

## RATINGS

Class	Rating	Notional (EUR m)	Notional (% assets)	CE (% assets)	Coupon	Final maturity
Serie A	AAA <sub>SF</sub>	2.793	84.0	20.75	3M Euribor 1.00%	October 2051
Serie B	BB <sub>SF</sub>	532	16.0	4.75	3M Euribor 1.25%	October 2051
Reserve fund sub-loan	Not rated	157.9	4.75	0.0		
<b>Total notes</b> (excluding sub-loan)		<b>3.325</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		Portfolio profile
Purpose	Liquidity/Funding	The securitised portfolio was originated in the ordinary course of business by CaixaBank, S.A and contains two main product types – unsecured receivables with an average remaining term of 5.0 years (75.6% of the portfolio's outstanding balance) and mortgage receivables with an average remaining term of 11 years (24.4%). The unsecured receivables typically have a personal guarantee or other types of real guarantee that differ to a mortgage.
Issuer	Caixabank Pymes 10, Fondo de Titulizacion	
Originator, servicer, account bank and paying agent	CaixaBank, S.A.	
Asset class	SME ABS	
Assets	EUR 3,325m	
Notes	EUR 3,325m	
ISIN Serie A	ES0305380000	
ISIN Serie B	ES0305380018	
Closing date	22 November 2018	
Legal final maturity	25 October 2051	
Payment frequency	Quarterly	<b>Analysts</b>
Payment dates	25 Jan, 25 Apr, 25 Jul, 25 Oct	Kreschma Nazary      Lead analyst <a href="mailto:k.nazary@scooperatings.com">k.nazary@scooperatings.com</a> +49-69-66-77-389-69
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## Rating rationale (summary)

The ratings reflect the notes' protection against portfolio losses, provided by the quality of the underlying collateral in the context of the Spanish macroeconomic environment and by the transaction's legal and financial structure. At closing, the class A notes benefit from 20.75% credit enhancement, provided by the full subordination of class B and by an amortising reserve fund. The class B notes will benefit from the subordination of the reserve fund once the class A has been redeemed in full. The size of the reserve fund is equal to 4.75% of the notes' balance but will amortise to 4.00% of the outstanding notes' balance after a lock-up period of one year. All notes benefit from periodic gross excess spread, which we have assumed will amount to about 1.3% on the first payment date.

The counterparty exposure to CaixaBank does not constrain the ratings. This risk is mitigated by: the bank's high credit quality; investment grade replacement triggers; and the moderate expected life of the class A notes (2.8 years). The bank's systemic importance and resolvability also supports this view.

Default and recovery rate assumptions over the portfolio's amortisation period were applied to the cash flow analysis, which takes into account the transaction's structural features. We have assumed an inverse Gaussian probability of default distribution, with a mean default rate of 10.5% for secured exposures and 4.5% for unsecured exposures, and with coefficients of variation of 50% and 60%, respectively. We have also considered a long-term probability of default distributions, adjusted for the economic cycle, to reduce the procyclicality for the class A rating. These long-term distributions assume a mean default rate of 7.9% for secured exposures and 3.4% for unsecured exposures, with coefficients of variation of 65% and 75%, respectively.

Base case recovery rates are 80% and 35% for the secured and unsecured portfolios, respectively, which result in a weighted average base case recovery rate of 45.9% for the total portfolio. This level is subject to rating-conditional haircuts: We have assumed weighted average recovery rates of 27.5% and 42.3% for the analysis of the class A and class B, respectively.



## RATING DRIVERS

### Positive rating drivers

**Experienced originator.** The transaction benefits from the assets' proven performance and the experience of the originator, being the 10<sup>th</sup> Pymes securitisation issued by CaixaBank. We have calibrated our performance assumptions, taking into account that 27% of the portfolio is composed of seasoned assets stemming from previous Pymes securitisations (series 6 and 7). The rest of the portfolio consists of newly originated loans following the same prudent underwriting standards of previous Pymes securitisations.

**Positive asset selection.** Part of the assets in this portfolio come from previous securitisations which have performed well. We expect a moderate lifetime mean default rate of 6.0% for the securitised portfolio, which is relatively low compared with previous transactions of the same series. These expectations take into account both the internal probabilities of default reported by CaixaBank, which were derived with advanced internal ratings-based credit risk models, and performance vintages for the 2011-17 period.

**Low loan-to-value ratio.** Expected recoveries on defaulted mortgage receivables are high (80%), driven by the low average loan-to-value ratio (47%) of that portfolio segment.

### Negative rating drivers

**Amortising reserve fund.** The amortising nature of the reserve fund prevents the build-up of credit enhancement, which provides the main source of credit protection for the class B noteholders. In addition, even though the reserve fund is funded at 4.75% of the notes' closing balance, it may amortise to 4.00% of the notes' outstanding balance after a lock-up period of one year, with no floor. This may significantly reduce available protection for class B noteholders in a back-loaded default scenario.

**Limited excess spread.** The weighted average nominal rate on the assets (2.27%) is relatively low compared with the average rate on the notes at closing (0.72%). Excess spread can only be used for default-provisioning according to the transaction's 12-month default definition and any balance not used in any given period will flow to the originator. Scope has factored in stressed senior and servicing costs of 1% and potential asset yield compression of 25 bps caused by the prepayment or default of higher-yielding assets. This would result in available annual net excess spread of 0.3%.

**Unhedged interest rate risks.** Rising interest rates would lead to further spread compression, because a significant portion of the portfolio (34.4%) pays a fixed-rate coupon, while the notes will pay a floating rate referenced to three-month Euribor. The moderate expected life of the class A (2.8 years) mitigates interest rate risk, whereas the class B's longer expected life (6.7 years) carries a greater risk.

### Positive rating-change drivers

**Better-than-expected asset performance as well as faster-than-expected portfolio amortisation** if credit enhancement builds up before credit losses crystallise may positively impact the ratings.

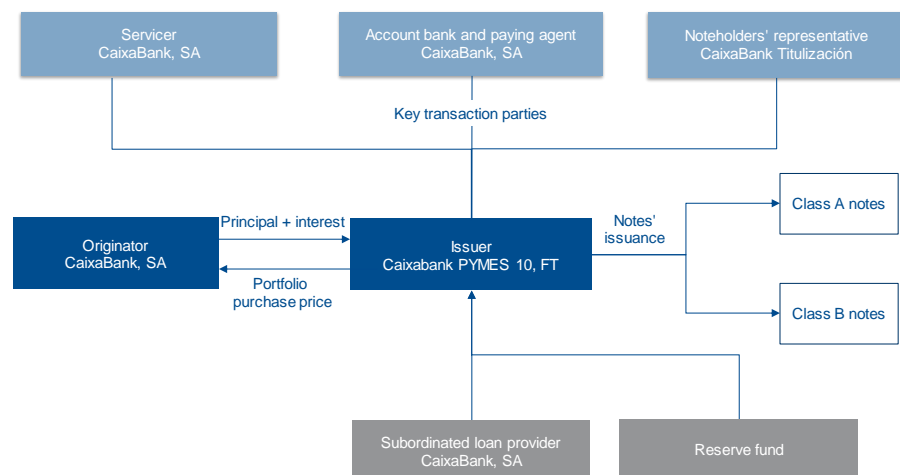
### Negative rating-change drivers

**Worse-than-expected asset performance and/or a deterioration of the Spanish macroeconomic environment** could negatively impact the ratings.

## 1 TRANSACTION SUMMARY

This transaction is a EUR 3,325m true-sale securitisation of a granular portfolio of secured and unsecured loans and drawn lines of credit granted to Spanish SMEs and self-employed individuals. It features two strictly sequential tranches of floating-rate, quarterly-paying notes with a combined priority of payments and a cash reserve available for default-provisioning. The class B notes are totally subordinated to the class A notes. CaixaBank performs all counterparty roles in the transaction as the originator, servicer, issuer account bank holder, and paying agent.

Figure 1. Simplified transaction diagram



## 2 ORIGINATOR AND SERVICER

### 2.1 Corporate overview

CaixaBank is a leading Spanish bank with a solid credit profile

CaixaBank is an experienced originator of SME CLOs. We assess the bank's credit profile to be solid, 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 second-largest Spanish banking group by total assets and a leading domestic player, with 13.7m clients and EUR 388bn of total assets as at September 2018. At the same date, the bank had a 15.4% market share of deposits and 15.8% of loans, as well as Spain's largest network of retail branches (4,681) and ATMs (9,422).

CaixaBank also has a strong technology platform, with 5.7m and 4.3m 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 the control of Portugal's Banco BPI in 2017 and currently holds 94.2%.

The bank has sound prudential metrics and managed to weather the Spanish real estate crisis relatively well. While profitability has remained subdued due to elevated credit costs, the bank is positioned to leverage on the macroeconomic recovery in Spain, with an already visible improvement in returns in recent years.

CaixaBank's loan book as of Q3 2018 is geared towards residential mortgages (41%) and business loans (34%), followed by consumer and other retail lending (16%), public-sector loans (6%) and mainly legacy real estate developer loans (3%). We have calculated that the bank's net loan book has grown at a moderate compounded annual growth rate of about

2.2% over the past five years, mainly supported by new origination of business and consumer loans and the gradual winding-down of the mortgage segment deleveraging.

Figure 2 CaixaBank's loan book (EUR)

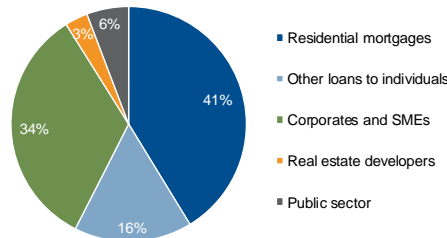
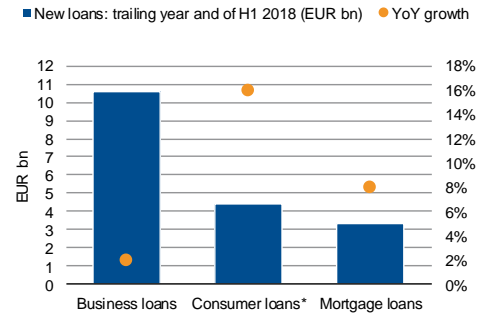


Figure 3 New origination



\* Consumer loans include mortgage-backed consumer loans

Source: CaixaBank

CaixaBank's lending practices have been reasonable amid strong competition

In recent years, the bank has consolidated its dominance of all lending segments through acquisitions and organic growth, leading to a significant rise in lending volumes. In addition, CaixaBank achieved this while maintaining generally prudent underwriting standards amid intensifying nationwide competition.

Extensive use of advanced IRB models

## 2.2 Underwriting

We consider the bank's underwriting policies to be solid. 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 credit models.

CaixaBank makes use of its extensive network of branches to originate loans. 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 credit risk models, tailored by customer type (e.g. self-employed individuals, SMEs), customer status (existing or new retail clients), or customer size (e.g. micro, small and medium enterprises), among other criteria. All scoring and rating models relevant to the securitised portfolio are advanced internal rating-based models.

The models deliver a point-in-time probability of default (based on a definition of 90 days overdue) over the next 12 months – at loan level for scoring models applicable to individuals; at borrower level for rating models applicable to enterprises. The discriminatory power of the models is monitored monthly, and recalibrations are conducted annually. We are satisfied with the discriminatory power of the models. Rating models for SMEs, which account for 78% of the portfolio's borrower types, exhibit a higher discriminatory power than scoring models for self-employed individuals.

The analysis of the credit risk models considers: the borrower's socio-economic attributes or financial statements; internal or credit-bureau early-warning signals; in the case of existing clients, other behavioural variables, such as payment history, years of relationship with the bank, and asset and liability positions; and, in the case of scoring models, loan-specific characteristics (like products, amounts, terms, collateral).

## 2.3 Servicing and recovery

We consider the bank's underwriting policies to be solid. 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 credit models.

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

## 2.4 Product types

Four types of SME products originated by CaixaBank are relevant to the transaction. Their main characteristics are summarised below:

**Unsecured loans:** Short- to medium-term loans, with personal guarantees or other types of real guarantees (but not a mortgage). SME loans typically have the joint and several guarantee of the majority shareholders. A principal grace period of up to 12 months is possible. The average tenor is six to seven years.

**Flexible credits:** This product is designed for customers with a good credit history, for whom the bank makes origination more efficient. It corresponds to short-to-medium-term amortising drafts under unsecured credit facilities, subject to a maximum commitment. Each draft under a given contract has an individual, fully predetermined amortisation schedule. Like unsecured loans, they feature personal guarantees or other types of real guarantees that differ to a mortgage.

**Mortgage loans:** Medium- to long-term loans with a mortgage guarantee on real estate assets located in Spain. A principal grace period of up to 12 months is possible. Underwriting is effected in a public deed, and the claim on the mortgaged property is entered in the property registry.

**Mortgage flexible credit:** This product allows CaixaBank to provide short-term financing under a mortgage-guaranteed product. It corresponds to credit lines backed by real estate assets located in Spain. Drawings under the credit facility are subject to a maximum loan-to-value limit, typically 60% for SMEs. Each draft under the credit line has a predetermined amortisation schedule.

Further drawings under mortgage and non-mortgage credit lines will be financed by CaixaBank outside of the securitisation structure. All payment obligations under the credit drafts rank pari-passu. Recovery proceeds upon default would be distributed pro-rata between the issuer and CaixaBank.

The credit lines may be backed by second-lien mortgages, but if not securitised, the first-lien mortgage is also granted by CaixaBank. We have assessed the loan-to-value metrics on the securitised portfolio, considering maximum commitments of credit lines and the maximum balance on any higher-ranked mortgage.

## 3 ASSET ANALYSIS

### 3.1 Key portfolio attributes

#### 3.1.1 Product segments

Figure 4 shows the portfolio composition in terms of the product types described above.

Figure 5 provides further details on the products by obligor type and the respective default probabilities as provided by the originator.

Our credit risk analysis has grouped the product types into two main segments: unsecured receivables (75.6%) and secured receivables backed by first- or second-lien mortgages (24.4%). Figures 6 and 7 summarise the key attributes of each segment.

We have grouped product types into two main segments: unsecured receivables and mortgage-secured receivables

Figure 4. Portfolio segments by asset type

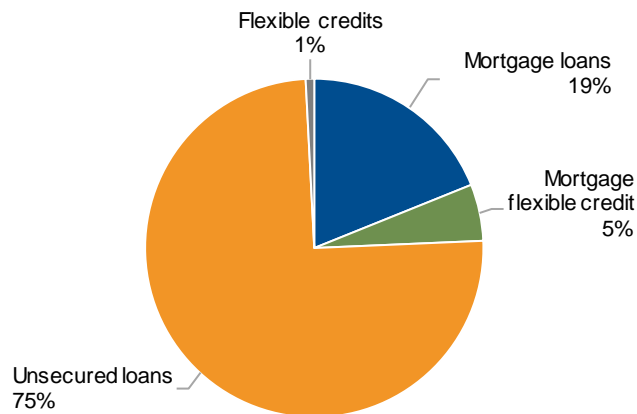


Figure 5. Portfolio segmentation and obligor types

Asset type	Obligor type	Balance %	Originator PD WA	Segment share %
<b>Flexible credits</b>	Self-employed	0.2%		25%
	SME	0.6%		74.9%
	Total	0.8%	2.9%	100.0%
<b>Mortgage flexible credit</b>	Self-employed	5.3%		98.5%
	SME	0.17%		1.49%
	Total	5.4%	1.46%	100.00%
<b>Mortgage loans</b>	Self-employed	16.5%		87.5%
	SME	2.4%		12.5%
	Total	18.9%	1.8%	100.0%
<b>Unsecured loans</b>	Self-employed	60.3%		81%
	SME	14.5%		19%
	Total	74.8%	1.2%	100.0%

Figure 6. Attributes of unsecured receivables

Unsecured loans	Total	Sub-segments	
		Standard Credit Loan	Credit Line
% of portfolio	75.6%	74.8%	0.8%
<b>Main attributes</b>			
WA size	45908.35	46193.87	19862.67
WA coupon	2.4%	2.4%	3.2%
WA original term (in years)	6.87	6.86	7.09
WA seasoning (in years)	1.69	1.67	3.65
Fixed rate %	39.3%	39.7%	0.0%

Figure 7. Attributes of unsecured receivables

Mortgage-backed loans	Total	Sub-segments	
		Standard Mortgage Loan	Mortgage Credit lines
% of portfolio	24.4%	18.90%	5.49%
<b>Main attributes</b>			
WA size	133349.22	158734.50	46017.91
WA coupon	1.8%	1.9%	1.5%
WA original term (in years)	17.00	15.53	22.09
WA seasoning (in years)	4.84	3.58	9.17
Fixed rate %	20.0%	25.7%	0.3%
<b>Collateral</b>			
First lien %	10.8%	12.9%	3.7%
Second lien %	5.1%	6.0%	1.8%
Effective or average LTV	46.9%	47.3%	45.6%

The portfolio has been positively selected

### 3.1.2 Eligibility criteria

Figure 8 summarises the most relevant portfolio eligibility criteria. The portfolio has been positively selected: there is a low share of credit lines and bullet loans as well as an absence of refinanced and restructured loans. The loans are generally aimed at funding genuine business needs of SME obligors.

Figure 8. Portfolio eligibility criteria

Regarding all receivables in the portfolio
All borrowers are individuals and residents in Spain
No borrower is an employee of the originator
All receivables are granted to SMEs or self-employed individuals
No receivables have been restructured or stem from a refinancing operation
No receivables are more than 90 days in arrears
No receivables are lines of credit granted for financing real estate developments (i.e. 'tipo promotor' receivables)
No receivables are syndicated
All receivables are denominated in euros
All receivables amortise in accordance with a predefined schedule
All payments are by direct debit
Regarding 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 the case of receivables guaranteed by liens of second rank, the first lien is with the originator or the issuer

Scope does not expect the exposure to Catalonia to pose a significant credit risk

### 3.1.3 Granular portfolio with no relevant concentrations

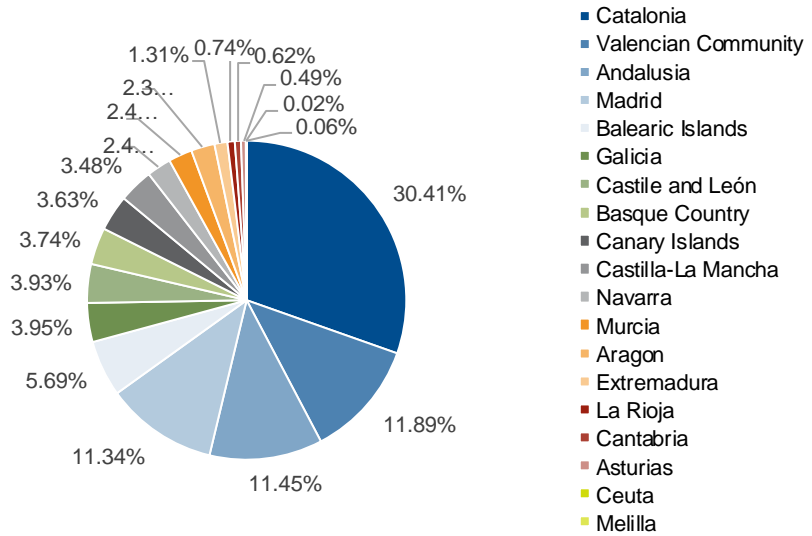
The portfolio is granular and well diversified. The largest obligor makes up 0.6% of the portfolio; the ten largest combined, 3.8%.

The large exposure to the region of Catalonia (30.4%) reflects CaixaBank's natural footprint. While ongoing tensions around Catalonia's independence continue to challenge the country's political environment, we do 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.

We do not consider sectorial concentration to pose a significant credit risk. The three largest sectors – retail, catering and agricultural – account for about 35% of the portfolio. The remaining sectors are very well diversified within the portfolio.



Figure 9. Regional distribution



A significant portion of the mortgage portfolio segment comprises seasoned assets from previous securitisations

**3.1.4 Seasoning**

The portfolio is well seasoned, with a weighted average life of 2.67 years. The same applies on the segment level, with unsecured loans at 20 months, and most mortgage-backed loans at 4.7 years. The latter assets stem from the early amortisation of Pymes 6 and 7, two other CaixaBank securitisations.

Our default rate assumptions account for the effect of seasoning and therefore do not represent the full lifetime of securitised products. Rather, default-rate assumptions correspond to the marginal life-to-maturity left from the portfolio's seasoning point. Figures 10 and 11 below show the origination date distribution by portfolio segment.

Figure 10. Secured receivables

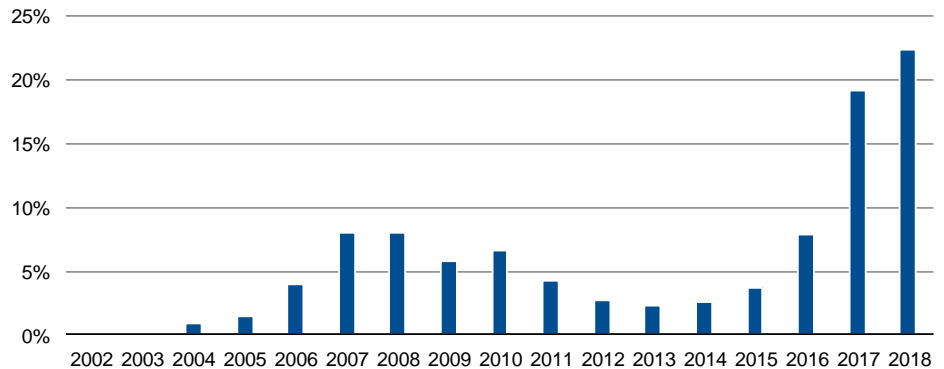
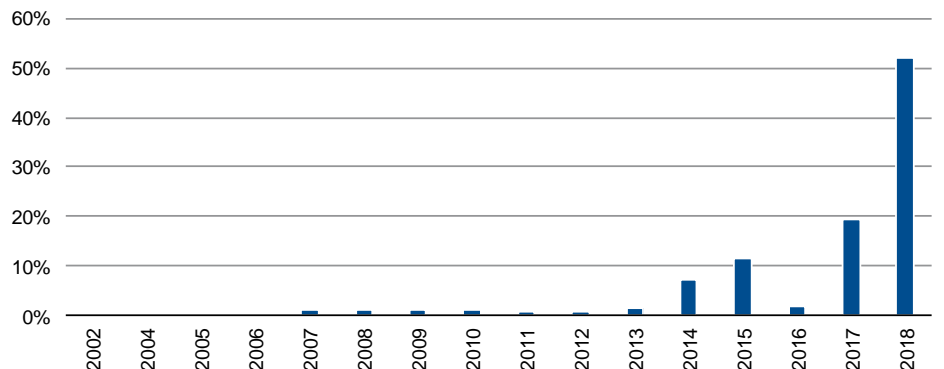


Figure 11. Unsecured receivables



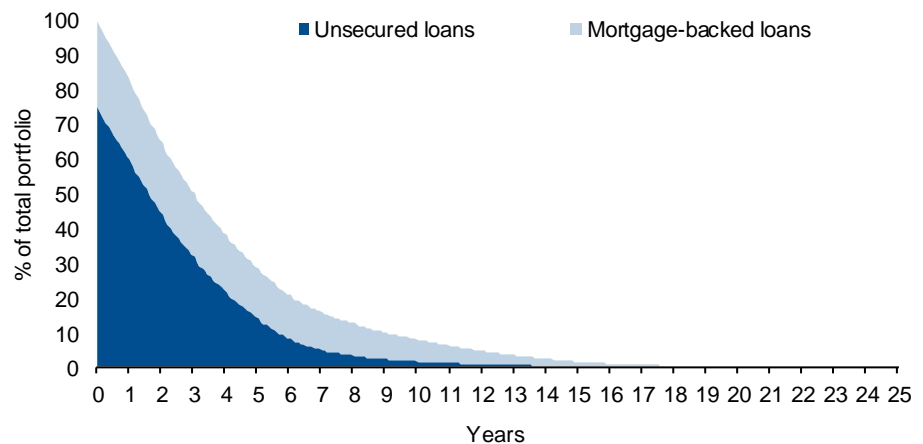


### 3.1.5 Amortisation profile

The portfolio has a relatively moderate weighted average life of 6.5 years. This reflects the weight of secured loans (one-third of the portfolio), the large share of unsecured loans, and the prevalence of amortising receivables.

Each product segment has a distinct amortisation profile, with a weighted average remaining life of 6.5 years for unsecured loans<sup>1</sup> and 11.7 years for mortgage-backed loans. Due to the notes' sequential amortisation, class B noteholders will only be exposed to the mortgage-backed loans at the end of the transaction.

Figure 12. Scheduled amortisation



### 3.1.6 Optional grace periods and payment holidays

About 4.12% of portfolio loans provide the option for payment holidays (on interest and principal) or principal grace periods (1.49%). 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. Class B noteholders are mainly exposed because loans with such options are mostly mortgage-backed with a long amortisation.

We have derived performance expectations from vintage data which reflect the portfolio's composition, including the share of flexible loans. As such, we do 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. We have tested low prepayment and back-loaded default scenarios to account for such risks.

### 3.1.7 Second-lien loans

About 32% of the mortgage-secured loans, at 24.4% of the total portfolio, are second lien. In accordance with both the originator's underwriting policies and portfolio eligibility criteria, when a second-lien loan is granted, the issuer or originator must also hold the first lien. Our recovery rate assumptions account for the rank of the loan by deducting from recovery proceeds the amount of prior liens not held by the issuer.

## 3.2 Economic environment

### Updated macro outlook for Spain

Following two consecutive shocks, namely the Great Financial Crisis and the euro area crisis, during which Spain requested financial assistance to recapitalise financial institutions in July 2012, the Spanish economy has undergone a significant structural adjustment. Since Spain exited the European Stability Mechanism programme in January 2014, its economy has grown, on average, around 2.6%, well above the euro area average, which has grown at 1.9%. This has been driven by the government's structural reforms, which were mostly implemented from 2010-2015, wage moderation and resulting cost-competitiveness gains,

<sup>1</sup> Under the assumption of a zero prepayment rate.

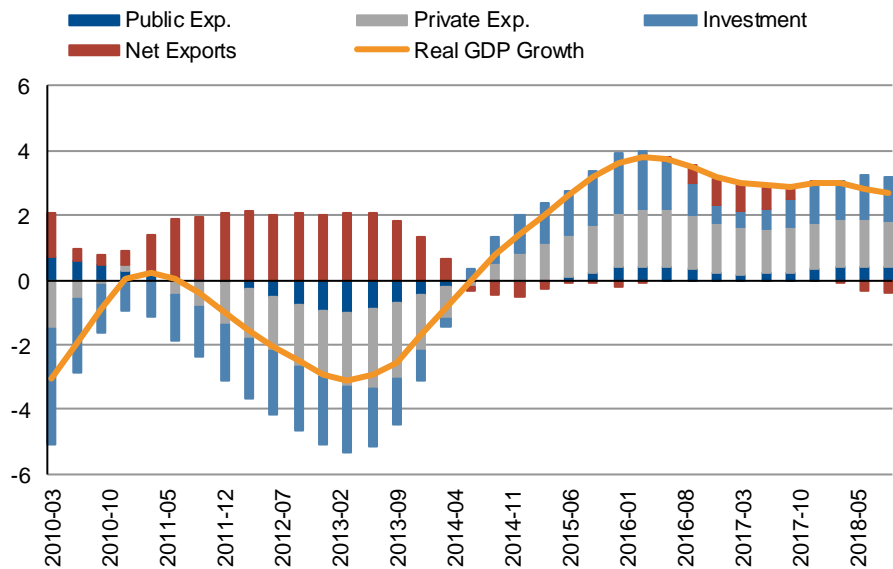
Available vintage data is reflective of the portfolio's composition

low oil prices, the ECB's accommodative monetary policy, and favourable external conditions, particularly in the euro area. We expect this benign combination of factors to continue, albeit to a lesser degree, sustaining Spain's balanced and employment-intensive economic expansion over the next few years, albeit with less dynamism, moderating economic growth to 2% over the medium term.

The structural adjustment has resulted in a shift in resources towards the dynamic, export-oriented services sector, which has replaced the outsized construction sector as the engine of growth and job creation. In addition, wage moderation, as evidenced by real unit-labour costs falling by 7.6% since 2009 (based on AMECO data), compared to a broadly stable development in the euro area, have led to gains in cost competitiveness and resulted in significant job creation. More than half of the 3.8m jobs lost during the crisis have now been recovered<sup>2</sup>. We also note that banking sector reforms have contributed to tougher bank lending standards, steering the allocation of credit towards more productive and financially sounder firms, supporting the investment recovery<sup>3</sup>.

Looking ahead, we expect continued household deleveraging, in light of low overall net wealth and savings rates, to dampen consumption somewhat while investment growth is expected to remain robust over the medium term, even if financial conditions were to tighten slightly following the eventual normalisation of the ECB's monetary policy. Fiscal policy support will also likely remain mildly positive, particularly in view of some of the expansionary measures of the 2018 budget<sup>4</sup>. Finally, taking into account the lower trade balance, the current account is projected to stabilise at around 1.4% in the medium term<sup>5</sup>, driven by weaker foreign demand, as well as a slowdown in tourism.

Figure 13. Real GDP growth, %



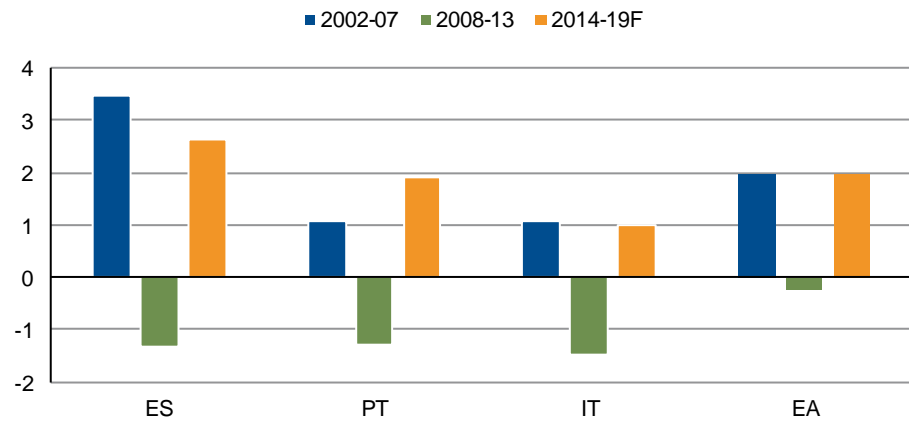
<sup>2</sup> Based on INE data, Q3 2007 employment peaked at 20.8m. Q1 2014 was the trough with 16.95m employed. As of Q3 2018, the number of employed is 19.5m.

<sup>3</sup> IMF Article IV, October 2017.

<sup>4</sup> EC Autumn Economic forecasts, November 2018.

<sup>5</sup> 2022-2023, IMF WEO October 2018.

Figure 14. Average real GDP



Source: Haver, EC, Scope Ratings

While the short-to-medium-term growth outlook is robust, Spain's long-term economic growth prospects face considerable challenges. The IMF estimates potential growth at around 1.7%<sup>6</sup>, slightly above the European Commission's estimate of 1.5%<sup>7</sup> over the medium term, constrained by weak productivity growth, unfavourable labour force demographics, and high structural unemployment. According to the IMF, productivity levels in Spanish manufacturing, trade and market services sectors are considerably lower than those of EU peers due to Spain's corporate structure, which is composed of low-productivity small and micro-firms. The IMF further points to the need to fully implement the Market Unity Law<sup>8</sup>, liberalise professional services, enhance access to equity-financing for start-ups, reduce size-related requirements, and improve public R&D spending to raise potential growth and competitiveness. These constraints are reflected in the fact that, based on OECD data, about half of real GDP growth over 2014-16 was driven by total hours worked, whereas the contributions from capital and total-factor productivity were approximately equal. While this is slightly better compared to peers such as Portugal or Italy, it points to a need to improve Spain's productivity levels, which are the main growth driver among higher-rated peers<sup>9</sup>. In this context, we note positively that the economy's improved fundamentals, including a turnaround in productivity growth from its pre-crisis negative trend, suggest longer-term payoffs from past structural reforms.

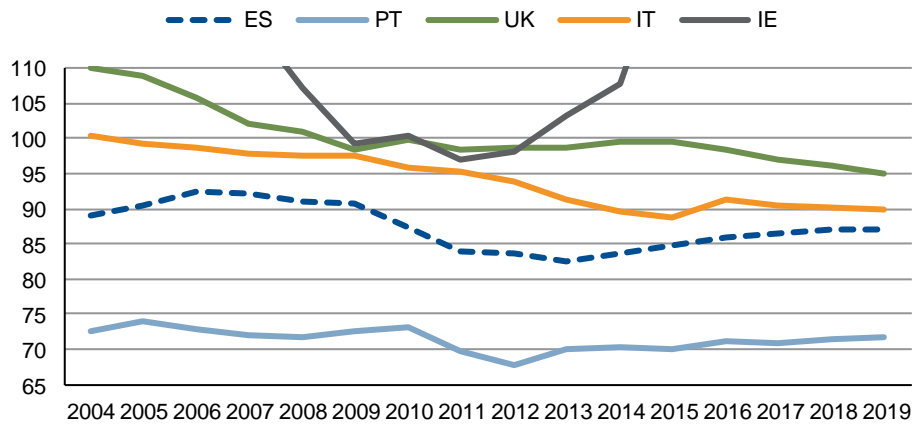
<sup>6</sup> IMF Article IV, November 2018.

<sup>7</sup> EC Economic Forecasts Autumn 2018.

<sup>8</sup> The Market Unity Law establishes a single market in Spain by eliminating differential treatment of economic activity by the central, regional and local authorities. A recent decision by the Constitutional Court, which found one principle of the Market Unity Law to be in violation of the constitution, could delay its implementation.

<sup>9</sup> IMF Article IV, October 2017.

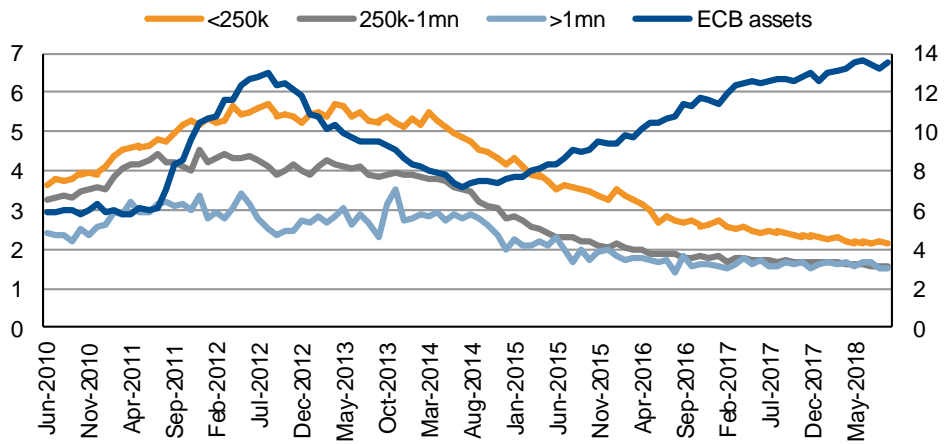
Figure 15. GDP potential growth, %



Source: Haver, AMECO, Scope Ratings

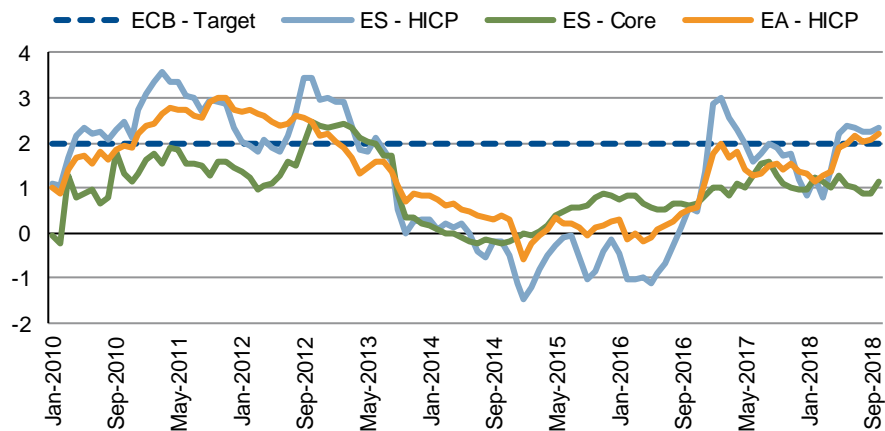
In our opinion, the national structural reforms, combined with the euro area governance reforms and the ECB's actions, have led to a significant decline in financing rates for all sectors of the economy including non-financial corporations, whose borrowing rates have dropped between 200 bps and 300 bps depending on loan size and maturity. At the same time, we note that in the case of Spain, the sustained accommodative monetary policy stance is also adequate in light of still-subdued price levels. While headline inflation has been above 2% since May this year, the price level is expected to gradually moderate to around 1.5% in 2020, driven by base effects in oil prices<sup>10</sup>. This is in line with euro area core inflation but still markedly below the ECB's target of close to but below 2%.

Figure 16. Non-financial corporations: borrowing rates (%)



<sup>10</sup> EC Autumn Economic Forecasts, November 2018

Figure 17. Harmonised index of consumer prices,% and ECB assets (% of GDP, RHS)



Source: Haver, Banco de Espana, ECB, Scope Ratings

### 3.3 Performance assumptions

#### 3.3.1 Default rate analysis

We analyse 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 our performance assumptions on current macro and microeconomic conditions. The long-term distribution reflects our performance assumptions for a long-term average credit environment, representing our through-the-cycle view. The shape of the distributions is fully determined by our assumptions on mean default rates and coefficients of variation.

We derived the default rate distributions for each portfolio segment before combining them, assuming their perfect correlation. The distribution parameters were calibrated using the originator's vintage data from 2011 to 2017 (see Appendix I), which was then compared to market-wide performance data over a full economic cycle. Figure 18 summarises our default rate assumptions.

The point-in-time mean 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. By contrast, the higher long-term coefficients of variation reflect the higher expected volatility over the full economic cycle.

The closing portfolio contains 0.03% of loans to weaker obligors, i.e. exposures between 30 and 90 days in arrears. We consider this amount to be marginal and covered by our lifetime default rate assumptions.

Figure 18. Default and recovery assumptions for unsecured and unsecured receivables

	Unsecured loans	Secured loans
<b>Default assumptions</b>		
Expected lifetime default rate – PIT	4.5%	10.5%
PIT coefficient of Variation	60.0%	50.0%
Expected lifetime default rate – LT	3.4%	7.9%
TTC coefficient of Variation	75.0%	65.0%
<b>Recovery assumptions</b>		
Expected lifetime recoveries (PIT / LT)	35% / 21%	80% / 48%

#### 3.3.2 Recovery rate analysis

We have derived recovery rates based on i) recovery vintage data for unsecured portfolio loans; and ii) the fundamental analysis of the real estate collateral of mortgages. This results in a blended, base case, default-conditional recovery rate of 46% for the portfolio.

For unsecured loans, we have estimated a weighted average recovery rate of 35% and a 36-month recovery lag based on the vintage data provided by CaixaBank. We have captured fixed recovery rate assumptions subject to rating-conditional haircuts to enhance rating stability (see Figure 19).

Figure 19. 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	21.0%	23.8%	26.6%	29.4%	32.2%	35.0%

For the mortgage-backed portfolio segment, we have used our fundamental recovery analysis framework to derive base-case and stressed recovery assumptions (see Figure 20). We have assumed a recovery lag of 60 months for this portfolio segment.

Figure 20. Secured loans: recovery rate assumptions

Rating-conditional stress	AAA	AA	A	BBB	BB	B
Recovery assumption	48.0%	54.4%	60.8%	67.2%	73.6%	80.0%

Our fundamental recovery framework estimates the current value of the security on a line-by-line basis, and then applies rating-conditional haircuts to the assumed collateral value. The recovery rates are based on i) the closing loan-to-value for term loans; and ii) the effective loan-to-value for withdrawals using credit lines. For the latter, we have assumed fully drawn facilities and the pro-rata distribution of recoveries between the issuer and the originator.

We have estimated current security values in three steps. First, we applied a 10% haircut to appraisal values. This is because the typical valuations are either desktop types, which we consider to be lower quality than full valuations, or relatively outdated. 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. Finally, we applied rating-conditional haircuts, reflecting our forward-looking view on the security liquidation values.

## 4 FINANCIAL STRUCTURE

### 4.1 Capital structure

The capital structure (Figure 21) comprises two classes of strictly sequentially subordinated notes – class A and class B – and a subordinated loan provided by CaixaBank at closing to supply cash to an amortising reserve fund. The portfolio was purchased at par, using proceeds from the notes' issuance. Both classes of notes pay a quarterly variable coupon of three-month Euribor plus 1% for class A or 1.25% for class 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.

Figure 21. Capital structure

Rank	Name	Size	Size%	Size% (of A and B notes)	Index	Margin	CE
1	Serie A	2,793,000,000	84.00%	84.00%	3M-Euribor	100	20.75%
2	Serie B	532,000,000	16.00%	16.00%	3M-Euribor	125	4.75%
	Total	3,325,000,000	100.00%	100.00%			

### 4.2 Protective features

The class A noteholders benefit from a very significant level of credit support provided by

- i. overcollateralisation of 16% through the subordination of class B principal payments;
- ii. the reserve fund, funded by a subordinated loan, equal to 4.75% of the initial amount of the notes' principal balance;
- iii. periodic excess spread which may be used on a 'use it or lose it' basis to provision for defaults; and
- iv. a guaranteed rate on the issuer's account, equating to the reference rate of the notes, with a floor at zero.

The reserve fund target will reduce to 4% of the outstanding notes' balance after a one-year lock-up period

Class A noteholders also benefit from liquidity support in the event of a servicer disruption, which we consider 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.

For class B noteholders, credit enhancement is primarily provided by the reserve fund. Even though the reserve fund is funded at 4.75% of the notes' closing balance, it may amortise to 4.00% of the notes' outstanding balance after a lock-up period of one year. This may significantly reduce available protection for class B noteholders in a back-loaded default scenario. However, our central scenario is that of a constant quarterly default frequency over each segment's scheduled amortisation, which results in front-loaded cumulative defaults driven by amortisation.

### 4.3 Priority of payments

Figure 22 shows the transaction's simplified pre-enforcement priorities of payment. On each payment date, principal amortisation due on the notes will equate to the notes' outstanding balance as of the preceding payment date, minus the outstanding balance of the non-written-off loans.

Excess spread is not trapped, making the structure more vulnerable to the timing of defaults. On each payment date, excess spread not used for default-provisioning will be paid to the originator.

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

Figure 22. Pre-enforcement priority of payments

Pre-enforcement priority of payments	
<b>Available funds</b>	
	Principal and interest collections from the assets
	Any interest collected from the treasury account
	The available reserve fund amount
	Prepayments and recoveries
<b>Application of funds</b>	
1.	Senior expenses
2.	Class A interest
3.	Class A principal
4.	Reserve fund minimum-retention amount (while class A notes are outstanding)
5.	Class B interest
6.	Class B principal
7.	Reserve fund minimum retention amount (after full redemption of class 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 is normal for Spanish transactions) such as the management company's insolvency and clean-up call provisions. The clean-up call can be exercised once the portfolio's outstanding balance 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 will form part of the issuer's available funds, which will be applied on every payment date in accordance with the priority of payments. As stated above, the reserve will amortise to 4% of the outstanding principal balance of the class A and B notes, subject to



Thin excess spread provided limited credit protection to the noteholders

the following amortisation triggers: i) at least 12 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

Class A and B both benefit from available excess spread. As of closing, gross excess spread is provided by the difference between the nominal rate of the assets (2.3%) and the nominal rate on the liabilities (0.72%) but will be neither trapped nor used to amortise notes until the first non-performing assets are classified as defaulted in the structure, according to the transaction's 12-month default. Any balance not used in any given period will flow to the originator.

We have factored in stressed senior and servicing costs of 1% and potential asset yield compression of 25 bps caused by the prepayment or default of higher-yielding assets. This would result in available annual net excess spread of 0.3% once defaults begin to crystallise.

Rising interest rates would lead to further spread compression, because a significant portion of the portfolio (34.4%) pays a fixed-rate coupon, while the notes will pay a floating rate referenced to three-month Euribor.

## 5 QUANTITATIVE ANALYSIS

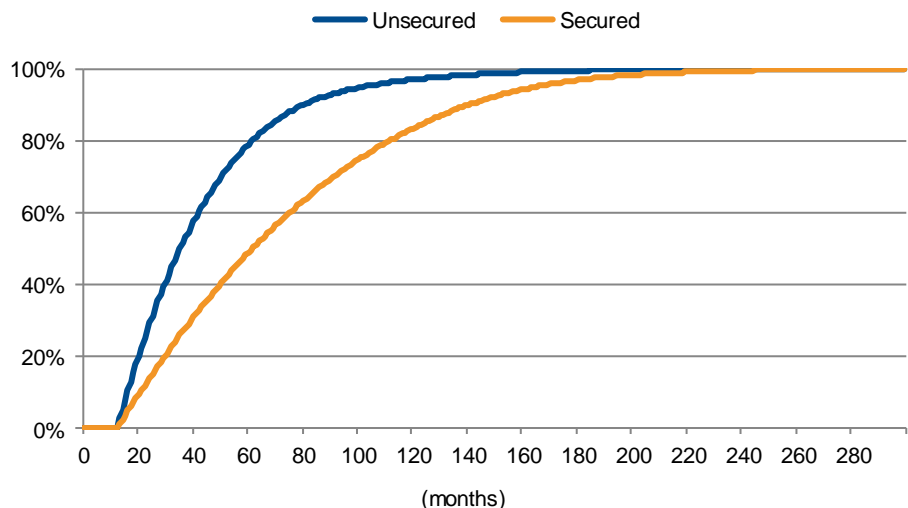
### 5.1 Main assumptions

In addition to the performance assumptions and transaction structural features described above, our cash flow tool captures additional performance parameters, such as default timing, recovery timing, asset yield and interest rate assumptions, as detailed below. The outcome of the analysis is an expected loss and an expected weighted average life for the notes.

#### 5.1.1 Default timing

We have 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 driven by amortisation, consistent with the term structure of each portfolio segment (see Figure 23).

Figure 23. Default-timing assumptions



We consider a back-loaded default intensities to 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 build-up; and ii) the target size of the reserve fund will reduce to 4.00% from 4.75% after an initial lock-up period of one year.

### 5.1.2 Recovery timing

As stated above, we have assumed a 36-month recovery lag for the unsecured segment and a 60-month lag for the secured segment.

### 5.1.3 Senior costs and servicing fees

For the analysis of the notes, we have assumed stressed senior costs and servicing fees of 1%, relative to the outstanding balance of the loans, subject to a EUR 200,000 floor.

### 5.1.4 Spread compression

To account for potential spread compression, we have reduced the weighted average interest rate of the portfolio by 25 bps. This adjustment assumes higher-rate loans will be the first to amortise or prepay and was derived based on the following inputs: i) interest rate distribution; ii) scheduled amortisation; iii) and our high constant-prepayment assumption of 15%.

### 5.1.5 Interest rate stresses

We have captured the reference rate payable on the notes based on the three-month Euribor forward curve. To account for potential interest rate risk, we have performed a sensitivity analysis, applying increases in the rate payable to the notes of up to 5% over the notes' expected weighted average life.

## 5.2 Results

Our cash flow analysis resulted in an AAA<sub>SF</sub> rating for the class A and a BB<sub>SF</sub> rating for the class B.

## RATING STABILITY

### 5.3 Rating sensitivity

We have 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 cash flow tool quantitative outputs of the class A when the portfolio's expected default rate is increased by 50% and recovery rates are reduced by 50% are AA<sub>-SF</sub> and AAA<sub>SF</sub>, respectively.
- The cash flow tool quantitative outputs of the class B when the portfolio's expected default rate is increased by 50% and recovery rates are reduced by 50% are B<sub>+SF</sub> and BB<sub>SF</sub> in both scenarios.

### 5.4 Break-even analysis

To complement our expected loss-based rating analysis, we ascertain the default rate levels below which a given tranche has no losses (Figure 24). This provides investors with another dimension for comprehending the resilience of the rated tranches.

The class A noteholders would not experience any losses at portfolio default rates of up to 26%, considering the most stressful prepayment scenario corresponding to a high (15%) constant prepayment rate and a AAA rating-conditional recovery rate of 32.9%.

Based on our quantitative analysis, the class B noteholders would experience marginal losses in the event a clean-up call is not exercised, even at 0% portfolio default rates at the end of the transaction's life,. This is because as the size of the reserve fund tends to be zero, available excess spread would not be sufficient to absorb all senior costs.

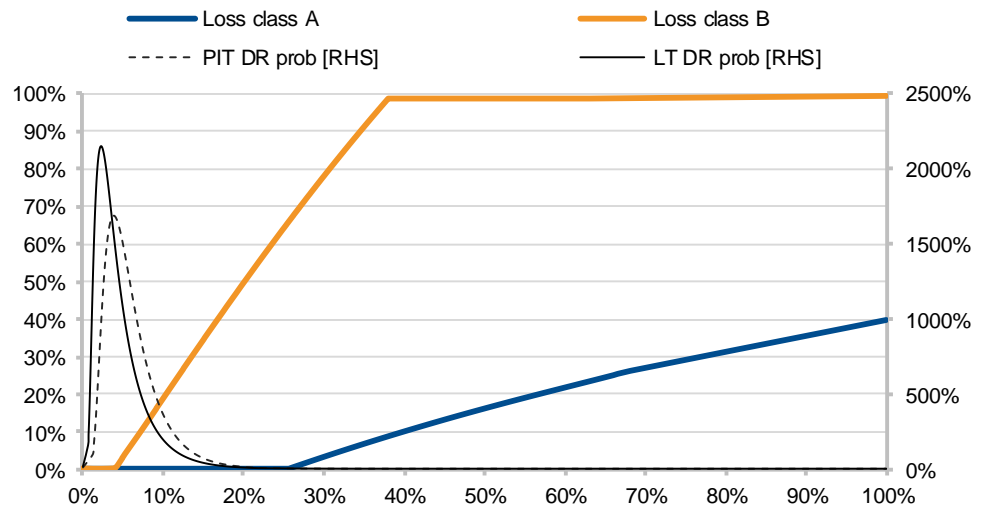
However, considering the most stressful prepayment scenario corresponding to a high (15%) constant prepayment rate and a BB rating-conditional recovery rate of 50.4%, class B noteholders would only start to realise significant losses once default rates exceed 4%.

Figure 24. Class A and class B break-even default rate analysis

	Series A	Series B
Rating	AAA	BB
CPR scenario	Low (0%)	High (15%)
Rating conditional recovery rate	32.9%	50.4%
Mean lifetime default rate (point-in-time)	6.0%	6.0%
Mean lifetime default rate (long-term)	4.5%	4.5%
Break-even default rate	25.6%	0.0%

Figure 25 shows the cash flow tool-implied losses of each tranche at all portfolio default rates.

Figure 25. Tranche losses and portfolio default rates (DR)



## 6 SOVEREIGN RISK

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

For more insight into our fundamental analysis of the Spanish economy, refer to our rating report on the Kingdom of Spain, dated 30 June 2018.

## 7 COUNTERPARTY RISK

The ratings are not constrained by the exposure to CaixaBank, which performs all counterparty roles. We consider the exposure to CaixaBank to be material but not excessive, in accordance with Scope's Rating Methodology for Counterparty Risk in Structured Finance Transactions, dated August 2018.

Counterparty exposure is mitigated by the bank's high credit quality, by investment grade replacement triggers, and by the moderate expected life of the class A notes (2.8 years). We have also considered the bank's systemic importance and resolvability in our assessment of counterparty risk.

### 7.1 Operational risk from servicer

We consider CaixaBank's replacement as portfolio servicer to be highly unlikely, as this scenario would be more disruptive than to maintain the bank as a going concern in a hypothetical resolution (the more likely scenario). This view is supported by CaixaBank's systemic importance to the Spanish economy and by the framework for orderly bank restructuring in Europe.

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

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. 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 by Scope.

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.

### 7.3 Set-off risk from originator

We do not believe set-off risk from the originator is material in the context of Spanish law and 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 upon the insolvency of either the obligor or the seller.

## 8 LEGAL STRUCTURE

### 8.1 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 in 28 April 2015 via Law 5/2015 to promote corporate financing. This law 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).

### 8.2 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 and would be subject to relatively tight restrictions. For instance, the maximum share of receivables subject to maturity extensions may not exceed 5% and there may be no modification to the applicable variable base rates. In our view, these covenants, among other factors, limit material migrations of the portfolio beyond that related to asset performance.

### 8.3 Use of legal opinions

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



## CAIXABANK PYMES 10, FT

New Issue Rating Report

### 9 MONITORING

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We will monitor this transaction on the basis of 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.

### 10 APPLIED METHODOLOGY AND DATA ADEQUACY

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For the analysis of this transaction we have applied our SME ABS Rating Methodology dated August 2018, General Structured Finance Rating Methodology dated August 2018, and Methodology for Counterparty Risk in Structured Finance dated August 2018, all available on our website, [www.scoperatings.com](http://www.scoperatings.com).

CaixaBank has provided us 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 2011 to 2017 and is very granular. The recovery data also covers 2011 to 2017, referring to all recoveries during that period. CaixaBank highlights that the data represents the performance of SME loan exposures and has similar characteristics to the selected transaction portfolio.

### APPENDIX I. VINTAGE DATA

We have based our 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 2011-2017. The vintage default curves provided by CaixaBank are shown below.

#### Cumulative defaults

Figure 26. Unsecured receivables (including unsecured credit facilities)

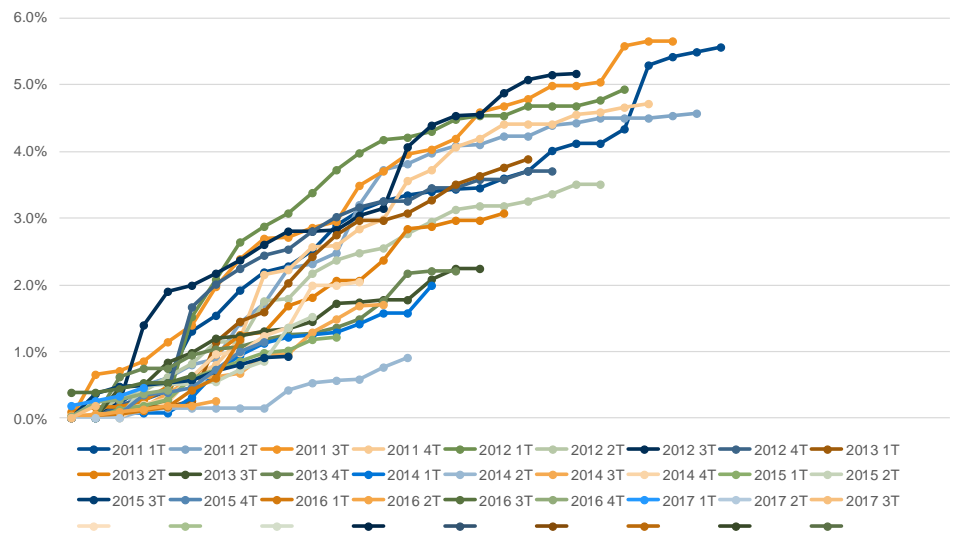
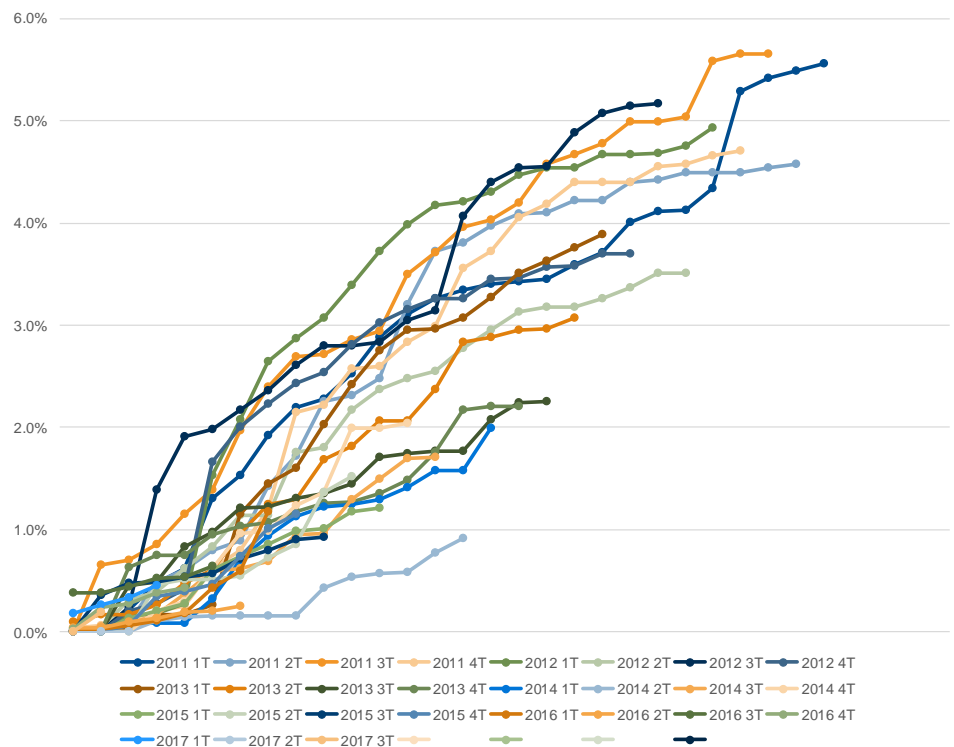


Figure 27. Secured receivables (including secured credit facilities)



### Cumulative recoveries

Figure 28. Unsecured receivables (including unsecured credit facilities)

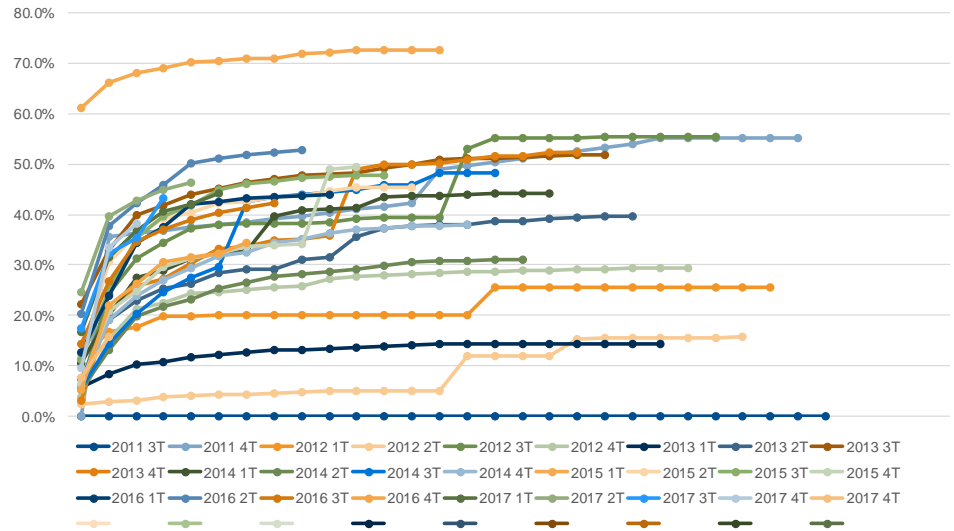
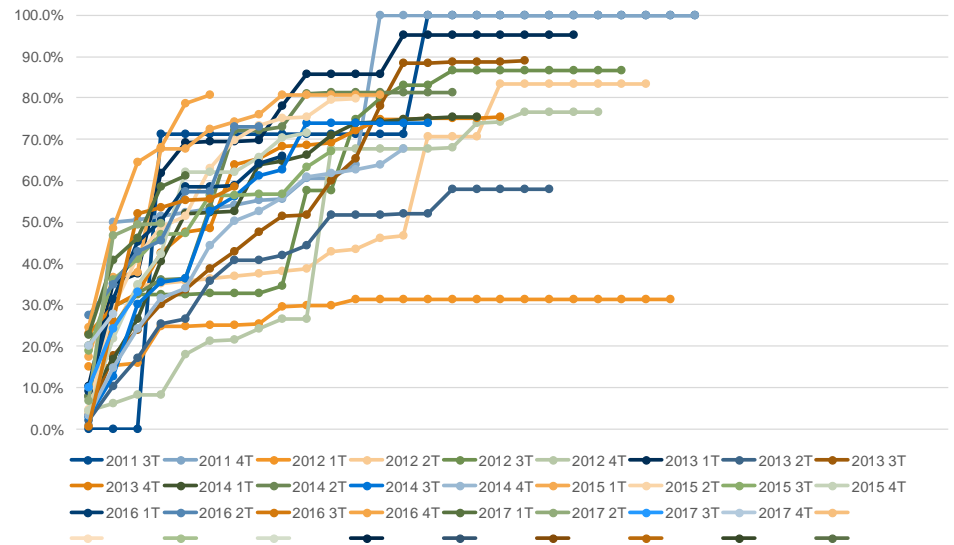


Figure 29. Secured receivables (including secured credit facilities)







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