The ratings reflect the legal and financial structure of the transaction; the quality of the underlying collateral, given macroeconomic conditions in Spain; the ability of the originator, Banco Bilbao Vizcaya Argentaria SA (BBVA, A/S-1/ Stable Outlook); the counterparty credit risk exposure to BBVA as the account bank, paying agent and liquidity provider; and the management competence of Europea de Titulización SGFT SA.

The rating on the class A notes is driven by the 28.5% credit enhancement available in the structure, which protects strongly against loss, as well as benefits gained from sequential amortisation in combination with a fast-amortising portfolio. The class B rating reflects the tranche’s larger exposure to Spanish economic uncertainties beyond Scope’s outlook and the only limited credit protection from a 5% cash reserve. The two rated tranches also benefit from excess spread, which is available to provision for the notes’ principal shortfalls, and accumulates to 1.71% p.a. as of closing.

Both ratings are also driven by the characteristics of the portfolio: 48.1% of unsecured loans with shorter maturities, and 51.9% of mortgages with longer maturities. In addition, the relatively short weighted average life of 3.8 years under 0% prepayments, given the short-term outlook on the Spanish economy, reflects positively on Scope’s expected credit performance for the collateral pool.

Scope derived the key quantitative assumptions from vintage data provided by BBVA, which reflects the performance of its entire loan book and covers the years from 2007 to 2014, a period of significant economic stress in Spain. For the two portfolio segments, unsecured loans and mortgages, Scope has modelled forward-looking 90-days-past-due lifetime default rates of 12.3% and 22.1% respectively, with a 20% cure rate for each. Credit risk from the portfolio is also driven by the high volatility of historical default rates detected in both portfolio segments, reflected in the relatively high default-rate coefficients of variation derived from vintage data: 56.0% for unsecured loans and 63.3% for mortgages.

Scope’s recovery estimate accounts for the heterogeneous nature of the portfolio, with base case recovery rates of 21.3% for unsecured loans and 66.7% for mortgages. Mortgages are secured by commercial and residential properties, and have low loan-to-value ratios (currently 53% – not indexed). Scope derived the recovery rate for unsecured loans from vintage data, whereas for mortgages the rate by individual loan was calculated using Scope’s assumptions of market value declines in Spain.

Rating and rating-change drivers are available in the section ‘Rating Drivers and Mitigants’ on page 2.
**RATING DRIVERS AND MITIGANTS**

### Positive rating drivers

**Spanish economy.** The Spanish economy continues to improve, which benefits the class A notes in the short term. However, the impact on the class B notes is less certain due to the longer weighted average life, exposing these to the fragile economic recovery in Spain.

**Stressed performance references.** Scope calibrated portfolio assumptions based on 2007-2014 vintage data, a period of high stress for Spanish SMEs. Scope also adjusted for the long-term economic cycle to limit the class A rating’s procyclicality.

**Short life.** Class A notes bear a short risk exposure to counterparties and possible macroeconomic deterioration. This is due to an expected weighted average life of 2.2 years under a 0% conditional prepayment rate, driven by the mainly French amortisation of the unsecured loans and mortgages in the portfolio.

**High expected recovery rate.** Low loan-to-value on mortgages (weighted average of 53%) drives the high, expected portfolio recovery rate of 50.9%, as estimated by Scope.

**Moderate excess spread.** Excess spread available from the assets is 1.71% as of closing, available to cover periodic shortfalls in the transaction.

**Simple and transparent structure.** The deal features a swapless, strictly sequential, two-tranche structure with a combined priority of payments and a cash reserve available for default provisioning.

### Negative rating drivers and mitigants

**Substantial lifetime default rate.** For the portfolio, the long weighted average remaining term of seven years results in the relatively high 90-days-past-due lifetime default rate of 17.3%, based on BBVA’s vintage data (reduces to 10.6%, depending on the rating-conditional long-term adjustment). The analysis considers a 20% cure rate for both segments to account for the different default definitions: ‘540 days past due’ for the transaction and ‘90 days past due’ for the performance vintage data.

**High default volatility risk.** Delinquency vintage data showed significant levels of volatility, with a segment-weighted coefficient of variation of 60.8%.

**Counterparty concentration.** BBVA, as account bank and paying agent, exposes the transaction to counterparty risk; however, this is mitigated by both BBVA’s credit quality and its automatic replacement upon losing a BBB rating.

**Long default definition.** The transaction’s default definition of 18 months hinders the capture of excess spread in the early periods.

### Positive rating-change drivers

**Better-than-expected performance of the assets** is one of several factors that could positively impact the ratings.

**A fast recovery of employment in Spain** would lower the base case default rate used in the analysis. We do not expect this fast recovery of employment to occur, and expect a very slow recovery instead. This recovery will be at permanent risk of a new recession until deeper fundamental reforms are tackled in Spain, addressing public spending and fiscal pressure in general, and the labour market in particular.

**Faster-than-expected portfolio amortisation,** due to high pre-payments resulting in credit enhancement build-up, may positively impact the ratings.

### Negative rating-change drivers

**Worse-than-expected performance of the assets** is one of several factors that could negatively impact the ratings.

**The strengthening of the separatist movement in Catalonia** would raise concerns about its hypothetical exit from the euro area. Such an exit would require profound legal changes in Spain and a restatement of international order. We believe this risk is remote given the outcome of the recent regional elections, and its crystallisation would occur beyond the expected life of the class A.
BBVA-10 PYME, FT is the 10th transaction in BBVA’s PYME loan securitisation programme and the first publicly rated by Scope. The transaction consists of the securitisation of a EUR 780m portfolio of 3,880 loans and mortgages, which BBVA originated and granted to 3,672 Spanish SMEs and self-employed individuals.

ASSET ANALYSIS

Securitised assets

The portfolio comprises two segments, standard mortgages and unsecured loans, representing the structure of BBVA’s SME loan book. Eligibility criteria excludes debt from refinancing and exposures more than 30-days-past-due, which creates a positive selection effect on the portfolio.

Unsecured loans: weak recovery under stress

The unsecured loan segment comprises well-seasoned loans (four years) with a medium weighted average (WA) remaining time to maturity of five years, which accounts for 48.1% of the portfolio.

The loans were originated between 2000 and 2015, with a focus on 2007 until 2015. The standard amortisation scheme is French, and only 3.9% have bullet amortisations.
Scope derived a mean 90-days-past-due (dpd) lifetime default rate of 12.3% over a risk horizon of five years from vintage data (see ‘Lifetime default rate’ on page 6). The coefficient of variation for this segment is 56%. The base case recovery rate on unsecured loans is 21.3%, assuming a cure rate of 20% and a recovery lag of 23 months.

In the context of this transaction, ‘unsecured’ means ‘not secured by a mortgage’, although most of the loans benefit from personal guarantees or other types of security that are generally effective at reducing delinquencies or increasing recovery. Yet these forms of alternative security are difficult to validate, and their impact on performance is already captured in the performance references used for the analysis.

Mortgage loans: slow recovery and tail concentration risk

Mortgage loans account for 51.9% of the portfolio. Mortgages in this transaction were predominantly originated between 2006 and 2012, making the exposures relatively old (WA seasoning of six years), with a short WA remaining time to maturity of only 8.5 years. The weighted average loan-to-value for these secured loans is 53.1%, based on the latest appraisals.

Scope derived a 90dpd mean lifetime default rate of 22.1% from vintage data, over a risk horizon of nine years (see ‘Lifetime default rate’ on page 6). The coefficient of variation for this segment is 63.3%. The base case recovery rate on unsecured loans is 66.7%, which is derived from market-value-decline assumptions (see APPENDIX IV), assuming a cure rate of 20% and a recovery lag of 48 months.

This segment carries concentration risk for the class B notes, as the later stage of the transaction will be exposed to mainly mortgage loans. In addition, the long segment maturity exposes class B to a potential deterioration of the Spanish economy beyond Scope’s current positive outlook. This risk is mitigated by credit enhancement build-up from deleveraging the transaction.

Portfolio characteristics

Final portfolio selection

BBVA has provided the final pool selected from the preliminary portfolio, which was audited and on which we based our rating analysis. Due to limited flexibility in selecting assets, the final portfolio’s characteristics are substantially the same as those of the preliminary portfolio. The preliminary portfolio balance of EUR 880.0m on 18 November 2015 compares to the final portfolio balance of EUR 780.0m on 16 December 2015, i.e. only 11.4% lower, reflecting two months of amortisation and the application of eligibility criteria.

Fast amortisation and heterogeneous amortisation profile

The portfolio creates two distinct periods for the transaction: i) an early stage when the portfolio is exposed to unsecured loans and mortgages; and ii) a late stage when the portfolio comprises mostly mortgages with a potentially ‘lumpy’ tail. Credit enhancement build-up over the transaction’s life will be adequate to cover tail risk from concentration, as the amortisation of the notes is strictly sequential.
Granular portfolio: moderate obligor concentration

The portfolio is granular and well diversified according to the calculated diversity indices (DI): obligor DI, 498; industry DI, 14.9; and region DI, 8.2.

The transaction’s exposure to the Spanish real estate sector is 26.2%, which is high compared to other Spanish SME CLOs issued recently in 2015. The portfolio’s mean lifetime default rate, derived from 2007-2014 vintage data (a period of high stress for Spanish SMEs), conservatively captures this portfolio’s composition.

There are 20 obligors with over 0.5% of the portfolio each; the combined exposure is 14.4%. The comparatively high number is due to the relatively low amount of obligors. Based on BBVA’s internal probability of default (PD), 18 obligors have better credit quality than the average in their respective segments, with two from the mortgage segment exhibiting a 4.4% PD (averages: 2.4% for unsecured loans and 2.7% for mortgages).

Scope has addressed obligor concentration by applying stresses to i) the coefficient of variation of the large obligor portion in each segment and ii) the mean lifetime default rate (see ‘Obligor concentration adjustments’ on page 15). However, impacts on the portfolio’s mean lifetime default rate and the coefficient of variation are limited.

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1 Most Spanish SME CLOs issued in 2014 and 2015 had portfolios with higher obligor granularity (obligor DI > 1,000) with usually fewer than ten large obligors, which combined accounted for under 10% of the respective portfolio.
Scope calibrated the portfolio-modelling base case assumptions using vintage data from 2007 to 2014, a period of high stress for Spanish SMEs: high defaults and relatively low recoveries, particularly for mortgages, as recovery from Spanish real estate collateral is slow due to a disrupted property market. Scope has modelled the portfolio on a segment-by-segment basis, and derived mean 90dpd lifetime default rates of 12.3% for unsecured loans and 22.1% for mortgages. Vintage data has significant levels of volatility: Scope calculated a coefficient of variation of 56% for unsecured loans and 63.3% for mortgages. These modelling assumptions incorporate the base case adjustments for the largest obligors (see ‘Analytical Notes on Default Analysis’ on page 15).

Scope considered BBVA’s vintage data to be adequate, as the data is very granular and the selection criteria resembles BBVA’s own SME loan book (see ‘Applied Methodology and Data Adequacy’ on page 14). The most relevant data used for the analysis is shown in Figure 14.

Figure 7 shows the default rate assumptions and adjustments applied to address obligor risk concentrations in the portfolio.³

### Lifetime default rate analysis on portfolio

- **Unsecured loans**
  - Mean DR: 12.3%
  - DR CoV: 55.3%
- **Mortgages**
  - Mean DR: 21.4%
  - DR CoV: 60.3%

³ The base case assumptions for BBVA-10 were derived from the preliminary portfolio from 18 November 2015, which is only marginally different from the final portfolio of 15 December 2015.
Scope has modelled the unsecured loan segment using fixed assumptions for the base case recovery rate (derived from vintage data analysis), which were then stressed with haircuts based on the target rating of the tranche. This method increases rating stability as it ensures higher ratings have higher stresses, as shown in Figure 8 below.

**Figure 8.** Recovery rate stresses by rating category

<table>
<thead>
<tr>
<th>Rating stress</th>
<th>Haircut to base case</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>40%</td>
</tr>
<tr>
<td>AA</td>
<td>32%</td>
</tr>
<tr>
<td>A</td>
<td>24%</td>
</tr>
<tr>
<td>BBB</td>
<td>16%</td>
</tr>
<tr>
<td>BB</td>
<td>8%</td>
</tr>
<tr>
<td>B (base case)</td>
<td>0%</td>
</tr>
</tbody>
</table>

Scope has calculated the RRs of the portfolio’s mortgage pool considering the value of the real estate collateral available as security. Given a recovery lag of 48 months, the base case recovery rate is 66.7% and accounts for Scope’s assumptions on market value decline and foreclosure costs (see APPENDIX III and APPENDIX IV). The loan-specific, fundamental recovery rates are derived by applying haircuts to the updated appraisal value of each property after indexation. These haircuts, which include foreclosure costs, reflect market value losses under stress scenarios, followed by constant fire-sale discounts of 30% for residential properties, 45% for commercial properties and 60% for land.

At current appraisal values, we believe a residential property can be sold under current market conditions at discounts of 30%, 45% or 60%, depending on the property type. Consequently, our recovery analysis uses current conditions on the real estate market as the base case for analysing Bsr ratings, but with a full fire-sale discount applied.

In addition, Scope expects that under the highest rating stress of AAA, a property could be sold in the market at a price which: i) totally eliminates any value difference compared to a long-term, sustainable reference; ii) reflects an extra 10% loss in value; and iii) has the applicable fire-sale discount. This implies on average a total value haircut of 85.6%, after adjusting for indexation and for costs relating to market value, fire sales and foreclosures, and all under the harshest recovery rate scenario.

**Cure rate**

The transaction defines a defaulted asset as delinquent for 540 days past due (540dpd), which is different from the usual 90dpd standard. BBVA did not provide 540dpd default rate vintage data. As a result, Scope determined a cure rate of 20% from 90dpd recovery available vintage data to estimate the share of 90dpd delinquent assets that do not migrate into default after 540 days.

In its analysis, Scope applied a constant cure rate assumption (unlike the recovery rate which was stressed by rating category), with the same rate for each segment.

**Constant prepayment rate (CPR)**

Scope tested the class A notes against the most conservative 0% CPR assumption as class A benefits from prepayments. Scope used a CPR assumption of 16% to analyse the class B notes. This assumption is justified as BBVA did not provide product-specific prepayment information; Scope instead relied on references from previous BBVA SME transactions, which showed very volatile historical CPRs from 1% to 16% across eight transactions.

**FINANCIAL STRUCTURE**

**Capital structure**

Two classes of sequentially subordinated notes were issued. The proceeds from class A and B notes were used to purchase the initial portfolio of assets. BBVA provides a subordinated loan to fully fund a cash reserve fund on the closing date.

The notes pay quarterly interest referenced to 3-month Euribor plus a margin. The amortisation is strictly sequential. Unused excess spread and amortisation of the reserve fund is received by BBVA, the provider of the subordinated loan.
The issuer's initial expenses are covered by the proceeds from a second subordinated loan granted by BBVA. This loan will be amortised from excess spread in the early stages of the transaction.

Reserve fund (RF)

The structure features a fully funded cash reserve fund, provided by BBVA, of EUR 39.0m or 5% of the initial portfolio balance. This RF not only provides the primary source of credit enhancement for the class B notes, but liquidity support for the structure as well.

The RF enables the structure to accelerate amortisation of class A notes whenever assets are classified as defaulted, until the RF is fully depleted. It then replenishes by capturing excess spread available in the transaction.

The RF is a source of negative carry for the transaction as the cash is held in the issuer's account that yields 3-month Euribor flat, while the WA coupon of the notes is always higher than this index. Losses from negative carry gross up the credit losses from the assets.

The RF will amortise under certain conditions, but is unlikely under most portfolio default scenarios. The RF follows the standard mechanism of most Spanish securitisations: the required balance can reduce to a minimum of EUR 19.5m if i) non-defaulted assets more than 90dpd represent less than 1% of the non-defaulted assets; ii) more than three years elapse since closing; and iii) the RF can be fully funded as required on the same payment date.

Amortisation and provisioning

For principal amortisation the amount allocated to the notes is the amount required to match, on every payment date, the balance of the notes to the balance of non-defaulted assets. This provides a default-provisioning mechanism which accelerates the amortisation of the most senior class by using the RF and excess spread. As long as cash remains in the RF, this mechanism ensures outstanding notes have non-defaulted assets as collateral.

We believe the structure has a long default definition, which results in the loss of significant excess spread at the beginning of the transaction’s life. Loans are classified as defaulted when they are more than 18 months in arrears or if subjectively considered unrecoverable by the servicer.

Priority of payments

The structure features a combined priority of payments which materially protects against payment interruption. Principal collections from assets can be used to pay timely interest on the senior class notes. Furthermore, only a few days’ worth of collections suffices to pay senior class interest and other more senior items, even if an unlikely servicer disruption event occurs. The combined priority of payments also effectively allows credit enhancement to cover losses from negative carry or interest rate mismatches (see Figure 9).
Scopes analysis takes into account the demotion trigger on class B interest. The rating of class B notes captures any loss from the time value of missed interest that results from a postposition of class B interest payments. Missed interest payments do not accrue interest for any classes in this structure.

### Unhedged interest rate risk

Unhedged interest rate risk has limited materiality in view of: i) the current low interest rate environment; and ii) floating-rate assets being referenced to indices highly correlated with the 3-month Euribor index of the notes. Potential losses from negative carry are factored into the ratings and are thus covered by available credit enhancement.

The transaction is exposed to interest-related risks as: i) there is no hedging agreement in place; ii) 19.2% of the assets pay a fixed interest rate, while 100% of the issuers liabilities are referenced to 3-month Euribor; and iii) reset frequencies and dates of the assets create a mismatch in rates between assets and liabilities.

Interest-related risks are covered by credit enhancement and a combined priority of payments, which allows principal collections from assets to be used for interest payments on the most senior class of notes. The mechanism effectively transfers any losses from interest-rate mismatches to the equity part of the structure.

### Accounts

The issuer has a treasury account that collects all proceeds from the assets and holds the reserve fund. The account yields three-month Euribor minus 10 bps.

The account not only represents commingling exposure to BBVA as the account bank (see ‘Counterparty Risk’ on page 12), but a source of negative carry, as its yield is lower than the WA coupon on the notes. Any loss from negative carry is covered by available excess spread and credit enhancement.

### Clean-up call

The issuer has a discretionary call option which requires the notes’ full repayment.

**ORIGINATOR AND SELLER**

BBVA is an experienced originator of SME CLO collateral and one of the largest lenders in Spain, with around EUR 169bn of loans to Spanish customers. The retail-focused bank is globally diversified and conducts a significant share of its business outside of Spain: 71% of pre-provision profits in 2014, spread across Europe, Asia and the Americas.

Thanks to BBVAs global diversification, it performs consistently better than national peers for profitability and average balance sheet quality: net interest margin in 2014 was around...
BBVA’s functions, systems, processes and staff meet the highest standards of European banking.

3% versus the 2% average for national peers; impaired-to-gross-loans and loan-loss-reserves-to-gross-loans ratios are consistently lower.

BBVA is a sophisticated bank whose functions, systems, processes and staff meet the highest standards of European banking. Its ability and stability as an originator is shown by the A rating from Scope. On 19 November 2015, Scope analysts met BBVA executives in Madrid to understand more about underwriting and servicing aspects that are relevant to the analysis; Scope has confirmed with the originator that the processes and strategies presented back then remain substantially in place.

Underwriting

Underwriting standards for the assets are strong. All loans originated before the crisis are performing, indicating prudent underwriting standards at that time, and most large Spanish lenders tightened standards significantly during 2009-2014. BBVA has followed that move, reflected in improving asset quality: non-performing loans metrics have steadily reduced since Q4 2013, with the exception of a recent rise due to the consolidation of Catalunya Bank.

Servicing and recovery

Scope sees BBVA’s loan servicing and non-performing loan management as adequate and efficient, meeting the standards of European banking.

BBVA’s interests are strongly aligned with the noteholders. Since closing, it has provided a 5% reserve fund and holds the entire capital structure, which creates significant subordinate interest in the transaction. In addition, the Spanish securitisation framework sets out that securitised and non-securitised assets must be treated the same on the balance sheet.

QUANTITATIVE ANALYSIS

Scope used a bespoke cash flow (CF) tool to analyse the transaction. Scope modelled the portfolio with two distinct, but perfectly correlated, segments: unsecured loans and mortgage loans.

The CF tool was combined with the portfolio default distribution (inverse Gaussian) to calculate the probability-weighted (or expected) loss of each rated tranche under rating-conditional recovery rate assumptions. The CF tool also produces the expected WAL for each tranche.

Along with the base case, Scope analysed the transaction under a long-term view, as described in its SME CLO Rating Methodology. ‘APPENDIX II: Long-term Default Analysis’ describes how we performed this adjustment in the context of the Spanish economic cycle and the period in which performance data was available. Figure 10 shows the impact of this adjustment on the rating. The base case assumptions for BBVA-10 were derived from the preliminary portfolio from 18 November 2015, which is only marginally different from the final portfolio of 15 December 2015.

**Figure 10.** Sensitivity of model results to long-term adjustment of portfolio default rates

<table>
<thead>
<tr>
<th>Segment name</th>
<th>LT DR</th>
<th>LT CoV</th>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsecured loans</td>
<td>7.8%</td>
<td>77.4%</td>
<td>AA+</td>
<td>BB</td>
</tr>
<tr>
<td>Mortgages</td>
<td>13.2%</td>
<td>70.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The agency assigned an AA- SF rating to the class A notes based on its cash flow analysis and by incorporating a long-term-adjusted default rate distribution on the portfolio. This result is supported by positive macroeconomic conditions and the relatively old portfolio which has survived a period of significant stress, indicating its increasing strength as the economy improves.

Quantitative analytical output does not determine the final rating decision of the committee. In Scope’s analysis, long-term sensitivity scenarios show that the base case assumptions from vintage data are conservative, due to the stressed performance in the vintage data.

Scope considered a front-loaded default-timing term structure. Back-loaded default scenarios are not as severe owing to credit enhancement build-up and the effect of
seasoning on the portfolio. The cumulative default-timing assumptions are shown on Figure 11. These assumptions imply the front-loading of delinquencies, starting on the first month of the life of the transaction. The defaults are classified as 18 months past due, in line with definitions in the documentation.

**Figure 11.** Cumulative default-timing assumptions for each portfolio segment

![Cumulative default-timing assumptions for each portfolio segment](image)

Figure 12 shows the losses of each tranche at all portfolio default rates. The chart shows how credit enhancement and excess spread protect the tranches, as well as recovery in case of default. The latter two elements explain why the tranches can withstand default rate scenarios beyond the credit enhancement levels of 28.5% for class A and 5% for class B.

**Figure 12.** CF model results for base case mean DR and CoV; rating case RR and cure rate

![CF model results for base case mean DR and CoV; rating case RR and cure rate](image)

**RATING STABILITY**

**Rating sensitivity**

The stability of the ratings is supported by i) strong protective mechanisms in the structure; and ii) Scope’s use of both rating-conditional recovery rate assumptions and a long-term performance reference for Spain.

Scope tested the sensitivity of the rating for deviations of main input parameters: the mean default rate, default-rate volatility (coefficient of variation), recovery rate assumptions and interest rates. This analysis illustrates the sensitivity of the rating to input assumptions but it is not indicative of expected or likely scenarios.

For the class A, if the default rate assumption increases by 25% and 50%, the rating would be A+ and A, respectively. If the recovery rate reduces by 25% and 50%, the class A rating declines to A+ and A-, respectively. A combined adverse change of the mean default rate and the recovery rate assumption by 25% negatively affects the rating to A-. If default-rate volatility increases by 50%, the class A rating declines to A.
The class B rating has only limited sensitivity to the considered assumption changes. For the Class B, if the default rate assumption increases by 25% and 50%, the rating would be B– and CCC, respectively. If the recovery rate reduces by 25% and 50%, the class B rating declines to B– and CCC, respectively. A combined adverse change of the mean default rate and the recovery rate assumption by 25% negatively affects the rating to CCC. If default-rate volatility increases by 50%, the rating of class B is not affected.

If interest rates increase to 8% over the next six years, the rating for class A would be A+ and B for class B.

Break-even analysis

The resilience of the class A rating is shown through the break-even default rate analysis. The tranche would not experience any loss at portfolio default rates of: i) 39.5% or lower, under a zero RR assumption; or ii) 64.0% or lower, under the portfolio’s AA Sr recovery rate assumption of 37%, compared to a base case of 51%.

The class B tranche would not experience any loss for portfolio default rates of: i) 13.8% or lower under the B recovery rate assumption of 51% or ii) 7.3% or lower, under a zero RR assumption.

**Figure 13.** Break-even default rate analysis as a function of prepayments and recovery rates

<table>
<thead>
<tr>
<th>Prepayments</th>
<th>0% CPR</th>
<th>16% CPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio RR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class A</td>
<td>37% (AA Sr RR)</td>
<td>51% (B Sr RR)</td>
</tr>
<tr>
<td>Class B</td>
<td>64.0%</td>
<td>80.7%</td>
</tr>
<tr>
<td></td>
<td>12.4%</td>
<td>13.4%</td>
</tr>
</tbody>
</table>

**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 class A rating, especially given its short expected WAL.

Scope factors the positive economic outlook into the rating analysis, as Spain’s GDP continues to grow. Therefore Spanish SMEs’ financial performance will likely improve further in 2016, boosted by growing domestic demand and the greater availability of credit.

Challenges to this recovery do not materially affect the credit strength of the class A notes, again due to the short expected WAL. But for the class B, the impacts from positive economic trends could be dissolved by crystallisation of political risk as well as macroeconomic imbalances – high public and private debt levels, a still-large budget deficit, negative net investment position and very high unemployment.

**COUNTERPARTY RISK**

BBVA performs all counterparty roles. The ratings also capture the transaction’s exposure to BBVA, which Scope considers as not excessive, i.e. if counterparty risk is crystallised, a downgrade is still limited to six notches (as defined in Scope’s Rating Methodology for Counterparty Risk in Structured Finance Transactions, dated 10 August 2015 and available on www.scoperatings.com).

**Operational risk from servicer**

Scope considers it highly unlikely that BBVA will be replaced as the portfolio’s servicer. We believe a replacement would be more disruptive than BBVA (more probably) continuing as a going concern through a hypothetical resolution process. This view is supported by BBVA’s relevance to the Spanish economy and the framework for orderly bank restructuring in Europe.

Commingling risk from the exposure to BBVA is not material as the exposure is short term and BBVA has strong credit quality. Collections from assets are transferred to the issuer’s account generally intraday.
Commingling risk from account bank and paying agent

The class A notes have a short expected WAL of just 2.2 years under 0% CPR. Given BBVA’s current rating of A/S-1/Stable Outlook, Scope considers the risk of commingling losses sufficiently remote as to be immaterial for class A notes.

Scope believes credit risk arising from exposure to the account bank is negligible and mitigated in the structure by other risk-substitution covenants. We judge a counterparty eligible for the role of account bank and paying agent if, upon the loss of a BBB Issuer Credit-Strength Rating (ICSR), the structure triggers risk-substitution, in accordance with Scope’s ‘Rating Methodology for Counterparty Risk’.

Setoff risk from originator

Scope does not consider setoff risk from the originator to be 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 setoff loss resulting from rights existing prior to the asset transfer. Furthermore, setoff rights would cease to exist after obligor notification following a servicer event or upon the insolvency of either obligor or seller.

LEGAL STRUCTURE

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 Europea de Titulización SGFT SA, the management company. The SPV is essentially governed by the terms in the documentation, as no government 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 the new, more 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 (Ley 5/2015), effective since 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).

Asset replacement

BBVA will replace or repurchase any asset in the portfolio that does not comply with eligibility criteria in the documentation. Only BBVA-standard assets in good standing, and no more than 30 days in arrears at the time of transaction closing can be transferred to the portfolio. We believe the risk of weaker assets transferred to the final portfolio is covered by our mean default rate assumption for the portfolio.

Permitted variations

The documentation allows the obligor to initiate modifications to contract terms in the portfolio, notably for interest rates and maturity. In all cases, negotiations with obligors would follow the originator’s standard procedures and approval processes.

Documentation includes covenants that prevent the economic imbalance of the transaction as a result of permitted variations. These covenants, combined with the management company’s oversight, limit material migrations of the portfolio beyond that related to asset performance.

Use of legal opinions

Scope reviewed the legal opinions produced by Uria Menéndez Abogados, SLP-C for the issuer and trusts 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 supports Scope’s general legal analytical assumptions.
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.

APPLIED METHODOLOGY AND DATA ADEQUACY

For the analysis of this transaction Scope applied its SME CLO Rating Methodology, dated 6 May 2015, available on our website www.scoperatings.com.

BBVA 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 2007 to 2014 and is generally very granular with 205,132 observations. The recovery data also covers a period from 2007 to 2014, and is also very granular with 189,760 observations. BBVA highlighted that the data represents the performance of SME exposures, similar to the selected transaction portfolio.
APPENDIX I. ANALYTICAL NOTES ON DEFAULT ANALYSIS

This section complements the analytical approach explained in Scope’s SME CLO Rating Methodology. BBVA provided 90dpd and 180dpd delinquency and recovery vintage data for their SME book, which shows the same characteristics as the presented portfolio. Scope has divided the portfolio into two separate segments to incorporate the different amortisation schedules, risk horizons\(^3\) and recovery patterns. The base case assumptions were derived based on the preliminary portfolio from 18 November 2015, which is only marginally different from the final portfolio of 16 December 2015.

Obligor concentration adjustments

The obligor concentration adjustment addresses the risk that i) top obligors (each representing more than 50 bps of the portfolio balance) have below-average credit quality; and ii) there is a higher default correlation for top obligors under severe scenarios.

Scope has applied adjustments to the combined exposure of obligors that each represent more than 50 bps of the initial portfolio balance. The portfolio has 20 large obligors, which amount to 14.0% of the portfolio balance, 19 of which are known to have better credit quality than their respective segment averages, based on BBVA’s internal probability of default. The one with the worst credit quality accounts for 7.9% of the top obligor balance for the mortgage segment, and exhibits a 21.2% one-year PD, which accumulates to a 62.7% lifetime default rate; the segment’s portfolio average lifetime default rate is considered for the remaining top obligors’ balance.

Scope has applied a 20% stress to the CoV of the large obligor exposure to address the risk of higher correlation from obligor concentration, which results in a low increase in the segments’ CoV, as displayed in Figure 7.

BBVA vintage data – default and recovery rate

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\(^3\) The portfolio weighted average risk horizon is seven years, which combines the five-year risk horizon for unsecured loans and the nine-year risk horizon for mortgages.

\(^4\) Risk horizon in Figure 14 refers to the seven-year weighted average risk horizon on the portfolio.
Figure 15. 90dpd recovery vintage data presented by BBVA
APPENDIX II. LONG-TERM DEFAULT ANALYSIS

This appendix shows how the long-term analysis of this transaction is applied in line with the SME CLO Rating Methodology. This analysis is designed to improve the stability of AAA_{SF} credit enhancement levels and reduce the procyclicality of ratings.

For the portfolio, the analysis considers modified modelling assumptions for its default rate, which consider our view on its long-term performance under average full-cycle stresses. These assumptions are used to assess the adequacy of protection levels for AAA rated tranches, whereas lower rating categories gradually take a more forward-looking view. The B_{SF} level is analysed exclusively under the forward-looking view.

Figure 16 shows the long-term-adjusted default rate distribution for the portfolio compared to the unadjusted, or base case, distribution. The following sections explain how the long-term adjustment was derived.

**Figure 16.** Long-term-adjusted portfolio default rate distribution compared to base case

![Probability distribution chart](chart.png)

Source: Scope

**Adjustment of portfolio’s mean default rate**

Scope has assigned a long-term-adjusted mean default rate for this portfolio of 10.6% (after applying an average reduction factor of 0.61x to the unadjusted mean default rate of 17.3%), and a default-rate coefficient of variation of 72.7% (which results from a full-cycle volatility analysis, higher than the unadjusted 60.8%).

The reduction factor results from the relative stress of the period covered by vintage data and the full cycle. The adjustment is summarised in Figure 17.

**Figure 17.** Long-term-adjustment of portfolio’s mean default rate

<table>
<thead>
<tr>
<th>Vintage period</th>
<th>Full cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2014 (eight years)</td>
<td>1993-2014 (a full cycle)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average cumulative market performance during the vintage window (i.e. average of synthetic cohorts for the market corresponding to the vintage period, 2007 through 2015)</th>
<th>Average cumulative market performance during the full cycle (i.e. average of synthetic cohorts for the market corresponding to the full cycle, 1993 through 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsecured loans 12.3% (five-year horizon)</td>
<td>Unsecured loans = 7.8% (five-year horizon)</td>
</tr>
<tr>
<td>Mortgages = 22.1% (nine-year horizon)</td>
<td>Mortgages = 13.2% (nine-year horizon)</td>
</tr>
</tbody>
</table>

The multiplier is obtained by dividing the average for the cycle by the average for the vintage period:

\[
\text{Adjustment factor} = \frac{\text{Average market performance through the cycle}}{\text{Average market performance over vintage period}}
\]

**Long-term-adjusted portfolio mean DR = 10.6%**

Unsecured loans = \(0.63 \times 12.3\% = 7.8\%\)

Mortgages = \(0.60 \times 22.1\% = 13.2\%\)

We consider that 1993-2014 represents a complete economic cycle in Spain (see Figure 18). The average market would have a long-term cumulative default rate of 19.3% over a full cycle for portfolios with a WAL of seven years; whereas the performance over the period analysed with vintage data, 2007-2014, yields a higher cumulative default rate of 32.5%.
The following chart shows the Spanish cycle and the average credit performance of the market, as well as the long-term average.

**Figure 18.** The economic cycle and the long-term average 90dpd performance of SMEs

Adjustment of the portfolio default-rate coefficient of variation

The long-term adjustment overrides volatility derived from default vintage data with the volatility estimated for the entire market over a full economic cycle. Scope has derived an adjusted default-rate coefficient of variation of 72.7% for portfolios with a WAL of four years.

**Figure 19.** Long-term adjustment of portfolio’s default-rate coefficient of variation

<table>
<thead>
<tr>
<th>Vintage period</th>
<th>Full cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2015 (eight years)</td>
<td>1993-2014 (a full cycle)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unadjusted coefficient of variation per segment</th>
<th>CoV of average market default rates per segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsecured loans = 56%</td>
<td>Unsecured loans = 77.4% (risk horizon five years)</td>
</tr>
<tr>
<td>Mortgages = 63.3%</td>
<td>Mortgages = 70.0% (risk horizon nine years)</td>
</tr>
</tbody>
</table>

Adjusted coefficient of variation, portfolio level = 72.7%
APPENDIX III. RECOVERY ANALYSIS

The agency calculates the recovery rates on secured exposures, such as mortgages, by analysing the value of the dedicated security. In this analysis, the security value is the stressed value of the underlying residential real estate properties. The recovery analysis considers the distance to a long-run or sustainable price level of the underlying properties, as well as fire-sale discounts during a foreclosure process. Consequently, the market-value-decline assumptions we consider depend on the region where the collateral is located, as well as on market conditions.

Scope’s framework for fundamental recovery analysis involves: i) estimating the current value of the property (typically by indexation); ii) estimating the distance from estimated price to long-term sustainable values; iii) haircutting the current value of the property by applying a rating-conditional market value decline and a constant fire-sale discount; and iv) deducting foreclosure costs from the estimated, gross recovery proceeds. Steps 'ii)' and 'iii)' are embedded in the total market-value-decline assumptions as calculated in ‘Spanish market-value-decline analysis’.

The recovery rates considered in the analysis reflect the outstanding notional of the loan as of closing. These recovery rates are thus conservative because deleveraging reduces the LTV and increases the expected recovery rates as time passes.

Figure 20 shows the analytical framework applied to estimate the proceeds recovered from the enforcement of the security. The framework includes the adjustment of the security value to a long-term (sustainable) value to estimate the recovery proceeds under the highest rating stress.

**Figure 20.** Diagram of fundamental recovery analysis for BSF and AAA SF conditional stress levels

AAA SF market value declines capture the distance to sustainable values and an additional stress of 10%. Whereas BSF market value declines take our forward-looking view on the current market conditions and values, and they still include the effect of a fire-sale discount. Scope creates rating-conditional recovery differentiation by tiering the market value declines implicit for these two analyses: stressed long-term value analysis for AAA SF, and forward-looking/current-value analysis for B SF.

Scope relied on fundamental recovery analysis because the security represents first-lien claims on the underlying real-estate properties. We believe that the security cannot be challenged from a legal standpoint, as follows from our analysis of the legal opinion.
APPENDIX IV. SPANISH MARKET-VALUE-DECLINE ANALYSIS

Scope analysed the current situation of the Spanish property market to derive market value decline (MVD) assumptions specific to the different regions. This analysis is possible because the portfolio adequately represents the properties in a region: a distribution over cities and towns, similar to that over the entire regional market as represented by data from the Spanish ministry of development.

We have analysed home prices for the different Spanish regions from Jan. 1987 to Dec. 2014, as provided by the Spanish ministry of development.

The MVDs calculated by Scope for AAA conditional rating scenarios seek to eliminate any overpricing realised over our estimate of the ‘sustainable’ long-term value of a property5 (including an extra 10% stress) in addition to a fire-sale discount. The MVD also considers inflation rates when calculating the ‘sustainable’ values. The B conditional MVDs reflect only the applicable fire-sale discount.

Figure 21 shows the total MVD assumptions calculated by Scope for the different regions as a function of the rating-conditional stresses. The MVDs reflect regional differences in relation to property-price growth rates and the regional market’s ability to correct inflated prices. These total MVD values apply to indexed property values according to the indexation curves from the Spanish ministry of development. Hence our analysis also considers any price corrections to date.

We have also applied a floor of 50% to ensure a minimum level of stress, irrespective of the price correction in the region. This protects more against market value volatility in some regions where prices are currently close to our estimated sustainable price. For example, Figure 22 shows that Madrid’s haircut from sustainable prices is larger than for Andalucia, as we believe Madrid’s more dynamic market and stronger economy supports sustainable prices, outpacing Andalucia’s. But the higher sustainable prices in Madrid risks unforeseen corrections, which is covered by the floor assumption.

Figure 22 shows the recommended total MVDs in the context of market prices for the four most relevant regions in the portfolio. The figures illustrate that Madrid’s dynamism means it has almost closed the value gap on sustainable price (only 9% of the peak-to-sustainable correction is pending), as opposed to Andalucia, far from converging to sustainable levels (47% of the peak-to-sustainable correction is pending).

5 We have derived the sustainable price levels by analysing market prices over a healthy period between 1987 and 1999.
Figure 22. Total market-value-decline assumptions for the four most relevant regions in the portfolio.

House prices ‘Catalonia’ (24.2% of total balance)

- Home price index
- Sustainable HP index
- AAA haircut index

Peak to trough = 32.9% (24.5% pending)
Peak to sustainable = 49.4%
Total recommended AAA MVD = 51.9%

Source: Spanish Ministry of Development and Scope.

House prices ‘Andalucia’ (16.6% of total balance)

- Home price index
- Sustainable HP index
- AAA haircut index

Peak to trough = 32.9% (46.6% pending)
Peak to sustainable = 64.2%
Total recommended AAA MVD = 68.9%

Source: Spanish Ministry of Development and Scope.

House prices ‘Valencia’ (9.8% of total balance)

- Home price index
- Sustainable HP index
- AAA haircut index

Peak to trough = 33.1% (20.7% pending)
Peak to sustainable = 47.0%
Total recommended AAA MVD = 50.0%

Source: Spanish Ministry of Development and Scope.

House prices ‘Madrid’ (9.5% of total balance)

- Home price index
- Sustainable HP index
- AAA haircut index

Peak to trough = 32.4% (9.0% pending)
Peak to sustainable = 38.5%
Total recommended AAA MVD = 50.0%

Source: Spanish Ministry of Development and Scope.
APPENDIX V. REGULATORY AND LEGAL DISCLOSURES

Important information


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 Sebastian Dietzsch, Lead Analyst. Guillaume Jolivet, 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.

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<th>Rating</th>
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<td>09.12.2015</td>
<td>new</td>
<td>(P) AA-SF</td>
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<tr>
<td>ES0305110019</td>
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<td>new</td>
<td>(P) B+SF</td>
</tr>
</tbody>
</table>

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.

As at the time of the analysis, neither Scope Ratings AG nor companies affiliated with it hold any interests in the rated entity or in companies directly or indirectly affiliated to it. Likewise, neither the rated entity nor companies directly or indirectly affiliated with it hold any interests in Scope Ratings AG or any companies affiliated to it. Neither the rating agency, the rating analysts who participated in this rating, nor any other persons who participated in the provision of the rating and/or its approval hold, either directly or indirectly, any shares in the rated entity or in third parties affiliated to it. Notwithstanding this, it is permitted for the above-mentioned persons to hold interests through shares in diversified undertakings for collective investment, including managed funds such as pension funds or life insurance companies, pursuant to EU Rating Regulation (EC) No 1060/2009. Neither Scope Ratings nor companies affiliated with it are involved in the brokering or distribution of capital investment products. In principle, there is a possibility that family relationships may exist between the personnel of Scope Ratings and that of the rated entity. However, no persons for whom a conflict of interests could exist due to family relationships or other close relationships will participate in the preparation or approval of a rating.

Key sources of information for the rating

Offering circular and transaction-related contracts; operational review visit with the originator; 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 “SME CLO Rating Methodology”, dated May 2015. Scope also applied the principles contained in the ‘Rating Methodology for Counterparty Risk’, dated August 2015. Both files are available on www.scoperatings.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://cerep.esma.europa.eu/cerep-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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