

## RATINGS

Class	Rating	Notional (EUR m)	Notional (% assets)	CE (% assets)	Coupon	Final maturity
Serie A	AA+ <sub>SF</sub>	2,278.5	91.0	11.5	3m Euribor 0.75%	20 March 2053
Serie B	BB+ <sub>SF</sub>	171.5	9.0	4.0	3m Euribor 1.0%	20 March 2053
Reserve fund sub-loan	Not rated	98.0	4.0	0.0		
<b>Total notes (excluding sub-loan)</b>		<b>2,450.0</b>				

Scope's Structured Finance Ratings constitute an opinion about relative credit risks and reflect the expected loss associated with the payments contractually promised by an instrument on a particular payment date or by its legal maturity. See Scope's website for the [SF Rating Definitions](#).

## Transaction details

Purpose	Liquidity/Funding
Issuer	Caixabank Consumo 3, Fondo de Titulizacion
Originator, servicer, account bank and paying agent	CaixaBank, S.A.
Asset class	Consumer ABS
Assets	EUR 2,450.0m
Notes	EUR 2,450.0m
ISIN Serie A	ES0305274005
ISIN Serie B	ES0305274013
Closing date	26 July 2017
Legal final maturity	20 March 2053
Payment frequency	Quarterly
Payment dates	20 Dec, 20 Mar, 20 Jun, 20 Sep

## Portfolio profile

The securitised portfolio was originated in the ordinary course of business by CaixaBank, S.A (CaixaBank). Scope has reviewed the closing portfolio as of the effective transfer date, 20 July 2017. The closing portfolio contains two product types: unsecured consumer loans with an average remaining term of 4.1 years (81.4% of the portfolio's outstanding balance), and secured consumer loans backed by residential mortgages with an average remaining term of 16.5 years (18.6%).

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## Rating rationale (summary)

The transaction is a EUR 2,450m static securitisation of amortising consumer loans originated and serviced by CaixaBank. This is the bank's third post-crisis securitisation of consumer loans and the third CaixaBank securitisation publicly rated by Scope. The securitisation portfolio comprises mainly unsecured, general-purpose consumer loans (81.4%), as well as consumer loans backed by first- or second-lien mortgages (18.6%). Scope has derived separate performance assumptions for each of these portfolio segments.

The ratings reflect the legal and financial structure in Spain as well as the underlying collateral's quality in the context of the domestic macroeconomic environment. The capital structure consists of two classes of strictly sequential subordinated notes – Serie A and Serie B – and a subordinated loan, provided by CaixaBank at closing, which supplies cash for a reserve fund. The notes will pay a quarterly variable rate.

The ratings factor in the notes' protection against portfolio losses, afforded mainly by credit enhancement and excess spread. The class A notes benefit from 11% credit enhancement as of closing, provided by the full subordination of class B interest and principal and by a 4% amortising reserve fund. The class B notes benefit from 4% credit enhancement as of closing, provided by the subordination of the reserve fund. The spread between the weighted average rate from assets and the weighted average cost of liabilities is 7.6% as of closing. The ratings also address the exposure to CaixaBank, which performs all counterparty roles in the transaction, i.e. originator, servicer, account bank and paying agent.

Scope's view of the Spanish economy positively affects its expectations on the consumer loans' performance. This view is supported by the Spanish economy's size, diversity and resilient recovery, the state's commitment to structural reforms, and the strengthening domestic banking sector.

Inverse Gaussian default rate distributions were derived for each portfolio segment, and then combined these, assuming their perfect correlation. The distribution parameters were calibrated using originator vintage data from 2008 to 2016 and then compared to market-wide performance data over a full economic cycle.

Scope assumed mean default rates and coefficients of variation for each segment in the portfolio, both at a point in time and in the long term. The point-in-time mean default rates are 10.3% for mortgage-backed loans and 5.0% for unsecured loans, with coefficients of variation are 40.6% and 50% respectively. The long-term mean default rates are 7.3% for mortgage-backed loans and 3.4% for unsecured loans; coefficients of variation are 60% and 75% respectively. Scope assumed point-in-time default rates to be higher than the long-term equivalents as the timeframe covered by vintage data reflects a period of stress relative to the full cycle. The higher long-term coefficients of variation reflect the higher expected volatility over the full economic cycle.

### RATING DRIVERS

#### Positive rating drivers

**Moderate defaults.** Scope expects moderate lifetime default rates of 10.3% for the secured segment and 5.0% for unsecured. This takes into account CaixaBank's strong historical performance against the average for Spanish originators.

**Repeated transaction.** The transaction benefits from the tested assets' performance and the experience of the originator. This is the third securitisation of CaixaBank's Consumo series. Scope has calibrated its performance assumptions to those of past securitisations, in particular Foncaixa Consumo 1, FTA.

**Improving Spanish economy.** The Spanish macroeconomic environment is currently credit-supportive thanks to falling unemployment and rising GDP (see Scope's rating report on the Kingdom of Spain, dated 30 June 2017). Scope's assumptions reflect these positive trends.

**Significant excess spread.** Very high excess spread that covers periodic losses from the assets provides strong credit protection for the notes. The spread between the weighted average rate from assets and the weighted average cost of liabilities is 7.6% as of closing.

**Sequential amortisation.** The class A noteholders benefit from the full subordination of class B interest and principal; the transaction features a strictly sequential, combined waterfall with no deferral triggers.

#### Negative rating drivers

**Interest rate risks.** A significant portion of the portfolio (73.8%) will pay a fixed-rate coupon, while the notes will pay a floating-rate coupon referenced to three-month Euribor. This risk is mitigated by the short expected weighted average life of 1.8 years for the class A notes. The class B rating captures the higher exposure of Serie B to interest rate risk due to its longer expected weighted average life of 7.8 years.

**Long default definition.** Excess spread will not be available to provision for defaults until they are written off according to the transaction's 18-month default definition. If excess spread is not trapped to provision for defaults on any given period, it will flow to the originator.

**Counterparty concentration.** Counterparty financial exposure to CaixaBank as the account bank and paying agent is mitigated by the bank's high credit quality and by BBB- replacement triggers. CaixaBank performs all counterparty roles in the transaction.

#### Positive rating-change drivers

**Slower-than-expected defaults** could positively impact the rating of the class A series, as a back-loaded defaults scenario is less detrimental for class A noteholders, because they would strongly benefit from credit enhancement build-up.

**Slower-than-expected prepayments** could positively impact the rating of the class B series, because it would delay the amortisation of the reserve fund, which constitutes the primary source of credit support for class B noteholders.

#### Negative rating-change drivers

**Slower-than-expected economic growth.** Persistently high unemployment, high levels of external and public debt, and fiscal imbalances continue to pose challenges to the economic recovery. It may be challenging for the minority government to implement further substantial reforms in the current legislative period.

**Escalation of political tensions.** The prospect of Catalonia's independence from Spain continues to challenge the country's political environment. Ongoing tensions could lead increased political uncertainties and to the withdrawal of state support in the medium term.

**Higher-than-expected increase of interest rates.** The transaction is exposed to interest rate risk, as most of the assets pay a fixed interest rate, while the liabilities are at floating rate. A significant increase of three-month Euribor beyond Scope's expectations could lead to a downgrade of the notes.

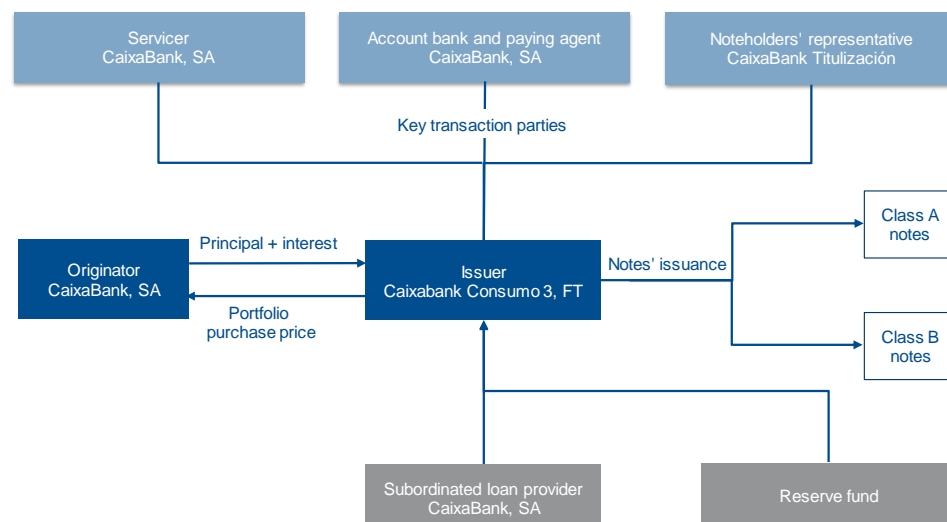
## Related reports

General Structured Finance  
Rating Methodology, dated  
August 2016.

Methodology for Counterparty  
Risk in Structured Finance,  
dated August 2016.

## 1 TRANSACTION SUMMARY

Figure 1. Simplified transaction diagram



Source: Transaction documents and Scope Ratings

Caixabank Consumo 3, FT is CaixaBank's third post-crisis consumer securitisation and the third CaixaBank securitisation publicly rated by Scope. The transaction consists of the securitisation of a EUR 2,450m granular portfolio of amortising consumer loans, originated by CaixaBank in its ordinary course of business. The structure comprises two classes of sequentially amortising notes as well as a reserve fund. CaixaBank performs all key counterparty roles, including servicer for the portfolio and issuer account bank.

## 2 ORIGINATOR AND SERVICER

### 2.1 Corporate overview

CaixaBank is an experienced originator of consumer ABS. Scope assesses the bank as having a solid credit profile, underpinned by a leading retail and commercial banking franchise in Spain and a business mix which benefits from profitable bancassurance and asset management services.

The bank is the third-largest Spanish banking group by total assets and a leading domestic player, with 13.8m clients and EUR 205bn of loans as at H1 2017. At the same date, the bank had a 14.2% market share of deposits and 15.8% of loans, as well as Spain's largest network of retail branches (4,749) and ATMs (9,274). CaixaBank also has a strong technology platform, with 5.5m and 3.9m active customers in online and mobile banking, respectively.

CaixaBank was created in 2011 following the reorganisation of La Caixa, a former savings bank. Its competitive position was reinforced by the successful integration of troubled banks (such as Banca Civica in Q3 2012 and Banco de Valencia in Q1 2013) and of Barclays Spain's retail business in Q1 2015. At an international level, CaixaBank acquired an 84.5% stake in Portugal's Banco BPI in February 2017.

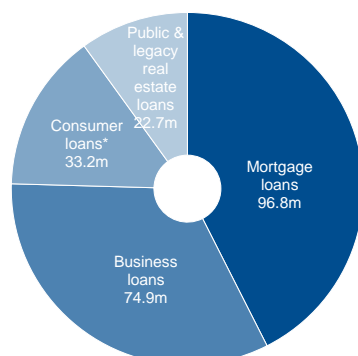
The securitisation portfolio comprises only consumer loans originated either by La Caixa prior to reorganisation or by CaixaBank subsequently. No loans in the portfolio have been originated by acquired banks.

CaixaBank's loan book is geared towards residential mortgages (42%; 41% in Spain) and business loans (37%; 36% in Spain), followed by consumer lending and other retail (15%; 17% in Spain). The balance relates to public-sector and real estate legacy loans (Figure 2). This static view contrasts with new loan production, which is focused on business loans and unsecured consumer loans given their higher profitability (Figure 3).

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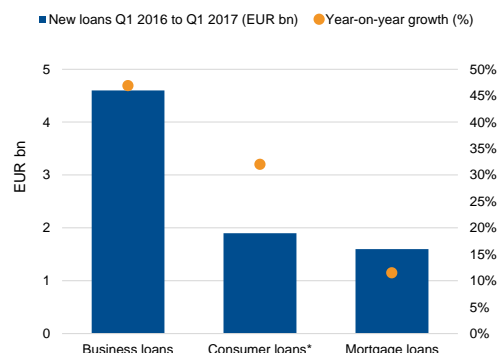
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Figure 2 CaixaBank's loan book (EUR)



\* Consumer loans are inclusive of mortgage-backed consumer loans

Figure 3 New origination



Sources: CaixaBank

CaixaBank's lending practices have been reasonable amid strong competition

The bank's consumer loan book has performed strongly relative to the market

Over the past years, the bank has consolidated its dominant position in all lending segments through acquisitions and organic growth, leading to a significant rise in lending volumes. Although this growth has been achieved within the context of intensifying nationwide competition, Scope believes CaixaBank's underwriting standards have remained generally prudent.

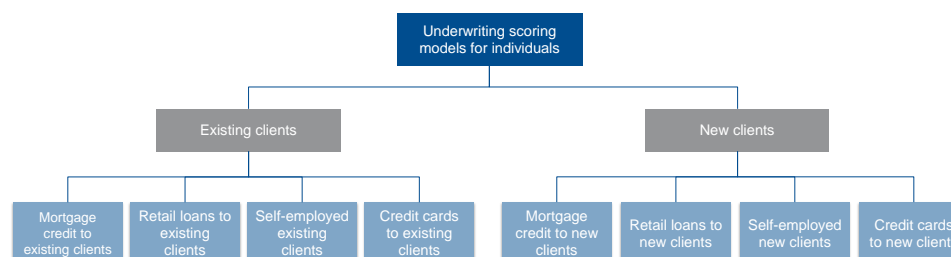
## 2.2 Underwriting

Scope considers the bank's underwriting policies to be solid, demonstrated by the strong performance of its consumer lending book relative to the average among Spanish originators (see Asset Analysis). The core principles of CaixaBank's lending policies include its independent risk and monitoring functions; the positive assessment of borrowers' payment capacity as a lending pre-requisite, regardless of available collateral or additional guarantees; and the application of risk-based pricing based on advanced scoring models.

CaixaBank makes use of its extensive network of branches to originate loans. However, online-based origination is gaining importance, particularly for pre-approved loans. This is reflected in the 15.3% share of online-originated loans in the securitisation portfolio. In order to promote proximity to customers, loans are sanctioned at branch level. The lending criteria established by the central risk function is, however, applied strictly.

CaixaBank employs a variety of underwriting scoring models for individuals, tailored by customer type (existing or new clients), product type (mortgage loans, retail loans or credit cards), or the borrower's employment status (employee or self-employed). Most consumer-scoring models are advanced IRB models<sup>1</sup>.

Figure 4 Underwriting scoring models for individuals



Source: Scope Ratings

The models deliver a point-in-time probability of default (based on a definition of 90 days overdue) over the next 12 months on a loan-by-loan basis. The analysis considers loan-specific characteristics (products, amounts, terms, collateral, etc.); the borrower's socio-economic attributes; internal or credit-bureau early-warning signals; and, in the case of

<sup>1</sup> As of April 2017, only the model tailored for self-employed, new clients was pending IRB approval.

existing clients, other behavioural variables, such as payment history, years of relationship with the bank, and asset and liability positions. The discriminatory power of the models is monitored monthly, and recalibrations are conducted annually.

### 2.3 Product types

CaixaBank's consumer lending division mainly offers unsecured consumer loans, mortgage-backed consumer loans and credit cards. The securitisation comprises unsecured, general-purpose consumer loans (81.4%), as well as consumer loans backed by first- or second-lien mortgages (18.6%). Scope has derived separate performance assumptions for each product segment.

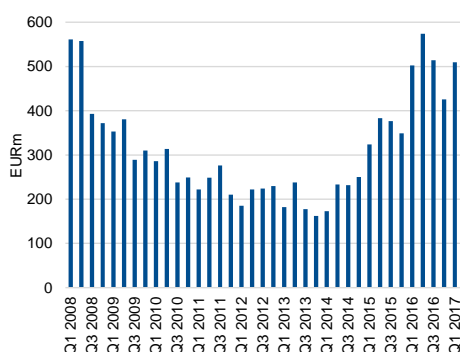
#### 2.3.1 Unsecured consumer loans (81.4% of the portfolio)

The class A noteholders are mainly exposed to unsecured consumer loans, which are mostly fixed-rate and have a high average yield of 10.6% over a relatively short average remaining term of 4.1 years. The loans have an average size of about EUR 8,000 and have a monthly French amortisation schedule.

Pre-approved loans comprise a high share of this portfolio segment (44.3%). These loans are a relatively new sub-product which have contributed greatly to the growth of unsecured consumer lending for the bank since 2015. Scope does not regard this sub-product as intrinsically more risky, as they are typically granted to customers with above-average payment capacity. However, we have accounted for this product's higher observed default volatility, based on the analysis of originator vintage data (see Appendix I).

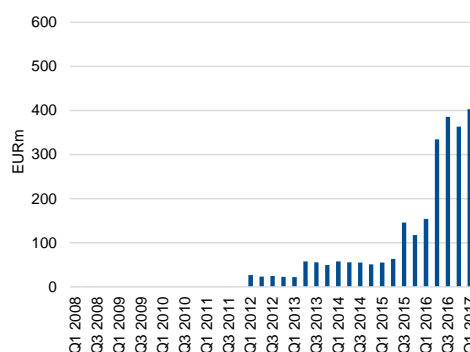
Scope has used higher observed volatility for pre-approved loans in its credit analysis

**Figure 5 New origination – standard loans**



Source: CaixaBank

**Figure 6 New origination – pre-approved loans**



Source: CaixaBank

About one-third of the pre-approved loans were formalised through a multichannel digital platform comprising online banking, mobile phones and ATMs, reflecting the bank's strategy of strengthening its leadership in banking digitalisation. While CaixaBank did not provide segregated performance data on online-originated loans, Scope does not regard online-origination to be a critical performance driver, given that the bank's underlying credit policies are the same for all loan types.

CaixaBank's new origination volumes in the unsecured consumer segment almost tripled between 2014 and 2016. We regard this as a credit risk driver, which may not be yet reflected in historical performance data. Although the bank's lending conditions have remained reasonable, we believe high growth may attract weaker borrowers.

Rising origination volumes may attract weaker borrowers

#### 2.3.2 Mortgage-backed consumer loans (18.6% of the portfolio)

Secured consumer loans are backed by first- or second-lien mortgages. This product was developed to finance purposes other than home acquisition, such as household expenses, vehicle acquisition, tuition fees, health expenses, or personal investments.

At the end of the transaction, class B noteholders will be exposed only to this product segment, given its longer average remaining term of 16.5 years. The loans are mainly variable-rate with a relatively low average margin of 1.2%. They have an average

The bank's sophisticated IT systems manage the complete lifetime of a contract

outstanding balance size of about EUR 16,000 and a moderate average loan-to-value of 53.5%. The loans follow a monthly French amortisation schedule.

This product segment is further divided into two sub-products: regular-term loans with a maximum loan-to-value of 80% (which account for only 2.2% of the securitisation portfolio) and withdrawals under revolving loan facilities (16.1%). A revolving loan facility works similarly to a credit line, with which the borrower can draw sums up to a pre-approved limit. However, in the case of a revolving loan facility, each withdrawal must be manually approved and is treated as an individual term loan with a predefined amortisation schedule. Initial withdrawals are subject to a maximum loan-to-value of 80%, whereas the credit limit for second withdrawals is reduced to a maximum 60% loan-to-value. Valuation updates are conducted regularly based on indexation methods approved by the Bank of Spain.

### 2.4 Servicing and recovery

CaixaBank is an experienced servicer. The bank's special servicing and recovery function was developed in response to the crisis, especially after the acquisition of troubled banks. The bank's sophisticated IT systems manage the complete lifetime of a contract, from early-warning alert systems to extranets that support external lawyers working in the last stages of mortgage foreclosures.

The bank employs a preventive set of behavioural models, based on internal and external (credit bureau) information. The models aim to detect early signals of deteriorating creditworthiness, and the bank applies corrective measures when necessary. Performance monitoring and early delinquency management (i.e. up to 90 days overdue) is decentralised at branch level to promote a rapid response and proximity to clients.

Troubled-loan management is proactive and responsive, for instance, by providing refinancing options. It is not, however, aggressive as the bank does endeavour to support viable customers experiencing genuine financial stress. Refinanced or restructured loans are not eligible for the securitisation. CaixaBank also enlists the services of external recovery agencies and lawyers for late-arrears management and foreclosures. The transaction covenants stipulate that CaixaBank may only modify the contractual terms for loans in the portfolio if a debtor has requested that they do so. Any modifications are also subject to the management company's consent.

Scope believes CaixaBank's interests are strongly aligned with those of noteholders. As the provider of a 4% reserve fund and holder of the whole capital structure, CaixaBank has a significant subordinated interest in the transaction. In addition, the Spanish securitisation framework does not allow securitised assets to be treated differently to the non-securitised assets on the bank's balance sheet, and servicing processes do not differentiate between securitised statuses.

## 3 ASSET ANALYSIS

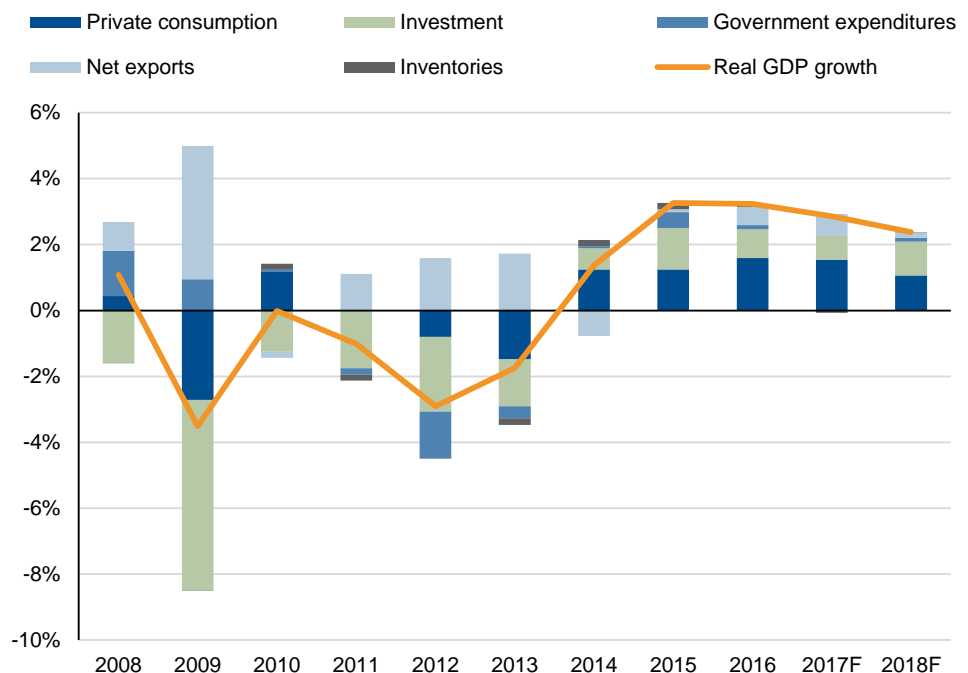
### 3.1 Economic environment: a resilient recovery is underway

Scope's view on the Spanish economy positively affects performance expectations

Scope's positive view of the Spanish economy improves performance expectations for consumer loans. This assessment is supported by the Spanish economy's size, diversity and resilient recovery; the state's commitment to structural reforms; and the strengthening domestic banking sector. Since 2014, the economy has been emerging from a period of prolonged recession provoked by the global crisis. Gains in competitiveness have been made thanks to wage moderation, greater labour-market flexibility and less-restrictive market regulations for products and services. Scope expects GDP to continue growing by 2.4% in 2018.



Figure 7 Real GDP growth components



Source: IMF, calculations Scope Ratings

The increase in confidence, employment and economic stability has helped to make private-sector deleveraging compatible with growth in private consumption and investment. In addition, the financial sector is now leaner, more efficient and better capitalised. Spain's still-negative international investment position is set to improve against a background of rising GDP and current-account surpluses. This appears to represent an important structural change, with GDP growth relying more heavily on exports than on unsustainable domestic activities, as exhibited in previous growth cycles.

Recent adjustments have helped Spanish GDP to grow more sustainably, but the economy is also benefiting from tailwinds such as low interest rates, a weaker euro, low oil prices, and the economic recovery among Spain's main European trading partners.

Persistently high unemployment, high levels of external and public debt, fiscal imbalances and political uncertainty continue to pose challenges. Scope's view is that any reduction in economic and fiscal imbalances will depend on the creation of a durable and sustainable growth model that supports the fiscal adjustment needed to reverse public-debt trends. After 10 months of political paralysis, including two inconclusive general elections and major political upheavals, the newly formed government has reduced political risk in Spain. Nevertheless, Scope believes that the current minority government has little room to manoeuvre. As a consequence, it may prove very difficult for the government to formulate and implement further reforms of any substance in the current legislative period.

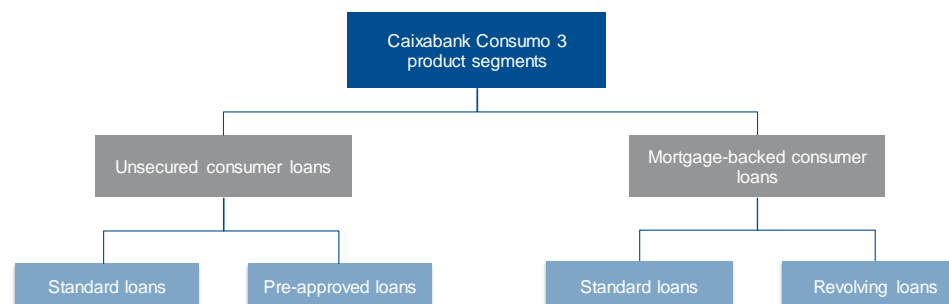
## 3.2 Portfolio characteristics

### 3.2.1 Summary portfolio

The portfolio is comprised of unsecured (81.4%) and secured consumer loans backed by first- or second-lien mortgages (18.6%). As shown in Figure 8, each portfolio segment can be further divided in two sub-segments: a) unsecured consumer loans consisting of i) standard loans mainly originated through Caixabank's branch network and ii) pre-approved loans; and b) mortgage-backed consumer loans consisting of i) standard loans and ii) withdrawals using revolving loan facilities.

Persistently high unemployment among other factors continue to pose challenges

**Figure 8 Product segments**



Source: Scope Ratings

Figure 9 and Figure 10 summarise the key attributes of each portfolio segment.

**Figure 9 Unsecured loans**

Unsecured loans	Total	Sub-segments	
		Standard	Pre-approved
Percentage of portfolio	81.4%	45.4%	36.0%
Main attributes			
Weighted average size (EUR)	7,918.6	10,744.3	5,948.5
Weighted average coupon	10.6%	7.5%	14.5%
Weighted average original term (years)	5.1	5.7	4.3
Weighted average seasoning (years)	1.0	1.1	0.8
Fixed rate	88.5%	83.1%	95.3%

Source: CaixaBank, Scope Ratings

Scope regards pre-approved loans as a positive for the transaction

Unsecured loans are mostly fixed-rate loans characterised by a relatively short original term of 5.1 years and a high coupon of 10.6%. Scope considers the pre-approved loans to be highly beneficial to noteholders because they provide a significantly higher yield while demonstrating comparable historical performance (see vintage data on Appendix I). Scope has derived a blended expected loss assumption of 3.5% for this product segment based on expected lifetime defaults of 5.0% and expected lifetime recoveries of 30%.

**Figure 10 Mortgage-backed loans**

Mortgage-backed loans	Total	Sub-segments	
		Withdrawal of revolving loans	Standard
Percentage of portfolio	18.6%	15.3%	3.3%
Main attributes			
Weighted average size (EUR)	16,318	14,548	36,889
Weighted average coupon	2.4%	2.3%	2.6%
Weighted average original term (years)	24.6	25.5	20.3
Weighted average seasoning (years)	8.1	9.0	3.9
Fixed rate	9.4%	0.0%	52.2%
Collateral			
First lien	58.3%	63.1%	36.0%
Second lien	41.7%	36.9%	64.0%
Effective or average LTV	53.5%	57.0%	37.8%

Sources: CaixaBank, Scope Ratings



Scope has derived expected loss assumptions of 3.5% for both portfolio segments

The portfolio has been positively selected, based on the transaction's eligibility criteria

The mortgage-backed portfolio segment is mainly composed of withdrawals made using revolving loan facilities and a small share of standard loans. Each withdrawal using a revolving loan facility has its own amortisation schedule and can therefore also be considered an individual term loan. The mortgage-backed portfolio segment typically has the following characteristics: a variable rate receivables with a French amortisation profile, long tenor, modest yield and a moderate loan-to-value.

Scope has derived a blended expected loss assumption of 3.5% for this product segment, based on expected lifetime defaults of 10.3% and expected lifetime recoveries of 66%.

Any further withdrawals made using the revolving loan facilities will not be securitised, being financed by the originator instead. Upon a borrower's default, recovery proceeds will be split between the issuer and the originator on a pro rata basis. Scope has assumed that the mortgage-backed portfolio segment has an effective loan-to-value of 53.5%. When calculating the effective loan-to-value of withdrawals made using the revolving loan facilities, Scope has assumed that the facilities will be drawn upon up to their maximum limit, which has the effect of reducing expected recoveries. Recovery assumptions for second-lien loans are also lowered in line with the amount of prior liens.

### 3.2.2 Eligibility criteria

Figure 11 summarises the most relevant portfolio eligibility criteria. The portfolio has been positively selected, in particular, restructured or refinanced loans, and bullet loans are excluded.

**Figure 11 Eligibility criteria**

All receivables in the portfolio
All borrowers are individuals and residents in Spain
No borrower is an employee of the originator
All receivables are consumer credit receivables
None of the receivables have been restructured or stem from a refinancing operation
None of the receivables are syndicated receivables
All receivables are denominated in euros
All receivables are amortising receivables in accordance with a predefined amortisation schedule
All payments are conducted by direct debit
Only mortgage receivables
All appraisals have been conducted by Bank of Spain-approved appraisers
All borrowers are obliged to insure the property against fire or damage in accordance with the mortgage deed
All properties are finished
In case of receivables guaranteed by liens of second rank, the first lien is with the originator or the issuer

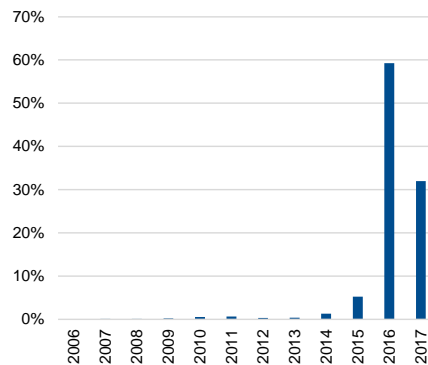
Source: Transaction documents, edited by Scope Ratings

### 3.2.3 Seasoning

The unsecured consumer loan segment has a short average seasoning of 12 months, while the majority of the mortgage-backed consumer loans are fairly seasoned assets which stem from the early amortisation of Foncaixa Consumo 1, the first securitisation of the series.

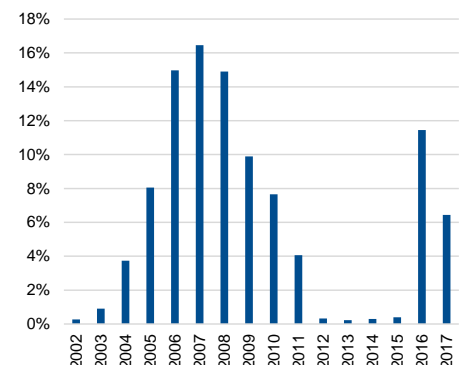
Scope's default rate assumptions take the effect of seasoning into consideration and do not therefore represent the full lifetime of securitised products. Rather, default-rate assumptions correspond to the marginal life-to-maturity that is left from the portfolio's seasoning point.

**Figure 12 Origination date – unsecured loans**



Source: CaixaBank

**Figure 13 Origination date – mortgage-backed loans**



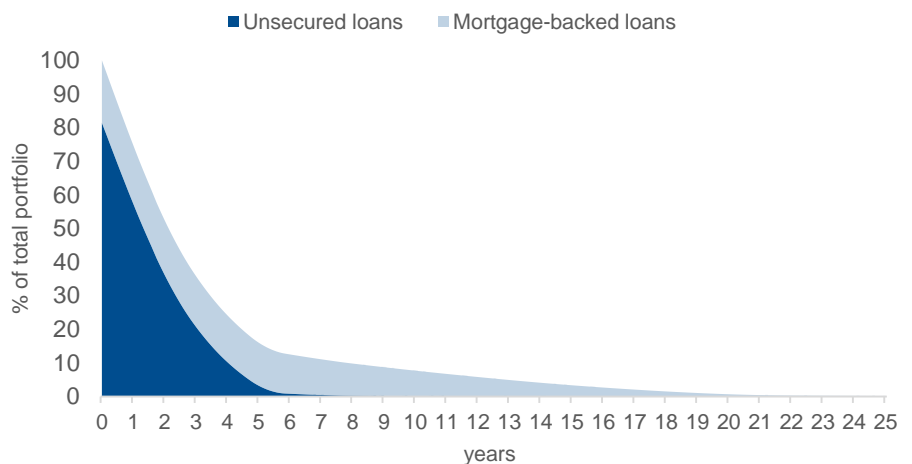
Source: CaixaBank

**Class B noteholders are mainly exposed to the performance of secured loans**

### 3.2.4 Amortisation

Both product segments have very different amortisation profiles: unsecured loans have a short remaining life of 2.1 years (assuming a zero constant prepayment rate) while the mortgage-backed loans have a long weighted average remaining life of 9.0 years. Due to the sequential amortisation of the notes, this implies that the class B noteholders will only be exposed to the mortgage-backed loan segment at the end of the transaction. This could be detrimental for the class B noteholders, particularly in back-loaded default scenarios, because these assets provide significantly less spread (see Quantitative Analysis).

**Figure 14 Scheduled amortisation**



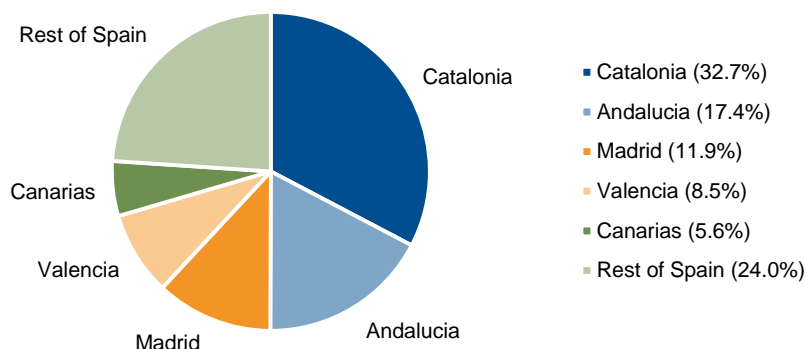
Source: Scope Ratings

Scope does not expect concentration in Catalonia to pose significant credit risk

### 3.2.5 Geographical concentration

Portfolio concentration in Catalonia is significant. Scope does not expect the concentration in this region to pose a significant credit risk, given that Catalonia is both economically diverse and one of Spain's wealthiest regions.

Figure 15 Regional distribution



Source: CaixaBank

The prospect of Catalonia's independence from Spain continues to place strain on the country's political environment. Ongoing tensions could lead to the withdrawal of state support over the medium term, especially in the light of the potential referendum on Catalan independence, scheduled for 1 October 2017 according to the regional government's roadmap plan. However, Scope believes that unilateral secession is unlikely, given the constitutional safeguards in place. A settlement between the national and the Catalan governments on regional reform and greater autonomy for Catalonia within Spain is increasingly likely to emerge.

### 3.2.6 Grace period and payment holidays optionality

About 7.5% of the portfolio loans have the option to request payment holidays (on interest and principal) or principal grace periods. Payment holidays may be granted for a maximum cumulative period of 12 months during the life of a loan, while grace periods may be granted for up to 36 months on aggregate. Because most of the loans with these flexible features are mortgage-backed loans with a long amortisation tenor, class B noteholders are mainly exposed to such product features.

Scope derived performance expectations from vintage data which is representative of the securitisation portfolio's composition, including the share of flexible loans. As such, Scope does not consider the amount of flexible loans to pose a material challenge. However, flexibility on payments may delay amortisation or the time of default if a borrower's payment capacity deteriorates. Scope has tested low prepayment and back-loaded default scenarios which account for such risks.

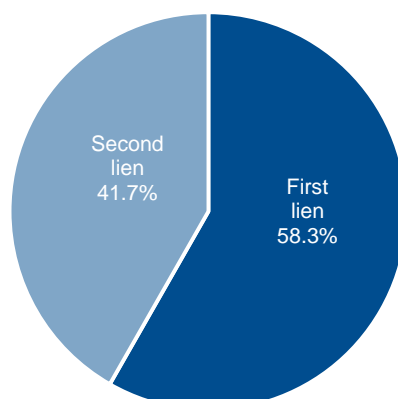
### 3.2.7 Second-lien loans

About 41.7% of the mortgage-secured loans, representative of 7.8% of the total portfolio, are second-lien loans. In accordance with both the originator's underwriting policies and the portfolio eligibility criteria, whenever a second-lien loan is granted, the first lien must also be held by the issuer or the originator. Scope's recovery rate assumptions account for the rank of the loan by deducting the amount of prior liens not held by the issuer from the recovery proceeds.

Mainly class B noteholders are exposed to loans with flexible product features

Scope does not consider the amount of flexible loans to pose a material challenge

**Figure 16 Mortgage-backed loans lien distribution**



Source: CaixaBank

### 3.3 Performance assumptions

#### 3.3.1 Default rate analysis

Scope analyses transactions using two different inverse Gaussian default distributions: i) at a point in time; and ii) in the long term. The point-in-time distribution reflects Scope's performance assumptions with regard to the current macro and microeconomic conditions. Long-term distribution reflects Scope's performance assumptions for a long-term average credit environment, representing our through-the-cycle view. The shape of the distributions is fully determined by the mean default rate and the coefficient of variation assumed by Scope.

Scope derived default rate distributions for each portfolio segment and then combined them, assuming their perfect correlation. The distribution parameters were calibrated using the originator's vintage data from 2008 to 2016 (see Appendix I), which was then compared to market-wide performance data over a full economic cycle. Figure 17 summarises Scope's default rate assumptions:

**Figure 17 Default rate analysis**

Portfolio segment	Share	Point in time		Long term	
		Mean DR <sup>(1)</sup>	CoV <sup>(2)</sup>	Mean DR	CoV
Unsecured loans	81.4%	5.0%	50.0%	3.4%	75.0%
Mortgage-backed loans	18.6%	10.3%	40.6%	7.3%	60.0%
Total	100%	6.0%	47.0%	4.1%	70.0%

(1) DR: '90 days past due' default rate

(2) CoV: Coefficient of variation

Source: Scope Ratings

Originator vintage data covers a period or relative stress relative to the full cycle

The point-in-time default rate assumptions are higher than those for the long term, because the timeframe covered by vintage data reflects a period of stress relative to the full cycle. The higher long-term coefficients of variation reflect the higher expected volatility over the full economic cycle. For more details on how both distributions have been derived, see Appendix III.

Scope's default rate assumptions have to be considered alongside their cure rates, which address the mismatch in default definitions between the originator's performance vintage data (90 days past due) and the transaction (18 months past due). Scope estimated a 15% cure rate for the unsecured portfolio segment and a 31% cure rate for the mortgage-backed portfolio segment, based on the originator's vintage data. We have assumed the same cure rates for all rating stresses.

The closing portfolio contains 0.4% of loans to weaker obligors, i.e. exposures that are between 30 and 90 days in arrears. We consider this amount to be covered by our lifetime default rate assumptions.

### 3.3.2 Recovery rate analysis

Scope has applied a differentiated analytical approach to derive recovery rate assumptions for both portfolio segments.

For the unsecured portfolio segment, Scope derived a base case recovery rate assumption of 30% (prior to being cured) using CaixaBank's recovery vintage data (see Appendix I). Recovery rates were then stressed with rating-conditional haircuts based on the target rating of the tranche, as shown in Figure 18 below. Scope assumed a recovery lag of 18 months for this portfolio segment, based on vintage data analysis.

**Figure 18 Unsecured loans: recovery rate assumptions**

Rating-conditional stress	AAA	AA	A	BBB	BB	B
Haircut to base case	40.0%	32.0%	24.0%	16.0%	8.0%	0.0%
Recovery assumption	18.0%	20.4%	22.8%	25.2%	27.6%	30.0%

Source: Scope Ratings

For the mortgage-backed portfolio segment, Scope applied its fundamental recovery analysis framework to derive base case and stressed recovery assumptions, as shown in Figure 19. Scope assumed a recovery lag of 60 months for this portfolio segment.

**Figure 19 Secured loans: recovery rate assumptions**

Rating-conditional stress	AAA	AA	A	BBB	BB	B
Recovery assumption	34.4%	40.7%	47.0%	53.3%	59.7%	66.0%

Source: Scope Ratings

Scope's framework for fundamental recovery analysis involves estimating the current value of the security, on a line-by-line basis, and then applying rating-conditional haircuts to the assumed collateral value. The recovery rates considered are based on the closing loan-to-value with regard to term loans, and on the effective loan-to-value with regard to withdrawals using revolving loans. When calculating the effective loan-to-value of withdrawals using revolving loans, Scope assumed that facilities will be drawn up to their maximum limit, and that recovery proceeds will be distributed on a pro rata basis between the issuer and the originator.

In order to estimate the current value of the security we first applied a 10% haircut to appraisal values on the basis that they are typically either desktop valuations, which we consider to be lower quality than full valuations, or relatively outdated valuations. We then updated the post-haircut appraisal value through indexation (from the appraisal date to the current date) using the Spanish Ministry of Development's regional house price indices. As a final step, we applied rating-conditional haircuts reflecting Scope's forward-looking views on the security liquidation values. For details of these haircuts and how they are derived see Appendix II.

Scope applied a 10% haircut to desktop collateral appraisals

### 4 FINANCIAL STRUCTURE

#### 4.1 Capital structure

The capital structure (Figure 1) comprises two classes of strictly sequentially subordinated notes – Serie A and Serie B – and a subordinated loan provided by CaixaBank at closing to supply cash to a reserve fund. The portfolio was purchased at par, using proceeds from the notes' issuance. Both classes of notes pay a quarterly variable coupon of 3-month Euribor plus 0.75% for Serie A or 1% for Serie B.

The issuer's initial expenses are covered by proceeds from a second subordinated loan granted by CaixaBank. This loan will be amortised from excess spread generated in the transaction's early stages.

#### 4.2 Sources of protection

The class A noteholders benefit from a very significant level of credit support provided by i) overcollateralisation of 7.5% through the subordination of class B principal payments; ii) an amortising reserve fund equating to 4% of the outstanding principal balance of the two notes; iii) excess interest of more than 9%, provided by a weighted average yield on the portfolio at closing; and iv) a guaranteed rate on the issuer's account, equating to the reference rate of the notes, with a floor at zero.

The class A noteholders would benefit from liquidity support in the event of a servicer disruption, which Scope considers an unlikely scenario. This is provided mainly by the reserve fund, but also through potential principal from asset collections, in accordance with the transaction's combined priority of payments.

The reserve fund constitutes the primary source of credit enhancement for class B noteholders. Because the higher-yielding, unsecured segment is scheduled to amortise first, the class B noteholders will be exposed to significant excess spread compression.

#### 4.3 Priority of payments

Figure 20 shows the transaction's simplified pre-enforcement priorities of payment. On each payment date, the notes' principal amortisation due amounts will equate to the notes' outstanding balance as of the preceding payment date, minus the outstanding balance of the non-written-off loans.

The noteholders do not benefit from a mechanism that traps excess spread, which makes the structure more vulnerable to the timing of defaults. On each payment date, excess spread that is not used to provision for defaulted loans will be paid to the originator.

The reserve fund amortisation amounts will also be paid to the originator, which provides the reserve fund's subordinated loan. If previously drawn to provision for defaulted loans, the reserve fund may replenish back to the required level by capturing excess spread.

The class A noteholders benefit from various sources of protection supporting the AA+<sub>SF</sub> rating

The amortising reserve fund constitutes the main source of protection for Serie B



**Figure 20 Pre-enforcement priority of payments**

Pre-enforcement priority of payments	
Available funds	
	Principal and interest collections from the assets
	Any interest collected from the treasury account
	The available reserve fund amount
	Prepayments and recoveries
Application of funds	
1.	Senior expenses
2.	Serie A interest
3.	Serie A principal
4.	Reserve fund minimum-retention amount (while Serie A notes are outstanding)
5.	Serie B interest
6.	Serie B principal
7.	Reserve fund minimum retention amount (after full redemption of Serie A notes)
8.	Junior expenses

Source: Transaction documents, edited by Scope Ratings

The transaction also features an enforcement priority of payments, which subordinates the replenishment of the reserve fund to class B interest and principal payments. The accelerated priority of payments will be triggered upon certain liquidation events which are customary for Spanish transactions, such as the insolvency of the management company and a clean-up call provision. The clean-up call can be exercised once the outstanding balance of the portfolio is less than 10% of the original balance, but only if this does not result in losses for the noteholders.

#### 4.4 Amortising reserve fund

The reserve fund was funded by a subordinated loan equal to 4% of the initial amount of the notes' principal balance. The reserve fund will form part of the issuer's available funds, which will be applied on every payment date in accordance with the priority of payments detailed above.

The reserve will amortise to 4% of the outstanding principal balance of the class A and B notes, subject to the following amortisation triggers: i) at least 24 months have elapsed since the transaction closed, and ii) the reserve was at its required level on the preceding payment date.

#### 4.5 Excess spread and provisioning

In accordance with the transaction documents a loan is considered as defaulted once it exceeds 18 months in arrears, which is a long period relative to the market. Excess spread is the first layer of protection to provision for 'defaulted' loans, in accordance with the transaction documents' definition. The long default definition results in the loss of significant excess spread at the beginning of the transaction's life and to increased cost of carry.

#### 4.6 Account yield

The issuer's treasury account, which collects all asset proceeds and holds the reserve fund, guarantees a rate of return equal to the reference rate of the notes, with a floor at zero.

The long default definition results in loss of excess spread in the early transaction periods

## 5 QUANTITATIVE ANALYSIS

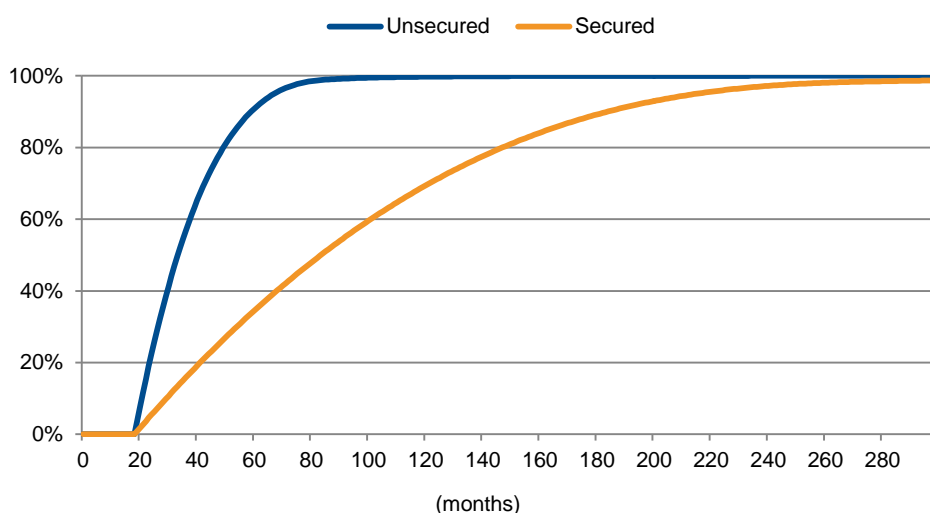
Scope analysed the transaction using a cash flow tool, combined with the portfolio default distribution to calculate the probability-weighted loss of each rated tranche. The cash flow tool also produces the expected weighted average life for each tranche.

### 5.1 Main assumptions

#### 5.1.1 Default timing

Scope derived a lifetime default vector, assuming a constant quarterly default frequency over the scheduled amortisation profile of each portfolio segment, and no prepayments. This results in front-loaded cumulative defaults due to the effect of amortisation, consistent with the term structure of each portfolio segment (see Figure 21).

**Figure 21 Default-timing assumptions**



Source: Scope Ratings

Scope considers that non-constant and back-loaded default intensities would be less severe for the class A noteholders – as the portfolio amortises, noteholders will benefit strongly from credit-enhancement build-up and the decreasing probability that initial lifetime default assumptions are realised fully.

A back-loaded default intensity constitutes the most severe scenario for class B noteholders. There are two reasons: i) the amortising nature of the reserve fund prevents credit enhancement from building up, and ii) the class B, due to its longer weighted average life, is exposed to severe losses of excess spread as the high-yielding, unsecured portfolio segment amortises.

The exposure of the class B noteholders to back-loaded default intensities, together with their interest risk exposure (discussed below) are the driving factors of the note's BB+<sub>SF</sub> rating, which would otherwise support an investment grade (see Results section below).

#### 5.1.2 Interest mismatches

The transaction is exposed to interest rate mismatches between the variable-rate liabilities, and the fixed-rate assets (73.8% of the portfolio). Most of the fixed-rate loans (97.5%) are unsecured consumer loans with relatively short terms to maturity, which mitigates interest rate risk borne by the noteholders.

Scope considers interest rate risk to be immaterial for the class A, given its short expected weighted average life of 1.8 years, whereas Class B noteholders are more exposed to this risk.

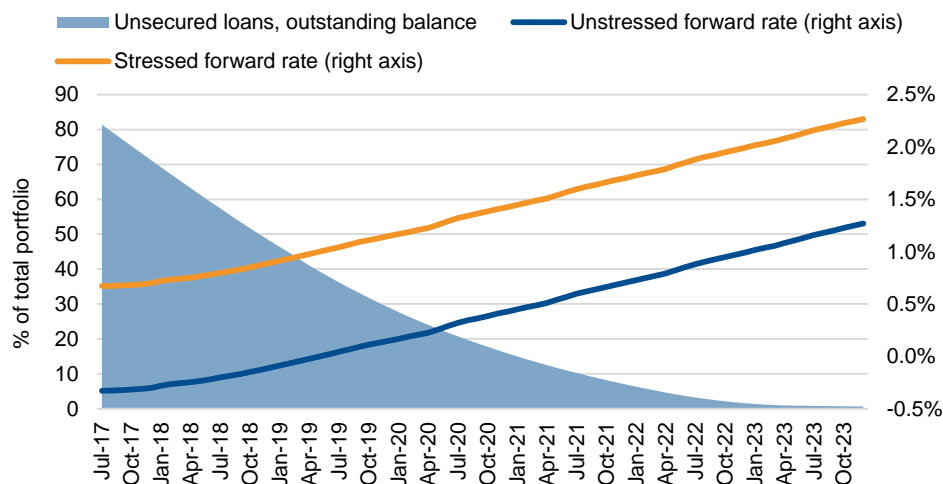
Scope models the reference rate payable on the notes based on the 3-month Euribor forward curve. To account for potential interest rate risk on the class B notes, Scope

Back-loaded default timing constitutes the most severe scenario for series B noteholders

Scope considers interest rate mismatch risk to be immaterial for Serie A

performed a sensitivity analysis, applying increases in the rate payable to the notes. For instance, if the rate payable on the notes were to increase by 1 percentage point on each payment date (see Figure 22) the class B's model-implied rating would reduce by one notch (while the class A's model-implied rating would remain unchanged).

**Figure 22 Interest rate sensitivities**



Source: Scope Ratings

High CPR scenarios are more detrimental for noteholders because of the amortising reserve

### 5.1.3 Prepayments

Scope tested the structure against a zero constant prepayment rate (CPR) and a high 15% CPR stress. To derive these stresses, Scope relied on references from other Spanish consumer loan transactions, which exhibit very volatile historical CPRs, from 2% to 12%, across 15 transactions issued between 2004 and 2014. The structure supports both CPR scenarios.

While the structure supports both CPR scenarios, high rates of prepayment are more detrimental for the noteholders. This is because of the amortising nature of the reserve fund, which depletes sooner in a high prepayment scenario.

### 5.1.4 Spread compression

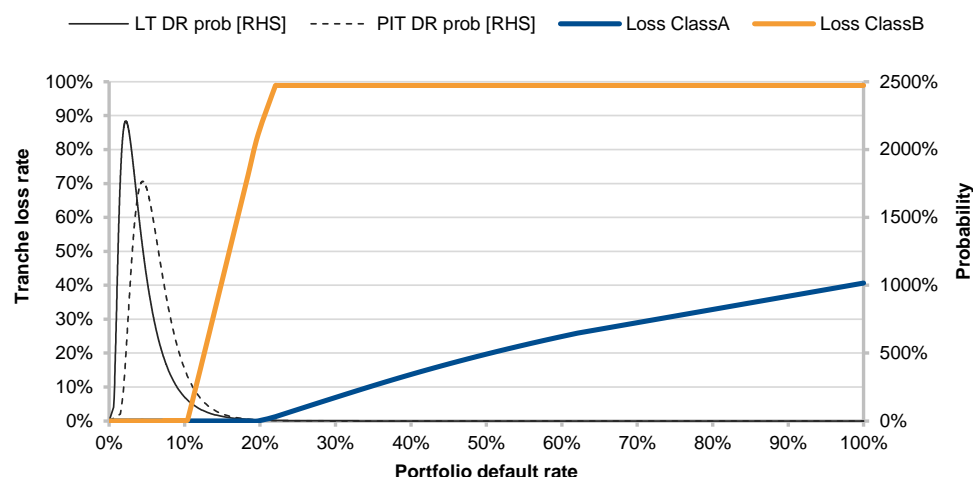
To account for potential spread compression, we have reduced the coupon on the fixed-rate unsecured loans to 8.9% from 11.5%. This adjustment assumes that higher-rate loans will be the first to amortise or prepay. It is based on the following inputs: i) the segments' interest rate distribution, ii) the segments' scheduled amortisation; iii) and Scope's high CPR assumption of 15%.

## 5.2 Results

Based on its cash flow analysis, Scope has assigned an AA+<sub>SF</sub> rating to the class A notes and an BB+<sub>SF</sub> rating to the class B. The class A rating is driven by Scope's cash flow tool-implied rating. Assuming a constant default-frequency and a limited exposure to interest rate risk, the class B would support a BBB-<sub>SF</sub> rating as implied by the cash flow tool. However, Scope believes that the potential exposure of the class B noteholders to both back-loaded default intensities and interest rate risk is incompatible with an investment-grade rating. Consequently the implied rating of BBB-<sub>SF</sub> was adjusted to BB+<sub>SF</sub>.

Figure 23 shows the cash flow tool-implied losses of each tranche at all portfolio default rates, the protection to the tranches provided by credit enhancement and excess spread, and the recovery upon default. Excess spread especially explains why the tranches can withstand default rate scenarios beyond the credit enhancement levels of 11.5% for class A and 4.0% for class B.

**Figure 23 Cash flow model tranche losses relative to realised portfolio lifetime defaults**



Source: Scope Ratings

## 6 RATING STABILITY

### 6.1 Rating sensitivity

Scope tested the resilience of the rating against deviations of the main input parameters: the portfolio mean default rate and recovery rates. This analysis has the sole purpose of illustrating the sensitivity of the rating to input assumptions and is not indicative of expected or likely scenarios:

- The model-implied ratings of the class A when the portfolio's expected default rate is increased by 50% and recovery rates are reduced by 50% are A<sub>SF</sub> and AA<sub>SF</sub>, respectively.
- The model-implied ratings of the class B when the portfolio's expected default rate is increased by 50% and recovery rates are reduced by 50% is BB<sub>SF</sub> in both scenarios.

### 6.2 Break-even analysis

To complement Scope's expected loss-based rating analysis, Figure 24 provides the default rates below which no loss is seen for a given tranche. This information provided investors with another dimension for comprehending the resilience of the rated tranches.

The Serie A noteholders would not experience any losses at portfolio default rates of up to 21.9%, considering the most stressful prepayment scenario corresponding to a high (15%) CPR and a AA rating-conditional recovery rate of 21.9%.

The Serie B noteholders would not experience any losses at portfolio default rates of up to 3.7%, considering the most stressful prepayment scenario corresponding to a high (15%) CPR and a BB rating-conditional recovery rate of 29.9%.

**Figure 24 Serie A and Serie B break-even default rate analysis**

	Serie A	Serie B
Rating	AA+	BB+
Constant-prepayment-rate scenario	High (15%)	High (15%)
Rating-conditional recovery rate	21.1%	29.9%
Mean lifetime default rate (point in time)	6.0%	6.0%
Mean lifetime default rate (long term)	4.1%	4.1%
Break-even default rate	21.9%	3.7%

Source: Scope Ratings

The counterparty exposure to CaixaBank is not excessive and does not limit the ratings

## 7 SOVEREIGN RISK

Sovereign risk does not limit any of the ratings. The risks of an institutional framework meltdown, legal insecurity or currency convertibility problems, due to Spain's hypothetical exit from the eurozone, are not material for the notes' rating.

For more insight into Scope's fundamental analysis of the Italian economy, refer to our rating report on the [Kingdom of Spain](#), dated 30 June 2017.

## 8 COUNTERPARTY RISK

The ratings capture the transaction's exposure to CaixaBank, which performs all counterparty roles. Scope does not consider this risk to be excessive: if counterparty risk crystallises, a downgrade is still limited to six notches (as defined in Scope's Rating Methodology for Counterparty Risk in Structured Finance Transactions, dated August 2016 and available on [www.scooperatings.com](http://www.scooperatings.com)).

### 8.1 Operational risk from servicer

Scope considers it highly unlikely that CaixaBank will be replaced as the portfolio's servicer. We believe CaixaBank's replacement would be more disruptive than its continuation as a going concern through a hypothetical resolution (the more likely scenario). This view is supported by CaixaBank's importance to the Spanish economy and by the framework for orderly bank restructuring in Europe.

### 8.2 Commingling risk from the account bank and paying agent

Commingling risk may arise from the exposure to CaixaBank as account bank and paying agent. The documentation establishes, among other criteria, that CaixaBank would be replaced as account bank and paying agent upon loss of a BBB- issuer rating.

The exposure to CaixaBank as account bank does not limit the rating of this transaction: the commingling exposure is material but not excessive. The account bank will hold the reserve fund's cash over the life of the transaction as well as all collections from the assets over the quarterly payment periods. Any losses from the commingling exposure to the account bank are mitigated by a combination of factors: i) the short expected life of the class A (1.8 years); ii) the solid credit strength of CaixaBank as evaluated by Scope; iii) the effective de-linkage of counterparty risk provided by the structure; iv) the limited exposure; and v) our positive macroeconomic outlook on Spain over the Serie A's expected life.

The commingling risk related to the paying-agent role is negligible for the class A, and is mitigated by both the bank's sufficient credit quality as assessed by Scope and the intraday fund-holding period.

### 8.3 Set-off risk from originator

Scope does not believe set-off risk from the originator is material in the context of Spanish law and under the terms of the documentation. The structure incorporates an undertaking by the seller to compensate the issuer for any set-off loss arising from rights existing prior to the asset transfer. Furthermore, set-off rights would cease to exist upon the obligor's notification of a servicer event, or the insolvency of either the obligor or the seller.

Portfolio-level covenants protect the transaction from loan modification risks

## 9 LEGAL STRUCTURE

### 9.1 Legal framework

This securitisation is governed by Spanish law and represents the true sale of the assets to a bankruptcy-remote vehicle without legal personality, represented by CaixaBank Titulizacion, the management company. The issuer is governed by the terms in the documentation. Changes to the documentation require the unanimous agreement of all stakeholders to the transaction, i.e. noteholders and creditors.

This securitisation has been incorporated as a 'Fondo de Titulizacion' (FT, securitisation fund). The FT legal form was introduced by the new Spanish law to promote corporate financing (Ley 5/2015), effective since 28 April 2015. Law 5/2015 reformed the Spanish securitisation framework and replaced 'Fondo de Titulizacion de Activos' (FTA, asset securitisation funds) and 'Fondos de Titulizacion Hipotecaria' (FTH, mortgage securitisation funds).

### 9.2 Permitted variations

The documentation allows the servicer to modify the portfolio's contractual terms, notably for interest rates and maturity, subject to both the debtor's request and the management company's consent. In all cases, negotiations with obligors would follow the originator's standard procedures, including over approvals. In Scope's view, these covenants limit material migrations of the portfolio beyond that related to asset performance.

### 9.3 Use of legal opinions

Scope reviewed the legal opinion produced by Cuatrecasas for the issuer and has confidence in the oversight of Spanish regulator, CNMV, which provides comfort on the issuer's legal structure. The transaction conforms to securitisation standards in Spain, effective since 28 April 2015, and is consistent with Scope's general legal analytical assumptions.

## 10 MONITORING

Scope will monitor this transaction on the basis of the performance reports from the management company as well as other available information. The ratings will be monitored continuously and reviewed at least once a year, or earlier if warranted by events.

Scope analysts are available to discuss all the details surrounding the rating analysis, the risks to which this transaction is exposed and the ongoing monitoring of the transaction

## 11 APPLIED METHODOLOGY AND DATA ADEQUACY

For the analysis of this transaction Scope applied its General Structured Finance Rating Methodology, dated August 2016, and its Methodology for Counterparty Risk in Structured Finance, dated August 2016, both available on our website [www.scooperatings.com](http://www.scooperatings.com).

CaixaBank provided Scope with default and recovery data, segmented by quarterly vintage of origination, referring to a '90 days past due' default definition. The default rate data covers a period from 2008 to 2016 and is very granular. The recovery data also covers a period from 2008 to 2016, referring to all recoveries during that period. CaixaBank highlighted that the data represents the performance of consumer loan exposures and has similar characteristics to the selected transaction portfolio.



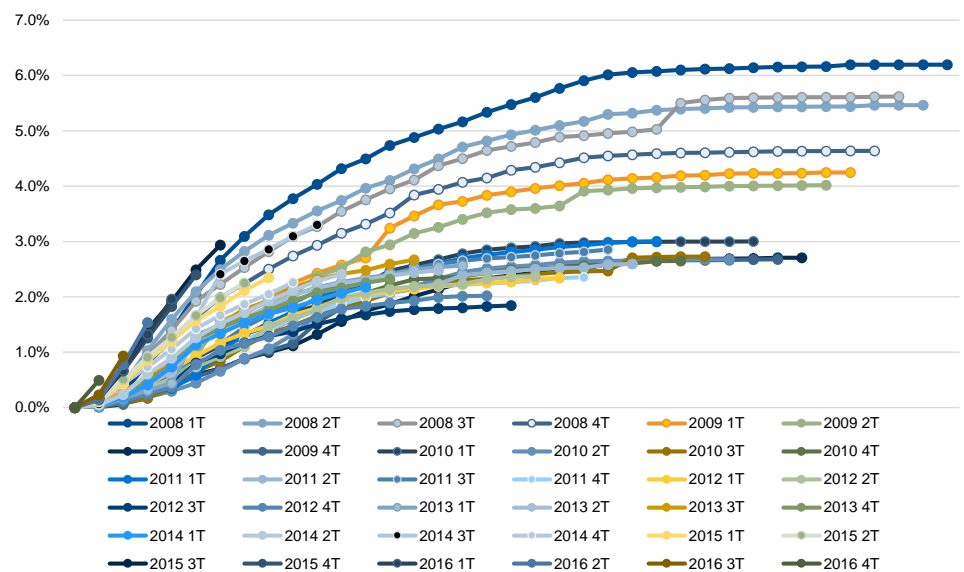
## APPENDIX I. VINTAGE DATA

Vintage data is representative for the securitisation portfolio

Scope based its default rate assumptions on the analysis of the 90 'days past due' static delinquency data provided by CaixaBank – a representation of the presented portfolio – for a period spanning from 2008-2016. The vintage default curves provided by CaixaBank are shown below.

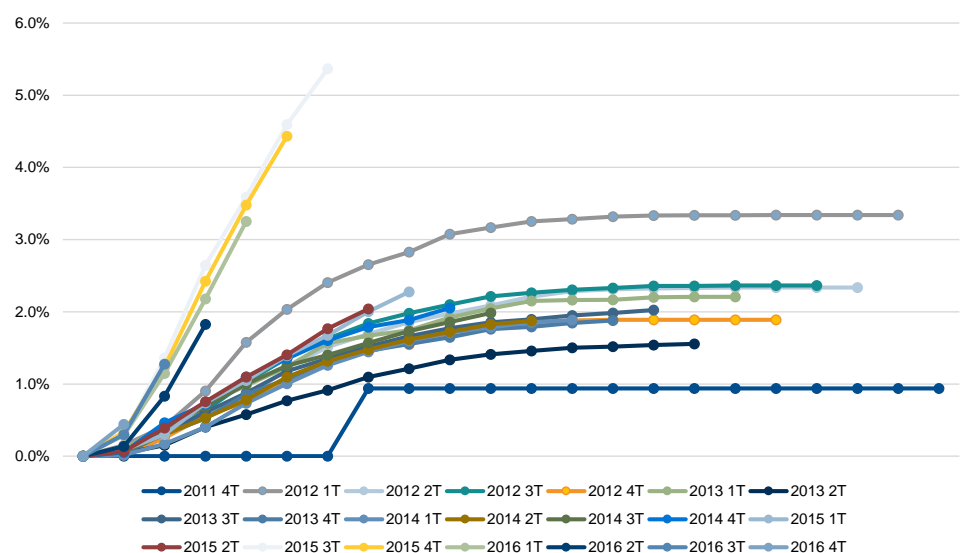
### Cumulative defaults

**Figure 25 Unsecured consumer loans (including pre-approved)**



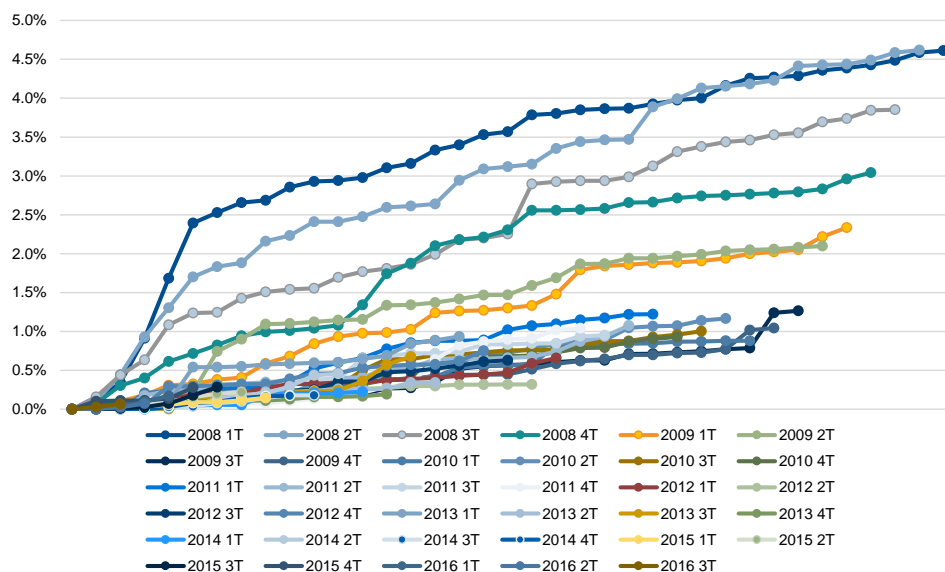
Source: CaixaBank

**Figure 26 Pre-approved unsecured consumer loans**



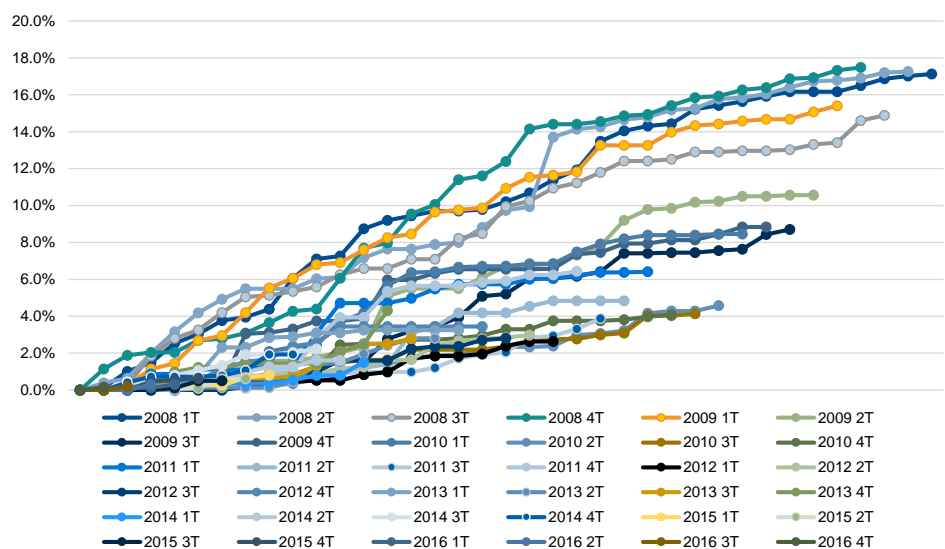
Source: CaixaBank

**Figure 27 Revolving mortgage loans**



Source: CaixaBank

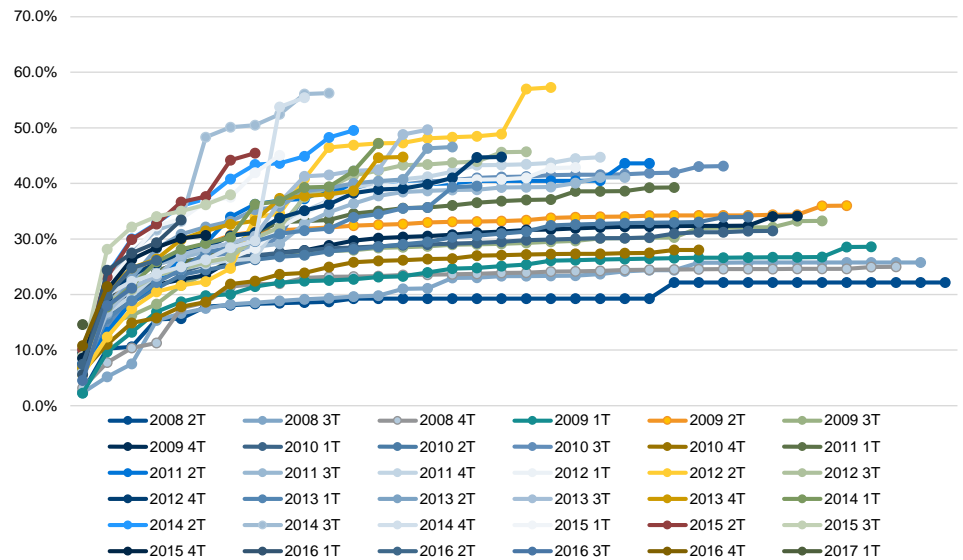
**Figure 28 Mortgage term loans**



Source: CaixaBank

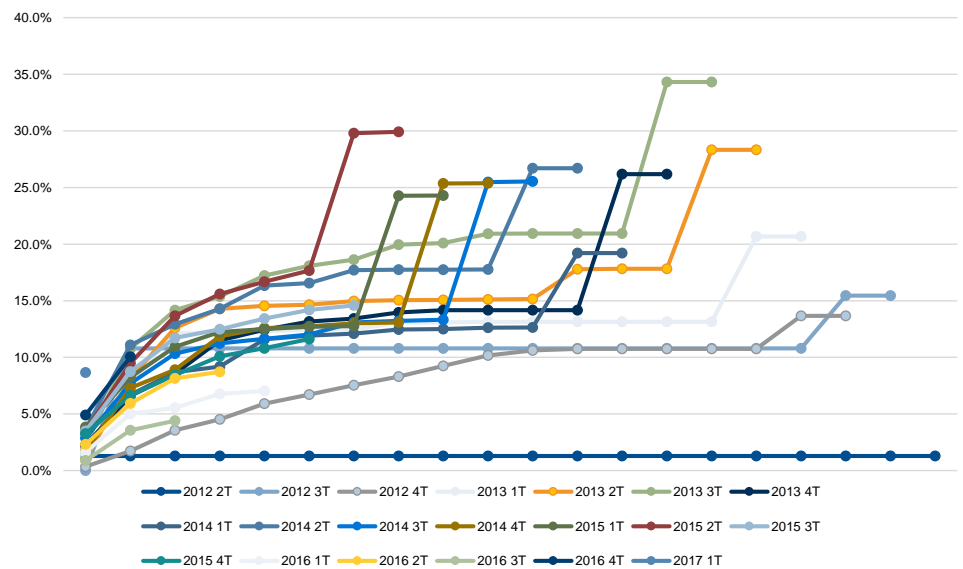
## Cumulative recoveries

**Figure 29 Unsecured consumer loans**



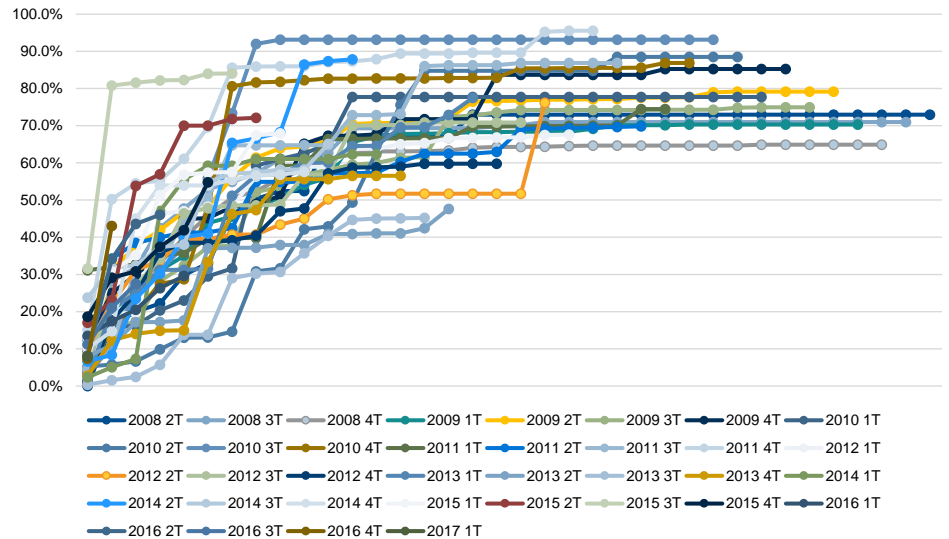
Source: CaixaBank

**Figure 30 Pre-approved unsecured consumer loans**



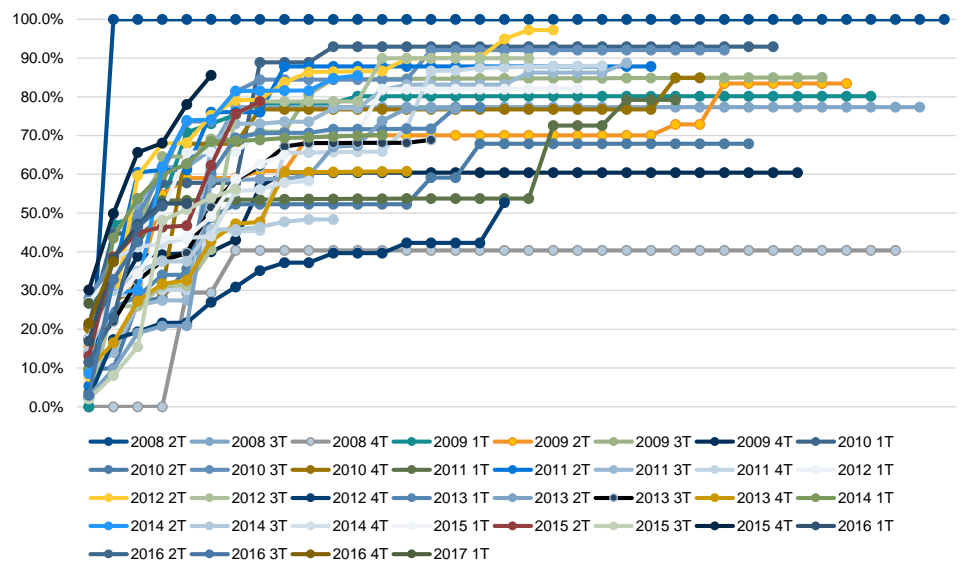
Source: CaixaBank

**Figure 31 Revolving mortgage loans**



Source: CaixaBank

**Figure 32 Mortgage term loans**



Source: CaixaBank

### APPENDIX II. COLLATERAL VALUE ANALYSIS

Scope applied regional-specific, forward-looking security-value-haircut assumptions

Scope derived recovery rate assumptions for the secured portfolio segment by applying its framework for fundamental recovery analysis. This framework involves estimating the current value of the security, on a line-by-line basis, and then applying rating-conditional security value haircuts. These haircuts capture Scope's forward-looking view of the development of real estate markets, as well as assumptions on fire-sale discounts and foreclosure costs. Scope has applied regional-specific, forward-looking security-value-haircut assumptions, as shown in Figure 33:

**Figure 33 Rating-conditional security value haircuts**

Regions	AAA	AA	A	BBB	BB	B	CCC
Andalucia	57.5%	53.0%	46.0%	39.0%	32.0%	25.0%	25.0%
Aragon	50.0%	47.0%	41.5%	36.0%	30.5%	25.0%	25.0%
Asturias	52.5%	47.0%	41.5%	36.0%	30.5%	25.0%	25.0%
Balearic Islands	62.5%	55.0%	47.5%	40.0%	32.5%	25.0%	25.0%
Canary Islands	62.5%	55.0%	47.5%	40.0%	32.5%	25.0%	25.0%
Cantabria	52.5%	49.0%	43.0%	37.0%	31.0%	25.0%	25.0%
Castilla-La Mancha	47.5%	45.0%	40.0%	35.0%	30.0%	25.0%	25.0%
Castile and León	47.5%	45.0%	40.0%	35.0%	30.0%	25.0%	25.0%
Catalonia	60.0%	53.0%	46.0%	39.0%	32.0%	25.0%	25.0%
Valencia	60.0%	55.0%	47.5%	40.0%	32.5%	25.0%	25.0%
Extremadura	52.5%	49.0%	43.0%	37.0%	31.0%	25.0%	25.0%
Galicia	47.5%	45.0%	40.0%	35.0%	30.0%	25.0%	25.0%
La Rioja	50.0%	45.0%	40.0%	35.0%	30.0%	25.0%	25.0%
Madrid	50.0%	47.0%	41.5%	36.0%	30.5%	25.0%	25.0%
Murcia	55.0%	51.0%	44.5%	38.0%	31.5%	25.0%	25.0%
Navarre	50.0%	45.0%	40.0%	35.0%	30.0%	25.0%	25.0%
Basque Country	57.5%	51.0%	44.5%	38.0%	31.5%	25.0%	25.0%
Ceuta	62.5%	57.0%	49.0%	41.0%	33.0%	25.0%	25.0%
Melilla	62.5%	57.0%	49.0%	41.0%	33.0%	25.0%	25.0%

Source: Scope Ratings

B-level assumptions reflect Scope's expected decline in security values given the current market conditions, whereas AAA-level assumptions reflect conditions commensurate with historical troughs in the market. Intermediate rating stresses are derived through linear interpolation between the B and the AAA scenarios.

Scope has applied a B-level security-value-haircut assumption of 25% across all Spanish regions, which is calculated from the following equation:

$$\begin{aligned}
 &\text{Expected security-value-haircut} \\
 &= 1 - [(1 + \text{expected market price change}) \times (1 - \text{collateral-specific discount factor})] \\
 &= 1 - [(1 + 7\%) \times (1 - 30\%)] \\
 &= 25\%
 \end{aligned}$$

Scope believes current Spanish real estate prices are sustainable

Scope believes that current real estate prices across the Spanish regions are, in real terms, sustainable in the long term and will benefit from nominal appreciation in the mid-term. We have assumed a 7% nominal appreciation for Spanish real estate prices, over a horizon of five to six years (i.e. the assumed average time taken to liquidate collateral upon a borrower's default). Scope has applied a 30% collateral-specific discount factor, which captures estimated foreclosure costs and likely firesale discounts on repossessed assets.



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Scope has applied AAA-stress security-value-haircut assumption, which ranges between 47.5 and 62.5% across Spanish regions. These capture the likely decline below the long-term sustainable prices for a real estate market under severe economic stress. The regional differentiation is based on Scope's analysis of fundamental drivers of future real estate prices, such as regional economic strength and diversity, population dynamics, current house-price affordability (i.e. regional GDP per capita to average regional house prices), and current square-metre prices.



### APPENDIX III. LONG-TERM DEFAULT ANALYSIS

This appendix shows how the long-term analysis of this transaction is applied in line with the elements found in Scope's General Structured Finance Rating Methodology. This analysis is designed to improve the stability of AAA<sub>SF</sub> credit enhancement levels and reduce the pro-cyclicality of ratings.

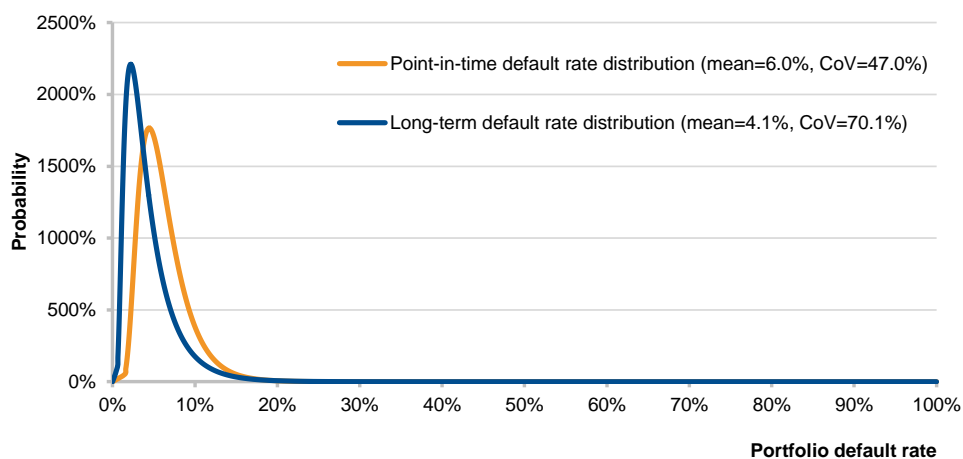
Scope's analysis uses two different portfolio-default distributions: i) point in time; and ii) long term. The point-in-time distribution reflects Scope's performance assumptions given current macro and microeconomic conditions. The long-term distribution reflects Scope's performance assumptions under a long-term average credit environment, representing our through-the-cycle view.

We use the point-in-time distribution of portfolio defaults to calculate expected loss under a B<sub>SF</sub> stress, and the long-term distribution of portfolio defaults to calculate the expected loss under a AAA<sub>SF</sub> stress. Under all other rating stress scenarios (BB<sub>SF</sub> to AA<sub>SF</sub>), Scope blends the results obtained from point-in-time and long-term defaults.

With this approach, Scope prevents undue volatility of high investment grade ratings over the economic cycle. We can thus say that this methodology is not pro-cyclical. The stabilisation effect on sub-investment-grade ratings is gradually less noticeable, and the B<sub>SF</sub> ratings are driven only by the point-in-time distribution.

Figure 34 shows Scope's long-term default rate distribution for the aggregate portfolio compared to the – unadjusted – point-in-time distribution. The distributions are constructed using an inverse Gaussian method and their shape is fully determined by the respective – long-term and point-in-time – mean and coefficient of variation parameters assumed by Scope. The portfolio parameters are calculated using the mean and coefficient-of-variation parameters for the two portfolio segments – unsecured and mortgage-secured loans – with the assumption that both segments are perfectly correlated.

**Figure 34 Long-term portfolio default rate distribution compared to point-in-time**



Source: Scope Ratings

The following sections explain how the long-term mean default rate and coefficient of variation was derived for each portfolio segment.

#### Long-term mean default rates

Scope calculates long-term mean default rates for both portfolio segments by adjusting the point-in-time default rates. This adjustment factor is calculated by dividing assumed market default rates over a full economic cycle by market default rates over a reference period as determined by the transaction's vintage data period.

$$\text{Portfolio long-term default rate} = \text{Adjustment factor} \times \text{portfolio point-in-time default rate}$$

$$\text{Adjustment factor} = \frac{(\text{Average market default rate through-the-cycle})}{(\text{Average market default rate over vintage period})}$$

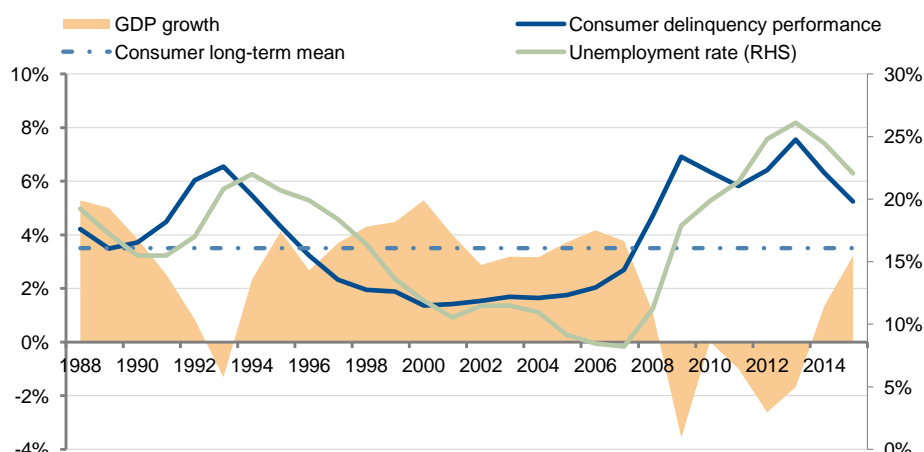
Scope's long-term analysis prevents undue volatility of high investment grade ratings

1993 to 2013  
represents full  
economic cycle for  
Spanish economy

Scope uses public, dynamic delinquency data, split by product segment, to derive synthetic, static cumulative delinquency rates over a risk horizon consistent with the portfolio's remaining life. Such delinquency rates are used as a proxy for market default rates.

We consider that 1993-2013 represents a complete economic cycle in Spain (see Figure 35). The following chart shows the Spanish economic cycle as represented by changes in GDP and unemployment rate together with the credit performance of the consumer credit market, including its long-term average.

**Figure 35 Economic cycle and long-term average 90dpd performance of consumer obligors**



Sources: Bank of Spain, Spanish National Statistics Office (INE), Eurostat and Scope Ratings

Scope has assumed a point-in-time mean default rate of 5.0% for unsecured loans and 10.3% for mortgage-backed loans, with coefficient of variations of 50.0% and 40.6%, respectively. Scope has also assumed long-term mean default rates of 3.4% for unsecured loans and 7.3% for mortgage-backed loans, with coefficients of variation of 75.0% and 60.0%, respectively. The point-in-time default rates are higher than those in the long term, reflecting the stress of the period covered by the vintage data relative to the full cycle. The default rate calculations are summarised in Figure 36.

**Figure 36 Long-term vs point-in-time default rate for each portfolio segment**

	Unsecured consumer loans	Mortgage-backed consumer loans
(a) Market cumulative DR over vintage period (2008-2016)	10.7%	16.8%
(b) Market DR over full economic cycle (1993-2013)	15.9%	23.6%
Adjustment factor (a/b)	0.675x	0.709x
Point-in time DR (c)	5.0%	10.3%
Long-term DR (adjustment factor x c)	3.4%	7.3%

Source: Scope Ratings

The higher long-term coefficients of variation override volatility derived from default vintage data and reflect the higher default volatility of CaixaBank's loan book compared to the Spanish market (see Figure 37).

**Figure 37 Long-term vs point-in-time DR CoV for each portfolio segment**

	Unsecured consumer loans	Mortgage-backed loans
Market DR CoV over full economic cycle (1993-2013)	50.9%	50.5%
Market DR CoV over vintage period (2008-2016)	16.6%	14.6%
Caixabank's point-in-time DR CoV	50.0%	40.6%
Caixabank's long-term DR CoV	75.0%	60.0%

Source: Scope Ratings

### APPENDIX IV. REGULATORY AND LEGAL DISCLOSURES

#### *Important information*

Information pursuant to Regulation (EC) No 1060/2009 on credit rating agencies, as amended by Regulations (EU) No. 513/2011 and (EU) No. 462/2013

#### *Responsibility*

The party responsible for the dissemination of the financial analysis is Scope Ratings AG, Berlin, District Court for Berlin (Charlottenburg) HRB 161306 B, Executive Board: Torsten Hinrichs (CEO), Dr. Stefan Bund.

The rating analysis has been prepared by Antonio Casado, Lead Analyst. Karlo Fuchs, Committee Chair, is the analyst responsible for approving the rating.

#### *Rating history*

The rating concerns newly issued financial instruments, which were evaluated for the first time by Scope Ratings AG. Scope had already performed a preliminary rating for the same rated instrument in accordance with Regulation (EC) No 1060/2009 on rating agencies, as amended by Regulations (EU) No 513/2011 and (EU) No 462/2013.

Instrument ISIN	Date	Rating action	Rating
ES0305274005	26.07.2017	new	(P)AA+ <sub>SF</sub>
<b>ES0305274013</b>	26.07.2017	new	(P)BB+ <sub>SF</sub>

#### *Information on interests and conflicts of interest*

The rating was prepared independently by Scope Ratings, but for a fee based on a mandate of the issuer of the investment, represented by the management company. The issuer has participated in the rating process.

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#### *Key sources of information for the rating*

Offering circular and transaction-related contracts; operational presentation packet; delinquency and recovery vintage data; loan-by-loan portfolio information; portfolio audit report; legal opinions.

Scope Ratings considers the quality of the available information on the evaluated entity to be satisfactory. Scope ensured as far as possible that the sources are reliable before drawing upon them, but did not verify each item of information specified in the sources independently.

*Examination of the rating by the rated entity prior to publication*

Prior to publication, the rated entity was given the opportunity to examine the rating and the rating drivers, including the principal grounds on which the credit rating or rating outlook is based. The rated entity was subsequently provided with at least one full working day, to point out any factual errors, or to appeal the rating decision and deliver additional material information. Following that examination, the rating was not modified.

*Methodology*

The methodology applicable for this rating is 'General Structured Finance Rating Methodology' and the 'Methodology for Counterparty Risk in Structured Finance'. All files are available on [www.scooperatings.com](http://www.scooperatings.com). The historical default rates of Scope Ratings can be viewed on the central platform (CEREP) of the European Securities and Markets Authority (ESMA): <http://cerp.esma.europa.eu/cerp-web/statistics/defaults.xhtml>. A comprehensive clarification of Scope's default rating, definitions of rating notations and further information on the analysis components of a rating can be found in the documents on methodologies on the rating agency's website.

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