

Covered Bonds follow-up Rating

BNP Paribas Home Loan SFH
Mortgage Covered Bond Program

Rating Object	Rating Information
BNP Paribas Home Loan SFH, Mortgage Covered Bond Program Type of Issuance : Mortgage Covered Bond under French law Issuer : BNP Paribas Home Loan SFH LT Issuer Rating : A- (BNP Paribas SA) ST Issuer Rating : L2 Outlook Issuer : "Watch"	Rating / Outlook : AAA / Watch Type: Rating Update (unsolicited) Rating Date : 30.07.2021 Rating Renewal until : Withdrawal of the rating Maximum Validity: 01.01.2050 Rating Methodology : CRA „Covered Bond Ratings“

Program Overview			
Nominal value	EUR 30,054 m.	WAL maturity covered bonds	7.72 Years
Cover pool value	EUR 38,300 m.	WAL maturity cover pool	5.40 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	27.44%/ 8.11%
Repayment method	Hard & Soft Bullet	Min. overcollateralization	5.00%
Legal framework	SFH Legislation	Covered bonds coupon type	Fix (99.67%), Floating (0.33%)

Cut-off date Cover Pool information: 30.06.2021

Rating Action

Content

Rating Action	1
Issuer Risk	2
Structural Risk	2
Liquidity- and Refinancing Risk	3
ESG Criteria	4
Credit and Portfolio Risk	4
Cash-Flow Analysis	8
Counterparty Risk	10
Appendix	11

This follow-up report covers our analysis of the mortgages covered bond program issued under French law by BNP Paribas Home Loan SFH („BNP Paribas SFH“). The total covered bond issuance at the cut-off date (30.06.2021) had a nominal value of EUR 30,054.20 m, backed by a cover pool with a current value of EUR 38,300.33 m. This corresponds to a nominal overcollateralization of 27.44%. The cover assets include French mortgages obligations.

Taking into consideration the issuer rating, our analysis of the regulatory framework, liquidity- and refinancing risks, as well as our cover pool assessment and results of the cash flow analysis, Creditreform Rating AG (“Creditreform Rating” or “CRA”) affirms the covered bond program with an AAA rating. The AAA rating represents the highest level of credit quality and the lowest investment risk.

Analysts

AFM Kamruzzaman
Analyst
A.Kamruzzaman@creditreform-rating.de
+49 2131 109 1948

Ritank Gupta
Analyst
R.Gupta@creditreform-rating.de
+49 2131 109

Neuss, Germany

Key Rating Findings

- + Covered Bonds are subject to strict French legal framework (SFH legislation)
- + Covered bond holders have full recourse to the issuer
- + Current overcollateralization (OC) of 27.44% as of 30.06.2021
- +/- Ongoing Covid-19 can lead to sustained changes in the cover pool and the issuer rating
- Below average capital ratios in peer group comparison

Table1: Overview results

Risk Factor	Result
Issuer rating	A- (rating as of 26.11.2020)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch

= Rating after 1 st uplift	AA+
Cover pool & cash flow analysis	AAA
+ 2 nd rating uplift	+1 Notch
= Rating covered bond program	AAA

Issuer Risk

Issuer

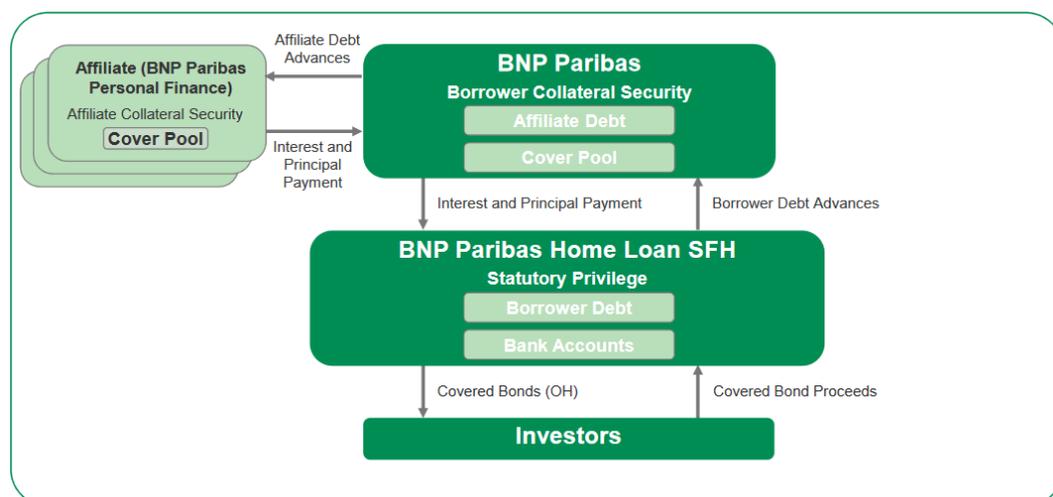
Our rating of BNP Paribas Home Loan SFH covered bond program is reflected by our issuer rating opinion of BNP Paribas S.A. due to its group structure. CRA has affirmed the Long-Term issuer rating of BNP Paribas Home Loan SFH at A- with a stable outlook in a Rating Update dated 26.11.2020. The rating and stable outlook are due, among other things, to below-average capital ratios and the ongoing phase of economic weakness due to the Corona pandemic. This contrasts with solid earnings in 2020 and a high diversification of the bank's business model.

Subsequently, Creditreform Rating AG has revised its rating methodology for the rating of banks (Bank Ratings). Hence, the current rating of BNP Paribas SA will be reviewed as part of CRA's current monitoring and received therefore the rating supplement "watch" on 05.07.2021. For a more detailed overview of the issuer rating, please refer to the issuer rating report published on the webpage of Creditreform Rating AG.

Structural Risk

Transaction structure

Figure1: Overview of Covered Bond emission | Source: BNP Paribas Home Loan SFH



Legal and Regulatory Framework

In France, there exist three different types of covered bonds - 'Obligations Foncières' (OF), 'Caisse de Refinancement de l'habitat' (CRH) and 'Obligations de Financement de l'habitat' (OH) - governed by different legal frameworks.

An affiliated company – the 'Sociétés de Financement de l'Habitat (SFH), which is a regulated French specialized credit institution with the restricted purpose to provide and fund home loans, issues OHs. As the issuer is not the originator, the cover assets are owned by and segregated in the sponsor bank but pledged and transferred to the SFH. The SFHs have to obey the laws and regulations codified by Articles L.515-35 of the French Monetary and Financial Code.

Under the SFH legislation, the OH holders has direct recourse to the issuer and legal privilege over the SFH's eligible cover assets, which are first-rank residential home mortgages or other real estate security interests similar to first-rank mortgages confined mainly to EU/EEA countries. Furthermore, other countries are allowed as far as they achieve the highest possible credit rating by an approved external rating agency.

Along with the nomination of two external statutory auditors, the legal framework stipulates to nominate an independent Specific Controller to monitor the cover pool.

In case of issuer's insolvency, the general insolvency court will manage the cover pool and will act in the interest of the covered bondholders. The SFH issuers have to disclose information regarding cover assets and covered bond programs on their website on a regular basis as well.

In general, we consider the structural framework for covered bond programs in France as positive as SFH legislation defines clear rules to mitigate risks in particular regarding insolvency remoteness, asset segregation, investor's special claim vis-à-vis other creditors, the roll and appointment of a special administrator, among other provisions. Due to those reasons we have set a rating uplift of four (+4) notches for the regulatory and structural framework for French covered bond programs under SFH legislation.

Liquidity- and Refinancing Risk

With respect to OHs, it is compulsory for the covered bond issuers to maintain a nominal over-collateralization (OC) of 5% at all times, while the coverage calculations have to be done on a monthly basis. Furthermore, the Issuer is also required to maintain a liquidity buffer to cover, for the next 180 days, all debt service outflows (interest and principal) and derivative transactions.

The underlying cover pool is also subjected to an asset-coverage test in order to ensure sufficient OC level and cash flow adequacy. SFH must manage and hedge interest rate risks, currency risks, and liquidity and maturity mismatches between assets and liabilities.

In the event of the issuer's insolvency, the special administrator (i.e. general insolvency court) can sell assets of the cover pool or use them as a guarantee for liquidity operations if liquidity shortfalls are foreseeable.

The European Commission on November 2019 has also adopted the legislative package to provide for enhanced harmonisation of the EU covered bond market. Each of the Member States shall implement the Covered Bond Directive by 8 July 2021 and the national measures shall be applied at the latest from 8 July 2022. Once fully implemented, the directive might have a potential impact on legal and regulatory framework on the issuer and the covered bonds of each EU member states.

In general, the SFH legislation and the stipulated risk management processes for liquidity risks constitute a comparatively strict framework by which they can be effectively reduced. Refinancing risks, however, may not be structurally reduced under the hard bullet repayment structure,

which can only be cushioned by sufficiently high overcollateralization or by other liquid funds. It is worth to mention that, several SFH programs count with more flexible repayment structures (e.g. soft-bullet structures). Overall, we assess the legal provisions on liquidity management for French Covered Bond programs under SFH legislation as positive and set a rating uplift of one (+1) notch.

For a more comprehensive overview of the regulatory framework (SFH legislation) of French covered bond programs, please refer to our initial rating reports of BNP Paribas Home Loan SFH Covered Bonds published on August 2019.

ESG Criteria

CRA generally takes ESG-relevant factors (environmental, social and governance) into account when assessing Covered Bond ratings. Overall, ESG factors have a significant impact on the current rating of this Covered Bond program. CRA identifies governance factors, in particular, to have a highly significant impact on Covered Bond ratings. Since Covered Bonds are subject to strict legal requirements, regulatory risk plays an important role in assessing the credit rating.

The SFH legislation defines clear rules to mitigate risks in particular regarding insolvency remoteness, asset segregation, investor's special claim vis-à-vis other creditors, the roll and appointment of a special administrator, among other provisions. Additionally, Risk management and internal controls as well as the macroeconomic factors such as hedging strategies, interest rates and yield curve are considered to have a highly significant impact on the assessment of the credit rating. Other individual factors with a potential key rating influence were not identified, and therefore did not affect the final rating.

Credit and Portfolio Risk

Cover pool analysis

The analysis of the cover pool is based on public information which has been made available by the Issuer, in particular the Harmonised Transparency Template („HTT“) as per regulatory requirements. This information was sufficient according to CRA´s rating methodology “Covered Bond Ratings”.

Given information available as of 30.06.2021, the pool of cover assets consisted of 333,857 debt receivables, of which 100.00% are domiciled in France. The total cover pool volume amounted to EUR 38,300.33 m in residential (100.00%), commercial (0.00%) and others (0.00%) loans.

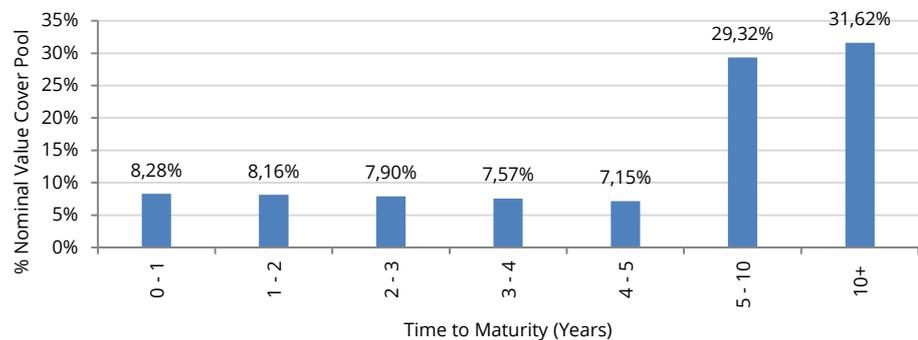
The residential cover pool consists of 333,857 mortgage loans having an unindexed weighted average LTV of 64.68%. The cover pool doesn't have any non-residential loans. The ten largest debtors of the portfolio total to 0.03%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: BNP Paribas SFH

Characteristics	Value
Cover assets	EUR 38,300 m.
Covered bonds outstanding	EUR 30,054 m.
Substitute assets	EUR 425.00 m.
Cover pool composition	
<i>Mortgages</i>	98.89%
<i>Substitute assets</i>	1.11%
<i>Other / Derivative</i>	0.00%
Number of debtors	NR
Mortgages Composition	
<i>Residential</i>	100.00%
<i>Commercial</i>	0.00%
<i>Other</i>	0.00%
Average asset value (Residential)	EUR 113.45 k.
Average asset value (Commercial)	EUR 0.00 k.
Non-performing loans	0.0%
10 biggest debtors	0.03%
WA seasoning	51.20 Months
WA maturity cover pool (WAL)	7.72 Years
WA maturity covered bonds (WAL)	5.40 Years

We have listed an extended view of the composition of the cover pool in the appendix section “Cover pool details”. The following chart displays the maturity profile of the cover assets at the cut-off date 30.06.2021 (see figure 2):

Figure 2: Distribution by remaining time to maturity | Source: BNP Paribas SFH



Maturity profile

The following charts present the cash flow profile of the Issuer (see figure 3 and figure 4):

Figure 3: Cover asset congruence | Source: BNP Paribas SFH

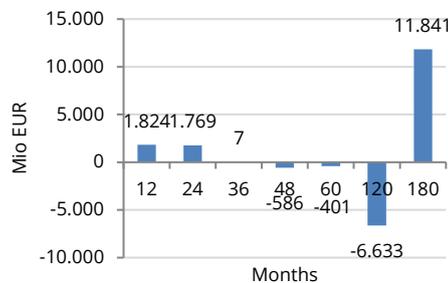
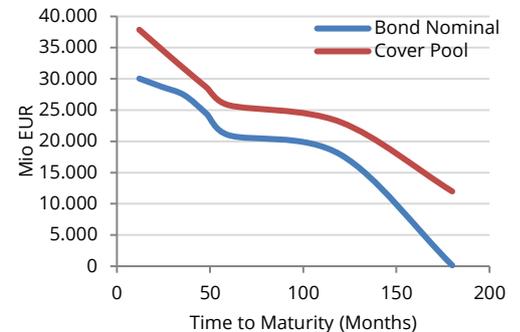


Figure 4: Amortization profile | Source: BNP Paribas SFH



During its cash flow modelling, CRA has taken into consideration the maturity structure of cover assets and liabilities. This structure was an integral part of the cash flow analysis.

Interest rate and currency risk

This covered bond program uses derivatives to hedge currency risk. The legal framework also provides for quarterly stress tests to be conducted on interest rate- and currency risks to maintain the mandatory OC. Therefore, interest rate risk could be mitigated by the 5% OC requirement. Nevertheless, we have applied interest rate stresses on the cash flows for each rating level according to our methodology. The overall rating impact of interest rate mismatches has been incorporated in our Breakeven Analysis segment.

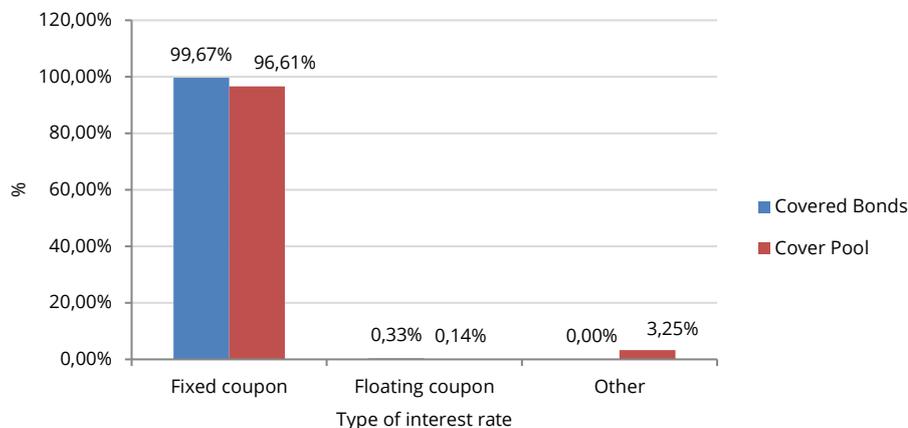
Table 3: Program distribution by currency | Source: BNP Paribas SFH

Currency	Volume	Share (%)
<i>Cover Pool*</i>		
EUR	37,875 m	100.00%
<i>Covered Bond</i>		
EUR	30,054 m	100.00%

*excluding substitute assets

Figure 5 shows the types of interest rate used in this program

Figure 5: Type of interest rate | Source: BNP Paribas SFH



Credit Risk

The credit risk assessment for Mortgage Covered Bond have been determined in accordance with CRA rating methodology for Covered Bonds by means of historical data and particular parameters from the Covered Bonds.

Due to the high granularity of mortgage pools we have characterized these portfolios as big enough and with a homogeneous composition i.e. ("Large Homogeneous Portfolio", LHP). Furthermore, under that premise we have assumed that it is possible to derive a loss distribution. CRA has used the issuer's historical NPL ratios to derivate a conservative default rate proxy for the approximation through the LHP distribution. For the BNP Paribas SFH it has been assumed an expected default rate of 0.94% for the LHP. Furthermore, CRA has considered a 15,00% correlation to define the LHP distribution. Table 4 disclosed the expected default rate for each relevant rating level.

In order to derive recovery and loss-severity base case assumption, CRA has used historical data from mortgage price indexes. To determine loan-level recovery assumptions the resulting stressed recoveries assumptions were compared with the portfolio's existing loan-to-value ratios (LTVs).

Based on the default rates and taking into account the recovery assumptions, the following loss assumptions were determined for the current cover pool (see Table 4)

Table 4: Cover Pool Base case assumptions | Source: CRA

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
AAA	36.55%	67.56%	11.86%
AA+	33.63%	69.46%	10.27%
AA	29.07%	72.51%	7.99%
AA-	25.27%	75.03%	6.31%
A+	23.76%	76.05%	5.69%
A	23.73%	76.07%	5.68%
A-	22.73%	76.80%	5.27%

Cash-Flow Analysis

Model Assumptions

Based on public information and using the base case loss assumptions, we implement a scenario-based cash flow model. This model aims to test the ability of the structure to service all covered bonds according to their payment profile in diverse stress scenarios. The CRA cash flow analysis assumes that the Issuer has defaulted, i.e. all obligations will be met using cash flows from the cover pool assets only. We also assume that no additional assets will be added to the cover pool during the wind-down phase.

This program issues covered bonds with soft- and hard bullet maturity structure. CRA assumes that the maturity extensions of soft bullet covered bonds are reflected on the HTT published by BNP Paribas. Therefore, CRA has taken the relevant extended maturities of the covered bonds into consideration during its cash-flow analysis.

The cash-flow analysis considers, among other factors, asset value haircuts (“asset-sale discount”), and the possible positive yield spread between covered assets and covered bonds (“yield spreads”). To derive the asset-sale discount, CRA assumes, based on secondary market data, a rating level haircut on the asset value. Furthermore, CRA, using available public information (i.e. issuer’s annual accounts), has derived estimations for yield spreads (see table 5):

Table 5: Cash-Flow Model assumptions | Source: CRA

Rating level	Asset-Sale Discount	Yield Spread
AAA	74.29%	1.05%
AA+	68.51%	1.09%
AA	64.78%	1.12%
AA-	61.23%	1.14%
A+	58.51%	1.16%
A	56.27%	1.18%
A-	53.34%	1.20%

Rating Scenarios

In our cash flow model rating scenarios have been tested considering several central input parameters, such as:

- Portfolio composition (diversification, concentration, granularity)
- Probability of default of cover assets
- Correlations of cover assets and systematic risk factors
- Recoveries
- Maturity profile of covered bonds and cover assets (ALM)

Within an AAA rating scenario, the cash flow model showed that obligations can be paid fully and in a timely manner. Overall, the cash flow analysis revealed that the portfolio, given all used information as of 30.06.2021, may ensure the repayment of bonds’ nominal capital notwithstanding the occurrence of the presented stressed scenarios.

Overcollateralization Break-Even Analysis

CRA also performed a break-even OC analysis taking into considerations the following drivers: ALM, Loss level, Interest rate spreads, foreign currency mismatches and Recoveries. Performing the break-even OC analysis, we took rating-level specific stressed outcomes into account. Based on these analyses, the maximum OC required for each relevant rating level during the whole period has been presented in table 6.

Table 6: Breakeven Analysis | Source: CRA

Rating Level	Break-Even OC
AAA	21.22%
AA+	18.21%
AA	14.85%
AA-	12.31%
A+	11.12%
A	10.67%
A-	9.68%

Sensitivity Analysis

CRA also evaluates the sensitivity of the structure and program with respect to important input parameters. In particular, the following factors have been varied:

- Credit quality of cover assets
- Recoveries

The following table presents the rating impact of a decline in recoveries and an increase in the credit risk of single debtors. Starting from the best-case, which is represented by our base case assumptions, the analysis reveals the sensitivity of the rating with respect to recovery rates and credit risk. The worst-case scenario, in which we reduce recoveries by 50% and increase credit risk by 50%, the impact can be seen by a change in the implied rating. Based on the base-case, there is a high sensitivity of rating in terms of decreased recovery rates and increased defaults (up to 3 notches). In the worst-case scenario, i.e. a 50% decrease in the base case assumptions leads to a reduction in the base-case rating by 8 notches (see Table 7):

Table 7: Covered Bond Program Sensitivity: Credit Quality und Recovery Rates | Source: CRA

Defaults \ Recovery	Base Case	-25%	-50%
Base Case	AAA	AA+	AA-
+25%	AAA	AA	A-
+50%	AA+	AA-	BBB

In general, based on the presented cash flow analysis results, the rating of the cover pool within our covered bond program rating has been set at AAA. Consequently, the secondary rating uplift was set at one (+1) notch.

The ongoing Covid-19 crisis could have a potential impact on the cover pool. It remains to be seen how serious the effects of the lockdown, among other things, will be. Should there be any changes to the cover pool and the rating in the future, we will include them during our monitoring process

Counterparty Risk

Derivatives

It is our understanding that the Issuer has entered into an Issuer Hedging Agreement with BNP Paribas in the form of currency swap to hedge the risks associated with foreign currency mismatches.

Commingling

Incoming cash flows generated from the cover pool will normally be transferred to the Issuer and will be forwarded to the covered bond holders according to the payment terms and conditions. Should the issuer become bankrupt, there is a risk (“commingling risk”) that funds may not be returned and commingled with the insolvency estate of the issuer. This commingling risk is mitigated by the funding of certain cash collateral to an affiliate debt commingling account upon the occurrence of certain events. The credited cash to the affiliate debt commingling account shall be granted as cash collateral in accordance with the relevant terms of the cash collateral agreement, which shall secure the borrower secured liabilities as they become due and payable.

Appendix

Rating History

Event	Rating Date	Publication Date	Result
Initial Rating	08.08.2019	16.08.2019	AAA / Stable
Monitoring	24.03.2020	28.03.2020	AAA / Watch Negative
Rating Update	30.07.2020	04.08.2020	AAA / Watch Negative
Monitoring	25.01.2021	29.01.2021	AAA/ Stable
Monitoring	05.07.2021	06.07.2021	AAA/ Watch
Rating Update	30.07.2021	05.08.2021	AAA/ Watch

Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: BNP Paribas SFH

Characteristics	Value
Cover Pool Volume	EUR 38,300 m.
Covered Bonds Outstanding	EUR 30,054 m.
Substitute Assets	EUR 425 m.
Share Derivatives	0.00%
Share Other	100.00%
Substitute Assets breakdown by asset type	
Cash	0.00%
Guaranteed by Supranational/Sovereign agency	0.00%
Central bank	0.00%
Credit institutions	100.00%
Other	0.00%
Substitute Assets breakdown by country	
Issuer country	100.00%
Eurozone	0.00%
Rest European Union	0.00%
European Economic Area	0.00%
Switzerland	0.00%
Australia	0.00%
Brazil	0.00%
Canada	0.00%
Japan	0.00%
Korea	0.00%
New Zealand	0.00%
Singapore	0.00%
US	0.00%

Other	0.00%
Cover Pool Composition	
Mortgages	98.89%
Total Substitute Assets	1.11%
Other / Derivatives	0.00%
Number of Debtors	NR
Distribution by property use	
Residential	100.00%
Commercial	0.00%
Other	0.00%
Distribution by Residential type	
Occupied (main home)	80.10%
Second home	5.47%
Non-owner occupied	14.43%
Agricultural	0.00%
Multi family	0.00%
Other	0.00%
Distribution by Commercial type	
Retail	0.00%
Office	0.00%
Hotel	0.00%
Shopping center	0.00%
Industry	0.00%
Land	0.00%
Other	100.00%
Average asset value (Residential)	113 TEUR
Average asset value (Commercial)	0 TEUR
Share Non-Performing Loans	0.00%
Share of 10 biggest debtors	0.03%
WA Maturity (months)	171.80
WAL (months)	70.72
Distribution by Country (%)	
France	100
Distribution by Region (%)	
Alsace	1.35
Aquitaine	5.34
Auvergne	0.72
Basse Normandie	1.09
Bourgogne	1.00
Bretagne	3.01

Centre	1.92
Champagne Ardennes	0.78
Corse	0.47
DOM - TOM	0.47
Franche-Comté	0.68
Haute Normandie	2.64
Ile-de-France (Paris included)	40.10
Languedoc-Roussillon	3.47
Limousin	0.28
Lorraine	1.61
Midi-Pyrénées	4.93
Nord-Pas-de-Calais	4.46
Pays de la Loire	4.37
Picardie	2.59
Poitou-Charentes	1.28
Provence-Alpes-Côte-d'Azur	8.83
Rhône-Alpes	8.62

Table 9: Participant counterparties | Source: BNP Paribas SFH

Role	Name	Legal Entity Identifier
Issuer	BNP Paribas Home Loan SFH	96950007DJZNM0F0Z036
Servicer	BNP Paribas SA	R0MUWSFPU8MPRO8K5P83
Account Bank	BNP Paribas SA	R0MUWSFPU8MPRO8K5P83

Table 10: Interest rate and Swap counterparties | Source: BNP Paribas SFH

Name	Legal Entity Identifier	Agreement Type
BNP Paribas SA	R0MUWSFPU8MPRO8K5P83	FX

Figure 6: Program currency mismatches | Source: BNP Paribas SFH

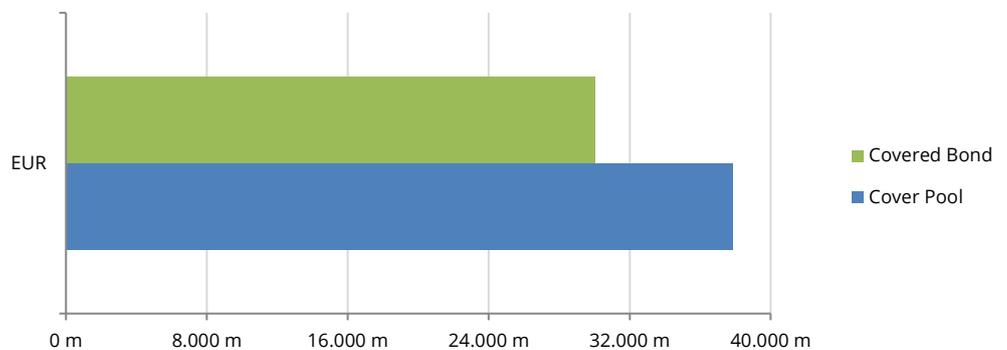
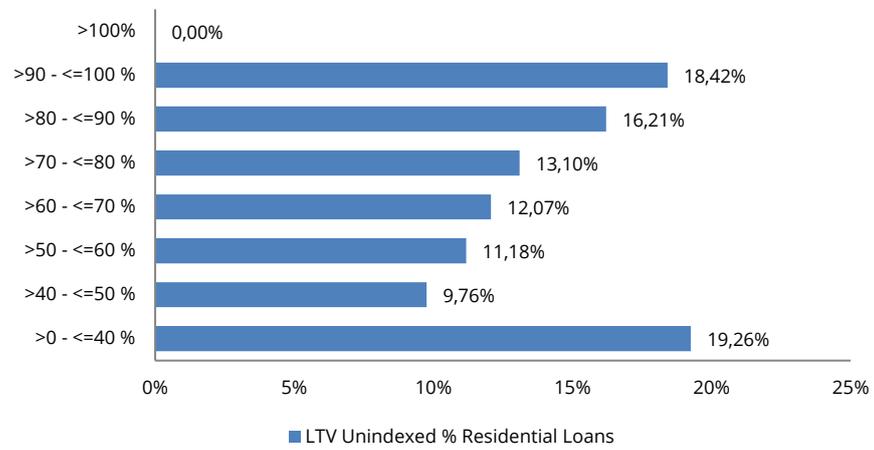


Figure 7: Unindexed LTV breakdown - residential pool | Source: BNP Paribas SFH



Key Source of Information

Documents (Date: 30.06.2021)

Issuer

- Audited consolidated annual reports of BNP Paribas SA (Group) 2016-2019
- Rating File 2020
- Miscellaneous Investor Relations Information and Press releases
- Peergroup-Data and other data from eValueRate/CRA databank

Covered Bond and Cover Pool

- HTT Reporting from BNP Paribas Home Loan SFH as of 30.06. 2021
- Base prospectus of the BNP Paribas Home Loan SFH Mortgage Covered Bond program dated 30.06.2021
- Market data Mortgage Covered Bonds Program

Regulatory and Legal Disclosures

Creditreform Rating AG was neither commissioned by the rating object nor by any other third parties for the rating. The analysis took place on a voluntary basis by Creditreform Rating AG and is to be described in the regulatory sense as an unsolicited rating. The rating was conducted on the basis of Creditreform Rating's "[Covered Bond Ratings" methodology \(v1.0, July 2017\)](#) and "[Technical Documentation Portfolio Loss Distributions" \(v.1.0, July 2018\)](#) in conjunction with Creditreform's basic document "[Rating Criteria and Definitions" \(v1.3, January 2018\)](#). On the subject of ESG (environment, social and governance), Creditreform Rating AG has published the basic document "[The Impact of ESG Factors on Credit Ratings" \(March 2020\)](#).

Unsolicited Credit Rating

With Rated Entity or Related Third Party Participation	NO
With Access to Internal Documents	NO
With Access to Management	NO

The rating is based on publicly available information and internal evaluation methods for the rated bank and program. The issuer's quantitative analysis is based mainly on the latest annual accounts, interim reports, other information of the bank pertaining to investor relations, and key figures calculated by eValueRate/CRA subject to a peer group analysis of 24 competing institutes. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the BNP Paribas SFH.

Information on the meaning of a rating category, definition of default and sensitivity analysis of relevant key rating assumptions can be found at "Creditreform Rating AG, Rating Criteria and Definitions":

<https://www.creditreform-rating.de/en/about-us/regulatory-requirements.html>

This rating was carried out by analysts AFM Kamruzzaman (Analyst) und Ritank Gupta (Analyst) both based in Neuss/Germany. On 30.07.2021, the rating was presented to the rating committee by the analysts and adopted in a resolution. The function of Person Approving Credit Ratings (PAC) was performed by (Natalia Berthold).

On 30.07.2021, the rating result was communicated to BNP Paribas SFH, and the preliminary rating report was made available. The Issuer and all relevant parties examined the rating re-

port prior to publication and were given at least one full working day to appeal the rating committee decision and provide additional information. The rating decision was not amended following this examination.

The rating is subject to one-year monitoring from the creation date (see cover sheet). Within this period, the rating can be updated. After one year at the latest, a follow-up is required to maintain the validity of the rating.

In 2011 Creditreform Rating AG was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on the registration Creditreform Rating AG (CRA) is permitted to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

Endorsement

Creditreform Rating did not endorse the rating according Article 4 (3), CRA-Regulation.

Conflict of Interests

No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or approving credit ratings and rating outlooks.

In the event of provision of ancillary services to the rated entity, CRA will disclose all ancillary services in the credit rating report.

Rules on the Presentation of Credit Ratings and Rating Outlooks

The approval of credit ratings and rating outlooks follows our internal policies and procedures. In line with our policy "Rating Committee," all credit ratings and rating outlooks are approved by a rating committee based on the principle of unanimity.

To prepare this credit rating, CRA has used following substantially material sources:

1. Transaction structure and participants
2. Transaction documents
3. Issuing documents
4. Other rating relevant documentation

There are no other attributes and limitations of the credit rating or rating outlook other than displayed on the CRA website. Furthermore, CRA considers satisfactory the quality and extent of information available on the rated entity. In regard to the rated entity, Creditreform Rating AG regarded available historical data as sufficient.

Between the disclosure of the credit rating to the rated entity and the public disclosure no amendments were made to the credit rating.

The rating report and/or Press release indicate the principal methodology or version of methodology that was used in determining the rating, with a reference to its comprehensive description.

In cases where the credit rating is based on more than one methodology, or where reference only to the principal methodology might cause investors to overlook other important aspects of the credit rating, including any significant adjustments and deviations, Creditreform Rating AG explains this fact in the credit rating and indicates how the different methodologies and other aspects are taken into account in the credit rating. This information is integrated in the credit rating report.

The meaning of each rating category, the definition of default or recovery, and any appropriate risk warning, including a sensitivity analysis of the relevant key rating assumptions, such as mathematical or correlation assumptions, accompanied by worst-case scenario credit ratings as well as best-case scenario credit ratings, are explained.

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks, is indicated clearly and prominently in the rating report and/or Press Release as a "Rating action"; first release is indicated as "initial rating", other updates are indicated as an "update", "upgrade or downgrade", "not rated", "confirmed", "selective default" or "default".

In the case of a rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the rating report and/or Press Release.

In accordance to Article 11 (2) EU-Regulation (EC) No 1060/2009 registered or certified credit rating agency shall make available in a central repository established by ESMA information on its historical performance data, including the ratings transition frequency, and information about credit ratings issued in the past and on their changes. Requested data are available at the ESMA website: <https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml>.

An explanatory statement of the meaning of Creditreform`s default rates are available in the credit rating methodologies disclosed on the website.

Disclaimer

Any rating performed by Creditreform Rating AG is subject to the Creditreform Rating AG Code of Conduct which has been published on the web pages of Creditreform Rating AG. In this Code of Conduct, Creditreform Rating AG commits itself – systematically and with due diligence – to establish its independent and objective opinion as to the sustainability, risks and opportunities concerning the enterprise or the issue under review.

Future events are uncertain, and forecasts are necessarily based on assessments and assumptions. This rating is therefore no statement of fact, but an opinion. For this reason, Creditreform Rating AG cannot be held liable for the consequences of decisions made on the basis of any of their ratings. Neither should these ratings be construed as recommendations for investors, buyers or sellers. They should only be used by market participants (entrepreneurs, bankers, investors etc.) as one factor among others when arriving at corporate or investment decisions. Ratings are not meant to be used as substitutes for one's own research, inquiries and assessments.

We have assumed that the documents and information made available to us by the client are complete and accurate and that the copies provided to us represent the full and unchanged contents of the original documents. Creditreform Rating AG assumes no responsibility for the true and fair representation of the original information.

This report is protected by copyright. Any commercial use is prohibited without prior written permission from Creditreform Rating AG. Only the full report may be published in order to prevent distortion of the report's overall assessment. Excerpts may only be used with the express consent of Creditreform Rating AG. Publication of the report without the consent of Creditreform Rating AG is prohibited. Only ratings published on the Creditreform Rating AG web pages remain valid.

Creditreform Rating AG

Contacts

Creditreform Rating AG

Europadamm 2-6
D - 41460 Neuss

Fon +49 (0) 2131 / 109-626
Fax +49 (0) 2131 / 109-627
E-Mail info@creditreform-rating.de
Internet www.creditreform-rating.de

CEO:
Dr. Michael Munsch
Chairman of the board:
Michael Bruns

HRB 10522, Amtsgericht Neuss