

Covered Bonds follow-up Rating

CaixaBank S.A.

Mortgage Covered Bond Program

Creditreform
Rating

Rating Object	Rating Information	
CaixaBank S.A., Mortgage Covered Bond Program	Rating / Outlook : AA / Stable	Type: Rating Update (unsolicited)
Type of Issuance : Mortgage Covered Bond under Spanish law Issuer : CaixaBank, S.A.	Rating Date : Rating Renewal until :	27.01.2020 Withdrawal of the rating
LT Issuer Rating : BBB+ (CaixaBank) ST Issuer Rating : L3 Outlook Issuer : Stable	Rating Methodology :	CRA „Covered Bond Ratings“

Program Overview			
Nominal value	EUR 49.940 m.	WAL maturity covered bonds	5,08 Years
Cover pool value	EUR 88.188 m.	WAL maturity cover pool	9,02 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	76,59%/ 25,00%
Repayment method	Hard Bullet	Min. overcollateralization	25,00%
Legal framework	Spanish mortgage market law	Covered bonds coupon type	Fix (35,47%), Floating (64,53%)

Cut-off date Cover Pool information: 30.09.2019

Rating Action

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This follow-up report covers our analysis of the mortgage covered bond (“Cedulas Hipotecarias”) program issued under Spanish law by CaixaBank, S.A. („CaixaBank“). The total covered bond issuance at the cut-off date (30.09.2019) had a nominal value of EUR 49.940,36 m, backed by a cover pool with a current value of EUR 88.188,47 m. This corresponds to a nominal overcollateralization of 76,59%. The cover assets mainly include Spanish mortgages obligations in Spain.

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”) upgrades the covered bond program rating to AA from AA-. The AA rating represents a very high level of credit quality, very low investment risk.

Analysts

Edsson Rodriguez
Lead Analyst
e.rodiguez@creditreform-rating.de
+49 2131 109 1203

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

Neuss, Germany

Key Rating Findings

- + Covered bond holders have recourse to the issuer
- + Covered bonds are backed by the appropriate cover asset class
- + Considerable improvement in the asset quality
- Legal framework does not stipulate a special cover pool monitor independent from the issuer

Table1: Overview results

Risk Factor	Result
Issuer rating	BBB+ (rating as of 08.07.2019)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch

= Rating after 1 st uplift	AA
Cover pool & cash flow analysis	BBB-
+ 2 nd rating uplift	+/-0 Notch
= Rating covered bond program	AA

Issuer Risk

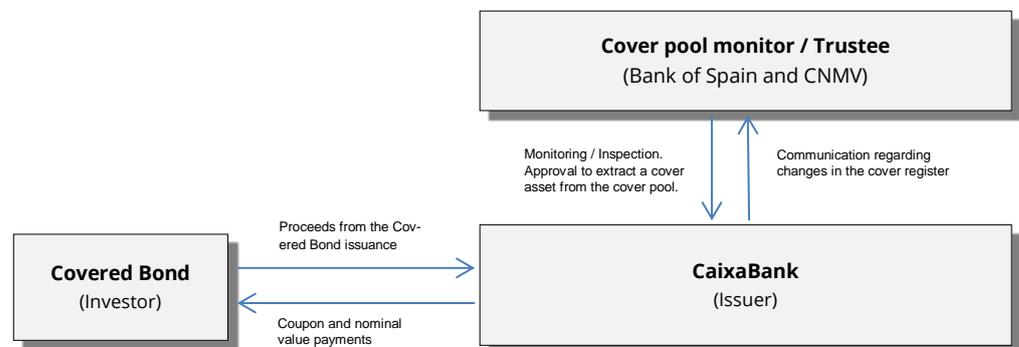
Issuer

Our rating of CaixaBank covered bond program is reflected by our issuer rating opinion of CaixaBank S.A. (Group). CRA has upgraded the Long-term Issuer Rating of CaixaBank by one notch at 'BBB+' in a Rating Update dated 8 July 2019. Responsible for this change were primarily its improved and sustainable profitability and the considerable improvement of its asset quality. 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: CRA



Legal and Regulatory Framework

In Spain, the most common type of covered bonds outstanding are "Cédulas Hipotecarias" (CH). The legal framework for CH is constituted by the Law 2/1981 of 3/25/1981 on the regulation of the mortgage market. Law 2/1981 was modified several times since then. Under this framework, any universal or specialized credit institutions (mainly commercial banks, savings banks and cooperative banks) can issue CH.

The covered bondholders have direct recourse to the issuer and a preferential claim to the cover pool assets, which entail the entire mortgage loan book. The legal framework differentiates between cover assets and eligible assets. A fraction of the cover assets constitutes eligible assets in order to define the maximum volume of mortgage covered bonds that can be issued.

The geographical scope of legitimate mortgage assets is confined to EU countries. With certain restrictions, substitute cover assets are allowed to be in the cover pool only in the case of mortgage covered bonds.

The Spanish legal framework does not stipulate a special cover pool monitor independent from the issuer. The regular inspection by the Bank of Spain involves the recurrent disclosure of reports on the cover asset pool by the issuer. The issuer is in charge of the supervision of the eligible cover asset pool and has to make sure that the obligatory limits are always met.

In the event of bankruptcy, the usual insolvency administrator is responsible for the superintendence of the cover assets and the administration of the covered bond program. Not any special administrator but the usual insolvency administrator is responsible for reimbursing the covered bond holders' claims on time.

In general, Spanish legal framework defines clear rules to mitigate risks in particular regarding insolvency remoteness, investor's special claim vis-à-vis other creditors, among other provisions. However, Spanish legal framework does not stipulate a special cover pool monitor independent from the issuer.

Nevertheless, we assess the structural framework in Spain as positive and set a rating uplift of four (+4) notches for the Spanish covered bond programs ("CH").

Liquidity- and Refinancing Risk

The Spanish legal framework demands overcollateralization levels of 25% for mortgage covered bonds. However, there exists no requirement for the implementation of a particular liquidity buffer. There is no demand to mitigate foreign exchange risk as well.

While coverage tests have to be conducted, it is not obligatory to do stress tests to anticipate interest rate and currency discrepancies, nor to do stress tests regarding the calculation of the coverage requirement per se due to the high level of overcollateralization.

In the event of the issuer's insolvency, the legal framework stipulates that the insolvency administrator 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 April 2019 has adopted the directive to provide for enhanced harmonisation of the EU covered bond market. Once implemented fully, 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 comparison to other jurisdictions, sufficient structural safeguards for liquidity risks are not established in Spain due to the absence of compulsory liquidity buffers and no obligation to conduct stress tests for interest rate and currency risks. In addition, refinancing risks cannot be structurally reduced due to the hard bullet repayment structure, which can only be cushioned by sufficiently high overcollateralization or by other liquid funds. It is our understanding that the main attenuator for such risk is the high overcollateralization level. Nevertheless, we assess the overall legal provisions on liquidity management for covered bonds programs issued in Spain and set a rating uplift of only one (+1) notch.

For a more comprehensive overview of the regulatory framework for Spanish covered bond programs, please refer to our initial rating report of CaixaBank mortgage covered bond program published on January 2019.

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”.

At the cut-off-date 30.09.2019, the pool of cover assets consisted of 1.178.640 debt receivables, of which 99,99% are domiciled in Spain. The total cover pool volume amounted to EUR 88.188,47 m in residential (77,64%), commercial (22,36%) and others (0,00%) loans.

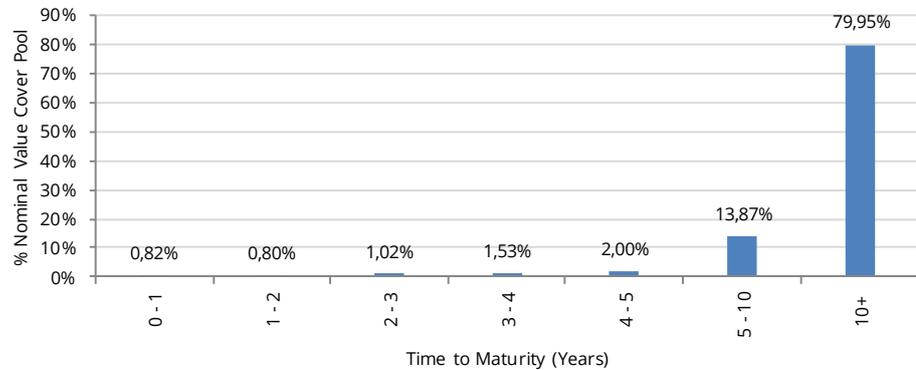
The residential cover pool consists of 1.080.849 mortgage loans having an unindexed weighted average LTV of 52,72% . However, 9,69% of residential loans have a LTV over 80% which are not considered as eligible assets as per legislation. The non-residential cover pool consists of 97.791 mortgage loans having an unindexed weighted average LTV of 64,28%. Along with other conditions, a higher percentage (30,53%) of commercial loans have a LTV higher than 60% which do not qualify as eligible assets. The ten largest debtors of the portfolio total to 1,33%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: CaixaBank

Characteristics	Value
Cover assets	EUR 88.188 m.
Covered bonds outstanding	EUR 49.940 m.
Substitute assets	EUR 0,00 m.
Cover pool composition	
<i>Mortgages</i>	100,00%
<i>Substitute assets</i>	0,00%
<i>Other / Derivative</i>	0,00%
Number of debtors	NA
Mortgages Composition	
<i>Residential</i>	77,64%
<i>Commercial</i>	22,36%
<i>Other</i>	0,00%
Average asset value (Residential)	EUR 63,35 k.
Average asset value (Commercial)	EUR 201,66 k.
Non-performing loans	3,3%
10 biggest debtors	1,33%
WA seasoning	101,50 Months
WA maturity cover pool (WAL)	9,02 Years
WA maturity covered bonds (WAL)	5,08 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 30.09.2019 (see figure 2):

Figure 2: Distribution by remaining time to maturity | Source: CaixaBank



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: CaixaBank

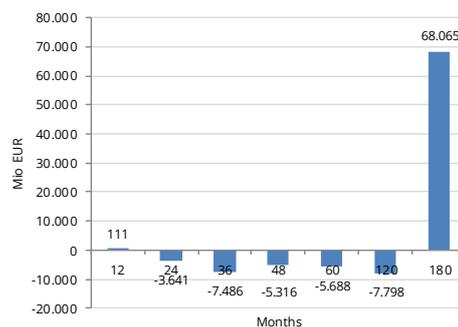
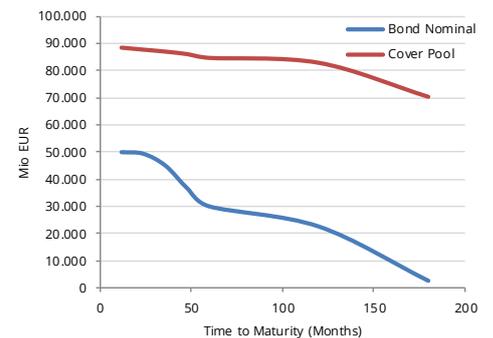


Figure 4: Amortization profile | Source: CaixaBank



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 does not use derivatives to hedge interest rate- and currency risk. In addition, there are no regulatory obligations that require issuers to perform specific stress tests to monitor interest rate- and currency risks. However, interest rate risk could be mitigated by the 25% obligatory OC requirement. Currency risk, on the other hand, is also limited for this program as 99,17% of the cover pool assets and 98,22% of the cover bonds are denominated mainly in euro. Nevertheless, we have applied interest rate and foreign exchange stresses on the cash flows for each rating level according to our methodology.

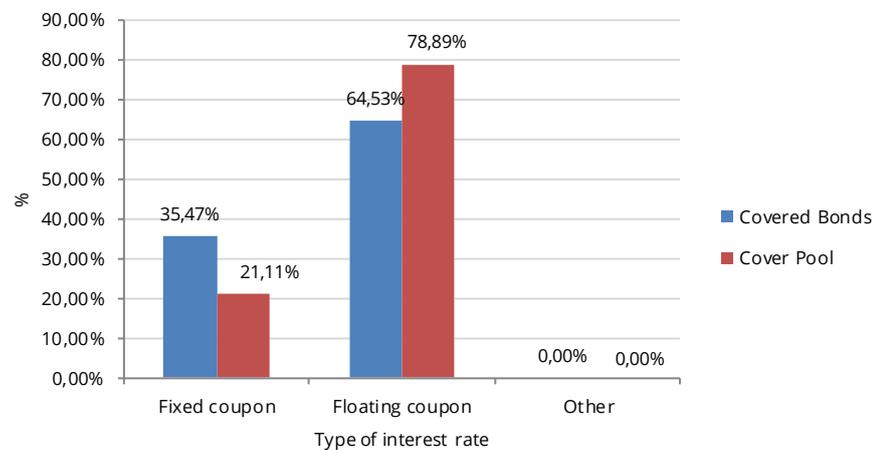
Table 3: Program distribution by currency | Source: CaixaBank

Currency	Volume	Share (%)
<i>Cover Pool</i>		
EUR	87.453 m.	99,17%
CHF	176 m.	0,20%

GBP	13 m.	0,02%
JPY	535 m.	0,61%
USD	11 m.	0,01%
<i>Covered Bond</i>		
EUR	49.053 m.	98,22%
USD	887 m.	1,78%

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

Figure 5: Type of interest rate | Source: CaixaBank



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 CaixaBank it has been assumed an expected default rate of 1,76% 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 (%)
A-	30,78%	67,91%	9,88%
BBB+	29,42%	69,89%	8,86%
BBB	27,93%	71,94%	7,84%
BBB-	26,32%	73,63%	6,94%
BB+	23,87%	76,45%	5,62%
BB	21,50%	79,44%	4,42%
BB-	18,82%	82,61%	3,27%

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.

Additionally, CRA has only considered the committed OC level in Spain i.e. 25% in the analysis to count for possible fluctuations in the issuance volume and whole bank's mortgage book. Nevertheless, it is our understanding that the covered bond programs may have OC levels above that minimum requirement i.e. uncommitted levels.

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
A-	47,10%	1,22%
BBB+	44,20%	1,24%
BBB	41,38%	1,26%
BBB-	38,42%	1,28%
BB+	35,23%	1,31%
BB	31,70%	1,33%
BB-	28,06%	1,36%

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 a BBB- 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 30.09.2019, 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
BBB-	24,38%
BB+	20,94%
BB	17,48%
BB-	14,04%
B+	11,14%
B	8,23%
B-	3,08%

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 (rating reduced by 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 4 notches (see Table 7):

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

Recovery / Defaults	Base Case	-25%	-50%
Base Case	BBB-	BB	BB-
+25%	BB+	BB	B+
+50%	BB+	BB-	B+

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 BBB-. This, however, did not ensure any secondary rating uplift which has been set at zero (0) notch.

Counterparty Risk

Derivatives

No derivatives in use at present.

Commingling

Covered bond holders have a privilege claim over the issuer's complete mortgage loan book and not just by a relevant percentage of it. 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. In order to avoid such risk, the law that regulates covered bonds in Spain ("Cédulas Hipo-tecarias") stipulates that covered bond holders enjoy legal privilege over the bankruptcy estate of the issuer. Furthermore, an insolvency administrator (no special covered pool administrator) will be as well responsible for the reimbursement of the covered bond holders' claims on time. Under that mandate the usual insolvency administrator will have first priority on the up-coming cash flows from the cover pool assets. These cash flows in turn should be used to cover interest and principal payments of the covered bond holders in event of the Issuer's insolvency.

Appendix

Rating History

Event	Rating Date	Publication Date	Result
Initial Rating	28.01.2019	30.01.2019	AA- / Stable
Rating Update	27.01.2020	31.01.2020	AA / Stable

Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: CaixaBank

Characteristics	Value
Cover Pool Volume	EUR 88.188 m.
Covered Bonds Outstanding	EUR 49.940 m.
Substitute Assets	EUR 0 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	0,00%
Other	0,00%
Substitute Assets breakdown by country	
Issuer country	0,00%
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	100,00%
Total Substitute Assets	0,00%
Other / Derivatives	0,00%
Number of Debtors	NA
Distribution by property use	
Residential	77,64%

Commercial	22,36%
Other	0,00%
Distribution by Residential type	
Occupied (main home)	88,72%
Second home	9,28%
Non-owner occupied	1,49%
Agricultural	0,00%
Multi family	0,00%
Other	0,52%
Distribution by Commercial type	
Retail	15,88%
Office	8,64%
Hotel	10,80%
Shopping center	0,00%
Industry	8,47%
Land	2,87%
Other	53,34%
Average asset value (Residential)	EUR 63 k.
Average asset value (Commercial)	EUR 202 k.
Share Non-Performing Loans	3,30%
Share of 10 biggest debtors	1,33%
WA Maturity (months)	195,25
WAL (months)	108,24
Distribution by Country (%)	
France	0,01
Spain	99,99
Distribution by Region (%)	
Andalusia	16,3
Aragon	1,51
Asturias	0,64
Balearic Islands	4,47
Basque Country	2,71
Canary Islands	6,32
Cantabria	0,77
Castile La Mancha	2,44
Castile León	3,46
Catalonia	29,05
Ceuta	0,10
Extremadura	0,80
Galicia	1,99
La Rioja	0,42
Madrid	16,11
Murcia	2,00
Navarra	3,08
Valencia	7,83

Others/ No info	0,02
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Table 9: Participant counterparties | Source: CaixaBank

Role	Name	Legal Entity Identifier
Issuer	CaixaBank, S.A.	7CUNS533WID6K7DGF187
Servicer	Not relevant for the issuer and/or CB programme at the present time	Not relevant for the issuer and/or CB programme at the present time
Account Bank	Not relevant for the issuer and/or CB programme at the present time	Not relevant for the issuer and/or CB programme at the present time
Sponsor	Not relevant for the issuer and/or CB programme at the present time	Not relevant for the issuer and/or CB programme at the present time

Figure 6: Arrears Distribution | Source: CaixaBank

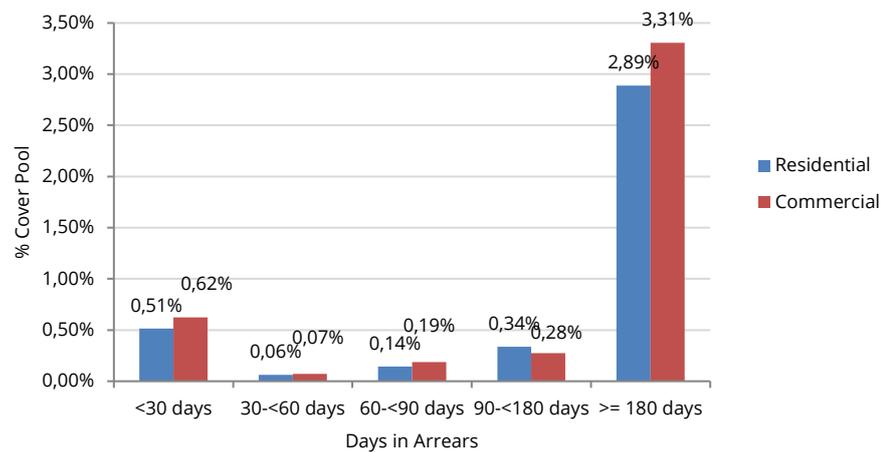


Figure 7: Program currency mismatches | Source: CaixaBank

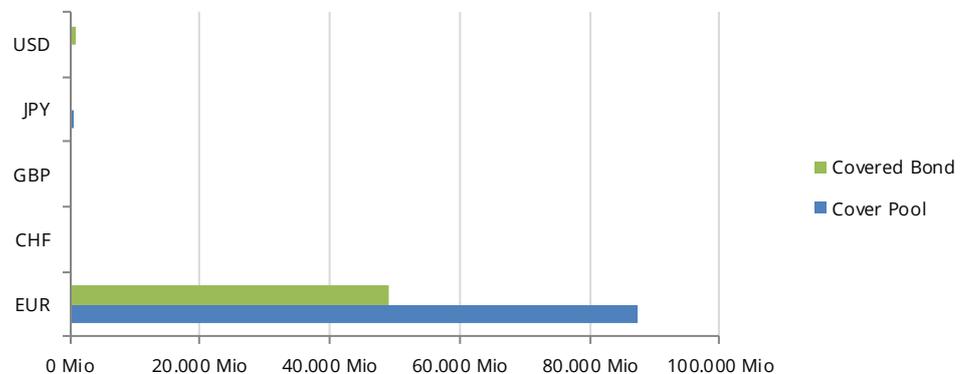


Figure 8: Unindexed LTV breakdown - residential pool | Source: CaixaBank

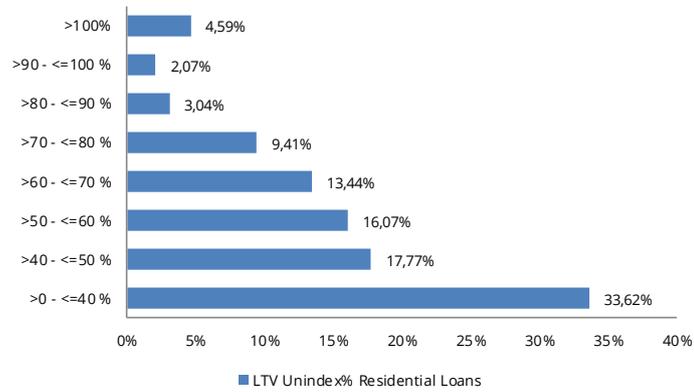
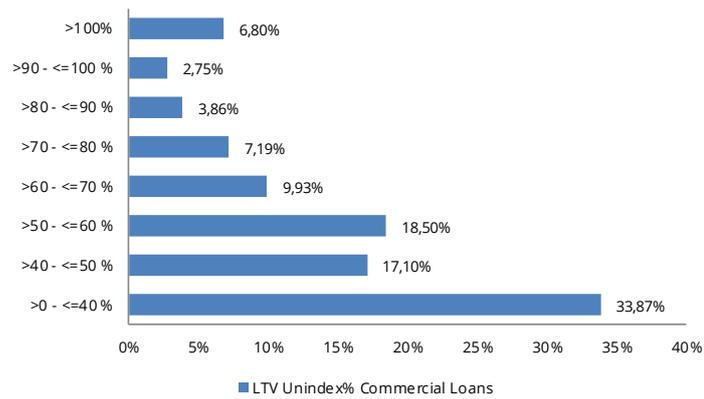


Figure 9: Unindexed LTV breakdown - commercial pool | Source: CaixaBank



Key Source of Information

Documents (Date: 30.09.2019)

Issuer

- Audited consolidated annual reports of the CaixaBank S.A. (Group) 2016-2019
- Final Rating report as of 08.07.2019
- Rating file 2019
- Miscellaneous Investor Relations Information and Press releases
- Peergroup-Data and other data from CRA eValueRate databank

Covered Bond and Cover Pool

- HTT Reporting from CaixaBank as of 30.09.2019
- Market data Mortgage Cover Bond 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 and "Technical Documentation Portfolio Loss Distributions" in conjunction with Creditreform's basic document "Rating Criteria and Definitions".

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 46 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 CaixaBank.

A complete description of Creditreform Rating's rating methodologies and Creditreform's basic document "Rating Criteria and Definitions" is published on the following internet page:

www.creditreform-rating.de/en/regulatory-requirements/

This rating was carried out by analysts Edsson Rodriguez and AFM Kamruzzaman both based in Neuss/Germany. On 27.01.2020, the rating was presented to the rating committee by the analysts and adopted in a resolution.

The rating result was communicated to CaixaBank, and the preliminary rating report was made available. The Issuer and all relevant parties examined the rating report 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

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Conflict of Interests

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

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

1. Transaction structure and participants
2. Transaction documents
3. Issuing documents

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

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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 "Basic data" card 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 „Basic data“ information card.

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Creditreform Rating AG

Contacts

Creditreform Rating AG

Hellersbergstraße 11
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:
Prof. Dr. Helmut Rödl

HRB 10522, Amtsgericht Neuss