the European Commission writes, "financial institutions in the EU are well-capitalised, highly liquid and closely supervised at present". However, when dealing with failing banks, it is clear that the provisions are effective but that solutions outside the harmonised resolution framework have to be found for smaller and medium-sized banks. The aim of the previous regulation and the reformed version includes preserving financial stability, protecting taxpayers' money, and shielding the real economy from the impact of bank failure as well as providing better protection for depositors. The new proposal largely refers to small and medium-sized banks, as here, resolution is preferred to insolvency or liquidation, which will be decided by the "public interest test" and will still be decided on a case-by-case basis.

What impact will the revision of the bank resolution framework have on covered bonds?
With regard to the significance of the revision for the covered bond segment, it makes sense to look at it from an investor's perspective. For covered bond investors, resolution is to be preferred to insolvency in the event of the issuer being "distressed" because a transfer means that the cover pool or covered bonds are governed by the going concern principle, for example, and accordingly, the bank (new bank) will meet the claims. The amendment of the liability cascade in the deposit/unsecured ranking is detrimental for covered bonds. Accordingly, all deposits, not only retail/SME deposits up to and over EUR 100,000, but other uncovered deposits from major customers and public sector institutions, for instance, are to be equal. These previously ranked equally with unsecured exposures (such as senior preferred, derivatives). For the unsecured portion of a covered bond (in the event that the cover pool is insufficient when realised), this means that it is worse placed in terms of realisation than under the previous regulation. The rating agency Moody's has already looked at the proposal in greater depth and thinks that it will have both positive and negative repercussions for covered bonds. The experts take a positive view of the elimination of obstacles to resolution, the expansion in the use of deposit guarantee funds and the clarification of MREL for transfer strategies during resolution. The change to the liability cascade is ultimately seen as negative for covered bonds. In their comments on the proposal, the rating experts at Scope Ratings state that they do not believe the amendments will reduce the risk of a "bank run", as the reform concentrates purely on protecting depositors in the event of a bank being on the brink of resolution or liquidation.

NORD/LB Southern European Round Table 2023: a look at Spain and Italy

Spain and Italy rank without doubt among the established covered bond markets and feature an impressive range of issuers in each case. While some Spanish banks have already been successful in raising funds on the primary market in the current year, Italian banks are now poised – following the finalisation of the statutory issuance regulations – to approach their investors. Within the framework of our "NORD/LB Southern European Round Table 2023", which we carried out jointly with "The Covered Bond Report", we had the opportunity to examine the significant sub-markets with prestigious Spanish and Italian issuers and, in so doing, to focus on both the current challenges and take a look at the near future. In terms of the anticipated issuance volume in the EUR benchmark segment, we expect a total of EUR 12bn from Spain and EUR 9bn from Italy for the current year. This would put the respective new net supply at EUR 2.7bn (Spain) and EUR 1.8bn (Italy). During our discussions, we also obtained key insights into potential risk factors and new trends (such as with regard to ESG) from the issuers Mediobanca and Crédit Agricole from Italy as well as Caja Rural de Navarra from Spain. The open exchanges were also enhanced by valuable contributions from the rating agency Standard & Poor's as well as forthright views from top-level investors, who joined us for the round table with Nordea Asset Management. We would like to thank those who participated in the discussions and The Covered Bond Report for the success of this event. We look forward to receiving your feedback.

Market overview
SSA/Public Issuers

Authors: Dr Norman Rudschuck, CIIA // Valentin Jansen

ECB meeting on 4 May: "May the fourth be with you"

For fans worldwide, 4 May is Star Wars Day. At first glance at least, the ECB was not reaching for the stars, as the ECB Council fulfilled expectations by raising all three key interest rates by 25 basis points each at its latest scheduled meeting. In the press release, the central bankers started off by again referring to the need, in their opinion, for this and further (!) rate rises. The outlook for the rate of inflation in consumer prices "continues to be far too high". The ECB Council also signalled that future rate hikes would be decided on a meeting-by-meeting basis in line with forecasts regarding the inflation and economic outlook. However, the press release also provided the rationale for curbing the pace of rate rises, now stating that "… the past rate increases are being transmitted forcefully to euro area financing and monetary conditions, while the lags and strength of transmission to the real economy remain uncertain." To stick with the Star Wars theme, the ECB is also feeling the "force" of past rate hikes, but has not yet given any sign of pausing for breath.

Announcement on APP: surprising sentence with big impact?

While the rate rises announced came as no surprise (ECB Preview from a fortnight ago), we had anticipated considerably less clarity from the central bankers regarding the future of the asset purchasing programme (APP) than was actually the case at the meeting. The seemingly insignificant sentence – "The Governing Council expects to discontinue the reinvestments under the APP as of July 2023." – confirms with a high degree of probability the now rapid end of secondary market purchases under the PSPP, CBPP3, ABSPP and CSPP. However, the Council did not amend the reduction in the portfolio of an average of EUR 15bn a month to date, which is hardly surprising given the short time remaining.

Starting situation for APP exit

A glance at the data shows that the APP volume still exceeds EUR 3,200bn. Two months of reduced reinvestment total EUR 30bn, which is less than 1% of the balance sheet reduction to date. Without bonds to sell, the APP will still be on the Eurosystem balance sheet for another 12-15 years at least. The foundation for the coming weeks and the rest of the first half of the year had already been laid a few meetings earlier with a reduction in APP portfolios by an average of EUR 15bn a month until the end of Q2 2023 followed by a reassessment of the situation at this point. We had not expected to hear any information regarding the APP at the latest meeting. Perhaps we had become too used to the pattern of "sequencing" and had therefore expected to see a pause in the rate hike cycle and total concentration on future balance sheet reduction in the June meeting. Admittedly, we would not have considered a decision to stop reinvestments as of July highly likely, although we have noted the potential for surprises before: after all, the ECB's withdrawal from the order quota for covered bonds on the primary market was also faster than expected.

(Gross) credit authorisations for the German Laender 2023: again over EUR 90bn

The German Laender have completed their credit planning for the current year and all figures for the 2023 credit authorisations are now in place. The gross figures in the data, which can be seen as funding targets in the widest sense, used to be a comparatively good indicator of how active the Laender were likely to be in the capital markets during the year. These budgets also include Schuldscheindarlehen (SSD) and private placements. Moreover, they do not have to be utilised in full, as 2022 so conclusively demonstrated. Last year, BADWUR's figure stood at EUR 23.78bn yet the federal state did not issue one single benchmark bond. The gross figure aggregated across all 16 Laender stands at EUR 91.7bn for 2023, which is a decrease versus the levels which were distorted upwards by the Covid-19 crisis (2020: EUR 156.6bn; 2021: EUR 119.4bn). Since our last special report on credit authorisations for the German Laender in mid-March, the 2023 budgets have been approved in Hessen (gross: EUR 5.0bn), Mecklenburg-Western Pomerania (EUR 1.3bn) and Rhineland-Palatinate (EUR 4.0bn). In the years preceding the pandemic, borrowing authorisations were significantly lower at EUR 70.3bn (2020; pre-Covid and also due to the debt brake) and EUR 66.8bn (2019). Until March 2020, this clearly reflected the growing focus of the Laender on budget consolidation. Most of the Laender intend to (and must) steadily reduce their absolute debt burden going forward. The year 2020 was characterised by a number of supplementary budgets, in some cases two per federal state. It was slightly quieter on this front in 2021, and 2022 was almost "normal" again despite the war. The planning basis for 2023 offers higher tax revenue thanks to inflation. Nevertheless, several new supplementary budgets have already been passed this year, most recently at the end of March in Lower Saxony (volume EUR 776.0m) in response to the refugee situation, with municipalities in particular having to cope with this. Bremen's citizens also passed a supplementary budget of EUR 3.0bn at the end of March, which is intended for climate change mitigation measures in particular, such as achieving the declared aim of carbon neutral status for Bremen and Bremerhaven by 2028.

Credit authorisations of German Laender in 2023 (EUR bn)*

	Net	Gross
Baden-Wuerttemberg	1.25	29.79
Bavaria	-0.05	3.83
Berlin	0.10	5.49
Brandenburg	1.58	4.04
Bremen	0.54	1.80
Hamburg	0.06	2.80
Hesse	0.21	4.95
Mecklenburg-Western Pomerania	0.00	1.32
Lower Saxony	0.00	7.25
North Rhine-Westphalia	5.00	16.70
Rhineland-Palatinate	-0.16	4.04
Saarland	0.00	1.70
Saxony	0.00	0.28
Saxony-Anhalt	-	1.91
Schleswig-Holstein	0.37	4.91
Thuringia	-0.24	0.87
Total	**8.66**	**91.68**

Source: Bloomberg, NORD/LB Markets Strategy & Floor Research
*Some figures are rounded and/or provisional (data as at: 23 March 2023)

British Columbia (B.C.) downgraded to AA (outlook negative) by S&P

The credit rating of the Canadian province of British Columbia (ticker: BRCOL) was downgraded by S&P on 18 April from AA+ (outlook stable) to AA (outlook negative) primarily as a result of its extensive investment plans which will use up a large part of the expected budget surplus. According to the rating agency, the negative outlook reflects the pressure imposed on the liquidity position for the next two years at least. There is a “one in three” chance that the rating could be cut again in the next two years if the province does not continue its efforts with regard to budget consolidation. Conversely, the outlook could be adjusted from negative to stable if the financial policy were reversed in favour of a lower debt burden and improved liquidity position. In its approved budget for 2023, British Columbia plans to use a sizeable portion of its budget surplus for a record investment plan. Coupled with a predicted budget deficit of EUR 4.2bn in the coming year, this means the province is set to diverge from the path of budget consolidation. According to the risk experts at S&P, this constitutes a notable wavering of spending discipline. The debt-to-income ratio is expected to rise to 160% by 2026. However, S&P viewed the regional economy’s comparatively rapid recovery after the coronavirus crisis as a positive. Nominal GDP was up by 11% in the previous year and the province enjoys a strategically important position on the west coast of Canada with proximity to the Asian markets as well as extensive natural resources, which are additional stabilising factors. B.C. also continues to have significant capital market access which it utilises for funding and the province regularly issues benchmark bonds in the domestic market and has diversified into issues in the Eurozone and the USA.

S&P upgrades autonomous community of Andalusia to A- (outlook stable)

The Spanish autonomous community of Andalusia (ticker: ANDAL) was upgraded in April by the rating agency S&P from BBB+ (outlook positive) to A- (outlook stable). The reason cited was higher revenue in 2023 and 2024 from the joint financial system of the regions, which has been supported with additional budgetary funds from central government since 2020. The autonomous communities receive portions of the respective taxes raised in their territory, such as 50% of VAT and income tax revenue as well as 100% of inheritance tax revenue. As a result of Andalusia’s significantly increased contributions, the risk experts at S&P are expecting an 18% higher (Y/Y) share in 2023. Another factor highlighted in this context is the strong institutional framework in which the autonomous communities operate, which is also reflected in the stable outlook. The regional government will also continue its policy of budget consolidation with an estimated reduction in the debt ratio from 127% of regional GDP in 2023 to 120% in 2025. The liquidity position is set to be further strengthened by EU funding from the Recovery and Resilience Facility (RRF). The regional economy has a strong tertiary sector and in 2022 outstripped its pre-crisis level. In addition, as the region’s industrial sector only plays a minor role, the impact of higher energy prices has been relatively mild. We have looked at the individual Spanish regions relevant for the capital markets in the past in our report NORD/LB Public Issuer Special – Spotlight on the Spanish Regions with an update scheduled for the first half of 2023.

Fitch: downgrade for France will impact the SSA segment

At the end of April, Fitch carried out a detailed examination of France's financial budget which culminated in a downgrade from AA to AA- for the "Grande Nation". As is so often the case with public issuers, the reason was the diverging trends in income (lower) and expenditure (higher) as well as the projected further rise in national debt up until 2027 (expected GDP/debt ratio: 114.3% versus EU convergence aka Maastricht criterion of 60%). On top of this comes the current rise in interest expenses and slowdown in growth, which is not due to social unrest alone. As we do not cover any states in the SSA segment in principle, you might well ask why we are highlighting France here. France's downgrade led directly to a downgrade for the EFSF from AA to AA- as well. Alongside Germany, France is one of the biggest guarantors of all European constructs (E-Supras). We do not currently expect a downgrade for the EU, EIB or ESM. However, France's downgrade could impact some French agencies, which only a few weeks ago were the subject, along with their very heterogenous market, of our detailed analysis. We are not thinking of any names here in particular, but the country's SSA market could in principle be impacted by this development.

Primary market

As a result of the May bank holiday and the ECB meeting, not very many deals hit the screens. Nevertheless, this section of our publication usually fills up as if by magic, as alongside benchmarks we also take taps and sub-benchmarks into consideration. At the end of April, Berlin issued a 5-year bond, with EUR 500m changing hands at ms -9bp. Guidance also started off in this area and the order books reached EUR 530m. The next big deal on our list was issued by Unédic with the French organisation opting for a social bond with a volume of EUR 1bn (10y). The deal was priced at OAT +20bp having started with guidance four basis points wider. The order book exceeded EUR 13bn and the bond had to be interpolated between the two reference bonds FRTR 2% 11/25/32 & FRTR 3% 05/25/33. After the May bank holiday and before the ECB meeting, Germany's most northerly Bundesland made an appearance in the market. SCHHOL issued a 5-year deal with a volume of EUR 650m at ms -8bp. Guidance also started in this area and the order books totalled EUR 795m. After the ECB meeting, activity in the public segment was once again kicked off by the EU: it issued a dual tranche deal comprising a new bond (3y) and a tap issue (30y). The order books for the new bond exceeded EUR 29bn and it was priced at ms -27bp, having started with guidance at ms -25bp. This facilitates an elegant segue to the tap issues, starting with the most recent deal. This was a tap increasing EU 3% 03/04/53 by EUR 4bn at ms +84bp. The order books exceeded EUR 59bn and the price tightened by two basis points versus guidance during the book-building process. There were other tap issues for BNG 1.5% 2038 (EUR 250m at ms +30bp), EU 3.25% 2030 (EUR 500m at ms -10bp) and KFW 2.75% 2028 (EUR 1bn at ms -22bp). The bond issued by KfW was more than five times oversubscribed. Not all order books for tap issues were published.

Issuer	Country	Timing	ISIN	Maturity	Size	Spread	Rating	ESG
EU	SNAT	08.05.	EU000A3K4D82	3.3y	5.00bn	ms -27bp	AAA / Aaa / AA+	-
SCHHOL	DE	02.05.	DE000SHFM881	5.0y	0.65bn	ms -8bp	AAA / - / -	-
UNEDIC	FR	25.04.	FR001400HQB8	10.0y	1.00bn	ms +4bp	- / Aa2 / -	X
BERGER	DE	25.04.	DE000A3MQYR7	5.0y	0.50bn	ms -9bp	AAA / Aa1 / -	-

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

Covered Bonds
The ECB and the covered bond market: influences old and new

Author: Dr Frederik Kunze

ECB decision on 4 May 2023

During the ECB's monetary policy meeting, the monetary authorities in the Eurozone eased back in terms of raising interest rates. However, the hike of 25 basis points may not be seen as a fundamental abandonment by the ECB's Governing Council of its more hawkish pace. Ultimately, the surprisingly early (in our opinion) clarity with respect to the commitment of the monetary policy decision-makers to a quite rapid end to APP reinvestment in its restrictive meaning must not be underestimated. We discussed last week's decision by the ECB in detail within the framework of a Fixed Income Special on 4 May and also summarise some key implications in the Public Issuer/SSA Market Overview section of today's NORD/LB Covered Bond & SSA View. Within this Covered Bond article, we shall look at specific aspects of the latest announcements by the ECB for the covered bond market. Here, however, we do not intend to focus solely on the reports from Thursday, but shall also look briefly at the dynamics, which are likely to have served as a basis for the decisions by the Governing Council on the one hand, but which are likewise of particular relevance for the covered bond segment on the other.

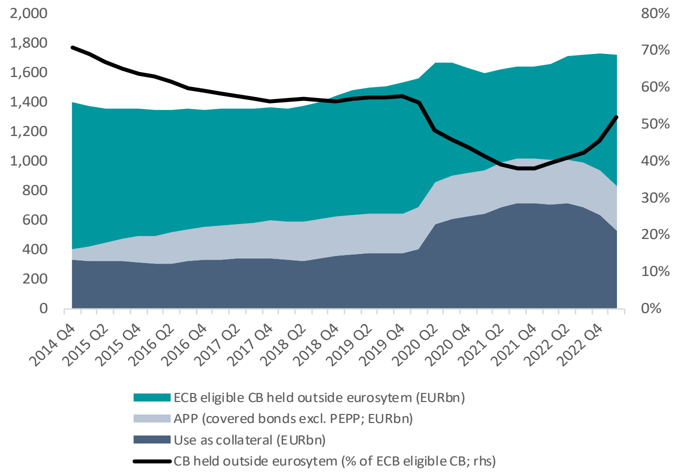
Adieu, market distortions: CBPP3 "ends" after more than eight years

We would like to start by taking this opportunity to take a brief look at the past. We have also regularly discussed the distortions triggered by the ECB's monetary policy that have afflicted the covered bond market in our weekly publication. Since TLTRO II at the latest, the anomaly was also based on the fact that the ECB has had a significant influence on both demand (via the CBPP3) and supply (via TLTRO). The situation was exacerbated by the general compression of risk premiums that led to real money investors being crowded out, but also created funding alternatives for a large number of issuers that surpassed TLTRO. In particular, the relative attractiveness of senior unsecured funding must be borne in mind. However, the compression of spreads also resulted in a levelling of the variance in prices in the covered bond segment; both with regard to individual issuers but also in relation to the jurisdictions. The market distortions have meanwhile receded in large parts and the new yield environment plus the remeasurement of risk premiums have again made investors aware of the relative appeal of covered bonds. This is particularly true compared with other rates products. As we shall subsequently explain in brief, we therefore see only manageable additional potential for disruption for the covered bond segment from the anticipated imminent end to the APP. At the same time, we consider the words in the ECB statement on the former "stimulus" TLTRO III as almost a marginal note or pass-through item. Nevertheless, the monetary policy is by no means entirely trouble-free for covered bonds. We discussed the direct consequence of the inverse interest rate structure as challenges for issuers a couple of weeks ago. As before, the high proportion of newly placed covered bonds with comparatively short maturities is a consequence of this situation, and we already see a risk of a new imbalance becoming established here that will have to be addressed again in the future.

Outstanding TLTRO III tenders (EURbn)

Tender	Settlement	Maturity	Allotted	Outst.
20210155	22.12.21	18.12.24	51.97	**43.89**
20210119	29.09.21	25.09.24	97.57	**90.87**
20210078	24.06.21	26.06.24	109.83	**73.28**
20210034	24.03.21	27.03.24	330.5	**284.25**
20200248	16.12.20	20.12.23	50.41	**45.52**
20200207	30.09.20	27.09.23	174.46	**83.81**
20200131	24.06.20	28.06.23	1308.43	**467.80**
			∑	**1,089.42**

ECB share of the covered bond market



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

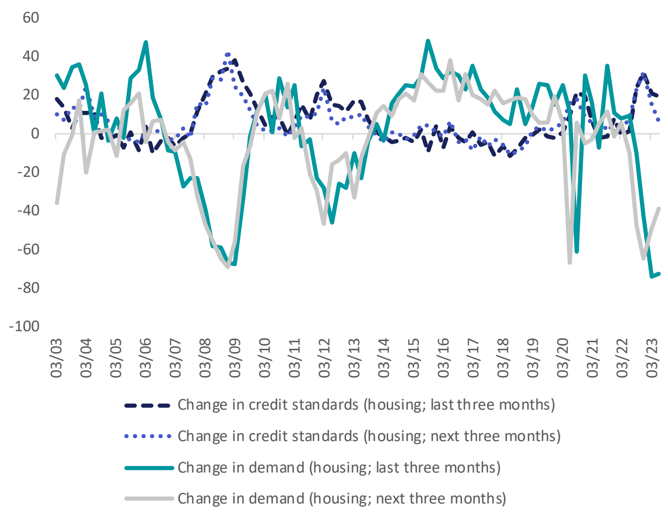
ECB withdrawal releases covered bond market, but…

In essence, the ECB's withdrawal is leading to a situation on the covered bond market in which a growing portion of the supply is once again available to investors outside the Eurosystem, as the ECB is purchasing less. There is also a significantly larger supply of newly placed deals in the EUR benchmark system, a significant portion of which is no longer siphoned off by the ECB "regardless of the price". This development is also leading to evidence of repricing on international covered bond markets.

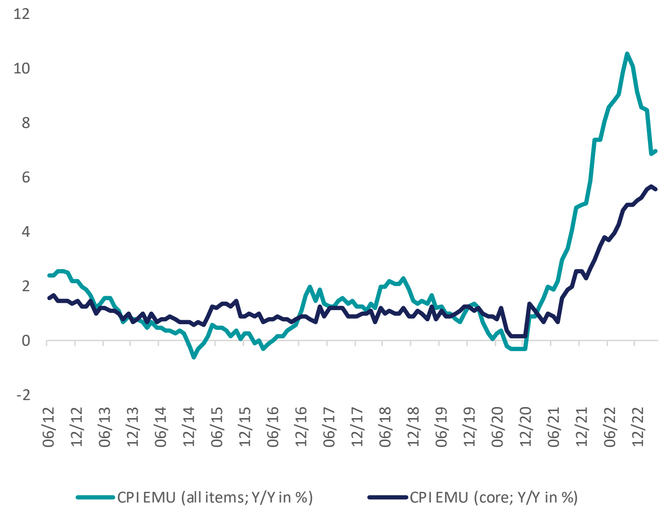
…"collateral damage" from interest rate turnaround away from banking stress

The turbulence on financial markets emanating from financial institutions in the USA and Switzerland preoccupied the ECB's Governing Council at the last-but-one meeting. According to the statement on Thursday and the subsequent comments by Christine Lagarde, this crisis situation is no longer acute for banks in the single currency area. Nevertheless, the new interest rate landscape is having an impact in another form, which is increasingly affecting the covered bond segment as well. In the run-up to the ECB meeting, market participants accordingly focused not only on the latest inflation figures in the single currency area but also on the results of the ECB Bank Lending Survey (BLS). The latter information provides an unambiguous picture of the situation in our opinion. The "new ECB monetary policy" is also reflected in home lending. The BLS indicates that banks have tightened their lending standards. Household demand for property loans is also suffering from changes in the outlook for property markets and higher mortgage rates. For the period of the next three months, the BLS expectations component confirms this picture of the situation, although a significant proportion of those surveyed still expected a certain easing in 2023. The rapid change of course by the ECB is, however, triggering repeated distortions. Besides the turnaround in interest rates, this also concerns the end of the TLTRO III tenders. Among other issues, the BLS reports on the dampening effect on the lending volumes of banks resulting from banks' increased funding costs and changes in their liquidity. If this situation continues, it will pose a risk to the supply of covered bonds from 2024.

ECB Bank Lending Survey



Trend in inflation

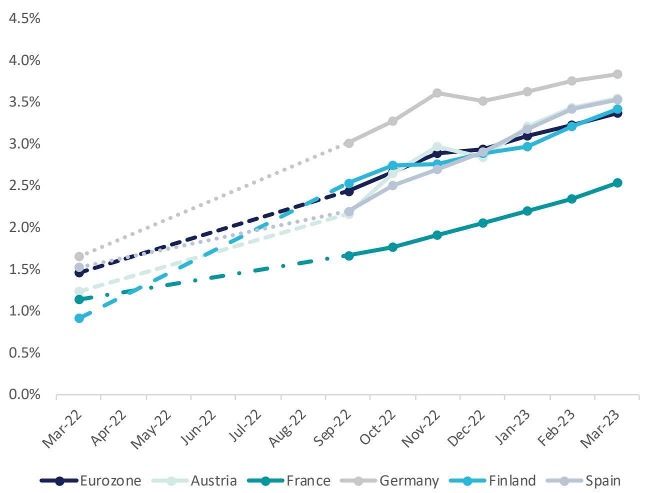


Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

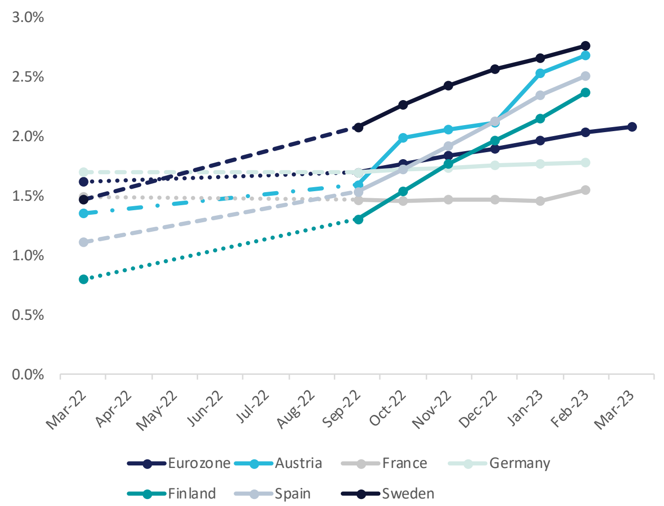
Implications of interest rate turnaround for new housing loans and existing business

The BLS clearly confirms the price effect on new lending in relation to demand. It is striking that the trend in mortgage interest rates for new loans is similar across virtually all jurisdictions. Overall, in line with the BLS, this suggests that the lending will be lower. For existing business, i.e., loans already outstanding, a more divergent picture emerges. The significant differences in fixed-rate terms mean that the change is less marked in some countries (Germany, for example) than in others (such as Finland). Fundamentally, rising loan charges for households and for covered bonds pose a potential risk to the loan quality. However, we are sticking to our view that this potential should not materialise for the foreseeable future due, in particular, to high employment or low unemployment rates.

Interest rates for housing loans (new business)



Interest rates for housing loans (existing)

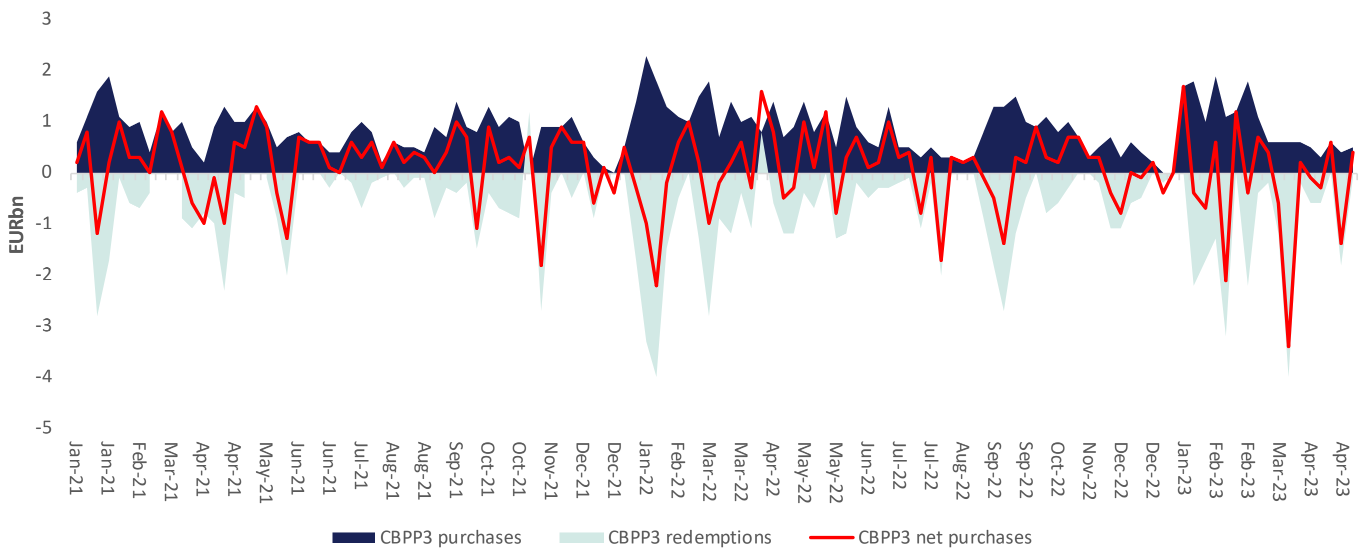


Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

Repricing well-advanced and property lending restricted

In summary, the ECB's approach in the covered bond segment has initially resulted in the adopted QT course leading to a significant repricing. Property lending – also as an indicator for the future availability of cover assets – has been and will also be restricted generally speaking. At this point, however, we also explicitly warn against interpreting these developments as precursors of a credit crunch (cf. Covered Bond & SSA View dated 19 April). However, the new interest rate level also poses the risk of affecting the loan quality of cover assets, even though we would not yet rank this scenario among our basic expectations for the next 18 to 24 months. We therefore do not see any fundamental impetus here for covered bond spreads in the EUR benchmark segment either. Ending reinvestment from maturing bonds under the CBPP3 should not lead to massive widening either. Certainly, this announcement was made earlier than we had expected and outlined a more dynamic path than we had initially envisaged under our baseline scenario. However, the total amount of the maturing covered bonds from the CBPP3 that will no longer be reinvested in July and December 2023 remains manageable overall.

CBPP3: gross purchases, maturities and net purchases

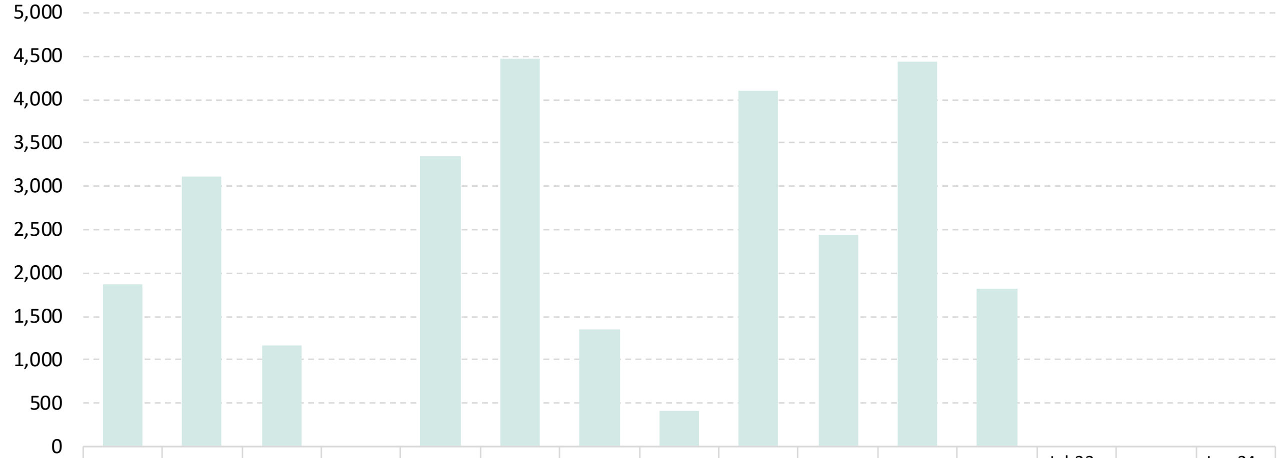


Source: ECB, NORD/LB Markets Strategy & Floor Research

CBPP3 volume still totals EUR 299.0bn

The volume of the CBPP3 still amounts to EUR 299.0bn. Since March (we refer to the figures from the reporting week that ended on 10 March), there have been gross purchases of EUR 4.7bn in total (weekly average EUR 0.5bn), while maturities amounted to EUR 8.7bn (average EUR 1.0bn). The last trading week included ended on 05 May 2023. Reinvestment is likely to stay around EUR 0.5bn over the coming trading weeks, while we have been notified of maturities of just under EUR 5.0bn in the months up to the middle of 2023 by the ECB. In the second half of the year, the end of reinvestment will then lead to a "loss" of gross purchases of approximately EUR 0.5bn per trading week in this mathematical consideration. The maturities expected by the ECB total EUR 10.7bn in this period, which gives a very clear idea of the expected contraction in the CBPP3 volume.

CBPP3: Expected monthly maturities in the APP (EURm)



	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Jul-23 - Dec-23	2023	Jan-24 - Apr-24
CBPP3	1,874	3,112	1,170	0	3,346	4,467	1,351	408	4,109	2,449	4,434	1,814	10,742	35,147	12,806

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

Conclusion

ECB monetary policy remains a key factor in setting the pace on the covered bond segment. At the same time, from our perspective it is important to differentiate between new and old influences. While the influence of the APP or even TLTRO III is diminishing, the change in interest rates is squeezing lending in the sub-market of residential property financing. Even though we do not by any means wish to raise the spectre of a credit crunch, weak (sometimes negative) growth in credit portfolios on the part of covered bond issuers may have an adverse impact on issuance potential in the medium to long term. At the same time, covered funding remains an important source of funding for many banks in the new interest rate environment. This is also true against the background of a repricing of risks – including senior unsecured issues – and questions regarding the trend in deposits as a consequence of the trend in inflation but also as a result of the new interest and yield environment. While "banking stress" as a consequence of interest rate hikes has faded into the background somewhat, the fundamental implications of higher mortgage rates for the covered bond segment are not likely to be ignored. While demand and general affordability is certainly paramount initially with new loans, with existing debts and ongoing property loan agreements, the focus is concentrated on potential stress factors for those households that are forced to pay more to service their mortgages now or in the future as a result of higher interest rates. We still do not infer any problems for the credit quality of covered bond programmes here, which we would justify not least with the dual recourse and – from a macroeconomic perspective – high levels of employment. Accordingly, we see no impetus for covered bond spreads here. The repricing on the covered bond market – as a consequence of QT – is likely to continue to some degree, although we would see the magnitude of a general widening in the area of "around five basis points".

SSA/Public Issuers
Update: Joint Laender (Ticker: LANDER)

Author: Dr. Norman Rudschuck, CIIA

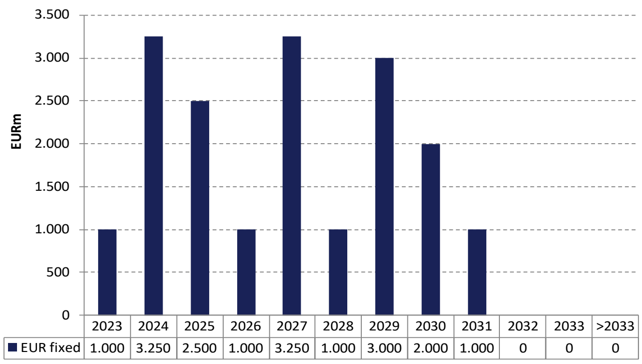
Introduction

An idiosyncrasy of the bond market in general, and one specific to the German sub-sovereign market, is the Gemeinschaft deutscher Laender issuance vehicle. Within this framework, several German Bundeslaender issue joint bonds (known as "Laender jumbos;"; issuance volumes starting from EUR 1bn), whereby each of German Laender assumes several (but not joint) liability for the issuance overall. As a result, joint and several liability structures do not exist for such deals. The first time that several Laender grouped together to issue such a joint bond was in 1996. Since then, the Joint Laender (Ticker: LANDER) has become an established issuer on the bond market, with several sub-sovereigns placing joint bonds on a semi-regular basis (at most twice a year). The Laender involved are characterised in particular by comparatively low refinancing requirements. The large-volume Laender jumbos enable the issuers to generate economies of scale that are reflected in lower interest expenses.

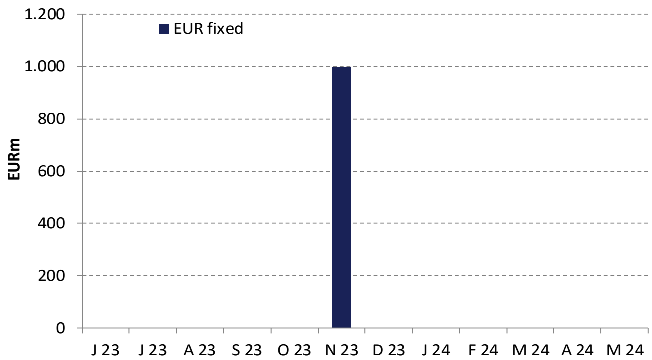
Participants, structure and rating

An unchanged total of seven Laender (G7) has participated in the Laender jumbos that are currently in circulation. While Saxony-Anhalt, Hesse and North Rhine-Westphalia (NRW) ceased to use Laender jumbos as a funding instrument after the first issuance in 1996, with Berlin subsequently opting not to participate in the joint issuing body since 2002, the following issuers have at times made use of Laender jumbos as key funding instruments (prior to the Covid-19 pandemic): Brandenburg, Bremen, Hamburg, Mecklenburg-Western Pomerania, Rhineland-Palatinate, Saarland and Schleswig-Holstein. In fact, these Laender have raised substantial amounts of their funding volumes via bonds from the joint issuing body currently in circulation. Thuringia has therefore dropped out of the "Group of Eight" (G8). As a result of the particular structure of the Gemeinschaft, there is no issuer rating. Instead, the rating agency Fitch rates each individual issuance in order to take account of the differing participation structures (several – but not joint – liability basis). However, this does not lead to any differences: since series No. 11, Fitch has awarded a rating of AAA to all Laender jumbos. As justification for the rating, Fitch cites the system comprising the principle of federal loyalty and the new system of federal financial equalisation payments (VAT distribution calculated on a per capita basis in full), in which it generally sees an exceptionally low default risk (AAA).

Overall maturity profile



Bond amounts maturing in the next 12 months

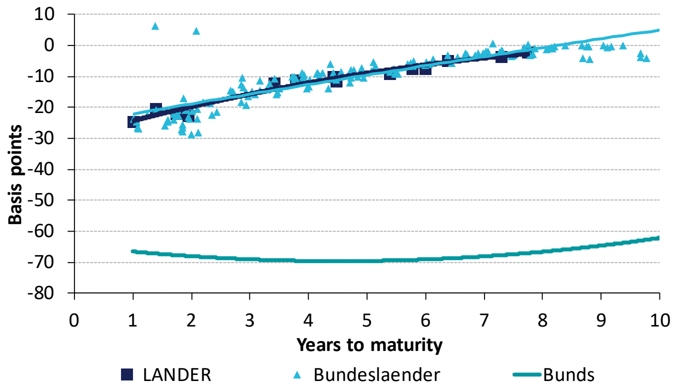


Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

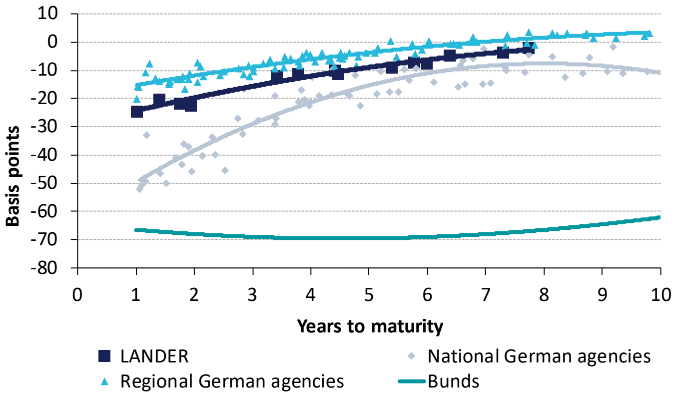
Outstanding volumes

In total, the Gemeinschaft deutscher Laender (ticker: LANDER) accounts for an outstanding volume of EUR 18.0bn split between 17 bonds, making it an important player within the German Laender bond segment. The outstanding volume is EUR-denominated in full and features a fixed coupon. Other instruments such as Schuldscheindarlehen (SSD) are not jointly issued. Having issued a Laender jumbo in the form of a floating rate note (FRN; floater) in 2008, the Gemeinschaft has subsequently refrained from using this instrument for joint refinancing. The coupon on this bonds also reached 0.0% and 0.01%. In fact, 2015 was the first year in which a zero preceded the decimal point. The series of bond issuances from the Gemeinschaft deutscher Laender has now reached No. 63. At present, the longest outstanding bond is set to fall due in February 2031 (No. 60), while the largest bond comprises a volume of EUR 1.5bn (No. 47). There is one other maturity under this ticker (LANDER) set to fall due in 2023. Looking at the calendar and based on both historical context and our gut feeling, it seems that we should expect to see a new bond in the second half of the year. However, the current finance reviews in the German Laender are likely to mean that credit authorisations will not be utilised in full again, and funding activity will be lower overall than forecasted.

ASW spreads vs. Bundeslaender & Bunds

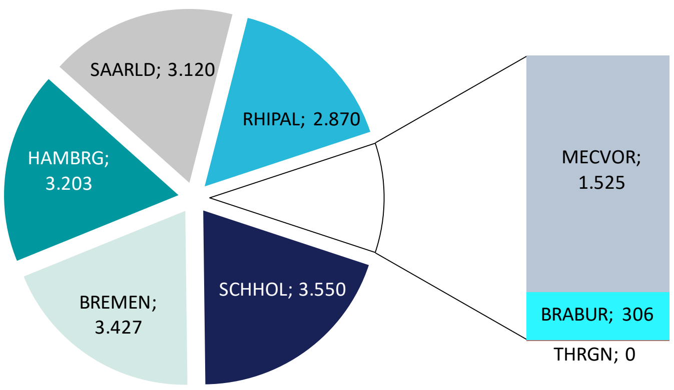


ASW spreads vs. German promotional banks & Bunds

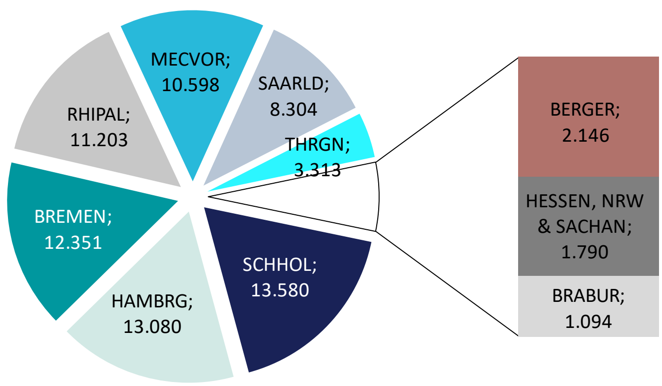


Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

Laender share of current outstanding volume (EUR bn)



Cumulative share of total issuance volume since 1996 (EUR bn)



Source: Federal Ministry of Finance, Federal Statistical Office, national accounts produced by the Laender, NORD/LB Markets Strategy & Floor Research

Strengths

+ Includes smaller issuers
+ More liquid bond volumes

Weaknesses

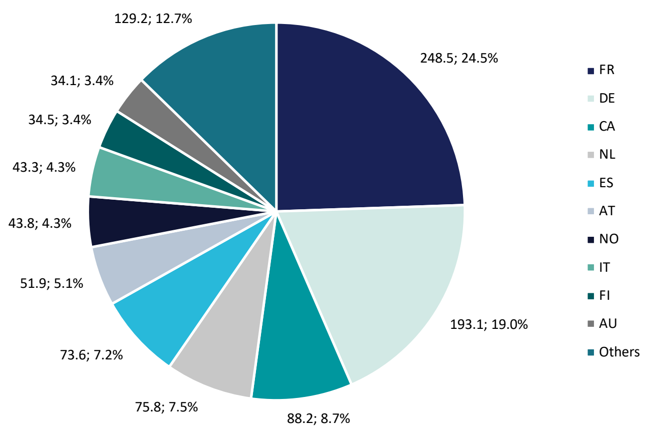
– Participants are primarily Bundeslaender with budgetary problems, high-level dependency on the federal financial equalisation system and/or below-average economic output
– Complex structure
– Several (but not joint) liability

Conclusion

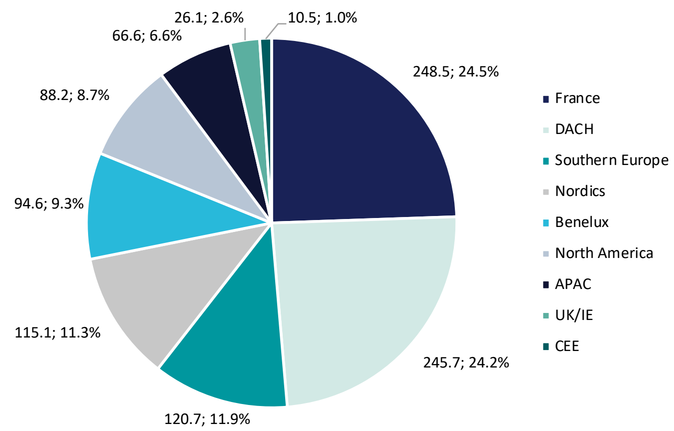
After the one and only BULABO bond matured on 15 July 2020, the Gemeinschaft deutscher Laender has since constituted the most complex construct remaining in the German sub-sovereign market. With an outstanding volume of EUR 18.0bn in 17 bonds, the ticker LANDER is one of the most liquid in the market. There is no joint and several liability for these “Laender jumbos”, which is why this structure requires an explanation every now and then. However, this does not lead to any differences: Fitch has awarded a rating of AAA to all Laender jumbos. As justification for the rating, Fitch cites the system comprising the principle of federal loyalty and the new system of federal financial equalisation payments, in which it generally sees an exceptionally low default risk (AAA). Looking at the calendar and based on both historical context and our gut feeling, we believe that another bond deal of this kind could well be in the offing for the second half of the year. However, increased tax revenues, which are rising further still due to inflationary pressures, could prevent this up to the end of this year. German Laender permanently undergo finance reviews which means the funding can be lower during the year than evidenced by the respective credit authorisations. In terms of pricing, the most recent deal (#63) was placed at the end of April with a volume of EUR 1bn (7y) at ms -4bp.

Charts & Figures
Covered Bonds

EUR benchmark volume by country (in EURbn)



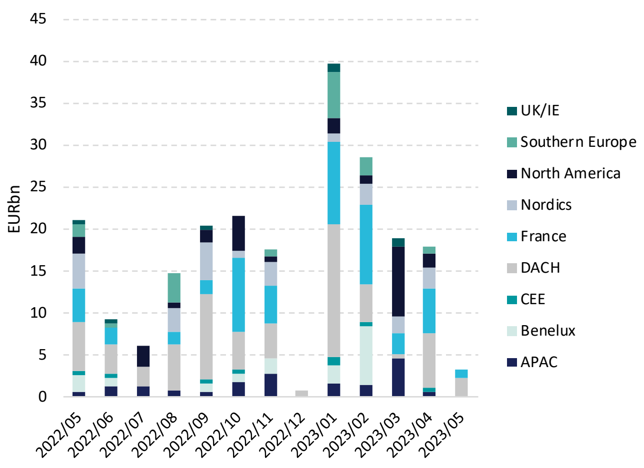
EUR benchmark volume by region (in EURbn)



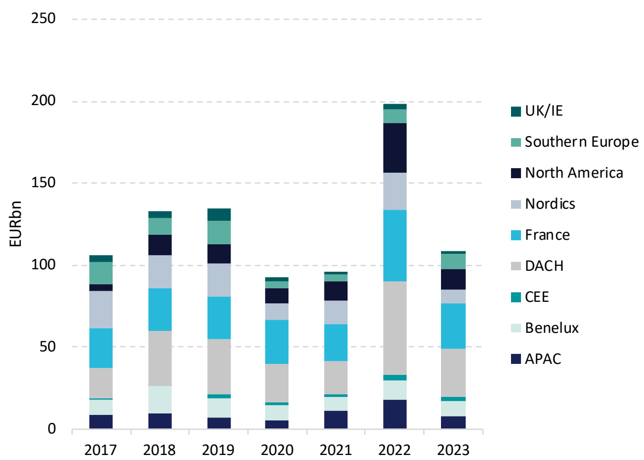
Top-10 jurisdictions

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	248.5	239	16	0.97	9.6	5.2	1.17
2	DE	193.1	275	31	0.65	8.0	4.3	0.95
3	CA	88.2	66	0	1.31	5.5	2.9	0.91
4	NL	75.8	75	2	0.94	11.0	6.7	0.99
5	ES	73.6	59	6	1.14	11.1	3.6	1.93
6	AT	51.9	88	4	0.58	8.5	5.3	1.22
7	NO	43.8	52	11	0.84	7.3	3.9	0.52
8	IT	43.3	54	2	0.78	9.2	3.7	1.19
9	FI	34.5	37	3	0.91	7.3	3.8	0.94
10	AU	34.1	33	0	1.03	7.3	3.6	1.35

EUR benchmark issue volume by month

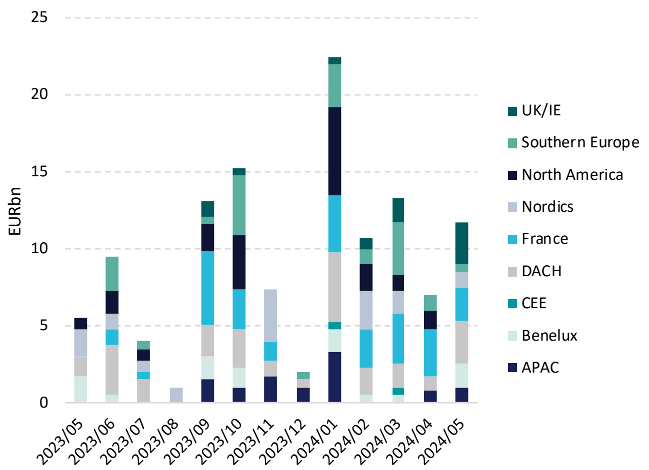


EUR benchmark issue volume by year

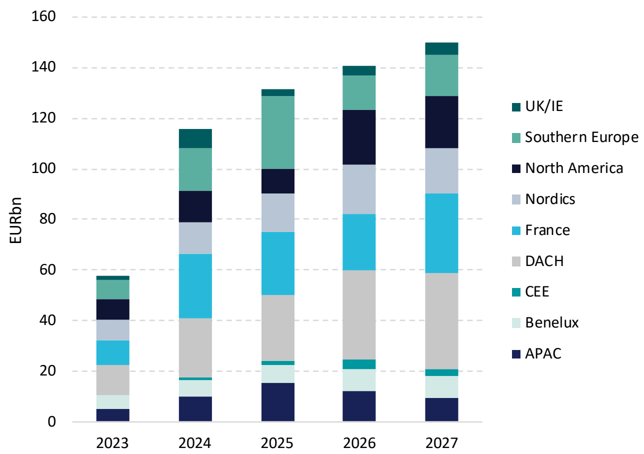


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

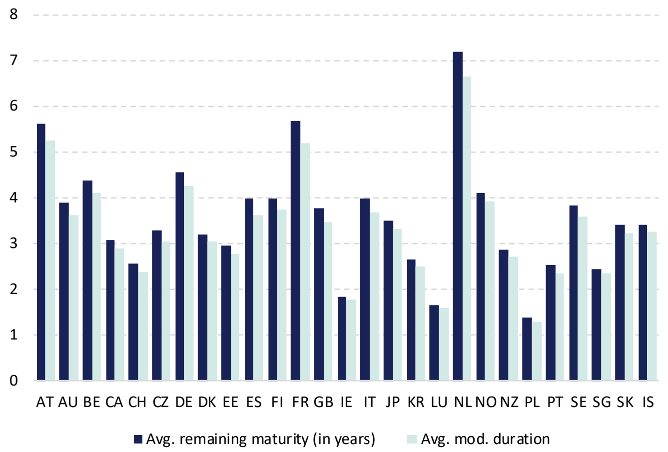
EUR benchmark maturities by month



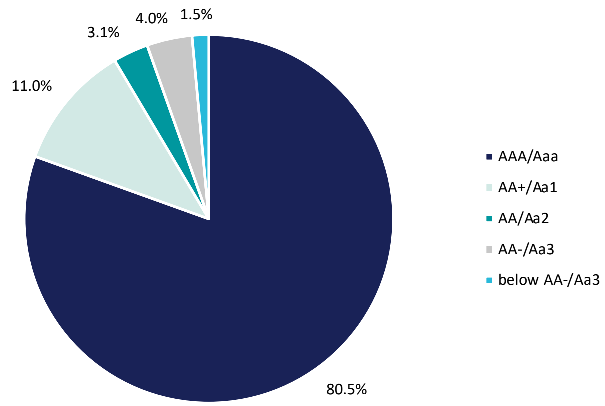
EUR benchmark maturities by year



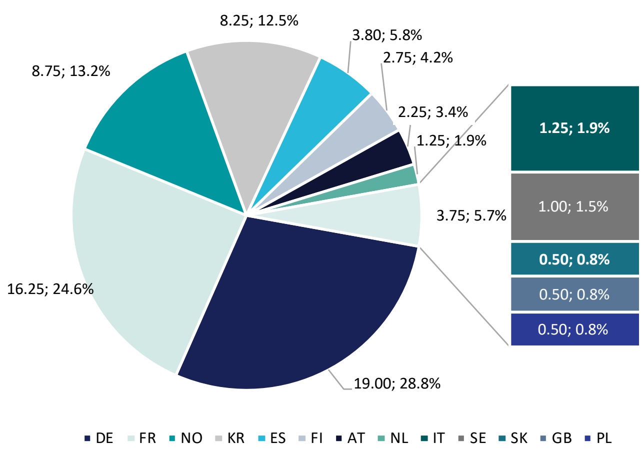
Modified duration and time to maturity by country



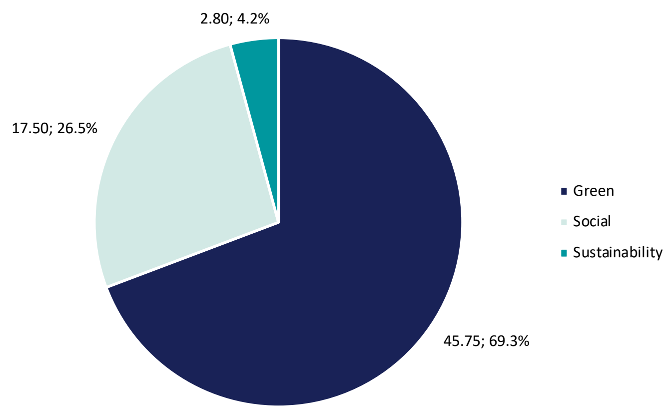
Rating distribution (volume weighted)



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

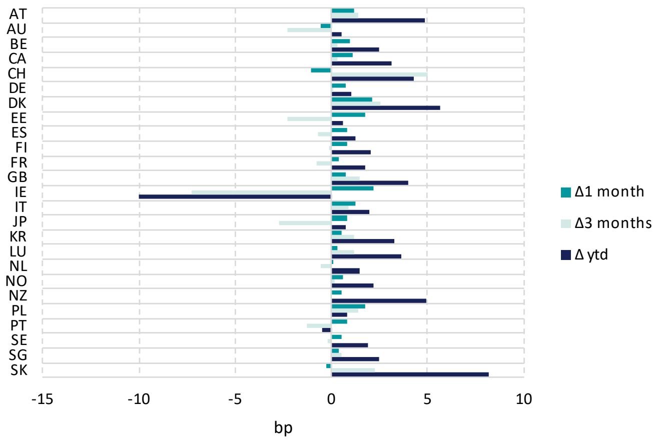


EUR benchmark volume (ESG) by type (in EURbn)

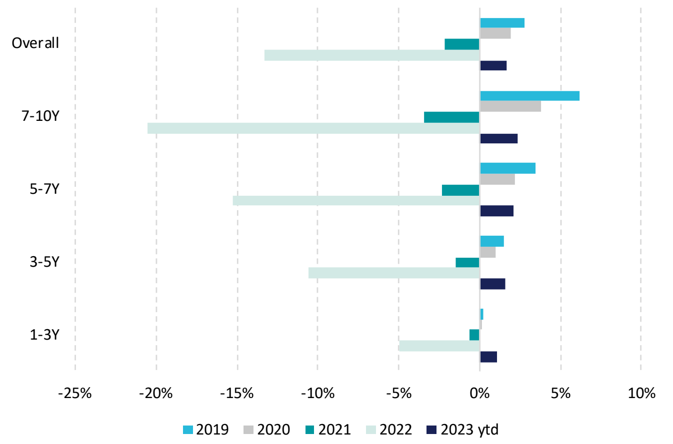


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

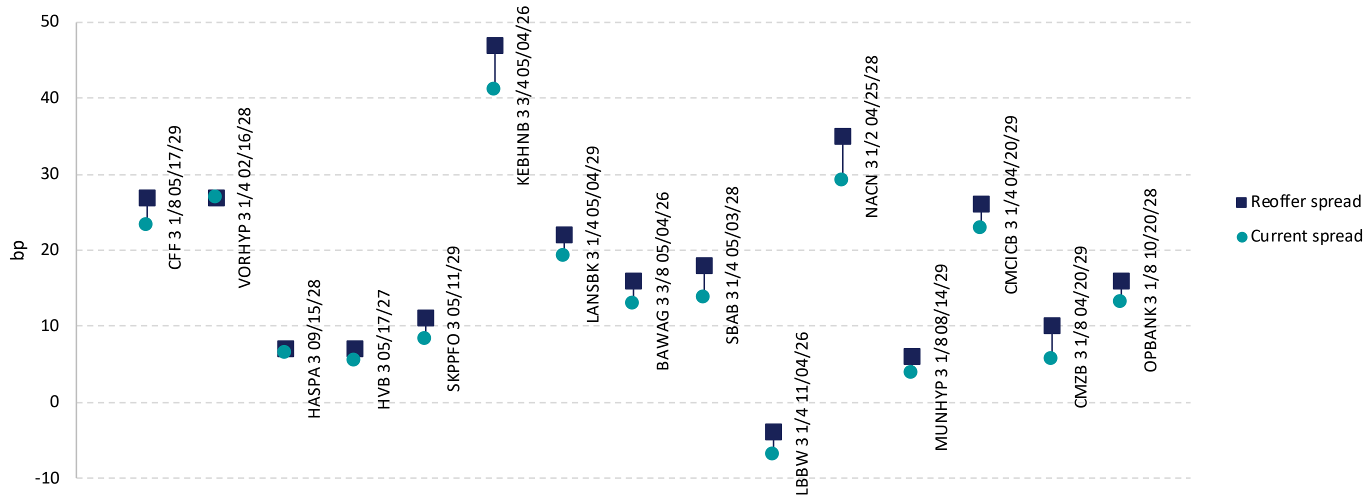
Spread development by country



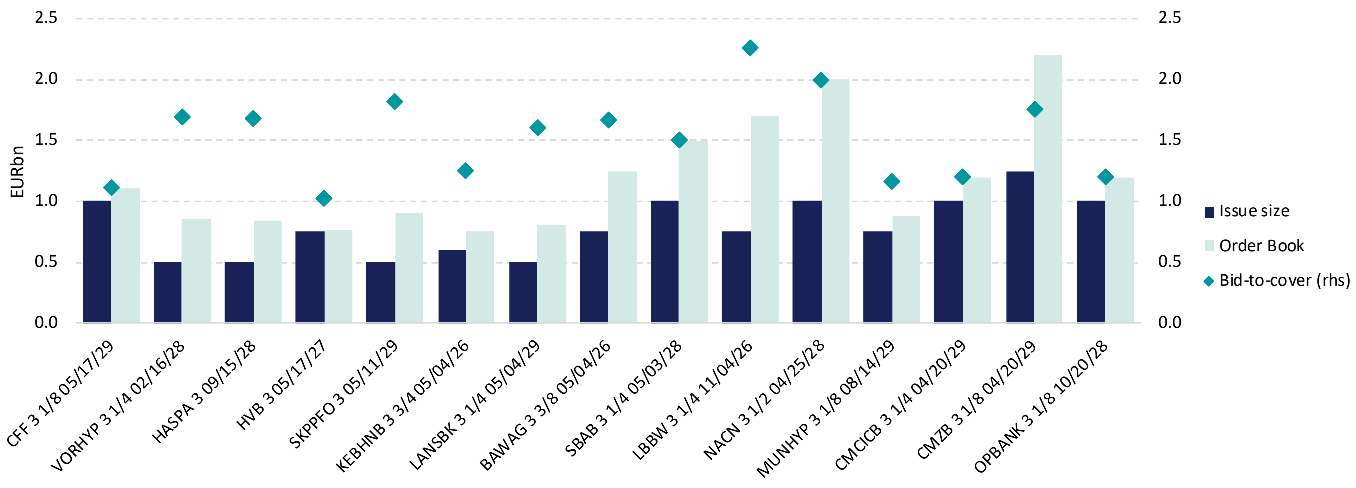
Covered bond performance (Total return)



Spread development (last 15 issues)



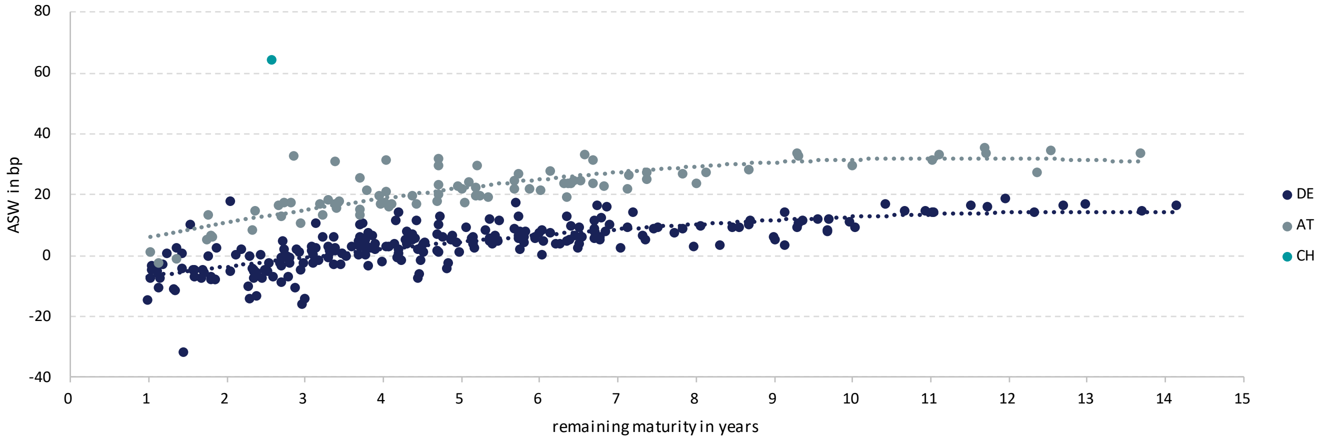
Order books (last 15 issues)



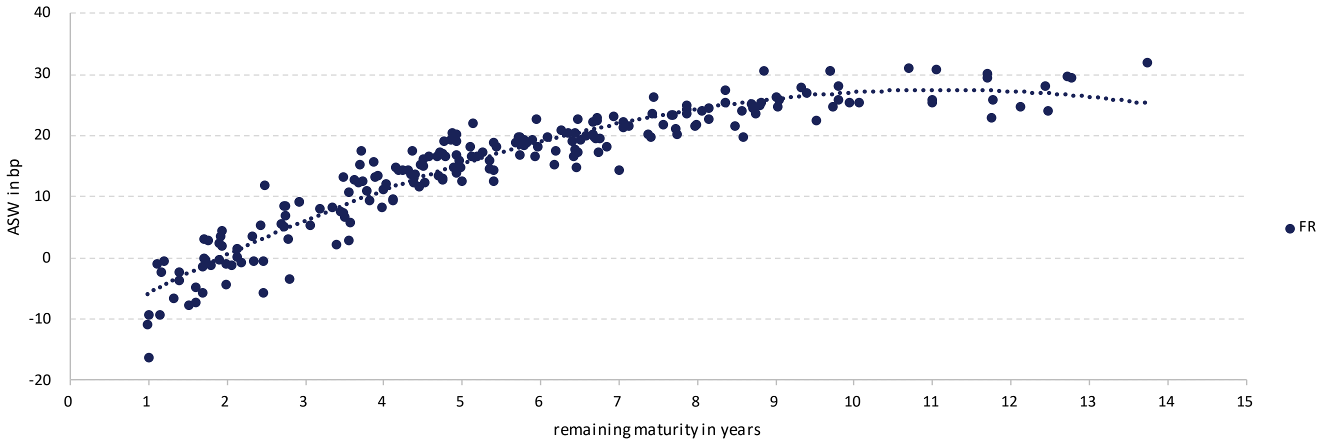
Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

Spread overview[1]

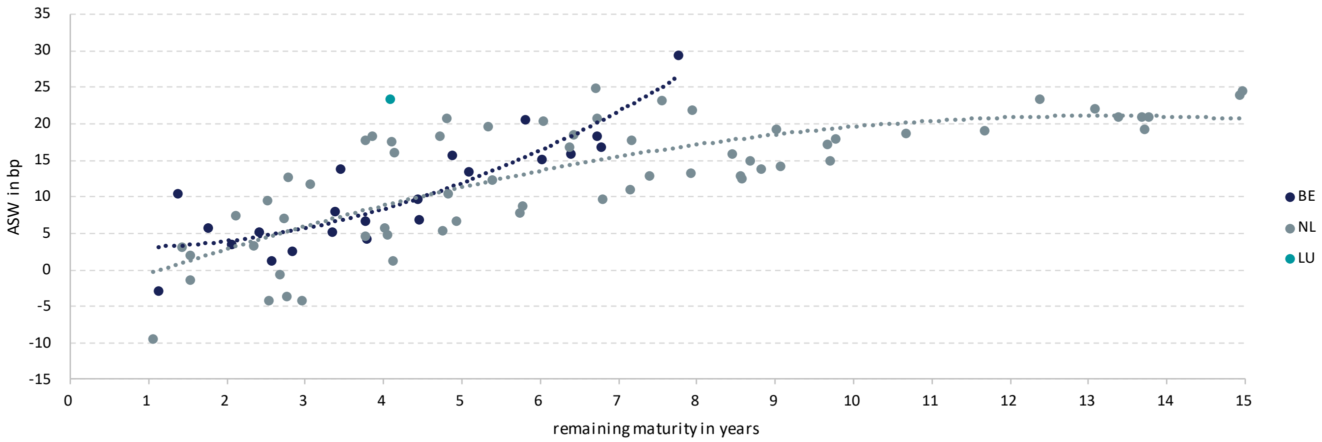
DACH



France

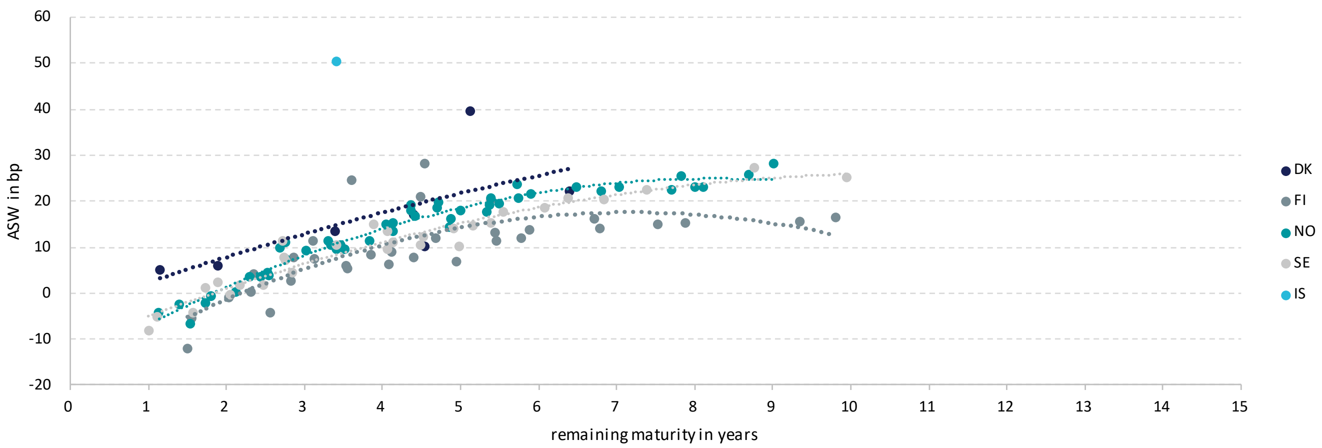


Benelux

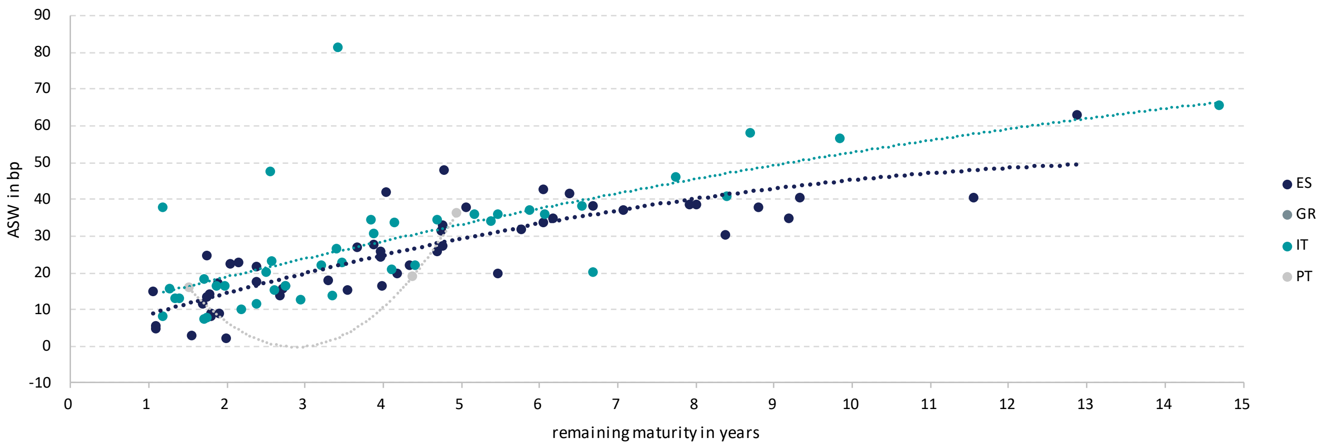


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research [1]Time to maturity 1 ≤ y ≤ 15

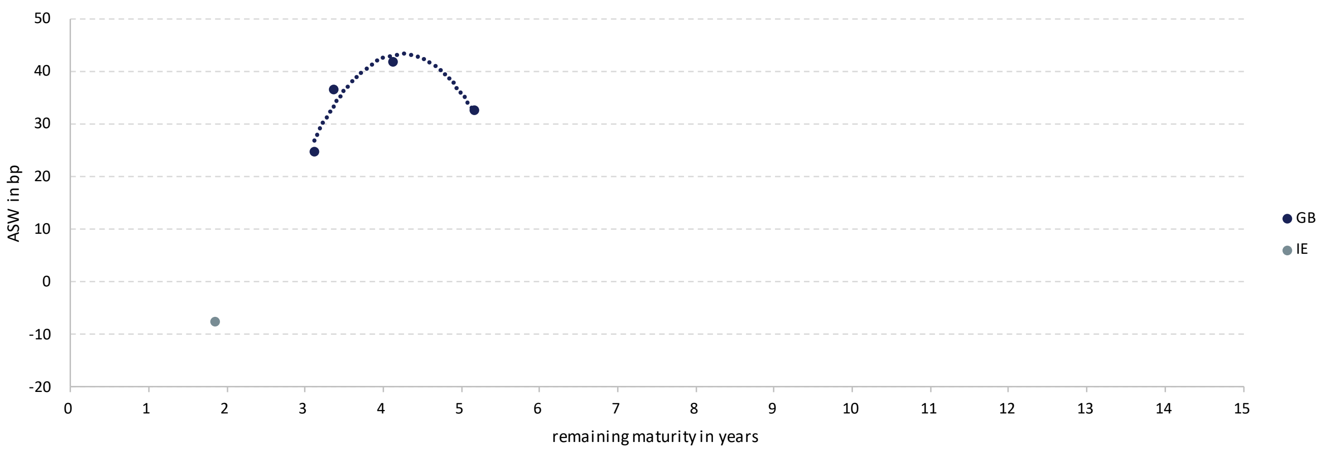
Nordics



Southern Europe

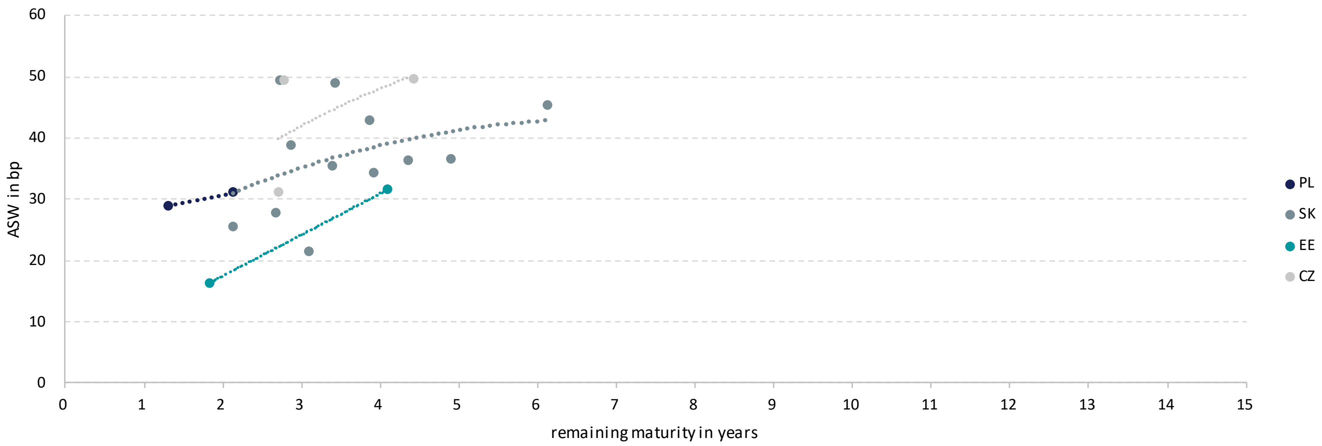


UK/IE

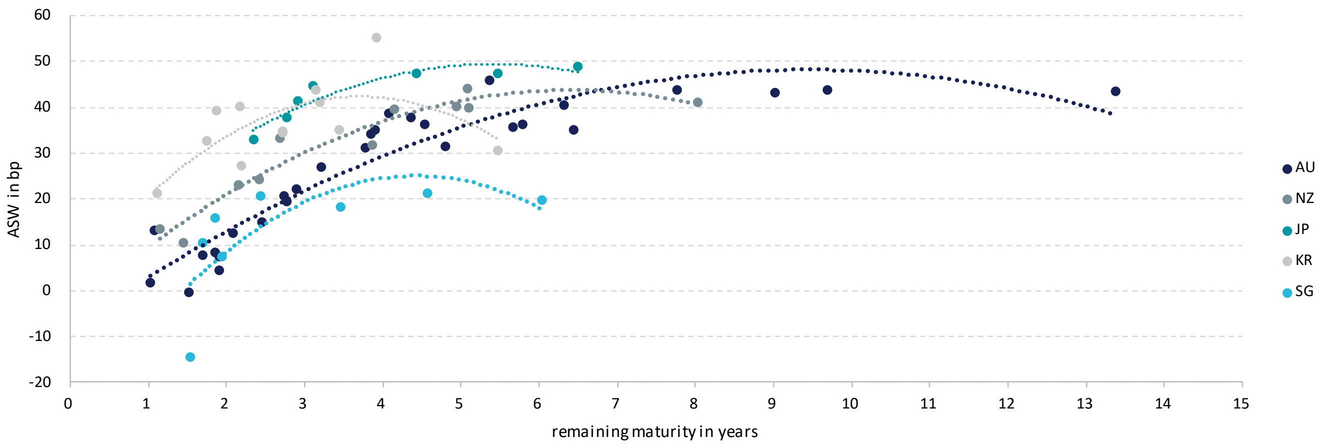


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

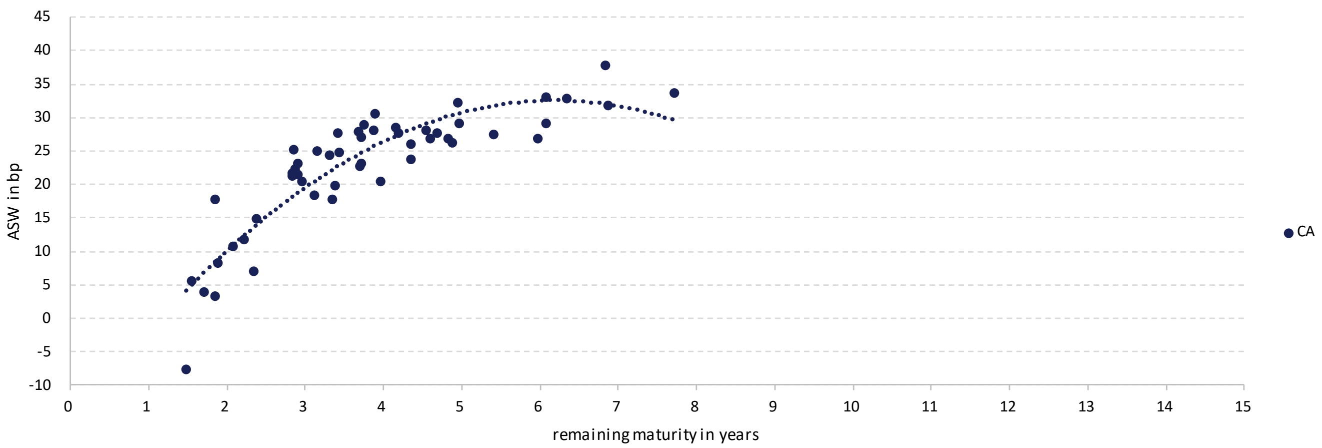
CEE



APAC



North America

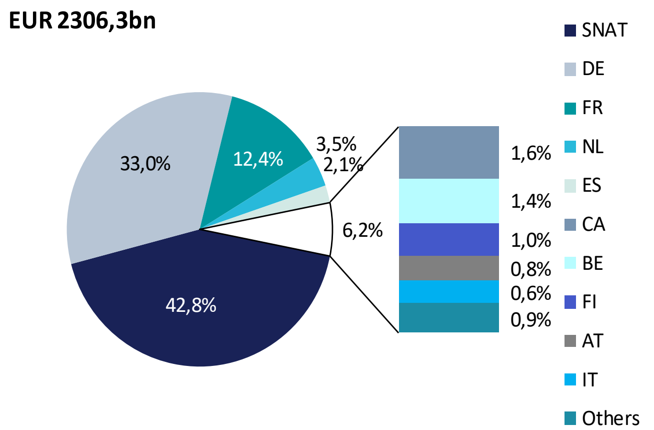


Source: market data, Bloomberg, NORD/LB Markets Strategy & Floor Research

NORD/LB

Charts & Figures
SSA/Public Issuers

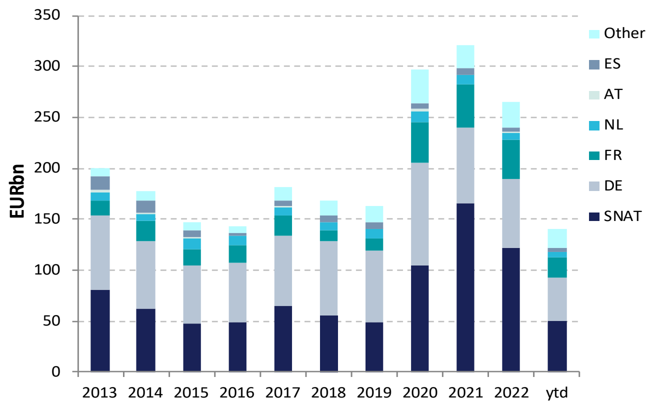
Outstanding volume (bmk)



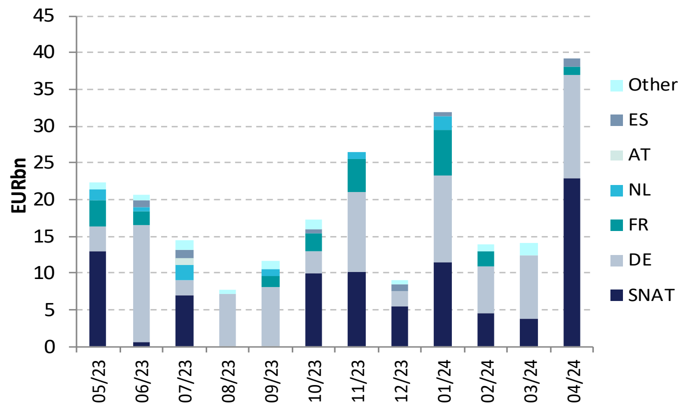
Top 10 countries (bmk)

Country	Vol. (€bn)	No. of bonds	ØVol. (€bn)	Vol. weight. ØMod. Dur.
SNAT	987,3	226	4,4	8,1
DE	761,5	565	1,3	6,3
FR	285,0	189	1,5	6,2
NL	81,0	71	1,1	6,5
ES	47,4	64	0,7	4,8
CA	36,4	25	1,5	4,4
BE	31,5	35	0,9	11,2
FI	22,4	25	0,9	5,1
AT	17,8	21	0,8	4,6
IT	15,0	19	0,8	4,8

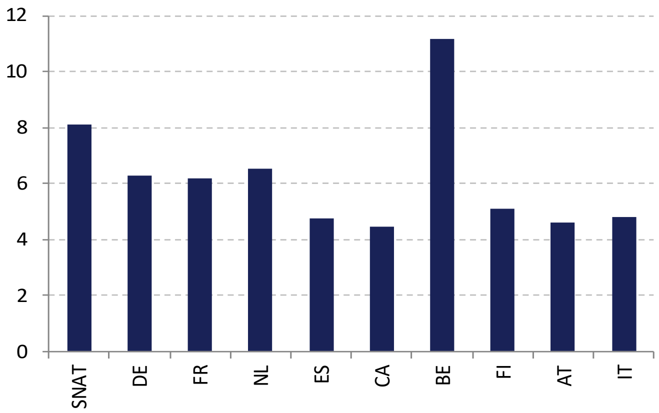
Issue volume by year (bmk)



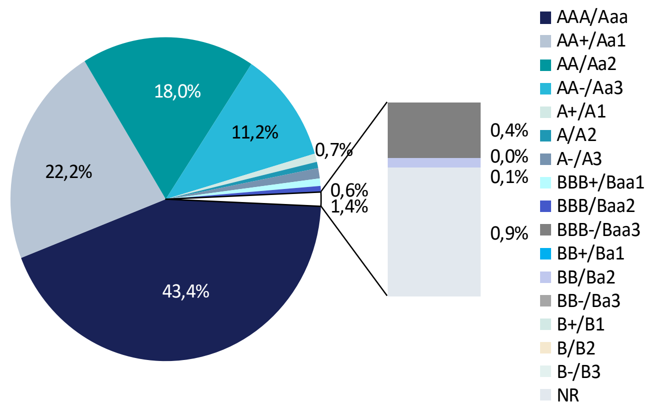
Maturities next 12 months (bmk)



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

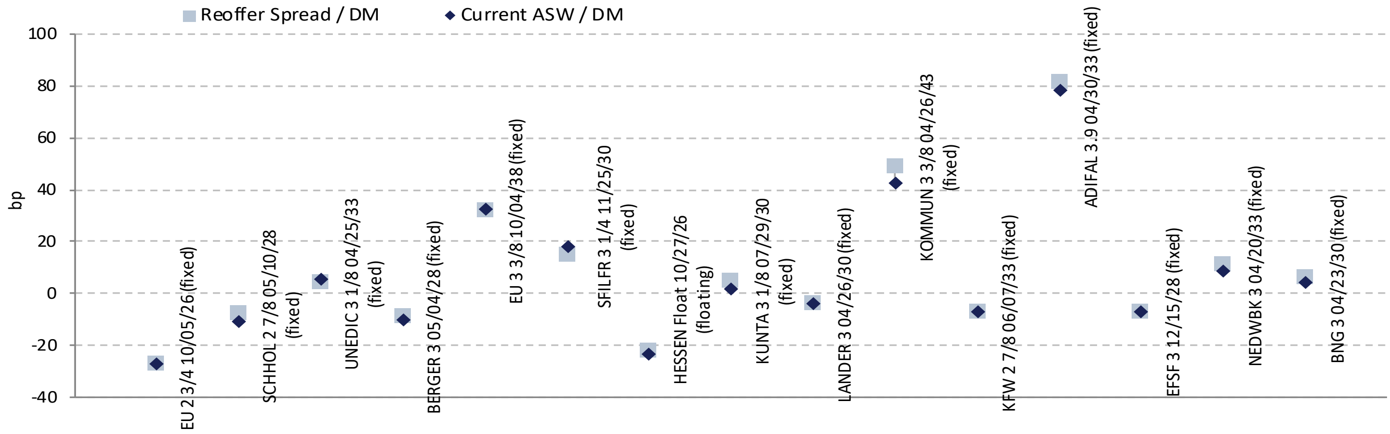


Rating distribution (vol. weighted)

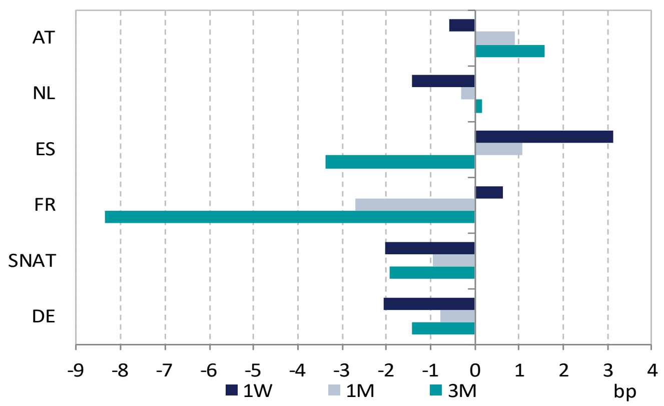


Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

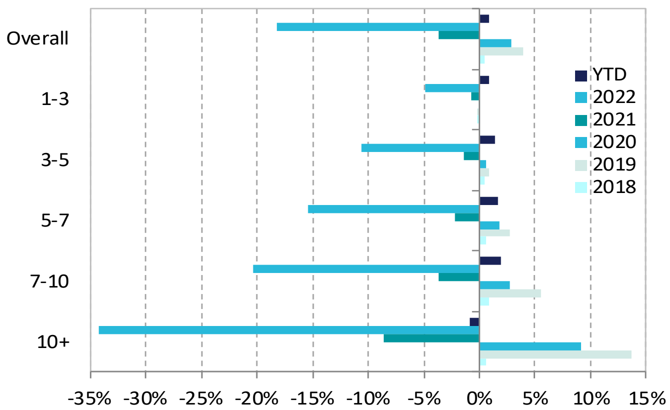
Spread development (last 15 issues)



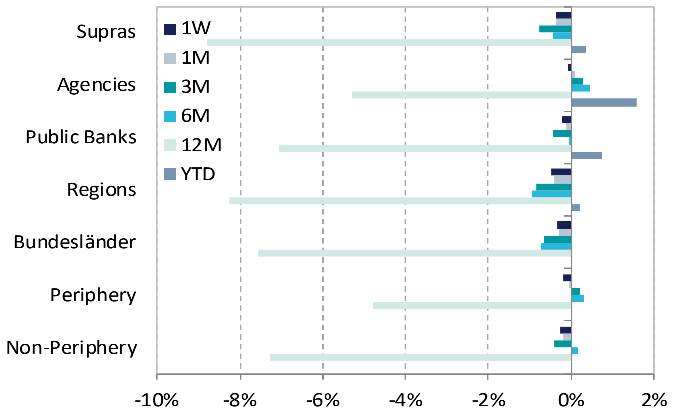
Spread development by country



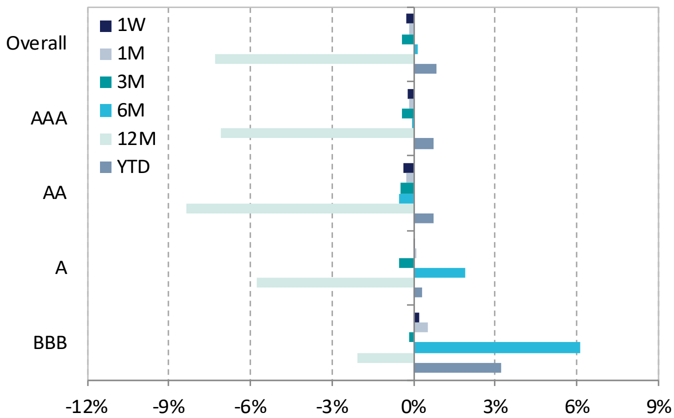
Performance (total return)



Performance (total return) by segments

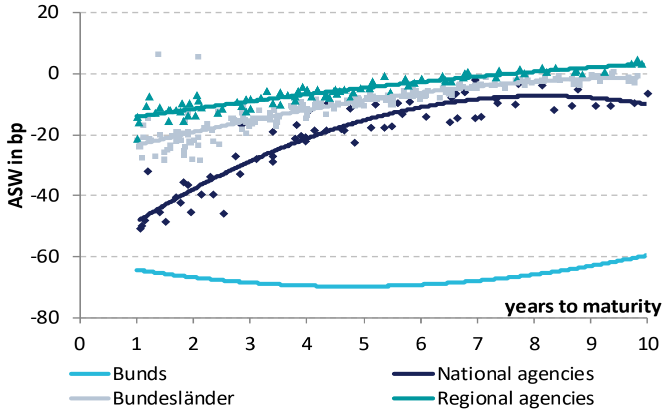


Performance (total return) by rating

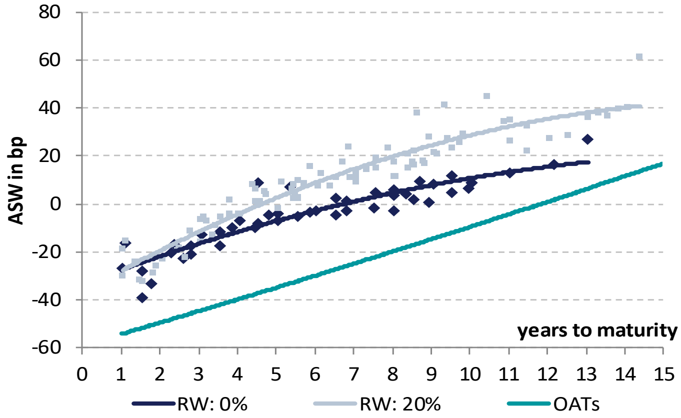


Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

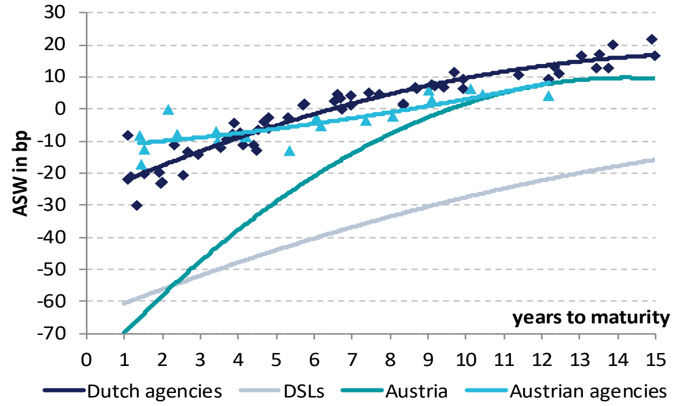
Germany (by segments)



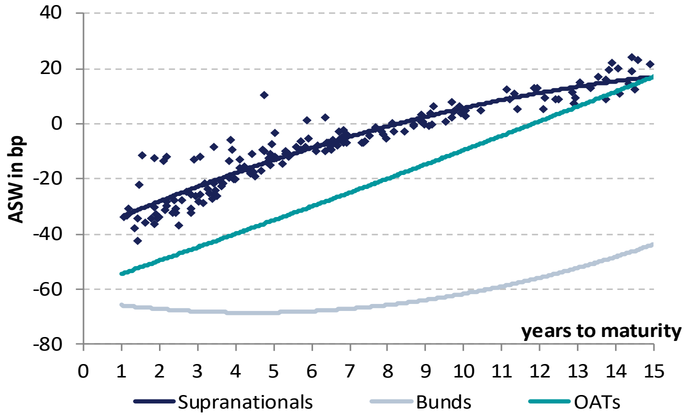
France (by risk weight)



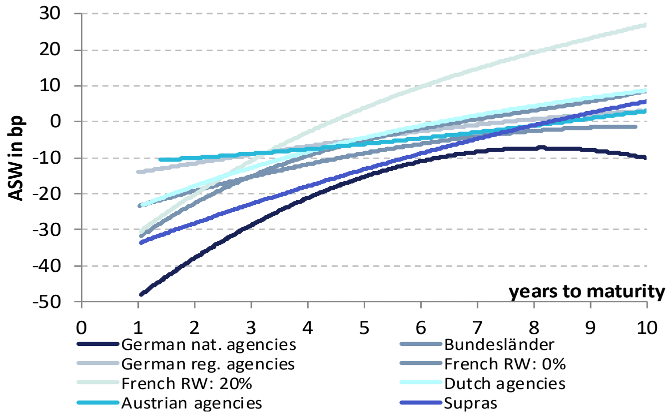
Netherlands & Austria



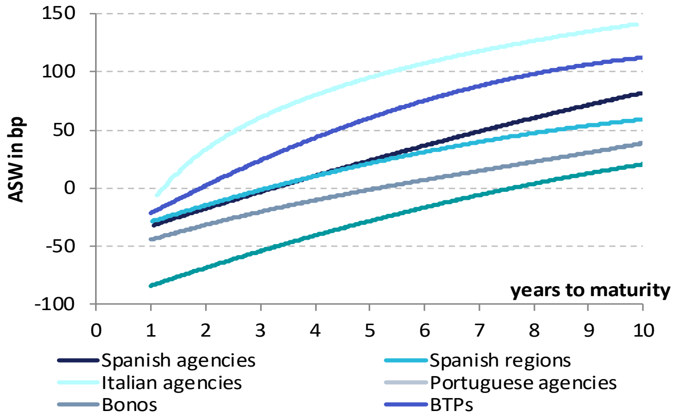
Supranationals



Core



Periphery



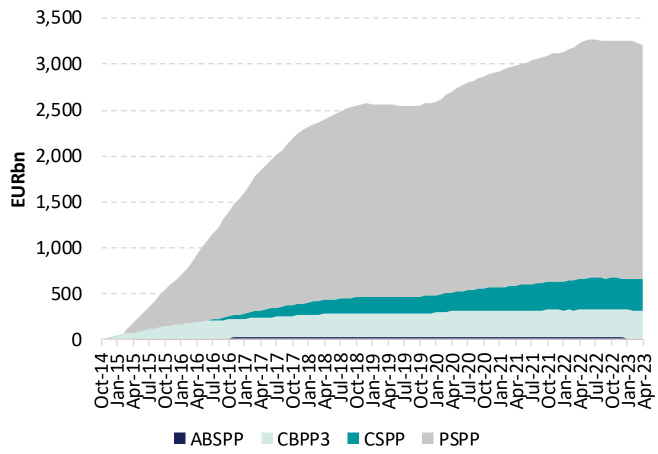
Source: Bloomberg, NORD/LB Markets Strategy & Floor Research

ECB tracker

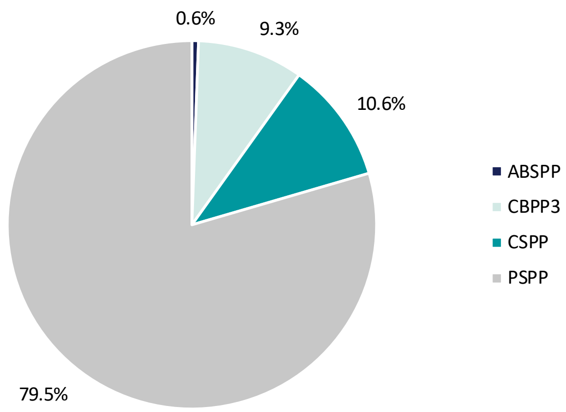
Asset Purchase Programme (APP)

	ABSPP	CBPP3	CSPP	PSPP	APP
Mar-23	19,464	299,707	341,974	2,569,835	3,230,980
Apr-23	18,491	298,627	341,574	2,557,798	3,216,490
Δ	-973	-1,080	-400	-12,037	-14,490

Portfolio development

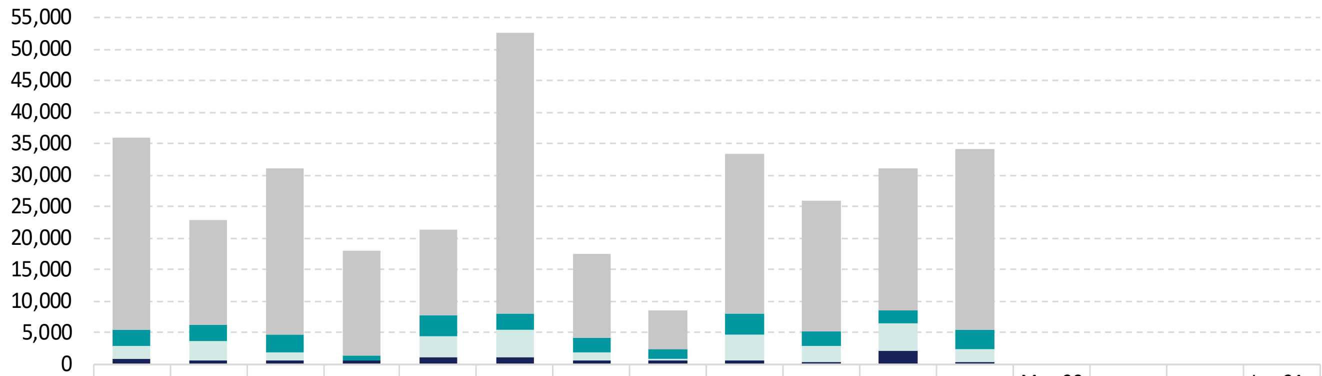


Portfolio structure



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

Expected monthly redemptions (in EURm)

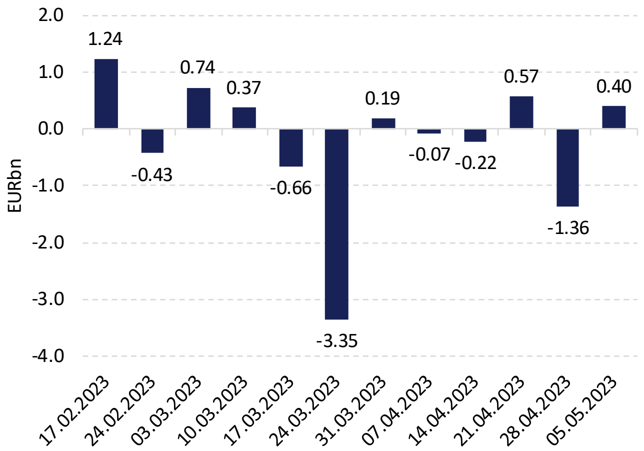


	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-23 - Apr-24	2022	2023	Jan-24 - Apr-24
APP	35,838	22,893	30,972	17,880	21,245	52,491	17,537	8,579	33,502	25,995	31,021	34,264	332,217	299,142	331,128	124,782
PSPP	30,451	16,619	26,192	16,445	13,374	44,431	13,261	6,336	25,524	20,840	22,413	28,712	264,598	228,585	255,132	97,489
CSPP	2,579	2,557	3,038	986	3,377	2,589	2,393	1,336	3,363	2,325	2,177	3,315	30,035	17,670	30,429	11,180
CBPP3	1,874	3,112	1,170	0	3,346	4,467	1,351	408	4,109	2,449	4,434	1,814	28,534	41,244	35,147	12,806
ABSPP	934	605	572	449	1,148	1,004	532	499	506	381	1,997	423	9,050	11,643	10,420	3,307

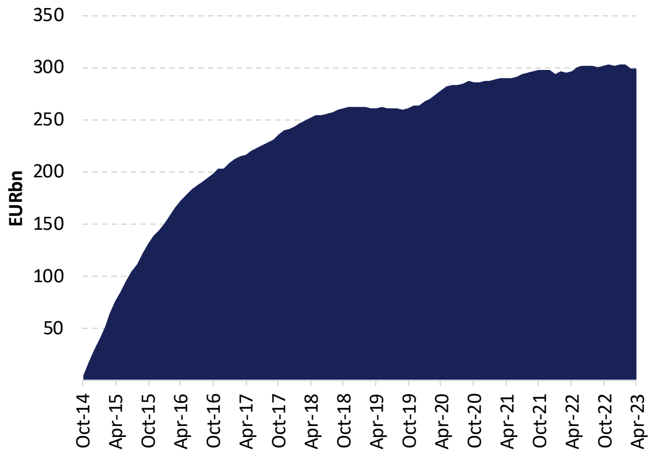
Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

Covered Bond Purchase Programme 3 (CBPP3)

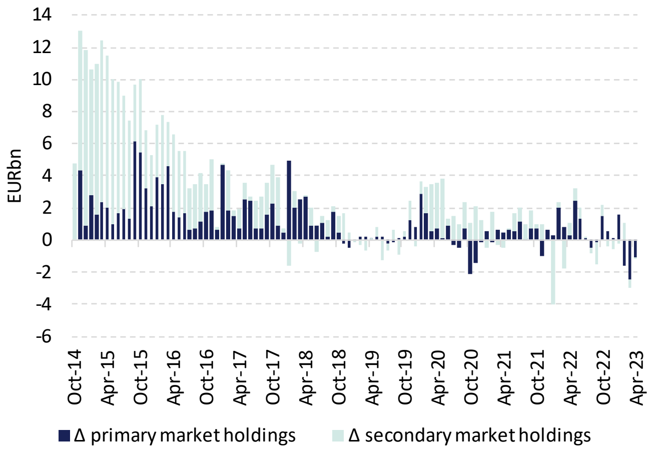
Weekly purchases



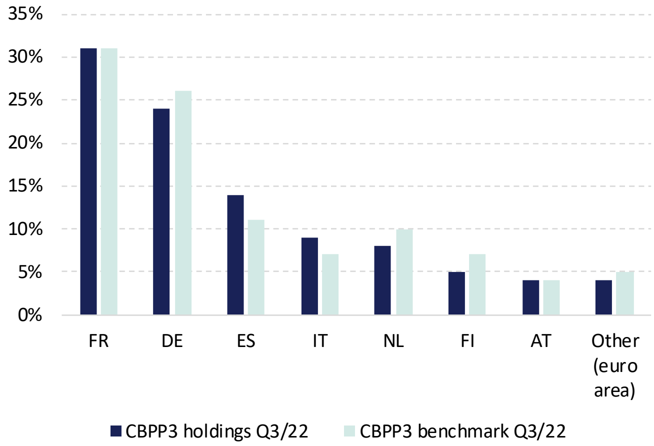
Development of CBPP3 volume



Change of primary and secondary market holdings

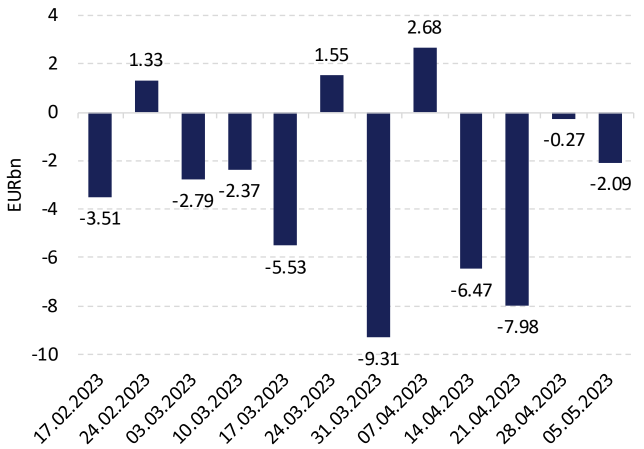


Distribution of CBPP3 by country of risk

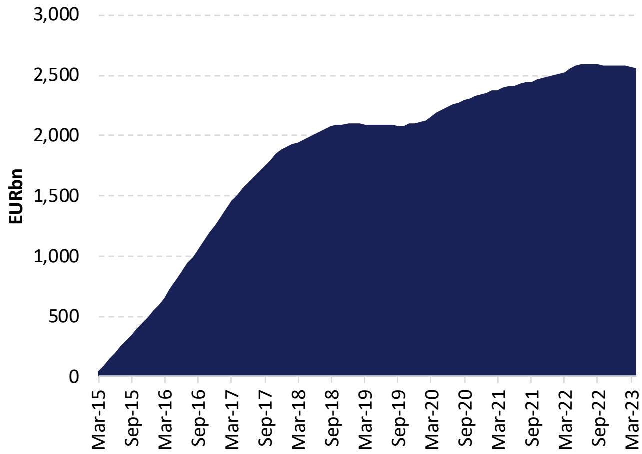


Public Sector Purchase Programme (PSPP)

Weekly purchases



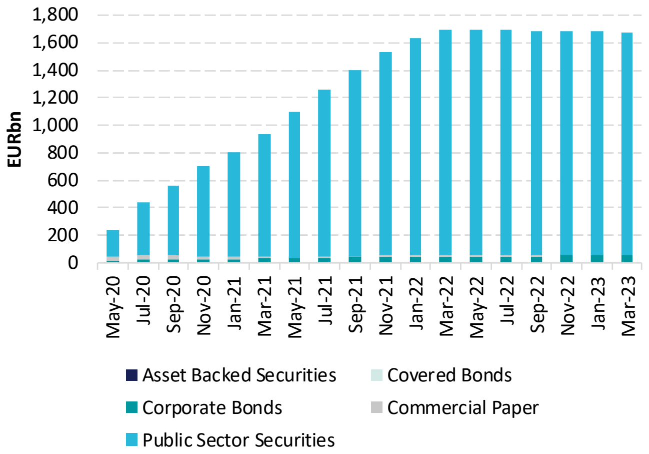
Development of PSPP volume



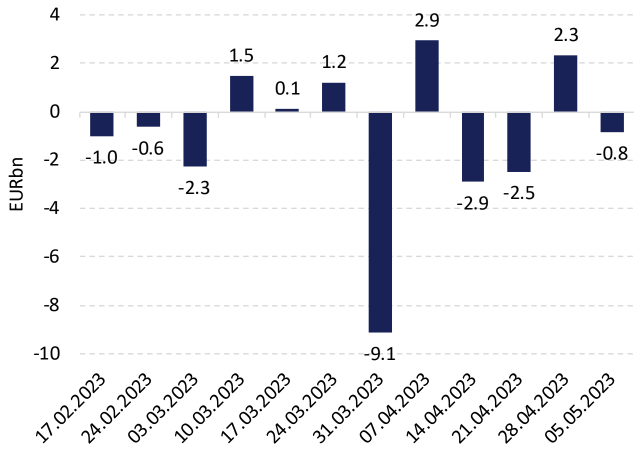
Source: ECB, Bloomberg, NORD/LB Markets Strategy & Floor Research

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 key[2]	Current WAM[3] (in years)	WAM of eligible universe[4] (in years)
AT	45,107	588	2.6%	2.7%	0.1%	7.3	7.5
BE	56,425	-380	3.3%	3.4%	0.1%	6.3	9.2
CY	2,493	6	0.2%	0.2%	0.0%	8.1	8.0
DE	398,924	593	23.7%	24.0%	0.3%	6.8	7.1
EE	256	0	0.3%	0.0%	-0.2%	7.2	7.2
ES	195,878	-1,382	10.7%	11.8%	1.1%	7.3	7.4
FI	26,890	745	1.7%	1.6%	0.0%	7.5	7.9
FR	296,890	2,093	18.4%	17.9%	-0.5%	7.7	7.8
GR	37,726	-1,847	2.2%	2.3%	0.0%	8.6	9.3
IE	25,104	173	1.5%	1.5%	0.0%	9.2	10.0
IT	289,726	631	15.3%	17.4%	2.2%	7.2	6.9
LT	3,305	34	0.5%	0.2%	-0.3%	9.2	8.8
LU	1,941	23	0.3%	0.1%	-0.2%	5.8	7.9
LV	1,954	20	0.4%	0.1%	-0.2%	7.7	7.9
MT	607	1	0.1%	0.0%	-0.1%	10.3	8.6
NL	81,616	-1,171	5.3%	4.9%	-0.4%	7.8	8.7
PT	33,964	-516	2.1%	2.0%	-0.1%	7.0	7.5
SI	6,344	41	0.4%	0.4%	-0.1%	8.9	9.3
SK	7,839	65	1.0%	0.5%	-0.6%	8.3	8.5
SNAT	148,088	1,173	10.0%	8.9%	-1.1%	10.2	8.9
Total / Avg.	**1,661,078**	**892**	**100.0%**	**100.0%**	**0.0%**	**7.6**	**7.6**

[1] Based on the ECB capital key, adjusted to include supras [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

NORD/LB

Appendix
Overview of latest Covered Bond & SSA View editions

Publication	Topics
15/2023 ♦ 26 April	▪ ECB preview: caught in two minds? ▪ EBA Risk Dashboard paints solid picture of Q4 2022
14/2023 ♦ 19 April	▪ Lending in the Eurozone and Germany ▪ The French agency market – an overview
13/2023 ♦ 05 April	▪ Supply forecast requires no great adjustment ▪ Current risk weight of supranationals & agencies
12/2023 ♦ 29 March	▪ The Moody's covered bond universe – an overview ▪ NGEU: Green Bond Dashboard
11/2023 ♦ 22 March	▪ Covered Bonds: Under the spell of the banking crisis and ECB hawks? ▪ ESG: EUR-benchmarks 2023 in the SSA segment (ytd)
10/2023 ♦ 15 March	▪ Transparency requirements §28 PfandBG Q4/2022 ▪ Credit authorisations of the German Laender for 2023
09/2023 ♦ 08 March	▪ ECB preview: Soft landing lets ECB play hard ball with key rates ▪ Where does the Pfandbrief stand within the covered bond universe?
08/2023 ♦ 01 March	▪ The covered bond market and the ECB: a gradual farewell? ▪ Beyond Bundeslaender: Focus on Greater Paris (IDF and VDP)
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

NORD/LB:
Markets Strategy & Floor Research

NORD/LB:
Covered Bond Research

NORD/LB:
SSA/Public Issuer Research

Bloomberg:
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 Q4/2022 (quarterly update)

Covered bonds as eligible collateral for central banks

SSA/Public Issuers:

Issuer Guide – German Laender 2022

Issuer Guide – German Agencies 2022

Issuer Guide – European Supranationals 2023

Issuer Guide – Dutch Agencies 2022

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: All new in May... Or: The force of past rate hikes!

ECB interest rate decision: Backbone in times of turmoil?!

ECB interest rate decision: Roadmap to QT

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

Appendix
Contacts at NORD/LB

Markets Strategy & Floor Research

Dr Frederik Kunze

Covered Bonds/Banks

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

Melanie Kiene

Covered Bonds/Banks

+49 172 169 2633

melanie.kiene@nordlb.de

Stefan Rahaus

Covered Bonds/Banks

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

Dr Norman Rudschuck

SSA/Public Issuers

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

Valentin Jansen

SSA/Public Issuers

+49 157 8516 7232

valentin.jansen@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

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 Management	+49 511 9818-9620 +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 independence 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, 10 May 2023 (08:35)