German Public Sector Pfandbrief Programmes – Peer Review

Key Rating Drivers

Varying Uplifts to ‘AAA’ Rating: The Pfandbriefe in this peer review are all rated ‘AAA’, with Long-Term Issuer Default Ratings (LT IDR) of ‘A-’ for BayernLB and SaarLB and ‘A+’ for Helaba.

Main ‘AAA’ Break-Even OC Components: Credit loss is the main component of the ‘AAA’ break-even overcollateralisation (OC) for Helaba’s and SaarLB’s programmes, whereas the ALM loss is the largest component of the ‘AAA’ break-even OC for BayernLB’s programme. The higher credit loss component for SaarLB’s programme is driven by a large share of French cover assets, which are exposed to a modelled French sovereign default for rating scenarios above the French sovereign rating of ‘AA’.

For Helaba’s Pfandbriefe, Fitch’s ‘AAA’ break-even OC is driven by the credit loss as the ‘AAA’ rating is based on a two-notch recovery uplift above the resolution reference point (RRP). For BayernLB’s programme the ALM Loss is driven by a significant maturity mismatch between assets and liabilities arising from assets maturing significantly later than liabilities.

Large OC Cushions: The three issuers maintain OC levels of 26.4% on average, well above Fitch Ratings’ ‘AAA’ break-even OC for the respective ratings. These cushions protect the Pfandbrief ratings from deterioration in cover pool credit quality or asset-liability mismatches. In its analysis Fitch relies on the lowest level of OC in the last 12 months.

Six Notches of PCU: The introduction of 12-month maturity extension as a potential ultima ratio measure to avert default of the Pfandbriefe allows Fitch to grant six notches of Payment Continuity Uplift (PCU) for German Pfandbrief programmes (compared to five notches for German public sector programmes previously).

Resilience Against Issuer Downgrades: All three programmes benefit from unused notches of uplift above the IDR, providing a buffer against an issuer downgrade of between three and six notches.

Ratings Credit-Linked to Germany: All the programmes’ ratings remain credit-linked to Germany as a significant share of cover assets are made up of exposures to, or guaranteed by, the German sovereign. In the analysis of the German sub-sovereign exposure, the sovereign is not assumed to default.

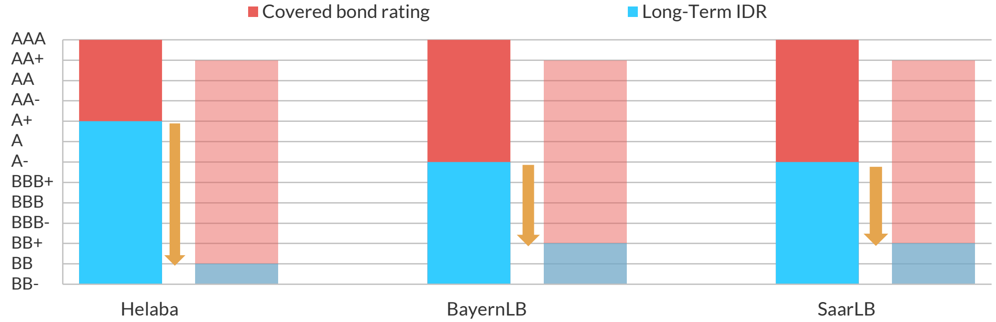
Criteria Update: In 3Q21 Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria was updated. The pairwise default correlation assumption between public entities was lowered following the revision of the long-term default rates for corporate entities, as detailed in Fitch's updated CLO and Corporate CDO Rating Criteria. The changes have led to overall improved loss assumptions for all three programmes.

Key Rating Drivers

Programme	Helaba	BayernLB	SaarLB
LT IDR/Outlook	A+/Stable	A-/Stable	A-/Stable
Resolution uplift (notches)	2	1	1
PCU (notches)	6	6	6
Timely payment rating level	n.a.	AA	AA+
Recovery uplift (notches)	2	2	2
CVB rating	AAA	AAA	AAA
CVB Outlook	Stable	Stable	Stable
Buffer against IDR downgrade	6	3	3
Break-even OC for rating (%)	3.5	11.5	13.5
OC Fitch relies upon (%)	9.7	18.8	34.3

Source: Fitch Ratings. For abbreviations see the table at the end of the report

Cushions Against Issuer Downgrades



Source: Fitch Ratings

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Cover Pool – Peer Analysis

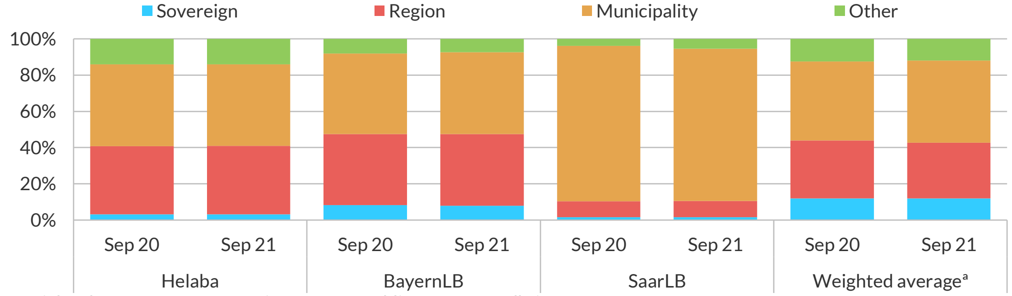
Cover Assets Credit Analysis

	Helaba	BayernLB	SaarLB
Covered bonds ratings	AAA	AAA	AAA
Rating default rate (RDR) for ratings (%)	10.2	12.7	21.7
Rating recovery rate (RRR) for ratings (%)	65.7	62.2	41.5
Rating loss rate (RDR (1-RRR)) for ratings (%)	3.5	4.8	12.7
'B' case loss rates (%)	0.4	0.8	0.8

Source: Fitch Ratings

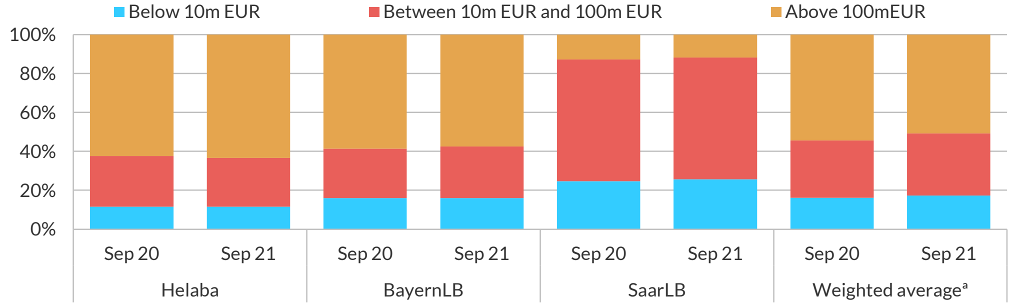
- The cover pools of the programmes consist of public sector loans, with municipalities being the most common borrower (47.3% on a weighted average basis for the three programmes). Regions are the second largest borrower (36.8%) and sovereigns only account on average for 4.9% of the cover assets (at 3Q21).
- All programmes remain credit-linked to Germany (AAA/Stable/F1+) as a significant share of cover assets are made up of exposures to or guaranteed by the German sovereign, under Fitch's classification. In the analysis of the German sub-sovereign exposure, the sovereign is not assumed to default. Based on the German tax equalisation system, the credit-linked exposures do not only comprise German sovereign assets but also loans directly exposed to or guaranteed by the Federal states. These credit-linked assets are not assumed to default in Fitch's analysis.
- The larger share of French assets in SaarLB's cover pool (33.6%) drives the higher credit loss and 'AAA' break-even OC for this programme. In Fitch's criteria, 40% of the French subnational exposure would be assumed to default if the French sovereign (AA/Negative/F1+) defaults. The defaulted subnational French exposure would then be subject to low sovereign recoveries of only 15% in a 'AAA' rating scenario, far below the 70% 'AAA' recovery rate assumption for German sub-national public entities.
- In 3Q21 Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria were updated. In particular, the pairwise default correlation assumption between public entities was lowered following the revision of the long-term default rates for corporate entities, as detailed in Fitch's updated CLO and Corporate CDO Rating Criteria. The changes have led to improved loss assumptions for all three programmes.

Borrower Type Distribution



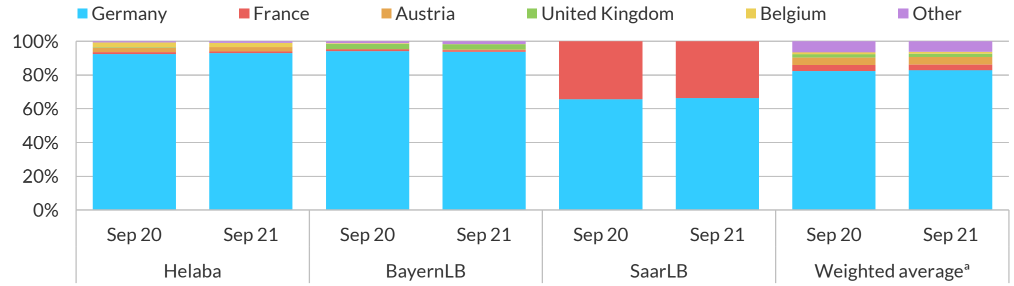
[a] Weighted average refers to active German public sector Pfandbrief programmes
Source: Fitch Ratings, vdp

Cover Assets Size Distribution



[a] Weighted average refers to active German public sector Pfandbrief programmes
Source: Fitch Ratings, vdp

Geographic Distribution of Cover Assets



[a] Weighted average refers to active German public sector Pfandbrief programmes
Source: Fitch Ratings, vdp

Break-Even Overcollateralisation – Peer Analysis

AAA Break-Even OC Components

Programme	ALM loss (%)	Credit loss (%)
Helaba	n.a.[a]	3.6
BayernLB	8.4	3.2
SaarLB	1.2	12.5

Source: Fitch Ratings

[a] For Helaba's Pfandbriefe, we did not test for timely payments on the Pfandbriefe as the 'AAA' rating is based on a two-notch recovery uplift above the RRP.

Credit Loss

- The credit loss component of the Fitch 'AAA' break-even OC for SaarLB's Pfandbrief programme is 12.5%, driven by the share of French assets in the cover pool. BayernLB's credit loss component of Fitch 'AAA' break-even OC amounts to 3.2%.
- The 'AAA' rating of Helaba's Pfandbrief programme is based on a two-notch recovery uplift above the RRP. Therefore the credit loss drives Fitch's 'AAA' break-even OC of 3.5% and no test for timely payments on the Pfandbriefe is performed.

ALM Loss

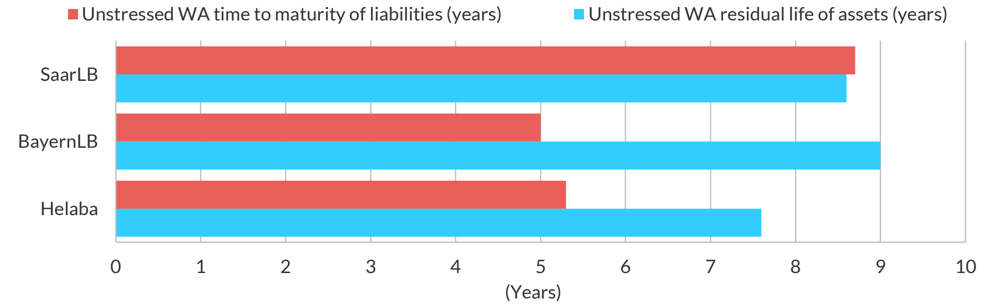
- Comparing the ALM Loss of BayernLB's and SaarLB's programmes, the observed difference is mainly driven by the larger maturity mismatch present between assets and liabilities for BayernLB's programme. For SaarLB's programme the weighted average life (WAL) of the cover assets (8.6 years) closely matches that of the liabilities (8.7 years). For BayernLB's programme the difference is much larger (nine years for the assets and five years for the liabilities). The larger difference negatively affects the net present value calculation in Fitch's cash flow modelling considering a high interest rate stress scenario.
- The BayernLB programme is exposed to a small residual proportion in foreign currency[1], which is stressed in Fitch's cash flow analysis. These positions are well-matched, but long-dated sterling denominated assets amplify maturity mismatches.

Cash Flow Model Driving Scenarios

Programme	Driving prepayment scenario	Driving interest-rate scenario
Helaba	n.a.[a]	n.a.[a]
BayernLB	Low	Up
SaarLB	High	Down

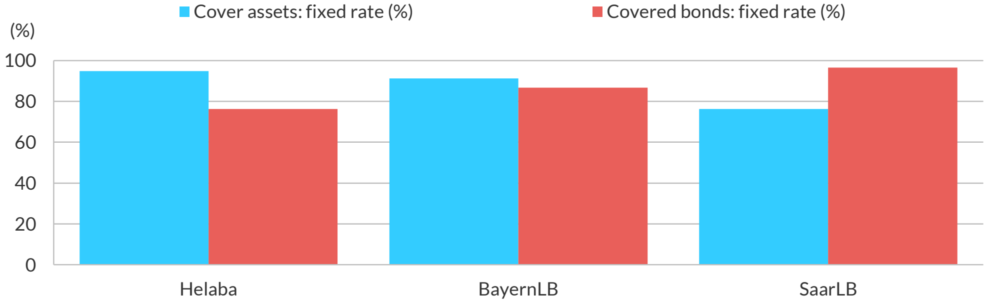
Source: Fitch Ratings

Assets & Liabilities Maturity Mismatches (End-3Q21)



Source: Fitch Ratings

Assets and Liabilities Interest Rate Mismatches (End-3Q21)



Source: Fitch Ratings

[1] Please, see appendix for further details regarding the programmes foreign exchange positions.

Resolution Uplift, PCU and Recovery Uplift – Peer Analysis

Continuity Assessment

Programme	Resolution uplift (notches)	PCU (notches)	Maximum achievable recovery uplift (notches)
Helaba	2	6	2
BayernLB	1	6	2
SaarLB	1	6	2

Source: Fitch Ratings

Resolution Uplift

- German public sector Pfandbriefe are eligible for a two-notch resolution uplift as they are exempt from bail-in. Fitch deems the risk of under-collateralisation at the point of resolution to be sufficiently low and a resolution, should it happen, is not likely to result in the direct enforcement of recourse against the cover pool.
- The two-notch resolution uplift granted to Helaba's programme also takes into account that Helaba's IDR is based on the bank's participation in a mutual support scheme and equalised with the IDR of Sparkassen Finanzgruppe Hessen-Thueringen, of which Helaba is part.
- The resolution uplift for both BayernLB's and SaarLB's programmes is limited to one notch respectively as their IDRs are support-driven.

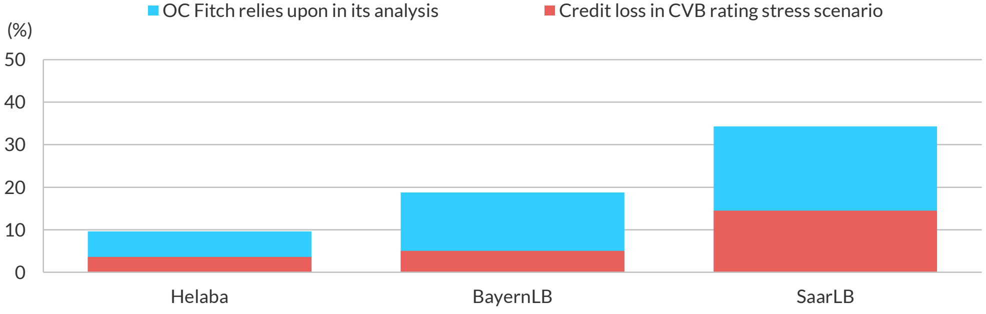
Payment Continuity Uplift (PCU)

- The six-notch PCU for all programmes reflects the principal liquidity protection provided by the 12-month maturity extension feature. The mandatory inclusion of liquid assets in the cover pool matching the maximum negative cumulative cash flows over the next 180 days additionally protects interest payments and senior expenses. Fitch does not consider other PCU components to present material risks to payment continuity (namely asset segregation and alternative management).
- The PCU for Helaba's programme is currently unused and serves as buffer against an issuer downgrade as the 'AAA' rating is based on a two-notch recovery uplift above the RRP. The 'AAA' break-even OC would likely increase in the event of an issuer downgrade, when the PCU will be used and a test for timely payments on the Pfandbriefe would have to be performed.
- For BayernLB's programme three-notches of the PCU are currently unused and serve as buffers against an issuer downgrade.
- The 'AAA' rating of SaarLB's programme is achieved on a 'AA+' timely payment rating level and a one-notch recovery uplift which gives three-notches buffer against an issuer downgrade. However, utilising the second notch of recovery uplift would likely lead to a moderate increase in the 'AAA' break-even OC.

Recovery Uplift

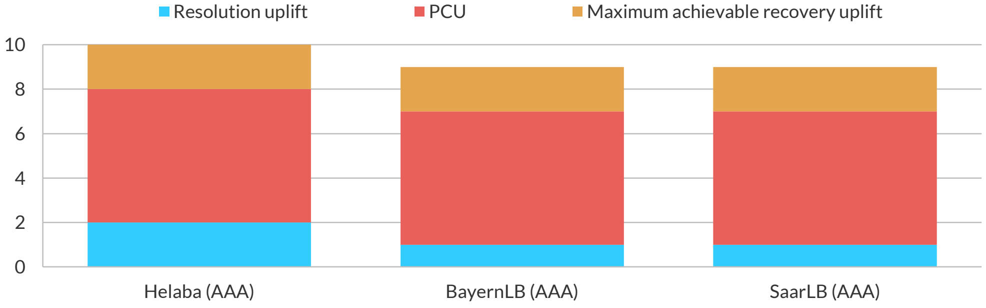
- The recovery uplift granted for all programmes is two notches as we expect the Pfandbriefe to benefit from outstanding recoveries. No material risks to recovery expectations were identified and the timely payment rating level for all programmes is in the investment grade range.

Continuity Assessment



Source: Fitch Ratings

Maximum Uplift Above IDR - Number of Notches



Source: Fitch Ratings

ESG Considerations

ESG Relevance Scores Recap

		Helaba	BayernLB	UniCredit	SaarLB
Environmental (E)	GHG emissions & air quality	1	1	1	1
	Energy management	1	1	1	1
	Water & wastewater management	1	1	1	1
	Waste & hazardous materials management; ecological impacts	2	2	2	2
	Exposure to environmental impacts	2	2	2	2
Social (S)	Human rights, community relations, access & affordability	2	2	2	2
	Customer welfare - fair messaging, privacy & data security	3	3	3	3
	Labour relations & practices	1	1	1	1
	Employee wellbeing	1	1	1	1
	Exposure to social impacts	3	3	3	3
Governance (G)	Rule of law, institutional and regulatory quality	3	3	3	3
	Transaction & collateral structure	3	3	3	3
	Transaction parties & operational risk	3	3	3	3
	Data transparency & privacy	3	3	3	3

Source: Fitch Ratings

Credit-Relevant ESG Scale - Definitions

How relevant are E, S and G issues to the overall credit rating?	
5	Highly relevant; a key transaction or programme rating driver that has a significant impact on an individual basis
4	Relevant to transaction or programme ratings; not a key rating driver but has an impact on the ratings in combination with other factors
3	Minimally relevant to ratings; either very low impact or actively mitigated in a way that results in no impact on the transaction or programme ratings
2	Irrelevant to the transaction or programme ratings; relevant to the sector
1	Irrelevant to the transaction or programme ratings; irrelevant to the sector

Source: Fitch Ratings

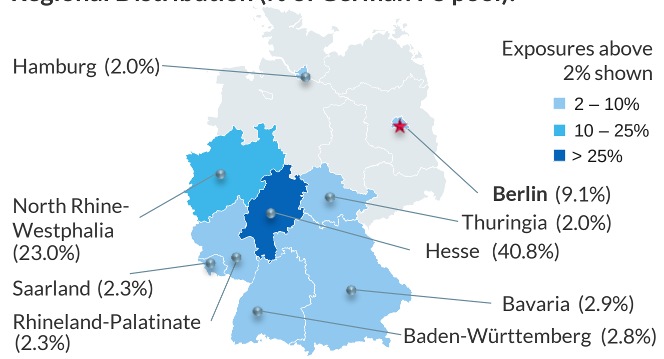
The highest level of ESG credit relevance for all programmes is a score of 3 - ESG issues are credit neutral or have only a minimal credit impact on the covered bonds, either due to their nature or the way in which they are being managed by the programmes.

For more information on our ESG Relevance Scores, visit www.fitchratings.com/esg.

Appendix 1A – Focus on Helaba

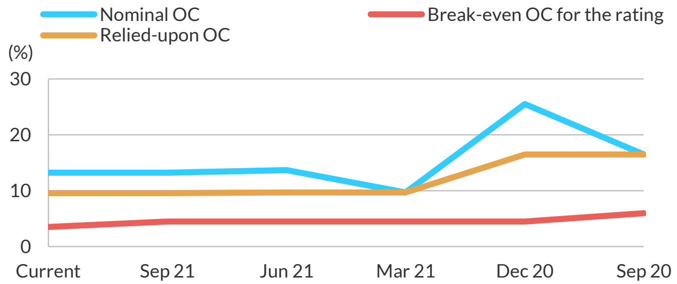
- **Rating Rationale:** The ‘AAA’ rating of the Pfandbriefe is based on Helaba’s LT IDR of ‘A+’, a resolution uplift of two notches, a two-notch recovery uplift and the OC Fitch relies upon of 9.6%, providing more protection than Fitch’s ‘AAA’ break-even OC of 3.5%. The Stable Outlook on the rating reflects a six-notch buffer against an IDR downgrade due to the un-used PCU.
- **Rating Sensitivities:** The ‘AAA’ rating would be vulnerable to a downgrade if Helaba's IDR was downgraded to ‘BB’ or below or if the relied-upon OC provided less protection than Fitch's ‘AAA’ break-even OC. If the OC that Fitch considers in its analysis falls to the legal minimum requirement of 2% on a net present value basis, the programme could only achieve a one-notch recovery uplift. As a result, the Pfandbrief rating would likely be downgraded to ‘AA+’, one notch above the RRP. The ‘AAA’ break-even OC would likely go up if the PCU is utilised and the test for timely payments on the Pfandbriefe is performed or if a sovereign is downgraded to cover wider credit losses.[1]
- **Latest Rating Action (28 October 2021):** Fitch's ‘AAA’ break-even OC for Helaba’s Pfandbriefe decreased to 3.5% from 4.5%. The reduction stems from a lower credit loss component of 3.6% (4.1% previously) reflecting mostly the update of Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria. Fitch has lowered the pairwise default correlation assumption between public entities following the revision of the long-term default rates for corporate entities, as detailed in Fitch's recently updated CLO and Corporate CDO Rating Criteria.

Regional Distribution (% of German PS pool):



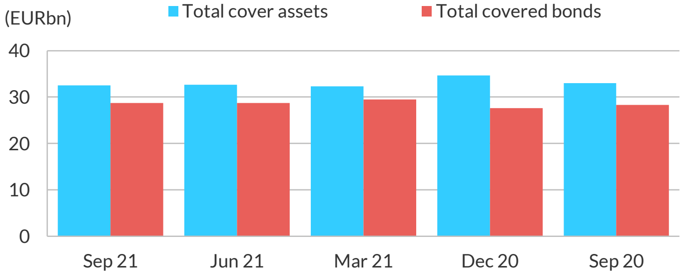
Source: Fitch Ratings

Overcollateralisation Breakdown



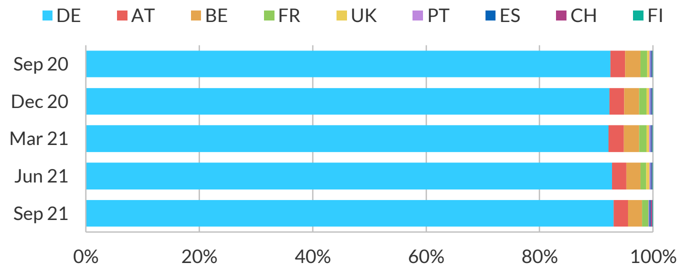
Source: Fitch Ratings

Assets and Liabilites



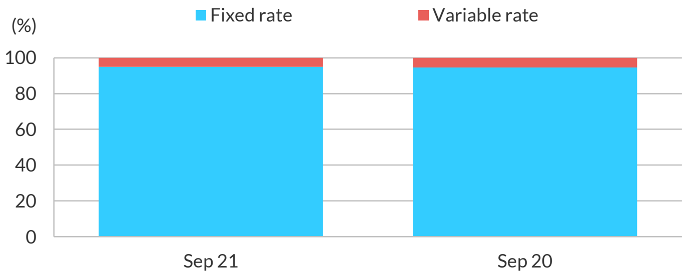
Source: Fitch Ratings

Country Breakdown (% PS pool)



Source: Fitch Ratings

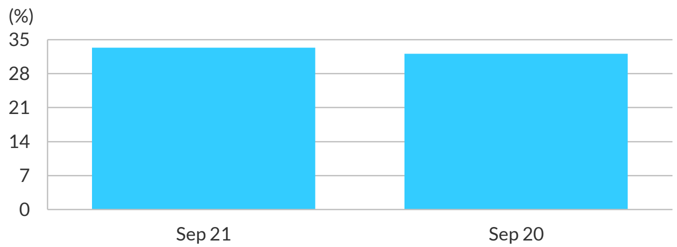
Asset Payment Type (% PS Pool)



Source: Fitch Ratings

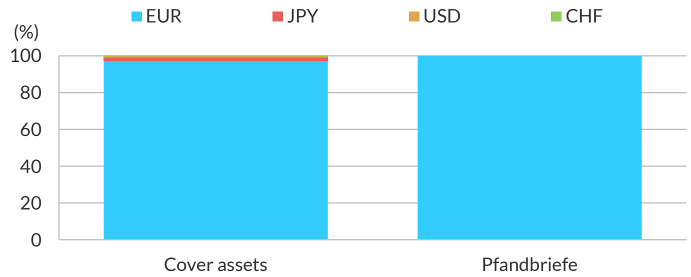
Obligor Concentration (% PS Pool)

Top 10



Source: Fitch Ratings

Currency Breakdown (End-3Q21)



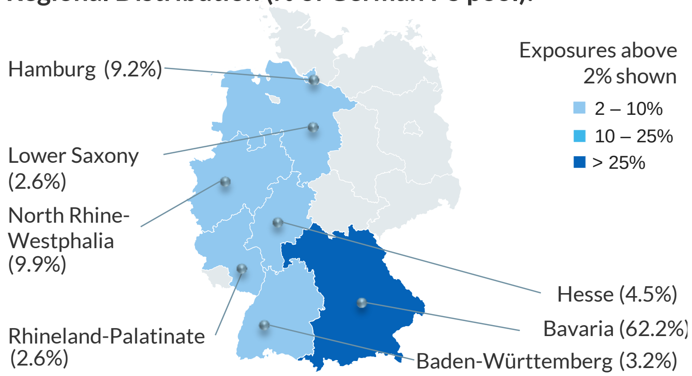
Source: Fitch Ratings

[1] Under Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria a Rating Watch Negative is considered as a downgrade.

Appendix 1B – Focus on BayernLB

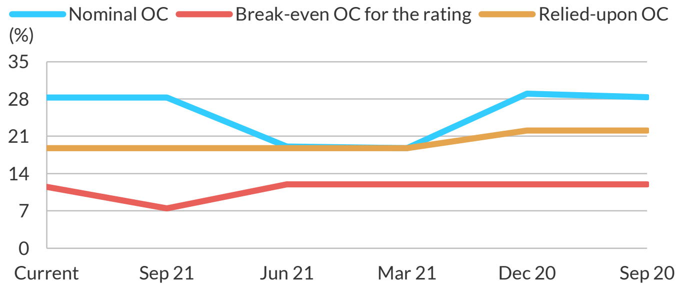
- **Rating Rationale:** BayernLB's LT IDR of 'A-' is the basis of the 'AAA' rating of the Pfandbriefe which is six notches above the bank's LT IDR. This is out of a maximum achievable uplift of nine notches, consisting of a resolution uplift of one notch, a PCU of six notches and a recovery uplift of two notches. The OC relied upon of 18.8% is above Fitch's 'AAA' break-even OC of 11.5%. The Stable Outlook on the rating is supported by a three-notch buffer against an IDR downgrade due to the different uplift factors above the bank's LT IDR.
- **Rating Sensitivities:** The 'AAA' rating would be vulnerable to downgrade if BayernLB's LT IDR was downgraded to 'BB+' or below or if the relied-upon OC provided less protection than Fitch's 'AAA' break-even OC. If the OC that Fitch considers in its analysis drops to the legal minimum requirement of 2% on a net present value basis, the programme could only achieve a one-notch recovery uplift. As a result, the Pfandbrief rating would likely be downgraded to 'A+', one notch above the RRP. The 'AAA' break-even OC would likely go up if a sovereign is downgraded to cover wider credit losses.[1]
- **Latest Rating Action (11 November 2021):** Fitch's 'AAA' break-even OC increased to 11.5% from 7.5% driven by the ALM loss component, which has increased to 8.4% from 3.4% previously, reflecting the shorter weighted average life of liabilities (about one year shorter) while that of the assets has increased, negatively affecting the net present value calculation in Fitch's cash flow modelling.

Regional Distribution (% of German PS pool):



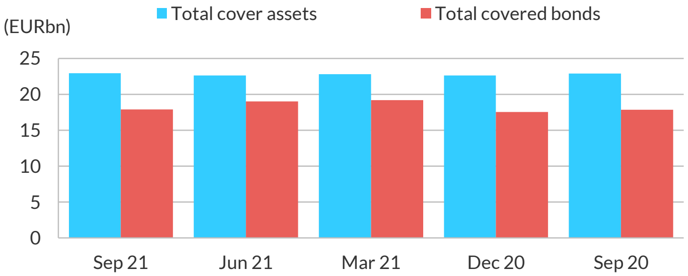
Source: Fitch Ratings

Overcollateralisation Breakdown



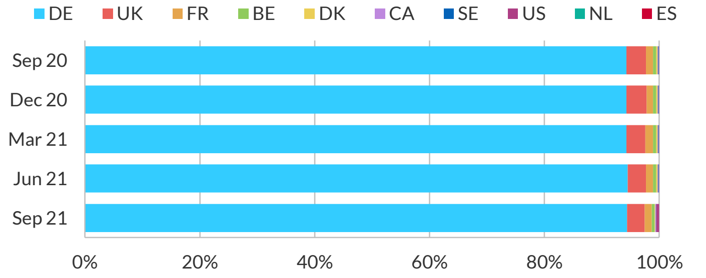
Source: Fitch Ratings

Assets and Liabilites



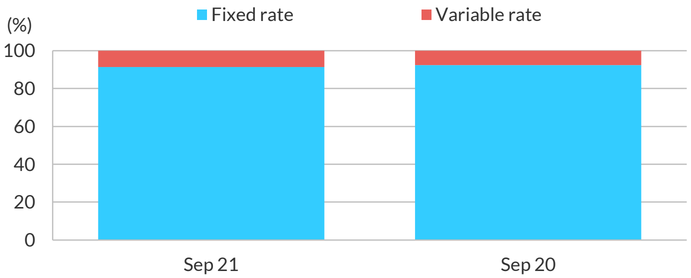
Source: Fitch Ratings

Country Breakdown (% PS Pool)



Source: Fitch Ratings

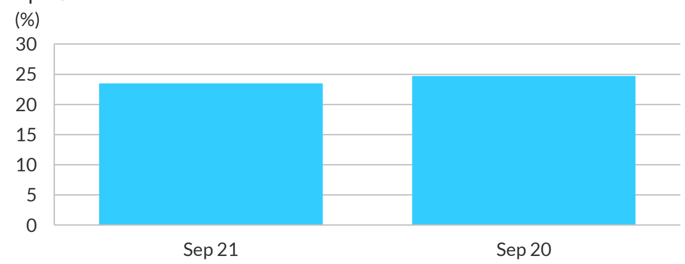
Asset Payment Type (% PS Pool)



Source: Fitch Ratings

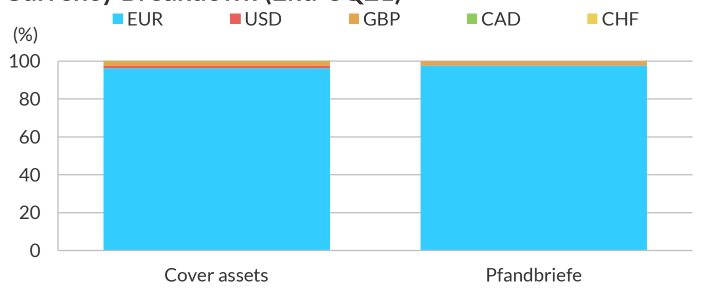
Obligor Concentration (% PS Pool)

Top 10



Source: Fitch Ratings

Currency Breakdown (End-3Q21)



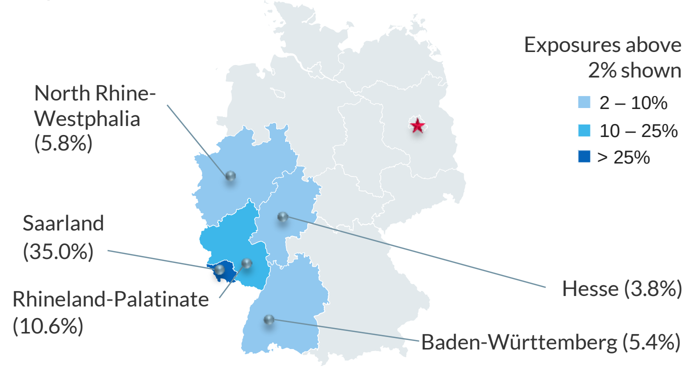
Source: Fitch Ratings

[1] Under Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria a Rating Watch Negative is considered as a downgrade.

Appendix 1D – Focus on SaarLB

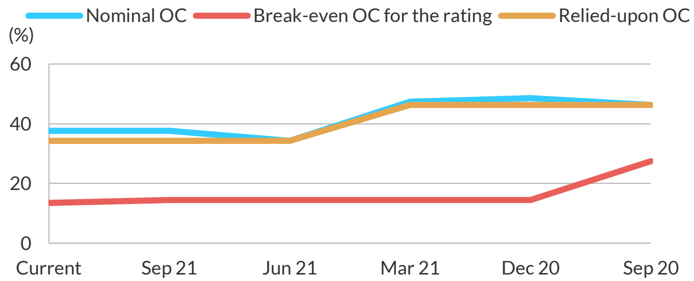
- **Rating Rationale:** SaarLB's LT IDR of 'A-' is the basis of the 'AAA' rating of the Pfandbriefe which is six notches above the bank's LT IDR. This is out of a maximum achievable uplift of nine notches, consisting of resolution uplift of one notch, a PCU of six notches and a recovery uplift of two notches. The OC relied upon of 34.3% is above Fitch's 'AAA' break-even OC of 13.5%. The Stable Outlook on the rating is supported by a three-notch buffer against an IDR downgrade due to the different uplift factors above the bank's LT IDR.
- **Rating Sensitivities:** The 'AAA' rating would be vulnerable to downgrade if SaarLB's LT IDR was downgraded to 'BB+' or below or if the relied-upon OC provides less protection than Fitch's 'AAA' break-even OC. If the OC that Fitch considers in its analysis drops to the legal minimum requirement of 2% on a net present value basis, the programme could only achieve a one-notch recovery uplift. As a result, the Pfandbrief rating would likely be downgraded to 'A+', one notch above the RRP. The 'AAA' break-even OC would likely go up if the second notch of recovery uplift is utilised or if a sovereign is downgraded to cover wider credit losses.[1]
- **Latest Rating Action (7 October 2021):** Fitch's updated 'AAA' break-even OC of 13.5% (down from 14.5%) is driven by the credit loss component, which has decreased to 12.5% from 13.4%, mostly reflecting the updating of Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria. Fitch has lowered the pairwise default correlation assumption between public entities following the revision of the long-term default rates for corporate entities, as detailed in Fitch's recently updated CLO and Corporate CDO Rating Criteria.

Regional Distribution (% of German PS pool):



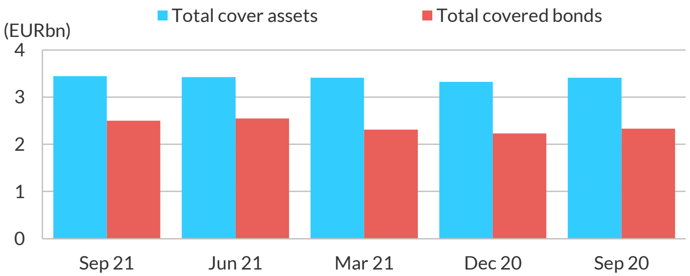
Source: Fitch Ratings

Overcollateralisation Breakdown



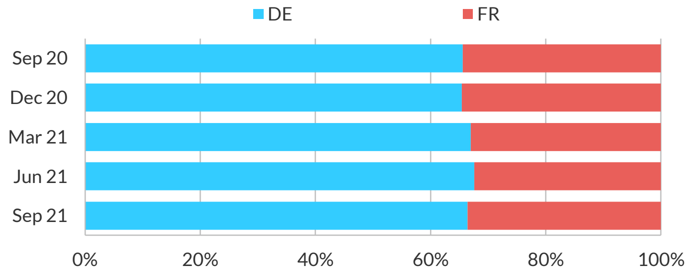
Source: Fitch Ratings

Assets and Liabilites



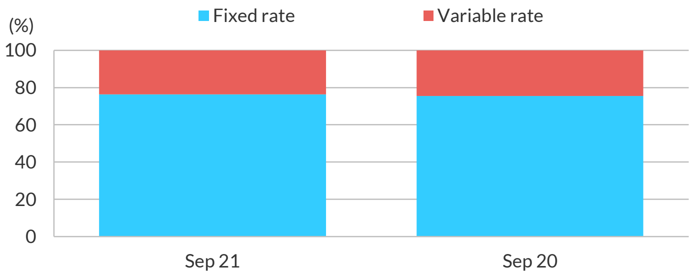
Source: Fitch Ratings

Country Breakdown (% PS Pool)



Source: Fitch Ratings

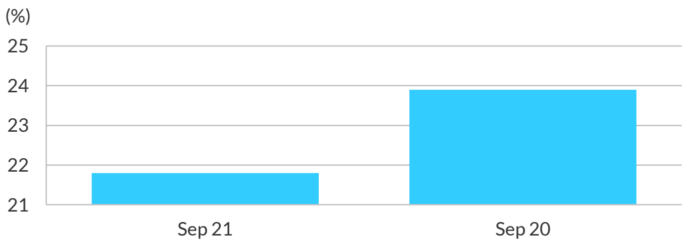
Asset Payment Type (% PS Pool)



Source: Fitch Ratings

Obligor Concentration (% PS Pool)

Top 10



Source: Fitch Ratings

Currency Breakdown (End-3Q21)

(EUR)

Source: Fitch Ratings

[1] Under Fitch's Covered Bonds and CDOs Public Entities Asset Analysis Criteria a Rating Watch Negative is considered as a downgrade.

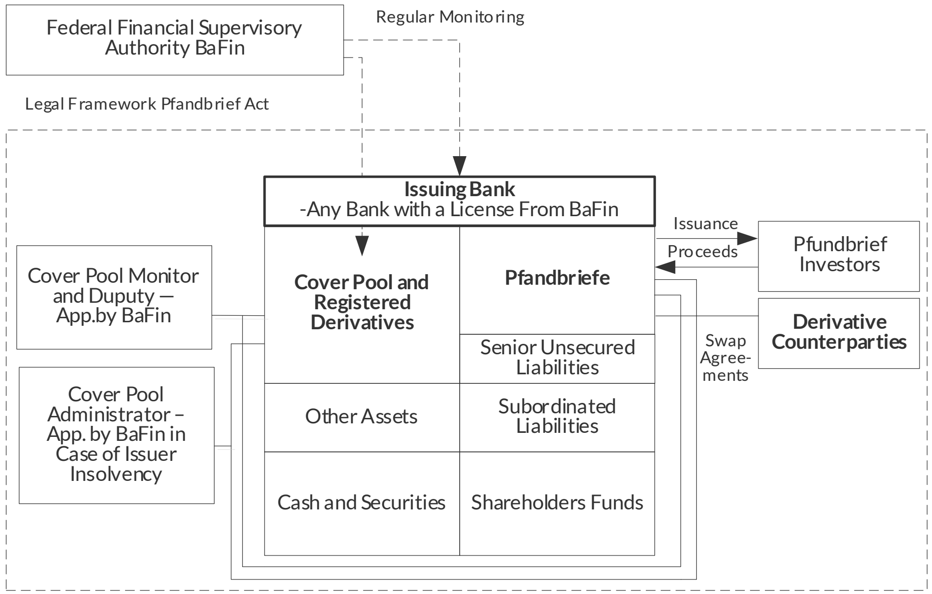
Appendix 2 – Summary of Applicable Covered Bonds Legislation

Main Characteristics of German Legislative Pfandbriefe, German Pfandbrief Act (PfandBG, July 2021):

Issuers	Financial institutions with a licence to issue Pfandbriefe.
Supervision	German Federal Financial Supervisory Authority (BaFin).
Mortgage collateral	• Residential or commercial mortgages; • Geographical scope to the EU/EEA, Switzerland, the US, Canada, Japan, Australia, New Zealand or Singapore, United Kingdom; • Up to 20% of the outstanding Pfandbriefe can be substitute assets.
Loan-to-value limits for mortgage loans	60% LTV based on the mortgage lending value.
Public sector assets	• Sovereign, regional or municipal Government obligations or debt guaranteed by such entities • Geographical scope to the EU/EEA, for assets from the US, Canada, Japan Switzerland and the United Kingdom the debtor must be assigned to credit quality step one; • Up to 10% of the outstanding Pfandbriefe can be substitute assets.
Maturity Extension	The cover pool administrator is permitted to postpone amounts due on Pfandbriefe if unable to pay. Initially, payments of interest and principal may be postponed by up to four weeks on appointment of the cover pool administrator. Principal payments could then be extended by up to 12 months in total, while interest would remain payable.
180 days liquidity buffer	Additional liquidity protection is in place in the form of the mandatory inclusion of liquid assets in the cover pool matching the maximum negative cumulative cash flows over the next 180 days, calculated not considering any extensions on the bonds.
Transfer of assets	Integrated template, assets remain on the issuer's balance sheet.
Cover register	Cover register is required for the respective cover pool.
Cover pool monitor	Independent cover pool monitor (Treuhänder) appointed by BaFin.
Alternative manager (Sachwalter)	The cover pool administrator would take over the management of the cover assets and outstanding liabilities post issuer default. The manager would be appointed by a court at the request of BaFin, at the latest upon the issuer's insolvency.
Minimum OC	• 0% nominal value (2% from July 2022); • 2% stressed net present value. The net present value calculation is detailed in a specific net present value regulation (Barwertverordnung) including procedures, stress scenarios and risk models. The approach can be static or dynamic, or based on internal models.
Treatment of swap counterparties	Derivative counterparties rank pari passu with the claims of the covered bond holders.
Pfandbriefbank with limited business activity (PBwLBA)	The cover pool constitutes an insolvency-free asset and continues to exist post issuer default as a PBwLBA to ensure the timely payment of the liability obligations. The PBwLBA would be managed by the alternative manager.

Source: Fitch Ratings, Pfandbrief Act.

Diagram of a Pfandbrief Issuance



Source: Fitch Ratings

Appendix 3 – Related Research & Definitions of Terms Used

Related Research

Details of the latest rating action for the programmes and the applicable criteria can be found in the following publications:

- Fitch Affirms Landesbank Saar's Public Sector Pfandbriefe at 'AAA'/Stable (October 2021)
- Fitch Affirms Landesbank Hessen-Thueringen Girozentrale's Public Sector Pfandbriefe at 'AAA'/Stable (October 2021)
- Fitch Affirms Bayerische Landesbank's Public Sector Pfandbriefe at 'AAA'/Stable (November 2021)
- Fitch Updates Covered Bonds and CDOs Public Entities' Asset Analysis Criteria (September 2021)

Related Covered-Bonds Specific Research

- German Pfandbriefe Benefit from Six Notches of PCU following Law Amendment (October 2021)
- Neutral Sector Outlook for Covered Bonds in 2022; EU Directive Positive (November 2021)
- Fitch Ratings 2022 Outlook: Global Covered Bonds (November 2021)
- Covered Bonds Surveillance Snapshot (October 2021)
- Covered Bonds Protection Dashboard (September 2021)
- Structured Finance and Covered Bonds ESG Relevance Heatmap (October 2021)

Definitions of Terms Used

CVB	Covered Bonds
PS	Public Sector
LT IDR	Long-Term Issuer Default Rating
ST IDR	Short-Term Issuer Default Rating
IDR	Issuer Default Rating
RRP	Resolution Reference Point
PCU	Payment Continuity Uplift
WA	Weighted Average
WAL	Weighted Average Life
OC	Overcollateralisation
Helaba	Landesbank Hessen-Thueringen Girozentrale Public Sector Pfandbriefe
BayernLB	Bayerische Landesbank Public Sector Pfandbriefe
SaarLB	Landesbank Saar Public Sector Pfandbrefe
vdp	Verband deutscher Pfandbriefbanken
PfandBG	German Legislative Pfandbriefe, German Pfandbrief Act
BaFin	German Federal Financial Supervisory Authority
PBwLBA	Pfandbriefbank with limited business activity

Source: Fitch Ratings