16 March 2018 Structured Finance

HT ABANCA RMBS II

RMBS

Scope Ratings

Ratings

Class	Rating	Notional (EUR m)	Notional (% assets)	CE (% risky assets)	Coupon	Final maturity
Class A	AAA_{SF}	780.0	87.8	17.8	3m Eur + 0.30%	January 2058
Class B loan	NR	120.0	12.2	4.5	3m Eur + 0.65%	January 2058
Sub loan	NR	40.5	4.5%		3m Eur + 0.65%	January 2058
Total rated notional		780.0	100%			

Scope's analysis is based on the preliminary portfolio dated 26 September 2017, vintage data provided by the originator, internal data and third-party data. 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	HT ABANCA RMBS II, FONDO DE TITULIZACIÓN
Originator/Servicer	ABANCA Corporación Bancaria S.A.
Manager	Haya Titulización SGFT, S.A.
Account bank/paying agent	Banco Santander, S.A.
Closing date	22 December 2017
Payment frequency	Quarterly

The transaction is a true-sale securitisation of a granular EUR 907.1m static portfolio of amortising first-lien residential mortgages granted to private individuals in Spain. The variable-rate loans were originated by Abanca and some of its predecessor banks. 87% of the portfolio consists of increasing instalment loans, with the remainder having French amortisation schedules.

Rating rationale (summary)

The rating reflects: i) the legal and financial structure of the transaction; ii) the credit quality and characteristics of the underlying collateral in the context of the Spanish macroeconomic environment; iii) the transaction-specific protection features; iv) the ability of ABANCA Corporación Bancaria S.A. (Abanca) as originator/seller and servicer; v) the exposure to Santander S.A. (Santander) as account bank and paying agent; vi) and the management ability of Haya Titulización SGFT, S.A. (Haya).

Class A's 17.8% credit enhancement, provided by the subordination of loan B principal payments and by the reserve fund, generates material support to protect the tranche against losses from the portfolio and the interest rate basis mismatch between the portfolio and the liabilities. A provisioning mechanism for loans more than 18 months in arrears captures excess spread, amounting to 0.69% excluding fees as of closing, and loan B interest payments are subordinated. The combined interest and principal priorities of payment ensures liquidity support beyond the reserve for the payment of interest to class A.

Counterparty risk is mitigated by the credit quality of the counterparties and by mechanisms in the structure, such as regular cash sweeps.

Sovereign risk does not constrain the class A considering its protection against losses, its expected life and the general macro-economic dynamics in Spain. Scope's analysis takes into account a possible increase in the long-term volatility of defaults related to uncertainties affecting the independence of Catalonia.

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Related methodologies

General Structured Finance Rating Methodology, August 2017

Methodology for Counterparty Risk in Structured Finance, August 2017

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Rating drivers and mitigants

Positive rating drivers

Asset selection. The portfolio is comprised of loans with an average seasoning of 9.1 years. A large share of the loans survived Spain's last economic crisis, demonstrating the resilience of their underlying borrowers. The portfolio exhibits an average indexed current loan-to-value of 68.7%. '30 days past due' loans are ineligible for the portfolio.

No restructured assets. Restructured or refinanced assets are ineligible for the portfolio.

Transparent structure. The full subordination of class B interest and principal payments, an adequately sized cash reserve, and the combined priorities of payment provide robust protection against credit and liquidity risks.

Counterparties. The credit quality, incentives, experience, and replacement mechanisms of counterparties support the rating for class A. 48-hour cash sweeps limit the transaction's exposure to servicer commingling risk.

Negative rating drivers and mitigants

Increasing-instalment loans. 87% of the loans in the portfolio have increasing-instalment loans, resulting in a borrower's final instalment exceeding the initial instalment by as much as 1.3x. Scope's default volatility assumption captures uncertainties associated with the borrowers' ability to pay higher loan instalments.

Geographic concentration. 45.3% of the portfolio is concentrated in Galicia, which exposes the portfolio to increased idiosyncratic risk. However, Abanca has a strong understanding of borrowers in this region.

Basis and reset risks. The structure is exposed to unhedged basis and reset timing mismatches. The notes and the underlying collateral pay a variable rate linked to 3-month and 12-month Euribor, respectively. Scope's analysis has sized for interest basis and reset risk exposure.

Positive rating-change drivers

Faster-than-expected portfolio amortisation may benefit the rating if credit enhancement builds up before credit losses crystallise.

Negative rating-change drivers

Worse-than-expected asset performance leading to a higher-than-expected default rate or lower-than-expected recovery upon asset default would negatively impact the ratings.

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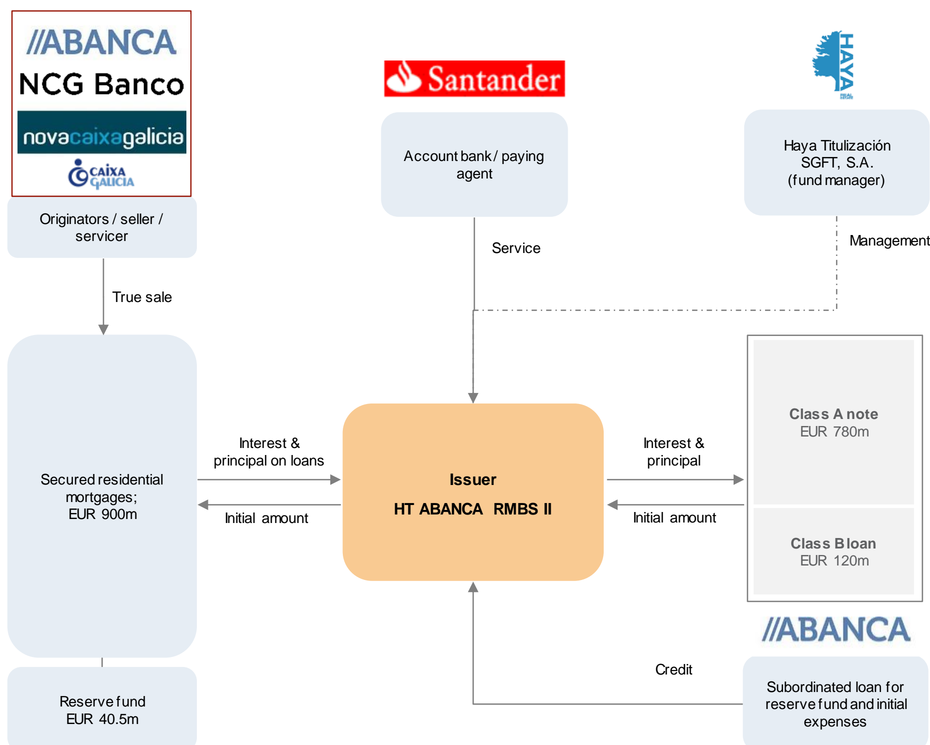
1. Transaction summary

Figure 1: Simplified transaction diagram



Source: Transaction documents and Scope.

HT ABANCA RMBS II is Abanca's second RMBS transaction since the bank's privatisation in 2014, and the first Abanca RMBS transaction publicly rated by Scope. The deal consists of the securitisation of a EUR 900.0m seasoned portfolio of 10,002 fully amortising loans for residential properties, which Abanca and some of its predecessor banks (Caixa Galicia, Novacaixagalicia, and NCG Banco, S.A) originated and granted to individuals in Spain. The underlying portfolio reflects these mixed origins.

2. Originator, seller and servicer

Abanca, formerly NCG Banco before its rebranding in 2014, is one of the leading regional banks in Galicia and is a product of a series of mergers and spin-offs between 2010 and 2014 (see Figure 2). In 2011 the bank (then NCG Banco) became majority owned by the state when it received aid from Spain's Fund for Orderly Restructuring. The bank was fully privatised in 2014 when the state sold its stake to Banesco Group. After the transaction was completed, NCG Banco was rebranded as Abanca (see Figure 2).

Figure 2: Abanca's history

Source: Transaction documents and Scope.

Abanca focuses primarily on traditional retail banking activities in the Spanish region of Galicia and has been reducing its exposure to risky real estate and development assets since it was in state conservatorship. The bank's customers include private borrowers, SMEs, corporates, and local governments. We deem the bank to have a sustainable business plan, capable and experienced management, and a sufficient IT infrastructure.

2.1. Underwriting

The portfolio is effectively sourced from four originators, as illustrated in Figure 3. The heterogenous mix of underwriting standards has been captured through Scope's vintage and historical performance data analysis.

Figure 3: Portfolio originators

Caixa Galicia	Novacaixagalicia	NCG Banco	Abanca
74.6%	4.5%	11.9%	8.9%

A distinct characteristic of the securitised assets is the large proportion of increasing instalments, which affects 87% of the portfolio. Given the diverse originator and vintage exposures dating back to 1994, detailed information describing how debt affordability was calculated (e.g. using the initial or final payment) at loan origination was not available for the analysis. The uncertainty introduced by this has been captured in Scope's coefficient of variation assumption.

2.2. Servicing and recovery

Abanca's pre-delinquency monitoring processes and early-delinquency management processes are efficient in dealing with weak obligors. Scope also confirmed – through an operational review via conference call – that the staff, systems, and group architecture are satisfactory.

Abanca has strong incentives to maximizes loan collections Abanca's incentives are strongly aligned with those of the noteholders. Abanca has a significant subordinate interest in the transaction as reserve fund provider and fully retains the class B loan. These two factors increase the bank's motivation to work with borrowers and help to maximise collections.

3. Asset analysis

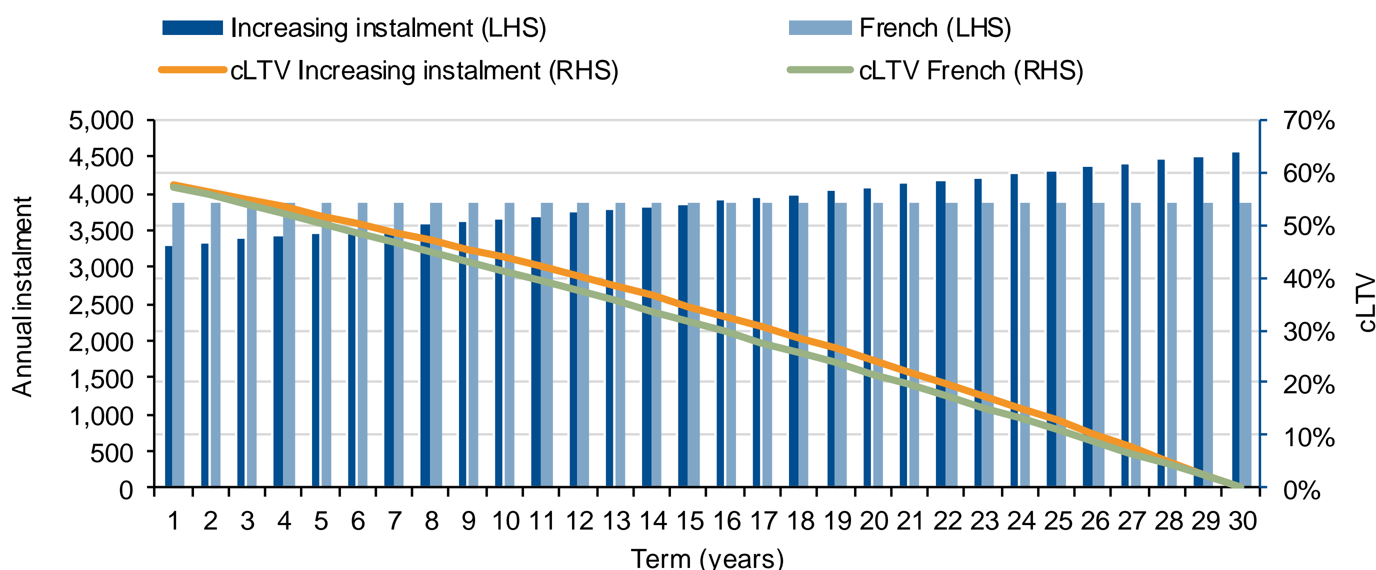
3.1. Securitised assets

The portfolio comprises secured, first-lien mortgage loans for Spanish residential properties, with approximately 93.3% being the borrower's primary residence. The vast majority of loans are variable-rate and reference 12-month Euribor with annual reset dates. 99.9% of the portfolio is backed by monthly instalments. All borrowers pay via direct debit.

3.1.1. Increasing-instalment loans

Approximately 87% of the portfolio comprises increasing-instalment loans, while the rest (13%) follows a French amortisation schedule. The exposure to increasing-instalment loans is credit-negative: This increases the back-end default risk of borrowers and slows deleveraging relative to the standard French amortisation profile of Spanish mortgage loans (see Figure 4).

Figure 4: Comparison: increasing instalment and French amortisation



We believe these risks are partially mitigated by the portfolio's seasoning (9.1 years) and the performing nature of the obligors (at 98.5% of the pool, and no loan is more than 30 days overdue). In addition, approximately 55% of the assets were originated before the 2008 crisis and performed throughout the severe economic downturn in Spain, indicating their high quality.

Loan modifications

Abanca cannot breach a minimum portfolio margin floor of 0.65%, which compares to the weighted average portfolio margin at closing of 0.82% (after accounting for bonuses).

Scope analysed the transaction in the context of this margin floor with a further 0.15% reduction. This stress addresses i) the lower excess spread via prepayments, amortisation and defaults, and ii) the servicer's limited flexibility to modify loan terms.

Loan modifications are permitted on up to 15% of the asset balance as of closing. These include: i) interest rate adjustments, ii) principal payment holidays of up to two years, iii) maturity extensions, and iv) changes to amortisation types. Any modification must be initiated by the borrower – a positive feature as Abanca cannot actively refinance a portion of the portfolio.

3.1.2. Eligibility criteria and asset replacement

Abanca must replace or repurchase within 15 days any asset transferred to the portfolio found not to comply with the documentation's eligibility criteria. Assets more than 30 days in arrears at the time of the transaction's closing cannot be transferred to the portfolio.

Figure 5: Eligibility criteria

Key loan-level requirements
First-lien real estate mortgage
Less than 30 days delinquent
Not in bankruptcy
Maturity is earlier than Jan 2058
Spanish resident
No restructured or refinanced debt
Denominated in euros

3.2. Portfolio

3.2.1. Final portfolio selection

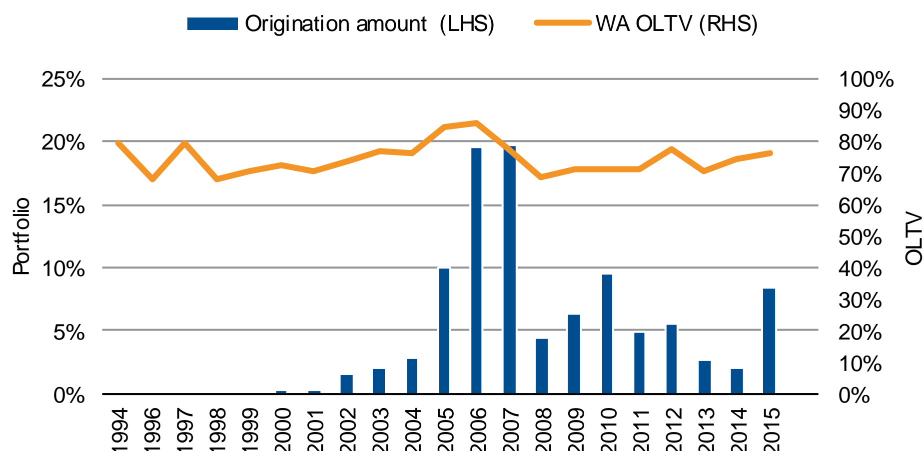
The final portfolio for the transaction is dated 24 November 2017 and has a notional balance of EUR 907.1m. It is granular, with 10,002 loans averaging a balance of EUR 90,692.

Scope analysed a preliminary portfolio dated 26 September 2017, which has no material differences when compared to the final portfolio (see Appendix I). Scope's analysis relies on the quality of the portfolio data, which is based on an independent audit of the portfolio's attributes.

3.2.2. Seasoning

The portfolio is highly seasoned, a large portion of which (approximately 55%) is derived from two transactions, AyT Colaterales Global Hipotecario Caixa Galicia I and AyT Colaterales Global Hipotecario Caixa Galicia II, which were both issued in 2008.

Figure 6: Origination and weighted average original LTV by vintage

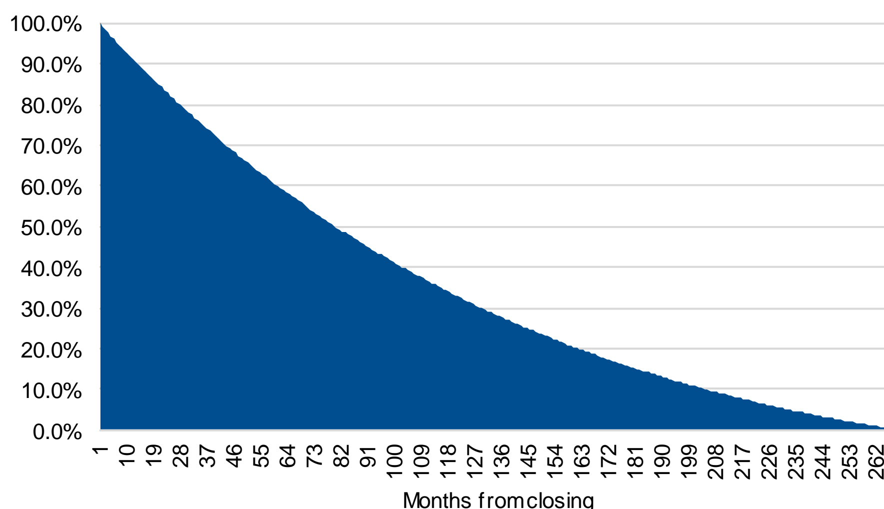


3.2.3. Long lifetime exposure

Scope's asset performance assumptions capture the economic uncertainties resulting from the long lifetime exposure for the class A noteholders.

The class A notes have a weighted average life of 7.5 years under a 5% constant prepayment rate, resulting from the relatively long original term of the assets (31.2 years on average). This extends the risk exposure to counterparties and to macro-economic uncertainties related to structural challenges for the Spanish economy. The long maturities, coupled with the amortisation profiles of the assets, result in a portfolio weighted average life of 11.3 years and a weighted average remaining term of 22.1 years (see Figure 7).

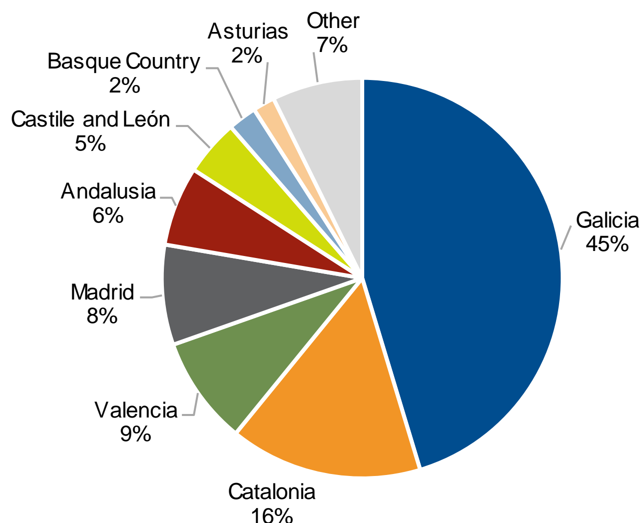
Figure 7: Portfolio amortisation: 5% constant prepayment rate and 0% default rate



3.2.4. Geographic concentration

The portfolio is primarily exposed to the regions of Galicia and Catalonia (45.3% and 15.5% respectively).

Figure 8: Geographic concentration (portfolio outstanding)



Scope's loan recovery rate assumptions incorporate regional differences by applying loan-level market-value-decline assumptions (see Appendix III for more details).

3.2.5. Portfolio lifetime default rate

Scope has assumed an inverse Gaussian default distribution, with a mean default rate of 14.5% and a coefficient of variation of 55%.

Scope analysed '90 days past due' default data provided by Haya, which was arranged in vintages spanning 2010-2016, a period characterised by high stress for Spanish obligors. Scope also used the performance data related to the previous two transactions, issued in 2008, from which a portion of the securitised assets originally belonged and which capture a full economic cycle of performance.

Taken together, Scope believes the data provide an adequate, though-the-cycle view of collateral performance. Given the assets' long risk horizon, Scope calculated the expected loss by using a single long-term default distribution.

3.2.6. Portfolio recovery rate

Scope has assumed AAA recovery rate of 51.2% on defaulted exposures, derived from the fundamental valuation analysis of the underlying security (see Appendix III), considering the portfolio average current loan-to-value of 58.6%. This recovery rate implies an average 57.5% security-value haircut on the appraisal values of properties underlying the mortgages, after accounting for indexation, fire-sale discounts, foreclosure costs and Scope's forward-looking view on market value declines under a stressed real-estate market environment.

Our analysis considered a recovery lag of four years, which captures the time to foreclose and sell the properties under stressed market conditions.

3.2.7. Cure rate

Scope assumed a cure rate of 40%, which captures the recovery of '90 days past due' delinquent obligors that return to performance before rolling into hard default under the transaction's 18 months past due default definition. Scope applies cure rates if the default

definition in the vintage data differs from that used to provision for transaction defaults. Cured delinquency positions repay all overdue principal and interest, becoming current.

We derived the cure rate through benchmarking against previous Spanish RMBS transactions that the agency has rated. Additionally, Scope considered implied cure rates from the performance data of AyT Colaterales Global Hipotecario Caixa Galicia I and AyT Colaterales Global Hipotecario Caixa Galicia II.

3.2.8. Constant prepayment rate (CPR) assumptions

Scope derived prepayment assumptions from market references, in particular from AyT Colaterales Global Hipotecario Caixa Galicia I and AyT Colaterales Global Hipotecario Caixa Galicia II. Scope then applied a high (5%) and low (0%) constant prepayment rate scenario in its cash flow analysis and compared the two. The high recovery rate scenario is reasonable given the very low margins in the portfolio and the unlikelihood of a further drop in Spanish mortgage rates.

4. Financial structure

The financial structure provides loss-absorbing protection to the class A noteholders. The credit enhancement is 17.8% for the senior notes, provided by subordination of class B loan principal payments and by the reserve fund. Further support is provided by the subordination of class B loan interest payments and moderate excess spread, which may be used to provision for defaults.

4.1. Capital structure

Only one class A has been issued, the proceeds of which were used to fund the purchase of the initial portfolio at par, supplemented by a class B acquisition loan funded by Abanca. Abanca also provides a subordinated loan to fully fund the reserve at closing.

The notes pay quarterly interest referenced to 3-month Euribor plus a margin. The amortisation is strictly sequential. Class B interest and principal, as well as the reserve fund, are fully subordinated to class A interest and principal.

4.2. Reserve fund

The structure features a fully funded EUR 40.5m cash reserve that amounts to 4.5% of the initial portfolio balance. The reserve fund is positioned directly beneath class A interest in the waterfall structure, to address potential liquidity shortfalls arising from either a servicing disruption event or an interest basis and reset risk exposure. The reserve fund also provides credit support: Once released (either due to amortisation conditions, or at legal final maturity), amounts will flow through the waterfall structure and may be used to redeem outstanding principal shortfalls.

Scope estimates that the reserve fund can cover 1.2 years of class A interest expenses, assuming a Euribor rate of 2.5%. The reserve fund will not amortise for the first three years of the transaction (see Figure 9). This feature helps sustain the liquidity support for class A. The structure also features a combined priority of payments, which provides additional liquidity protection to the class A because principal collections from assets can be used to pay for timely interest of the class A notes.

Figure 9: Reserve fund overview

Reserve fund	
Initial amount	EUR 40,500,000
Target amount	Lower of initial amount and 9% of the outstanding loan balance, excluding defaulted loans (18 months past due)
Floor	EUR 20,250,000 (or zero at legal final maturity)
Amortisation conditions	a) Three years have elapsed since the closing date, and b) the reserve fund is at its target amount at the beginning of the payment period, and c) '90 days past due' delinquencies (excluding defaulted loans) do not exceed 1.5% of the outstanding balance (excluding defaulted loans)

4.3. Priority of payments

The structure features the combined priorities of payments detailed in Figure 10 below. Amortisation of the notes is determined by taking the difference between the note balance and the non-defaulted asset balance.

Figure 10: Priorities of payments

	Pre-enforcement	Post-enforcement
	Available funds: collections from assets, proceeds from treasury account, and reserve fund	**Available funds**: collections from assets, proceeds from treasury account, and reserve fund
1	Senior fees/expenses	Estimated liquidation expenses
2	Class A interest	Class A interest
3	Replenishment cash reserve up to the targeted level	Class A principal
4	Class A principal	Class B interest
5	Class B interest	Class B principal
6	Class B principal	Interest on subordinated loan allocated to initial expenses
7	Interest on subordinated loan allocated to initial expenses	Interest on subordinated loan allocated to reserve fund
8	Principal on subordinated loan allocated to initial expenses	Principal on subordinated loan allocated to initial expenses
9	Interest on subordinated loan allocated to reserve fund	Principal on subordinated loan allocated to reserve fund
10	Principal on subordinated loan allocated to reserve fund	Servicer fees
11	Servicer fees	Commission to seller
12	Commission to seller	

4.4. Basis and reset risk

Liquidity and credit risks arising from interest rate mismatches between the assets and liabilities are well mitigated by credit enhancement available to class A, the combined priorities of payments, and the correlation between the asset and liability base rates. The notes and the underlying collateral pay a variable rate linked to 3-month and 12-month Euribor, respectively. There is reset risk between the two indices in a rising rate environment given that the notes reset quarterly and the assets reset annually. Basis risk it possible in the event the two indices become inverted.

4.5. Senior fees

We have assumed a senior fee of 1%, a level deemed sufficient to cover senior costs and back-up servicer fees in a servicer replacement event.

5. Quantitative analysis

We performed a cash flow analysis of the transaction, and the main assumptions used to project the cashflow of the portfolio are available Figure 11.

We analysed the default pattern of the asset portfolio, using an inverse Gaussian probability distribution to calculate the probability-weighted loss for the class A using fixed recovery-rate assumptions. The cash flow analysis also produces the expected weighted average life for the rated tranche.

We applied a minimum covenanted margin of 0.65% on the portfolio, with an additional 0.15% reduction – leaving a collective portfolio margin assumption of 0.50%. The additional 0.15% margin reduction captures the portfolio margin compression when we default 14.5% of the highest margin assets in the pool.

Figure 11: Cash flow analysis assumptions

Input	Assumption
Mean default rate, 90 days past due	14.50%
Cure rate	40%
Default rate coefficient of variation	55%
AAA recovery rate	51.20%
Recovery lag	4 years
CPR high/ (low)	5% / (0%)

The cumulative default timing assumptions are shown on Figure 12 and reflect a constant default rate intensity. The chart shows defaults as classified according to documentation definitions (i.e. 18 months past due for loans).

Figure 12: Cumulative default timing

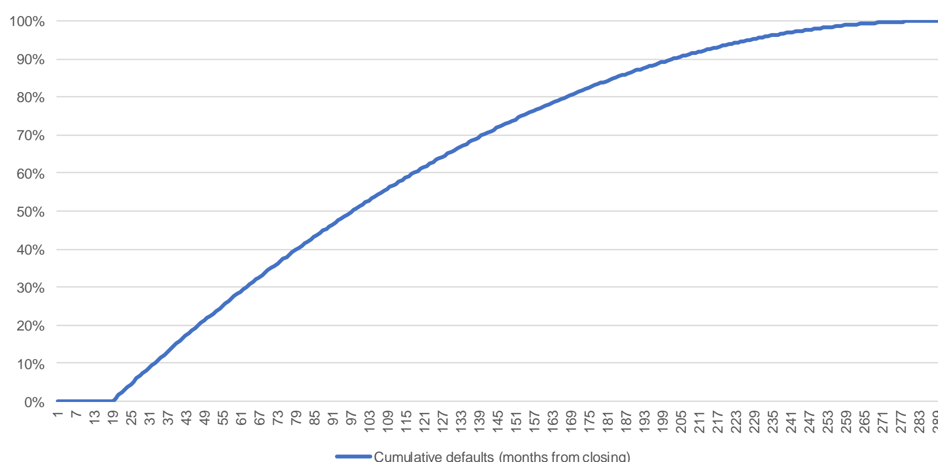
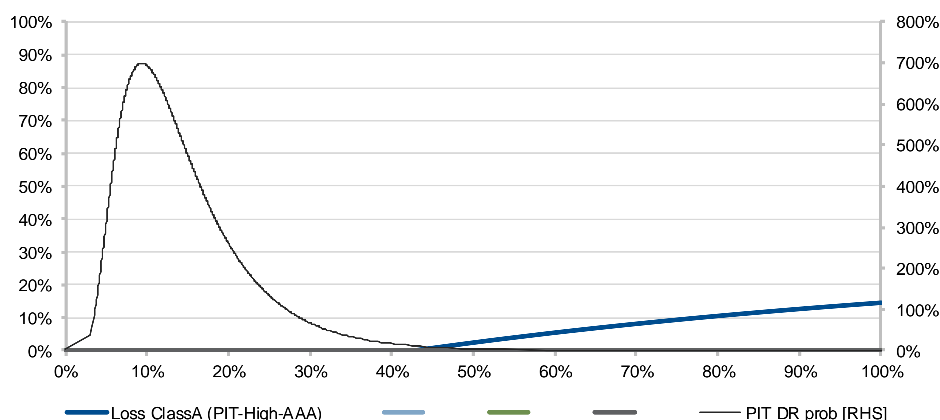


Figure 13 shows the losses of the class A tranche for all portfolio default rates under the AAA recovery-rate assumption of 51.2%.

Figure 13: Expected loss-given-default distribution: class A



Rating sensitivity

Scope tested the resilience of the results against deviations of: the mean default rate, the default rate coefficient of variation and the recovery rate. These tests have the sole purpose of illustrating the sensitivity of the rating to input assumptions and should not be considered indicative of expected or likely scenarios. We have determined that the rating is resilient to such changes (Figure 14).

Figure 14: Summary of rating sensitivities: class A

Stress	Rating sensitivity shift from initial results
Base default rate + 50%	-2 notches
Base CoV + 50%	-1 notch
Base recovery rate + 50%	-2 notches

Break-even analysis

The break-even analysis also shows the robustness of the class A rating. Under a zero-recovery rate assumption, the break-even portfolio default rate is 22.7%; under a 51.2% recovery assumption, this is 42.5%.

6. Sovereign risk

Sovereign risk does not limit the ratings on this transaction. For 2018, Scope has a positive outlook on Spain's macroeconomic environment and the improvement of debt affordability in the country. The transaction's robust financial structure, combined with the amortising nature of the portfolio, sufficiently protects against the current institutional uncertainty in Catalonia, which may result in adverse long-term economic effects. In addition, portfolio obligors have been able to withstand economic stresses to date.

7. Counterparty risk

Abanca performs the role of servicer, while Santander performs the role of account bank and paying agent. Haya performs the role of management company for the transaction.

7.1. Operational risk from servicer

Operational risk is mitigated by the servicer's business profile, the liquidity reserve, and the supervisory role of the management company, Haya. Scope has also analysed the transaction in the context of stressed servicing costs to capture the risk of possible increased costs following a servicer replacement.

Comingling risk from exposure to the servicer is mitigated by cash sweeps, no longer than 48 hours.

7.2. Account bank and paying agent

The exposure to Santander, the account bank, is not a limiting factor for the ratings thanks to its strong credit quality (AA-/S-1/Stable by Scope) and a replacement trigger at the loss of BBB by Scope. The role of paying agent can only be performed by sophisticated financial institutions that are allowed to operate as agents of the fixed-income market.

7.3. Set-off risk from originator

Set-off risk is limited in the transaction because of the current legal framework in Spain, where rights are limited to enforceable, outstanding claims of the same kind. The Spanish deposit insurance guarantee scheme provides further comfort on set-off risk regarding consumer mortgage and retail securitisations.

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 Haya, the management company. The special-purpose vehicle is essentially governed by the terms in the documentation, as no governing body was defined at closing. Changes to the documentation require the unanimous agreement of all stakeholders to the transaction (i.e. noteholders and creditors).

This securitisation has been incorporated under a flexible legal form called ‘Fondo de Titulización’ (‘FT’, securitisation fund). This choice of legal form is credit-neutral. The FT legal form was introduced by the new Spanish law to promote corporate financing (law 5/2015), effective since publication on 28 April 2015. Law 5/2015 reformed the Spanish securitisation framework and replaced ‘Fondo de Titulización de Activos’ (‘FTA’, asset securitisation funds) and ‘Fondos de Titulización Hipotecaria’ (‘FTH’, mortgage securitisation funds).

8.2. Use of legal opinions

Scope had access to the legal opinions produced for the issuer, which provide comfort on the legally valid, binding and enforceable nature of the contracts. The transaction conforms to securitisation standards in Spain and is consistent with Scope’s general legal analytical assumptions.

9. Monitoring

Scope will monitor this transaction on the basis of performance reports produced by the management company and information received from the originator. 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 accuracy

For the analysis of this transaction Scope applied its ‘General Structured Finance Rating Methodology’, dated 28 August 2017. Scope also applied the ‘Methodology for Counterparty Risk in Structured Finance’, dated 11 August 2017. Both methodologies are available at www.scoperatings.com.

I. Appendix: Portfolio characteristics

Close: 22 December 2017	Portfolio as of 26 September 2017	Portfolio as of 24 November 2017
Originator (% of balance)		
Abanca Bank SA		8.9%
Caixa Galicia		74.6%
Novacaixagalicia		4.5%
NCG Banco		11.9%
Portfolio balance (EUR m)	**915.9**	**907.1**
Number of assets	10,039	10,002
Average asset size (EUR)	91,235	90,692
Maximum asset size (EUR)	1,028,296	
Minimum asset size (EUR)	215	
Original loan-to-value	77.0%	76.5%
Current loan-to-value (indexed)	68.7%	68.7%
Weighted average coupon	0.73%	0.71%
Weighted average margin	0.82%	0.82%
Weighted average original term	31.2 years	31.2 years
Weighted average remaining term to maturity	22.2 years	22.1 years
Seasoning	8.9 years	9.1 years
Variable-rate loans	100% (12-month Euribor or similar)	100% (12-month Euribor or similar)
Amortisation		
Geometric (increasing instalment)	87.3%	87.4%
French	12.7%	12.6%
Owner-occupied	92.63%	93.3%
Foreigners	3.2%	3.2%
First-lien	100%	100%
Top 3 regions		
Galicia	45.4%	45.3%
Catalonia	15.5%	15.5%
Valencia	8.7%	8.7%

II. Appendix: Vintage 90dpd delinquency data provided by Haya

Figure 15: Quarterly 90dpd delinquency data

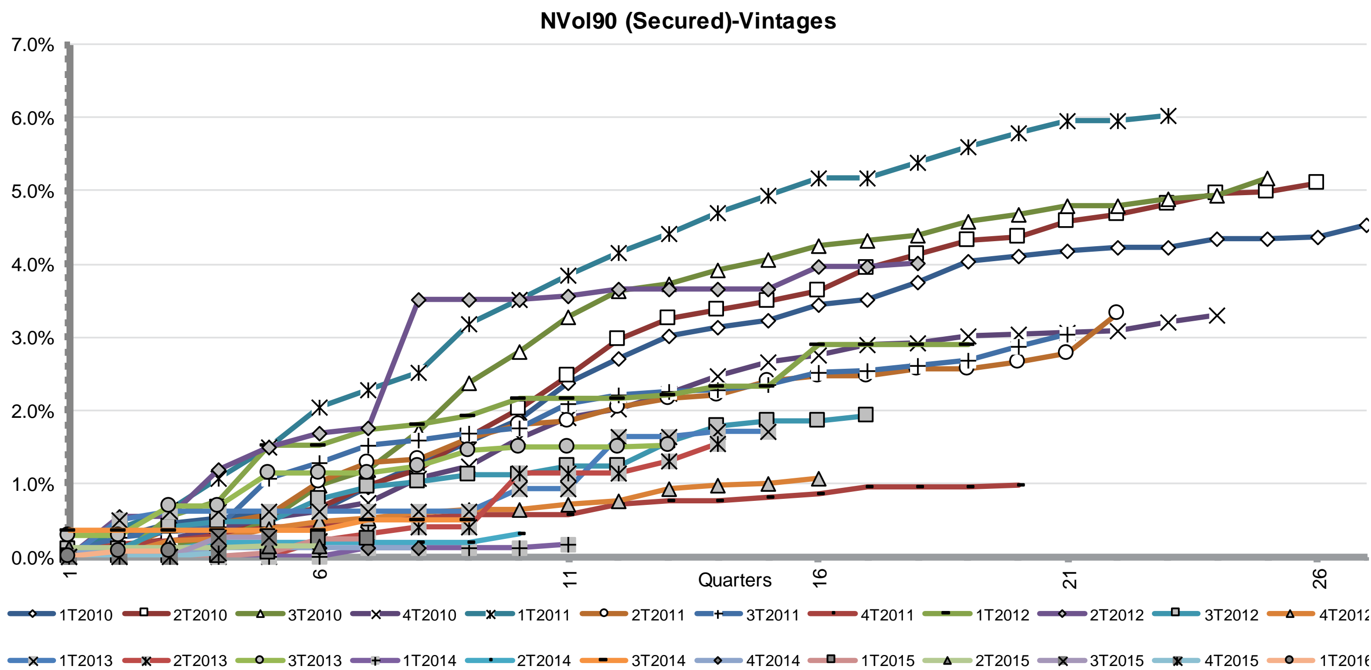
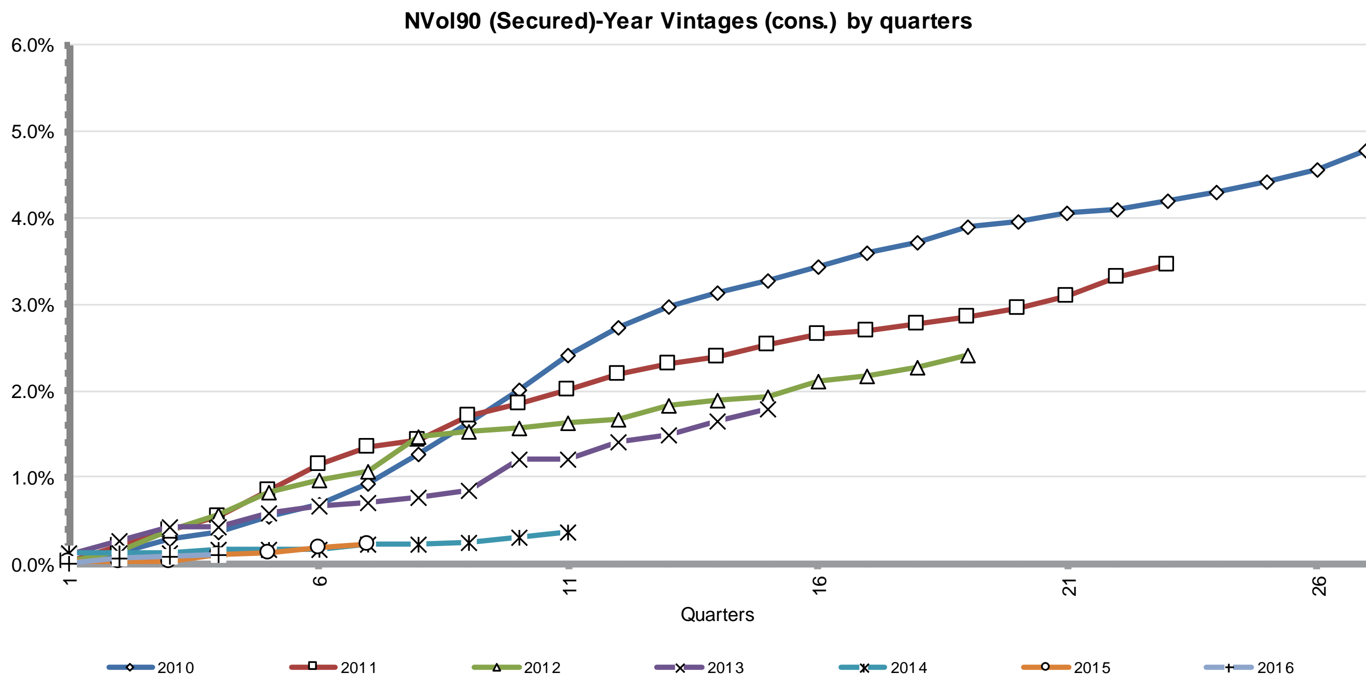


Figure 16: Annual 90dpd delinquency data



III. Appendix: Collateral value analysis

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 17 below.

B-level assumptions reflect Scope's expected decline in security values given 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. For this transaction, Scope has applied a B-level security-value-haircut assumption of 25% across all Spanish regions, which is calculated from the following equation:

Expected security-value-haircut = 1 – [(1+ expected market price change) x (1-collateral-specific discount factor)] = 1 - [(1 + 7%) x (1-30%)] = 25%. In our view, current real estate prices across the Spanish regions are, in real terms, sustainable in the long term and will benefit from a nominal appreciation in the medium -term. We have assumed a 7% nominal appreciation for Spanish real estate prices, over a horizon consistent with the 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 fire-sale discounts on repossessed assets.

Scope has applied a 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 GPD per capita to average regional house prices), and current square-metre prices.

Figure 17: Market-value-decline assumptions applied to analyse the transaction

RMBS market value decline for residential (%)	AAA	AA	A	BBB	BB	B
Andalusia	57.5	53.0	46.0	39.0	32.0	25.0
Aragon	50.0	47.0	41.5	36.0	30.5	25.0
Asturias	52.5	47.0	41.5	36.0	30.5	25.0
Baleares	62.5	55.0	47.5	40.0	32.5	25.0
Canary Islands	62.5	55.0	47.5	40.0	32.5	25.0
Cantabria	52.5	49.0	43.0	37.0	31.0	25.0
Castilla-La Mancha	47.5	45.0	40.0	35.0	30.0	25.0
Castile and León	47.5	45.0	40.0	35.0	30.0	25.0
Catalonia	60.0	53.0	46.0	39.0	32.0	25.0
Valencia	60.0	55.0	47.5	40.0	32.5	25.0
Extremadura	52.5	49.0	43.0	37.0	31.0	25.0
Galicia	47.5	45.0	40.0	35.0	30.0	25.0
La Rioja	50.0	45.0	40.0	35.0	30.0	25.0
Madrid	50.0	47.0	41.5	36.0	30.5	25.0
Murcia	55.0	51.0	44.5	38.0	31.5	25.0
Navarra	50.0	45.0	40.0	35.0	30.0	25.0
Pais Vasco	57.5	51.0	44.5	38.0	31.5	25.0
Ceuta	62.5	57.0	49.0	41.0	33.0	25.0
Melilla	62.5	57.0	49.0	41.0	33.0	25.0
Whole market	**57.5**	**53.0**	**46.0**	**39.0**	**32.0**	**25.0**

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