

CREDIT OPINION

29 November 2018

New Issue



Rate this Research

Closing date

29 November 2018

TABLE OF CONTENTS

Capital Structure	1
Summary	1
Credit strengths	1
Credit challenges	2
Key characteristics	3
Asset description	5
Asset analysis	11
Securitization structure description	16
Securitization Structure Analysis	19
Methodology and monitoring	21
Appendix 1: Originator and servicer detail	23
Appendix 2: Eligibility criteria and waterfall	25

Contacts

Gaston Wieder +34.91.768.8247

VP-Senior Analyst
gaston.wieder@moodys.com

Devin Boyacioglu +49.69.70730.965 Associate Analyst

devin.boyacioglu@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Alba 10 SPV

New Issue Report

Capital Structure

Exhibit 1

Definitive ratings

Series	Original rating	Amount (€ Million)	% of notes	Legal final maturity	Coupon	Subordi-nation**	Reserve fund***	Total credit enhancement****
Class A1	Aa3(sf)	408.40	42.59%	Oct-38	3mEurib+0.40%	57.04%	0.86%	57.90%
Class A2	Aa3 (sf)	200.00	20.86%	Oct-38	3mEurib+0.70%	36.00%	0.86%	36.86%
Class B	A3 (sf)	130.00	13.56%	Oct-38	3mEurib+1.10%	22.33%	0.86%	23.19%
Class C	Ba2 (sf)	75.00	7.82%	Oct-38	3mEurib+1.60%	14.44%	0.86%	15.30%
Class J*	NR	145.43	15.17%	Oct-38	3mEurib+1.75%	0%	0.00%	0.00%
Total		958.8	100.00%					

(*) Class J funds a portion of the portfolio as of the closing date, but also the debt reserve amount. The total amount of class J equals €145,434,000.

(**)At close, in % of total assets.

(***) For the purpose of this table in % of total assets; which is re-calibrated from what is defined in the transaction documents as 1% of rated notes (i.e. class A1, A2, B and C). The reserve fund will provide credit support only at deal maturity.

(****)No benefit attributed to excess spread.

Source: Moody's Investors Service

Summary

Alba 10 SPV is a cash securitisation of lease receivables extended to small and medium-sized enterprises (SMEs) and individual entrepreneurs located in Italy. Our quantitative, structural and legal analysis of this transaction supports the ratings that we have assigned.

Credit strengths

- » Portfolio structure: The portfolio is static and will start to amortize from deal's closing. This feature limits portfolio performance volatility caused by additional lease purchases. (See Asset Description – Asset Acquisition Guidelines)
- » Liquidity arrangement: The deal structure includes an amortising debt service reserve, funded for an amount equal to 1% of rated notes as of closing date. The reserve fund works as a liquidity line and it is available to repay principal on the rated notes at maturity. (See Structure Description Detailed Description of the Structure)

» Portfolio composition: Securitised portfolio is diversified and granular. There is a limited industry sector concentration with lessees from top 2 sectors representing not more than 33.17% of the pool with 17.57% in the building and real estate industry according to Moody's classification. In terms of exposure to individual lessees, the portfolio is highly granular, with the top lessee and top 5 lessees group exposure being 0.86% and 3.67% respectively. (See Asset Description – Pool Characteristics)

- » No set-off risk: There is no potential losses resulting from set-off risk because obligors do not have deposits and did not enter into a derivative contract with Alba leasing SpA. (See Structure Description Detailed Description of the Structure)
- » The residual value component of the lease contracts is not Securitised: Investors are not exposed to the risk of non-exercise of the residual option by the obligors and the possible loss of the residual value upon the originator's liquidation. The SPV benefits from the interest paid on the residual value. This leads to an increasing excess spread over time. (See Structure Description Detailed Description of the Structure)

Credit challenges

- » Financial strength of originator: We do not rate Alba Leasing or Securitisation Services. Alba Leasing (NR) is a medium-sized monoline leasing company mainly operating in Northern Italy. However, the transaction benefits from (i) a strong back-up servicing arrangement with Securitisation Services S.p.A. (NR) signed at closing, and (ii) a reserve fund as liquidity cushion. (See Asset Description Pool Characteristics)
- » Exposure to real estate: The building and real estate sector account for 17.57% of the portfolio. We account for this exposure in our quantitative analysis. (See Asset Analysis Additional Asset Analysis)
- » No hedging arrangements: The transaction structure does not include a hedging mechanism to cure potential interest rate mismatches between the portfolio and the notes. We accounted for this feature in our modelling of the transaction. (See Structure Analysis Additional Structural Analysis)
- » Limited historical information: Because Alba started operations in 2010, we have only limited relevant historical performance data. (See Asset Analysis Additional Asset Analysis)

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Key characteristics

Exhibit 2

Asset summary and related key parties

Asset Characteristics	
Receivables	Lease financing extended to small and medium-sized enterprises (SMEs) and individual entrepreneurs located in Italy
Total Amount (EUR)	950,696,912.63
Number of Borrowers	7,852
Number of Borrower Groups	7,627
Number of Assets	11,518
Effective Number	976
WA Remaining Term (in years)	5.84
WA Seasoning (in years)	0.66
WAL of the Portfolio (in years)	2.9 as of cut-off date
Interest Basis	5.29% fixed, 94.71% floating
Delinquency Status	
Historical Portfolio Performance Data	
Default Rate:	Based on extrapolated historical vintage analysis: 2.97% (auto subpool) over WAL of 2.31 years; 4.89% (equipment subpool) over a WAL of 2.5 years; 5.55% (real estate subpool) over a WAL of 6.0 years - Aggregated aprox 4.6% over 2.9 WAL
Delinquencies Observed:	Based on delinquencies of less than 90 days: 0.48% (auto subpool); 0.53% (equipment subpool); 0.31% (real estate subpool)
Coefficient of Variation (Defaults)	Based on extrapolated historical vintage analysis: 46.1% (auto subpool) over a WAL of 2.3 years; 42.15% (equipment subpool) over a WAL of 2.5 years; 96.3% (real estate subpool) over a WAL of 6.0 years
Recovery Rate Observed:	Based on extrapolated historical vintage analysis: 69.33% (auto subpool); 53.38% (equipment subpool); 22.43% (real estate subpool) - Aggregated aprox 50%

Source: Moody's Investors Service

Exhibit 3 Securitization structural features and related key party characteristics

Structural Characteristics	
Excess Spread at Closing:	1.1% p.a. taking into account stressed servicing fees, yield and coupon on rated notes
Credit Enhancement/Reserves:	Subordination of the notes and excess spread
	Debt Service Reserve of 1% (as percentage of rated notes) is fully funded at closing, provides liquidity to class A1, A2, B and C notes during the life of the deal and credit coverage at maturity
Form of Liquidity:	Excess spread, debt service reserve, principal to pay interest
Number of Interest Payments Covered by Liquidity:	Approximately 2 quarterly payment dates assuming a Euribor of 1%
Interest Payments:	Quarterly in arrears on each payment date
Principal Payments:	Pass-through on each payment date
Payment Dates:	January, April, July and October of each year
Hedging Arrangements:	None
Transaction Parties	
Issuer:	Alba 10 SPV S.r.l.
Seller/Originator:	Alba Leasing SpA (NR)
Servicer:	Alba Leasing SpA (NR)
Back-up Servicer:	Securitisation Services S.p.A. (NR)
Back-up Servicer Facilitator:	N/A
Cash Manager:	Alba Leasing S.p.A. (NR)
Back-up Cash Manager:	N/A
Computational agent:	Securitisation Services S.p.A. (NR)
Back-up Calculation/Computational Agent:	N/A
Swap Counterparty:	N/A
Issuer Account Bank:	Citibank NA, Milan Branch (Long Term Deposit Rating: A1 Not on Watch /Short Term Deposit Rating: P-1 Not on Watch; Long Term Counterparty Risk Assessment: A1(cr) Not on Watch /Short Term Counterparty Risk Assessment: P-1(cr) Not on Watch; Outlook: Stable)
Paying Agent:	Citibank NA, London Branch (Long Term Deposit Rating: A1 Not on Watch /Short Term Deposit Rating: P-1 Not on Watch; Long Term Counterparty Risk Assessment: A1(cr) Not on Watch /Short Term Counterparty Risk Assessment: P-1(cr) Not on Watch; Outlook: Stable)
Corporate Service Provider:	Securitisation Services S.p.A. (NR)
Representative of the Noteholders:	Securitisation Services S.p.A. (NR)
Arranger:	Banca IMI SpA & Société Générale SA

Source: Moody's Investors Service

Asset description

Asset description at closing

The securitised portfolio consists of lease contracts entered into by Alba Leasing S.p.A. with mainly small and medium-sized businesses and individual entrepreneurs in Italy. The underlying assets of the lease contracts are transportation assets, equipment, real estate properties and air/naval and rail assets. The balance of the portfolio (as of 12 October 2018) is €950,696,912.63 million. The vast majority of the portfolio are leases that pay monthly (97%) and have floating rates (95%).

POOL CHARACTERISTICS

The below table and exhibits shows some basic characteristics of the initial pool of assets, describing the pool as a whole, and providing statistics for various sub-pools.

Exhibit 4
Initial pool details

•		
Pool Details		
Type of Assets	Leasing	
Total Amount (EUR)	950,696,912.63	
Average Loan Balance (EUR)	82,540.10	
Number of Assets	11,518	
Number of Borrowers	7,852	
Number of Borrower Groups	7,627	
Effective Number	976	
WA Seasoning (in years)	0.66	
WA Remaining Term (in years)	5.84	
WAL of the Portfolio (in years)	2.9	
Minimum Maturity	Mar-19	
Maximum Maturity	Sep-33	
Interest Basis	5.29 fixed, 94.71% floating	
WA Spread (floating rate subpool)	2.48%	
WA Interest rate (fix rate subpool)	2.12%	
Contract Amortisation Type	Annuity	
% Bullet Loans	none	
% Large Corporates	11.80%	
% Real Estate Developers	6.40%	
Delinquency Status	0% >30 days	

Source: Alba Leasing

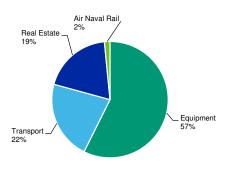
The following exhibits show portfolio concentrations according to obligor size, industry and region.

Exhibit 5 **Top pool concentration levels**

* *	
Pool Details	
Top Debtor Concentration	0.86%
Top 5 Debtors	3.67%
Top 10 Debtors	6.04%
Top 20 Debtors	9.75%
Effective Number	976
Name 1st largest industry	Construction & Building
Size % 1st largest industry	17.57%
Name 1st largest region	Lombardia
Size % 1st largest region	30.27%

Source: Alba Leasing

Exhibit 6 **Sub-pool concentrations**



Source: Alba Leasing

Exhibit 8

Year of maturity

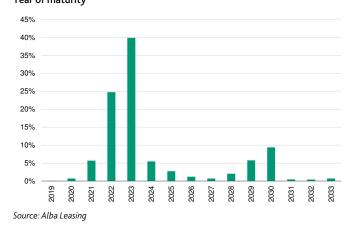
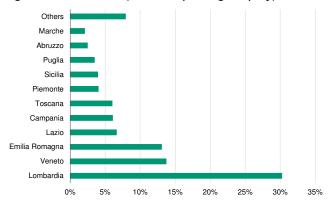
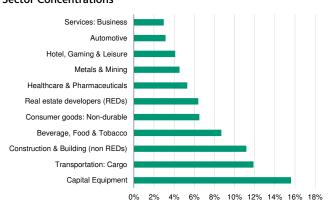


Exhibit 7
Regional concentrations (based on operating company)



Source: Alba Leasing

Exhibit 9
Sector Concentrations



Source:

The charts below show the portfolio concentrations by year of origination and residual term length in each industry.

Exhibit 10
Year of origination by sub-pool

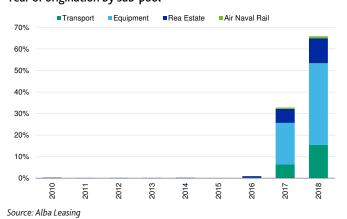
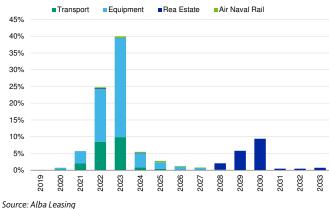


Exhibit 11

Maturity by sub-pool

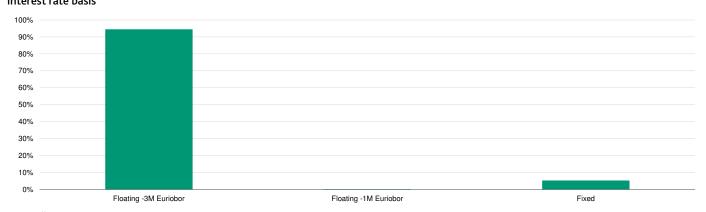


Source: Alba Leasin

The charts below show portfolio concentration by interest rate basis.

Exhibit 12

Interest rate basis



Source: Alba Leasing

ORIGINATOR

Alba Leasing SpA (NR) is the transaction's originator and servicer. The tables below provide details about Alba and the performance originations.

Exhibit 13

Originator background: Alba Leasing SpA

Originator and Servicer Background: Alba Leasing SpA	
Pating:	» Not rated
Financial Institution Group Outlook for Sector:	» Negative
Ownership Structure:	» Banco BPM(39.19%), Banco Popolare Emilia Pomagna (33.50%), Banca Popolare di Sondrio (19.26%) and Credito Valtellinese (8.05%)
Asset Size:	» Euro 5.3 billion (YE2017)
% of Total Book Securitised:	» 64.1% (YE2016)
Transaction as % of Total Book:	» 23.1% (YE2016)
% of Transaction Petained:	» 36.5% (YE2016)

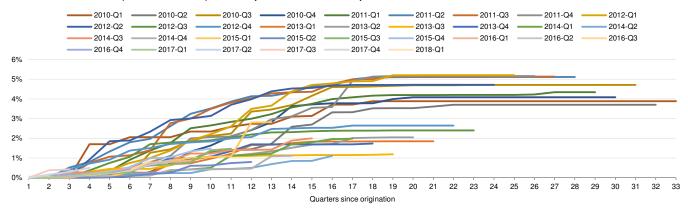
Source: Moody's Investors Service

The exhibits below show the historical performance data of Alba originations.

- » The data sets consisted of: static vintage data on defaults, static vintage data on recoveries, dynamic delinquency information and dynamic prepayment information.
- » We have received the following two sets of data: (i) whole portfolio (vintages 2005-Q12018) as managed by Alba Leasing currently and (ii) new production (vintages 2010-Q12018) as originated since inception from Alba Leasing in 2010. Note, only loans originated by Alba Leasing (i.e. New Production) are eligible for this transaction.

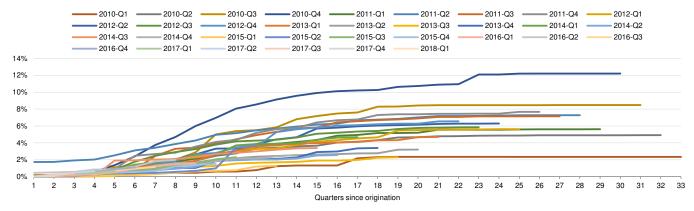
The data received on the new production does not cover a full economic cycle. However, it covers a period of 8 years, which is in line with the original contract maturity for most lease contracts in the actual portfolio except for the real estate leases. Static default curves flatten out for all sub-pools before or after 20 quarters, except for the real estate portion.

Exhibit 14
Cumulative default rate (New Production) for transportation assets sub-pool



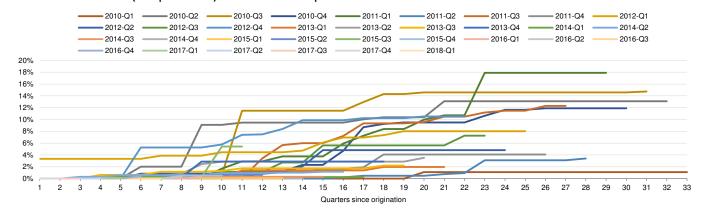
Source:

Exhibit 15
Cumulative default rate (new production) for equipment sub-pool



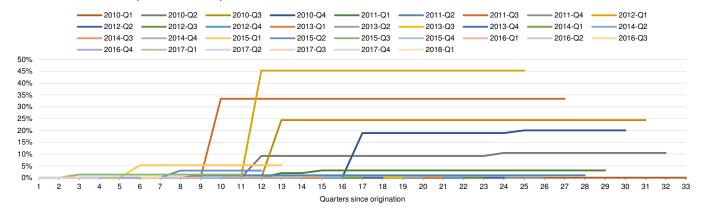
Source: Alba Leasing

Exhibit 16
Cumulative default rate (new production) for real estate sub-pool



Source: Alba Leasing

Exhibit 17
Cumulative Default Rate (New Production) for Air/Naval/Train Sub-Pool



Source: Alba Leasing

SERVICER

Alba Leasing SpA is also the transaction's servicer, with a staff of 300 servicing roughly €4.8 billion of receivables.

Replacement of the servicer: See Parameter Sensitivities in the Appendix.

BACK-UP SERVICER

Securitisation Services SpA is the transaction's back-up servicer.

Exhibit 18

Back-Up servicer background: Securitisation Services SpA. The table below provides details about Securitisation Services.

Rating:	Not rated
Ownership Structure:	Owned by Banca Finanziaria Internazionale SpA (unrated)
Regulated by:	Bank of Italy
Total Number of Receivables serviced:	EUR 23.4 billion
Number of Staff:	over 20 in servicing department
Strength of Back-up Servicer Arrangement:	The company is leader in Italy in managing securitizations transactions acting principally as servicer, computation agent, corporate servicer and representative of the noteholders
Receivables Administration	. , , , , , , , , , , , , , , , , , , ,
Method of Payment of Borrowers in the Pool:	Most borrowers pay by direct debit into a dedicated servicer account.
% of Obligors with Account at Originator:	N/A
Distribution of Payment Dates:	All borrowers pay on the first day of the month

Source: Moody's Investors Service

ELIGIBILITY CRITERIA

The types of assets that the transaction can purchase are subject to eligibility criteria. See the appendix for a complete list of the transaction's eligibility criteria.

ASSET ACQUISITION GUIDELINES

No revolving period: The securitization does not include a revolving period during which the SPV may purchase additional leases, limiting portfolio performance volatility caused by additional lease purchases.

Asset analysis

Primary asset analysis

We based our analysis of the transactions assets on factors including historical performance data, originator and servicer quality and pool characteristics.

PROBABILITY OF DEFAULT

We use the originator's historical performance data to help determine the probability of default of the securitised pool. This transaction defines a defaulted asset as an asset that is more than 180 days in arrears, or any lease contract classified as "sofferenza" in accordance with the Bank of Italy definition.

The default definition applied for the historical data (incagli or sofferenze in accordance with Bank of Italy criteria) is broadly aligned with the deal default definition for the transaction.

Derivation of default rate assumption: We analysed the available historical performance data the originator provided by sub-portfolio type and the performance of Alba 7, Alba 8 and Alba 9 which we rated respectively in 2015, 2016 and 2017. We extrapolated the default vintage data to define the cumulative default curve for each of the origination vintages. The following table shows the result of the historical default data analysis we performed:

Exhibit 19

Summary of historical default data analysis

	Weighted Average Pool	Auto Pool	Equipment Pool	Real Estate Pool
Avg. Extrapolated Default Rate (by projected WAL)	4.6%	3.0%	4.9%	5.6%
CoV (by projected WAL)	54%	46%	42%	96%
Moody's Equivalent (by projected WAL)	Ba2	Ba1	Ba2	Ba1

Source: Moody's Investors Service

We complemented the above analysis with a top-down approach. Starting from Italy's (Baa3/P-3) base rating proxy for SME of Ba2, we evaluate the portfolio based on:

- 1. The size of the companies (assuming one notch penalty for micro-SMEs representing approximately 49.5% of the portfolio, and one notch benefit for large corporates)
- 2. The borrowers' sector of activity. For example, we applied a ¾-notch penalty to loans whose underlying borrower was active in the construction sector and a two-notch penalty for borrowers classified as real estate developers. If no information is provided for the sector of activity for a lessee (1.4% of the portfolio) we applied a one-notch penalty

We also adjusted our assumption to take into account the current negative economic environment and its potential impact on the portfolio's future performance (i.e ½-notch penalty) and similarly, we evaluate and benchmark the originator's underwriting capabilities against other Italian originators (½-notch penalty).

As a result, we expect an average portfolio credit quality equivalent to a Ba3/B1 proxy for an average life of approximately 2.9 years for the portfolio. This translates into a gross cumulative default rate of around 9.4%.

EXPOSURE TO REAL ESTATE

Approximately 17.57% of the portfolio is exposed to the building and real estate sector (according to our industry classification). In the implementation of the top down approach, we assumed a higher default probability for these lessees than other lessees.

DATA QUALITY

The quantity and quality of the originator's historical default data we received is generally good compared with other transactions in this sector with high investment grade ratings. However, the default data for the air/naval/train sub-pool is limited given the small number of contracts initially.

STRUCTURED FINANCE **MOODY'S INVESTORS SERVICE**

SEVERITY

We analyzed the historical recovery data as provided by the originator shown in the exhibit below. The quality of the information on the recovery side is also limited, especially for the real estate segment, given the rather short time horizon available.

Derivation of recovery rate assumption: The recovery data includes both open and closed files. However, the number of observations per vintage was limited for the real estate sub-portfolio. As such we also tested an alternative method of estimating potential recoveries. Based on the contract-by-contract information provided and the asset values available of the property underlying the contract, we applied price stresses. Based on this analysis, which we combined with historical recovery information and benchmarked against other transactions, we assumed a stochastic mean recovery rate of 35% and a standard deviation of 20%. We assumed the base case recovery timing to be as follows: 50% after two years and 50% after four years. However, we also tested a longer recovery timing based on a longer recovery process, especially expected for the real estate sub-pool.

RECOVERY UPON SERVICER INSOLVENCY

The deal documentation requires the servicer to pass on to the issuer all recovery collections on defaulted positions. Recovery may result from the voluntary payment on the part of the borrower or, alternatively, from the sale/re-lease of the asset the servicer has reposed upon borrower default. In Italy, we cannot exclude with certainty the possibility that such latter recovery flows will not be trapped within the bankruptcy estate (should the servicer itself default). As a result we consider such risk when we model the deal, and apply a severe stress to the recovery value upon servicer default. We assumed the recovery rate to decrease to approximately 10.5% should the servicer default.

MARGIN COMPRESSION DUE TO REPAYMENTS

Assuming 100% margin compression (i.e. 100% of CPR applied to highest interest rate paying loans), we reduced the fixed-rate yield vector and the floating-rate margin vector by 0.15%, in each period.

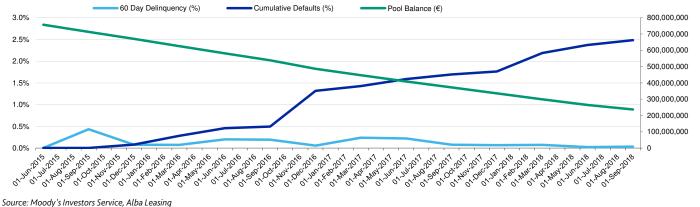
Comparables

PRIOR TRANSACTIONS OF THE SPONSOR

We have performance information for three previous transactions from Alba Leasing that we rated: Alba 7, 8 and 9.

Cumulative defaults in Alba 7 totaled 2.48% of the original balance, as of September 2018, which reflects a Ba2 pool quality since the closing date. The performance of Alba 7 has been in line with our original expectations and also comparable to other Italian leasing transactions. The performance of the Alba 8 and Alba 9 are less relevant due to the short time from closing which is approximately two and one years, respectively.

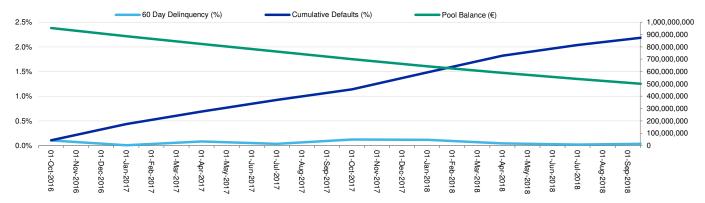




Source: Moody's Investors Service, Alba Leasing

Exhibit 21

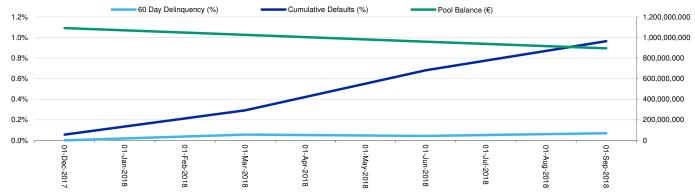
Delinquencies, cumulative defaults and portfolio outstanding for Alba 8 S.r.l.



Source: Moody's Investors Service, Alba Leasing

Exhibit 22

Delinquencies, cumulative defaults and portfolio outstanding for Alba 9 S.r.l.



Source: Moody's Investors Service, Alba Leasing

TRANSACTIONS OF OTHER SPONSORS

Alba 10's expected metrics are largely in line with those of other transactions in this sector, with some notable exceptions. Namely, the assumed default rate of 9.4% and assumed recovery rate of 35% are below those of its peer group. The lower default rate is mainly driven by the high granularity in terms of lessees, industry diversification and lower exposure to the Real Estate sector. The lower recovery rate is driven by a large exposure to equipment and transportation leases.

STRUCTURED FINANCE

Exhibit 23

Benchmark table

MOODY'S INVESTORS SERVICE

Deal Name	Alba 10 SPV	Alba 9 SPV	Alba 8 SPV	Alba 7 SPV	Tricolore Funding - Serie 2014	Siena Lease 2016- 2
Closing Date or Rating Review Date (dd/mm/yyyy)	29-Nov-18	30-Oct-17	20-Jun-16	20-Apr-15	10-Dec-14	28-Jan-16
Currency of Rated Issuance	EUR	EUR	EUR	EUR	EUR	EUR
Rated Notes Volume (excluding NR and Equity)	813.4M	958.4M	812.8M	605.2M	120M	1,417.3M
Originator	Alba Leasing SpA	Alba Leasing SpA	Alba Leasing SpA	Alba Leasing SpA		Monte dei Paschi di Siena Leasing & Factoring Banca per i Servizi alle Imprese SpA
Long-term Rating	N/R	N/R	N/R	N/R	N/R	N/R
Short-term Rating	N/R	N/R	N/R	N/R	N/R	N/R
Name of separate Cash Administrator				BNP Paribas Securities Services	Deutsche Bank S.p.A.	BNP Paribas Securities Services
Long-term Rating				A1		A1
Short-term Rating				P-1		P-1
Portfolio Information (as of [])	10/12/2018	9/22/2017	5/5/2016	3/1/2015	10/31/2014	11/30/2015
Currency of securitised pool balance	EUR	EUR	EUR	EUR	EUR	EUR
Securitised Pool Balance ("Total Pool")	950.7M	1,113.1M	1,026.1M	784.76M	177.7M	1,619.8M
Monthly paying contracts %	97.34%	96.29%	95.55%	94.10%	90.80%	96.80%
Floating rate contracts %	94.74%	97.07%	98.28%	98.05%	86.30%	93.00%
Fixed rate contracts %	5.29%	2.93%	1.72%	1.95%	13.70%	7.00%
WAL of Total Pool initially (in years)	2.93	3	3.6	3.67	4.38	4.9
WA seasoning (in years)	0.66	0.9	1.8	1.08	4.9	4.24
WA remaining term (in years)	5.84	5.6	6.34	6.57	8.25	8.89
No. of contracts	11,518	16,075	15,046	12,900	3,868	13,181
No. of obligors	7,627	10,736	10,014	8,092	2,819	8,848
Name 1st largest industry	Construction & Building	Construction & Building	Construction & Building	Construction & Building	Construction & Building	Construction & Building
Size % 1st largest industry	17.57%	15.80%	16.19%	21.00%	24.00%	32.20%
Effective Number (obligor group level)	976	1237	1268	768	290	1,152
Single obligor (group) concentration %	0.86%	0.78%	0.78%	1.04%	1.30%	0.70%
Top 10 obligor (group) concentration %	6.04%	2.94%	5.55%	6.33%	10.80%	4.50%
Geographical Stratification (as % Total Pool)						
Name 1st largest region	Lombardy	Lombardy	Lombardy	Lombardy	Emilia Romagna	Lombardy
Size % 1st largest region	30.27%	29.35%	31.39%	29.40%	23.50%	19.11%

STRUCTURED FINANCE

Exhibit 24

					Tricolore Funding -	
Deal Name	Alba 10 SPV	Alba 9 SPV	Alba 8 SPV	Alba 7 SPV	Serie 2014	Siena Lease 2016-2
Asset Assumptions						
Type of default / loss distribution	Inverse Normal	Inverse Normal	Inverse Normal	Inverse Normal	Inverse Normal	Inverse Normal
Mean gross default rate - initial pool	9.40%	9.10%	11.10%	13.20%	24.30%	23.57%
CoV	54.70%	50.00%	40.80%	41.40%	38.50%	27.50%
Mean recovery rate	35%	35%	35%	35%	50%	35%
Stdev. recovery rate (if any)	20%	20%	20%	20%	20%	20.00%
Recovery lag (in months)	33	33	33	33	33	36
Prepayment Rate(s)	5%	5%	5%	5%	5%	5%
Size of credit RF up front (as % of Total Pool)	0.86%	0.86%	0.99%	2%	1.00%	1.34%
Principal available to pay interest?	Yes	Yes	Yes	Yes	Yes	Yes
Set-off risk?	No	No	No	No	Yes	No
Commingling Risk?	Yes	Yes	Yes	Yes	Yes	Yes
Back-up servicer (BUS)	Yes	Yes	Yes	Yes	Yes	Yes
Swap in place?	No	No	No	No	No	No
Capital structure (as % Total Pool)						
Size of most senior rated class	63.5% (class A1	64% (class A1	62.4% (class A1	58% (class A1	56.2% (rated A2	47.0% (rated Aa2
		and A2 rated Aa2			at closing)	at closing)
	at closing)	at closing)	at closing)	at closing)		

Source:

Source: Moody's Investors Service

Additional asset analysis

Alba Leasing is a relatively new company that we do not rate. We last reviewed their operations in September 2018 and we receive a yearly update before closing of each transaction. See the table below for further details.

ORIGINATOR QUALITY

Exhibit 25

Strengths:

Originator review

Main Strengths (+) and Challenges(-)

Overall Assessment: Weak

- » Although the company is relatively young, management has multi-year experience in the sector (former Banca Italease employees). New origination mainly focused on small tickets, as opposed to larger real estate contracts.
- » Modest profitability in light of asset quality pressures and higher provisioning needs
- » Reliance on shareholder bank funding and weak liquidity position

Source: Moody's Investors Service

SERVICER QUALITY

Alba Leasing is also the transaction's servicer.

Exhibit 26

Servicer review

Main Strengths and Challenges

Strengths:

» Cash reconciliation is on a daily basis

Weaknesses:

» Given the small size of the originator, the arrears management process is not particularly proactive.

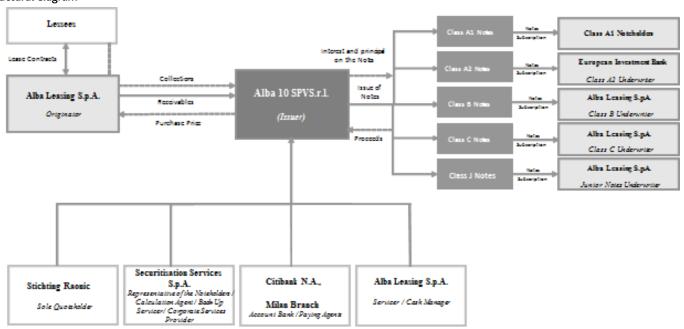
Source: Moody's Investors Service

Securitization structure description

The proceeds of the notes will be used to finance the acquisition of the portfolio, the original amount of which equals €950,696,912.63. The interest and principal priorities of payment are combined in a single waterfall. The amortization period will start on the first interest payment date.

Structural diagram

Exhibit 27 **Structural diagram**



Source: Alba Leasing

Detailed description of the structure

CREDIT ENHANCEMENT

Debt service reserve: At close, the debt service reserve requirement is 1% of the principal outstanding of the rated notes (being the Class A1 and A2 plus B and C notes), i.e. €8.1 million. After closing, the required reserve level must be equal to the higher between (i) 1% of the outstanding amount of the rated notes as of the relevant payment date and (ii) 0.5% of the initial outstanding amount of the rated notes (i.e. approximately € 4.1million) as long as the rated notes are outstanding; it will be zero thereafter.

The reserve fund will be replenished after the interest payment of the Class A, B and (only prior to a Class C interest subordination event) C notes. The cash reserve only provides liquidity support for the rated notes during the lifetime of the transaction, upon all rated notes amortisation or (if earlier) on maturity date it is also available for the payment of principal on the rated notes.

Liquidity: The single waterfall means principal is available to make interest payments. The cash reserve is a further source of liquidity; it covers coupon payments on the Class A and coupon payments on the Class B and (only prior to a Class C interest subordination event) C notes for approximately 2 quarterly payment dates assuming a three-month Euribor of 1%.

The residual value component of the lease contracts is not securitised: Investors are not exposed to risk of non-exercise of the residual option by the obligors and the possible loss of the residual value upon the originator's liquidation, whereas the SPV benefits from the interests paid on the residual value. This leads to increasing excess spread over time.

WATERFALL

On each quarterly payment date, the issuer's available funds (i.e. interest and principal amounts received from the portfolio, the reserve fund, and interest earned on the issuer's account) will be applied in the simplified order of priority shown in the Appendix.

TRIGGERS

Various trigger levels dictate changes to the priority of payments, and potential repercussions for deterioration in the quality of the transaction's key parties, as the exhibits below show.

Exhibit 28

Performance triggers

Performance Triggers		
Trigger	Conditions	Remedies/Cure
Class C Notes Interest Subordination Event	The gross cumulative default ratio > 10%	If the conditions are met, payment of Interest on the class C $$ will be subordinated to the payment of Principal of the class A and B notes .
Cash trapping	The cumulative default ratio exceeds certain ratio level over deal life	If the conditions are met, any excess spread (remaining after having paid principal on the rated notes and any other amount payable to the issuer creditors according to documentation) will be trapped and applied as interest available proceeds for the next IPD.

Source: Alba Leasing (Prospectus)

Exhibit 29
Originator, servicer, cash Manager and counterparty triggers

Key Servicer Termination Events:	Insolvency, Payment Default	Insolvency, Payment Default	
Appointment of Back-up Servicer Upon:	At closing		
Key Cash Manager Termination Events:	N/A		
Notification of Obligors of True Sale:	N/A		
Conversion to Daily Sweep (if original sweep is not daily):	Daily at closing		
Notification of Redirection of Payments to SPV's Account:	Following the termination of the appointment of the Servicer		
Accumulation of Set Off Reserve:	N/A		
Accumulation of Liquidity Reserve :	N/A		
Set up Liquidity Facility:	N/A		

Source: Alba Leasing (Prospectus)

CASH COMMINGLING RISK AND ACCOUNT BANK RISK

Commingling risk generally arises when cash belonging to the SPV is deposited in an account held in the name of a third party, specifically the servicer. All debtors pay by direct debit into a dedicated servicer account held at Intesa Sanpaolo (Long Term Deposit Rating: Baa1 Not on Watch /Short Term Deposit Rating: P-2 Not on Watch; Long Term Counterparty Risk Assessment: Baa2(cr) Not on Watch /Short Term Counterparty Risk Assessment: P-2(cr) Not on Watch; Outlook: Stable).

Collections are transferred daily into the issuer collection account held at Citibank NA (Long Term Deposit Rating: A1 Not on Watch /Short Term Deposit Rating: P-1 Not on Watch; Long Term Counterparty Risk Assessment: A1(cr) Not on Watch /Short Term Counterparty Risk Assessment: P-1(cr) Not on Watch; Outlook: Stable), with a transfer requirement if the rating of the account bank falls below Baa2.

Within 15 business days of a servicer termination event, all borrowers will be notified – either by the servicer or the back-up servicer – to redirect their payments directly into the SPV account. As a result we have modelled a commingling exposure equal to one month of lost collections, following originator insolvency.

CLAW-BACK RISK

A transfer pursuant to the Italian Securitisation Law 130 is potentially subject to claw back by a liquidator of the transferor (1) within three months following the transfer, where the sale is not at an undervalue, if (i) the transferor was insolvent at the time of the transfer and (ii) the liquidator can prove that the transferee was, or ought to have been, aware of such insolvency, or (2) within six months

following the transfer, where the sale is at an undervalue, if (i) the transferor was insolvent at the time of the transfer and (ii) the transferee cannot prove that it was not, or ought not to have been, aware of such insolvency. In general, payments may be subject to claw-back if they are made to the issuer by any party under the transaction document during the 12-month suspect period prior to the date on which such party has been declared bankrupt or has been admitted to compulsory liquidation. The relevant payment will be set aside and clawed back if the receiver gives evidence that the issuer had knowledge of the payer's insolvency when the payments were made. The question as to whether or not the issuer had knowledge of the state of insolvency at the time of the payment is a question of fact with respect to which a court may in its discretion consider all relevant circumstances.

This risk mainly exists when loans are repurchased, as they are either ineligible when assigned or renegotiated.

To mitigate this risk, repurchases (up to a maximum of 1.5% of the initial portfolio on a quarterly basis, and 8% of the initial portfolio on a cumulative basis) will be paid for in cash, which is an important indication (although not fully conclusive) that the company is not simultaneously in cessation of payment. Should the payment obligation of the originator exceed €500,000, the originator will provide evidence of its solvency by presenting a solvency certificate signed by its legal representatives, as well as certificates issued by the chamber of commerce and the bankruptcy section of the relevant tribunal.

SET-OFF

Under Italian law, mutual debt obligations may be set off against each other to the extent they are both due and payable. After a debt is assigned to a third party – such as a securitisation issuer – the debtor may still set off claims owed to it by the originator. However, set off rights against securitised debt are limited to the amount of claims that exist when the notice of assignment is published in the Italian Official Gazette. The following products, which are generally offered by banks, would give rise to set-off: bonds issued by the originator, bank deposits, current accounts and derivatives contracts. Because Alba is not a bank, no securitised borrower has any deposit or account with the originator. Furthermore, Alba has provided a representation to the effect that it has not entered into a derivative transaction with any of the securitised borrowers.

RENEGOTIATIONS

Although the servicer can renegotiate the terms of the leases, its ability to do so is limited. Specifically:

- » The servicer may reduce the interest payable on the leases as well as allow a rescheduling of the lease repayment plan, but only for 5% of the initial total portfolio.
- » The servicer may grant an extension of the lease repayment plan provided the last installment payment date falls within October 2036, i.e., approximately two years prior to the deal maturity date.
- » The servicer may reduce the interest rate payable on the leases, in which case the servicer will need to indemnify the issuer for the resulting loss.

COMPUTATION AGENT

Securitisation Services is also the transaction's computation agent.

Exhibit 30

Computation agent background: Securitisation Services SpA

Rating:	Not Rated
Main Responsibilities:	Preparation of payment report and, if the servicers don't deliver the servicer report, preparation of a simplified payment report to avoid payment disruption
Calculation Timeline:	Collection period: quarterly
	Calculation date: the 5th business day prior to each IPD
	IPD: January, April, July and October

Source: Moody's Investors Service

Securitization Structure Analysis

We modeled the bond structure and cash flow waterfall to assess the amount of credit enhancement supporting each class of rated securities. We also analyzed the allocation of payment, bankruptcy remoteness and other structural issues.

Primary Structure Analysis

EXPECTED LOSS

We determine expected losses for each tranche based on a number of assumptions, listed in the exhibit below.

Exhibit 31

Portfolio assumptions

Expected Loss Assumptions		
Default Distribution	Normal inverse	
Default Rate	9.4% (Ba3/B1 equivalent)	
Default Definition	180 days in line with "sofferenza" definition	
Standard Deviation/Mean	54.7%	
Timing of Default	Flat over portfolio average life, with several sensitivities tested given the high sensitivity of the structure to the actual default timing assumed	
Recovery mean	35% and 10.5% upon insolvency of the originator	
Recovery Cov	20%	
PCE	21%	
Recovery Lag	50% after 2 years, 50% after 4 years	
Conditional Prepayment Rate (CPR)	5%	
Amortisation Profile	Vector as provided by originator	
Portfolio yield	based on vector provided by originator, stressed to take into account lack of hedge mechanism	
Fees (as modeled)	0.5% on portfolio p.a. + EUR 170,000 fixed fees	
Euribor/Swap Rate	4%/NA	

Source: Moodys Investors Service

DEFAULT DISTRIBUTION

The first step in the analysis of the expected loss on the bonds is to define a default distribution of the loan portfolio to be securitised (See Asset Analysis – Probability of Default). Owing to the high granularity of the pool, we used a normal inverse default distribution. Two basic parameters needed to be assessed as main inputs for the model as follows:

- » The mean default probability for the portfolio, and
- » The standard deviation of the normal inverse distribution.

Standard deviation: To define the standard deviation for the normal inverse default distribution, we ran a Monte Carlo simulation (using the Moody's CDOROM™) based on the securitised portfolio's actual loan-by-loan information to capture the pool concentrations in terms of single obligors and industry segments. We used, inter alia, the loan-by-loan default probabilities (i.e. outcome of our top-down approach), the borrower industry sectors, the weighted average life and a probabilistic correlation framework.

As a result, we assume a normal inverse default distribution with a coefficient of variation (ratio between standard deviation and mean default rate) of 54.7% that takes into account sovereign risk as well. The base case mean loss rate and the CoV assumption correspond to a portfolio credit enhancement of 21%.

Timing of default: We assumed a flat default timing curve as base case, spread over the portfolio's average life starting after the default definition.

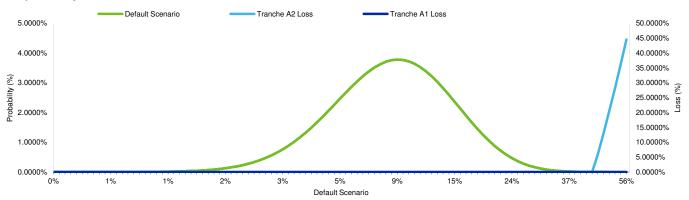
Prepayments: Based on historical prepayment information and based on benchmarking with other lessors, we assumed a CPR at a level of 5% per annum.

TRANCHING OF THE NOTES

To derive the level of losses on the notes, we applied the above specified normal inverse default distribution and the stochastic recovery distribution to numerous default scenarios on the asset side. The exhibit below shows the default distribution (green line) we used to model the transaction's cash flows.

Exhibit 32

Loss probability distribution



Source: Moody's Investors Service

We have considered how the cash flows generated by the collateral are allocated to the parties within the transaction, and the extent to which various structural features of the transaction might themselves provide additional protection to investors, or act as a source of risk. In addition, we analysed the strength of triggers to reduce the exposure of the portfolio to the originator/servicer bankruptcy.

To determine the rating assigned to the notes, we used an expected loss methodology that reflects the probability of default for each series of notes times the severity of the loss expected for the notes. To allocate losses to the notes in accordance with their priority of payment and relative size, we used a cash-flow model that reproduces many deal-specific characteristics such as the main input parameters of the model described above. Weighting each default scenario's severity result on the notes with its probability of occurrence, we calculated the expected loss level for each series of notes as well as the expected average life. We then compared the quantitative values to the Moody's Idealised Expected Loss table to determine the ratings assigned to each series of notes.

The blue line in Exhibit 31 represents the loss suffered by the Class A2 notes (in our modeling) for each default scenario on the default distribution curve. For default scenarios up to 45.7%, the line is flat at zero, hence the Class A2 notes are not suffering any loss. The steepness of the curve then indicates the speed of the increase of losses suffered by the Class A2 note holders.

Additional structural analysis

TRUE SALE AND BANKRUPTCY REMOTENESS

True sale: According to the legal opinion, the securitisation of assets has been carried out in compliance with the Italian securitisation law. Notification of the sale was published on the Official Gazette (Gazzetta Ufficiale della Repubblica Italiana) on 10 November 2018 and registered in the Companies Register on 8 November 2018.

Bankruptcy remoteness: The transaction achieved bankruptcy remote status by the provisions of Law 130 and through the Italian SPV's bylaws, as well as the provisions of the deal documentation.

INTEREST RATE MISMATCH

At closing, 95% of the pool balance comprises floating-rate loans and 5% fixed-rate loans, whereas the notes are floating liabilities referring to three-month Euribor (See Key Characteristics).

As a result the issuer is subject to (1) limited base rate mismatches on the floating portion of the portfolio (i.e. the risk that (i) the reference rate used to compute the interest amount payable on the notes will differ from the reference rate used on the underlying receivables, and (ii) the interest rate payable on the notes is determined on a different date than the rate to be paid on the underlying

receivables; and (2) limited fixed/floating mismatch (i.e. the risk that the interest rate on the notes will differ from the interest rate payable on the fixed portion of the portfolio).

Floating portion of the portfolio: We needed to size the potential mismatch between the index rate payable by the SPV to the noteholders and the rate the SPV will receive on the portfolio. The large majority of the floating-rate loans are indexed to three-month Euribor (94.5%), and the rest to one-month Euribor (0.2%). We applied a haircut of 0.5% to the margin of the floating-rate loans to take into account the timing mismatch between the relevant base rate index paid by the loans and the one on the notes.

Having thus defined the stressed (i.e. that takes into account the lack of swap) yield vectors for both the floating- and fixed-rate subpools, we computed the whole portfolio yield vector, whose values we derived on a weighted average basis for each period.

Because the transaction is not hedged, we took into account the SPV's potential interest rate exposure in some stressed environments. We did this to assess whether the available credit enhancement is sufficient to support the ratings.

Interest rate risk: Because there is no hedging agreement in place and given (i) the portion of fixed rates paid by lessees on the leasing compared to the three-month Euribor payable on the notes as well as (ii) the basis risk included for contracts not paying the three-month Euribor (or alternatively the three-month Euribor as fixed at a different date than for the notes), investors are exposed to interest rate risk. We analysed this risk and found that the credit enhancement available to the Class A1, A2, B and C notes is sufficient to cover this additional risk inherent in the structure.

COMMINGLING RISK

All borrowers pay by direct debit mechanism into the dedicated collection account in the name of the servicer at the beginning of a month.

Funds are then swept daily into the issuer's collection account. To treat a potential exposure for commingling risk, we modelled the loss of the equivalent of one month collections upon a servicer's default.

Methodology and monitoring

Methodology

See Moody's Approach to Rating ABS Backed by Equipment Leases and Loans, December 2015.

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Monitoring

We will monitor the transaction on an ongoing basis to ensure that it continues to perform in the manner expected, including checking all supporting ratings and reviewing periodic servicing reports. Any subsequent changes in the rating will be publicly announced and disseminated through Moody's Client Service Desk.

The following factors may have a significant impact on the subject transaction's rating: lengthening of the recovery process and marked deterioration of the pool performance.

Monitoring report: Data Quality:

- » Investor report format finalized and discussed with Moody's analyst.
- » The report includes all necessary information for Moody's to monitor the transaction.
- » Undertaking to provide Moody's with updated pool cut on a periodical basis

Data Availability:

» The timeline for Investor report is provided in the transaction documentation. The priority of payment section is published on the Interest Payment Date

- » The completed report is published 1 day after the IPD.
- » The frequency of the publication of the investor report is quarterly and the frequency of the IPD is quarterly.
- » Investor reports publicly available on the Calculation Agent website.

STRUCTURED FINANCE

Appendix 1: Originator and servicer detail

Exhibit 33

Summary of originator's underwriting policies and procedures

Originator Ability	At Closing
Sales and Marketing Practices	
Origination Channels:	Shareholding banks: 68.7% Other banks: 13.4% Others 17.9%
Underwriting Procedures	
% of Loans Manually Underwritten:	N/A
Ratio of Loans Underwritten per FTE* per Day:	N/A
Average Experience in Underwriting or Tenure with Company**	N/A
Approval Rate:	N/A
Percentage of Exceptions to Underwriting Policies:	N/A
Underwriting Policies	
Source of Credit History Checks:	Internal database, Cerved, Centrale Rischi , Assilea
Use of Internal Ratings:	Υ
Methods Used to Assess Borrowers' Repayment Capabilities:	 Balance Sheet analysis: Y Cash flow analysis Ratio Analysis: Y
	» Ratio analysis: Y
	» Balance sheet analysis: Y
Other Borrower's Exposures (i.e. other debts) Taken into Account in Affordability Calculations:	The Bank takes into account all borrower's exposures in affordability calculations.
Risk Adjusted Pricing Applied:	Υ
Maximum Loan Size:	N/A
Collateral Requirement Policy:	N/A
Valuation Types Used for Secured Loans & LTV Limits:	Ltv 80%
Valuation Types & Procedure for Construction Loans & LTV Limits:	N/A
Collateral Valuation Policies and Procedures	
Value in the LTV Calculation:	Not Relevant
Type, Qualification and Appointment of Valuers:	External Valuers
Monitoring of Quality of Valuers:	Υ
Credit Risk Management	
Reporting Line of Chief Risk Officer:	To General Manager
Internal Rating System:	Y
Approach Adopted under Basel II:	N/A
Segmentation of the Portfolio by Rating Models:	Υ
Validation of the Model:	N/A
*FTE: Full Time Employee	
**Credit department personnel	
Originator Stability:	At Closing
Quality Controls and Audits	
Responsibility of Quality Assurance:	The Internal Audit Department.
Number of Files per Underwriter per Month Being Monitored:	NA
Management Strength and Staff Quality	
Average Turnover of Underwriters:	NA
Training of New Hires and Existing Staff:	training
Technology	· ·· y
Frequency of Disaster Recovery Plan Test:	Yearly, on the basis of agreements with IT suppliers

Source: Alba Leasing

Exhibit 34 **Summary of servicer's collection procedures**

Servicer Ability	At Closing
Loan Administration	
Entities Involved in Loan Administration:	Two central entity
Early Stage Arrears Practices:	
Entities Involved in Early Stage Arrears:	Staff at branches
Definition of Arrears:	
Arrears Strategy for 1-29 Days Delinquent	Reminder, phone calls
Arrears Strategy for 30 to 59 Days Delinquent	Reminder, file transferred to Credit Recovery Comapany
Arrears Strategy for 60 to 89 Days Delinquent	File transferred to Internal Client Manager in order to define more efficient recovery strategy
Loss Mitigation and Asset Management Practices:	
Transfer of a Loan to the Late Stage Arrears Team:	After 90 days past missed payment date
Entities Involved in Late Stage Arrears:	Central Entity plus Legal advisor and recovery
Ratio of Loans per Collector (FTE):	N/A
Time from First Default to Litigation and from Litigation to Sale:	N/A
Average Recovery Rate:	N/A
Servicer Stability	At Closing
Management and Staff	At oldaling
Average Experience in Servicing or Tenure with Company:	Several Years
Training of New Hires Specific to the Servicing Function (i.e. excluding the company induction training)	Classroom training & work with experienced collector
Quality Control and Audit	COIICCEO
Responsibility of Quality Assurance:	N/A

Source: Alba Leasing

Appendix 2: Eligibility criteria and waterfall

Eligibility criteria

The key eligibility criteria are as follows:

- » Euro-denominated contracts
- » The securitised borrowers are not subject to any bankruptcy procedure
- » All contracts have been entered by Alba Leasing in 2010 or later
- » Contracts pay by RID (ie direct debit)
- » Payment frequency is monthly/bi-monthly/quarterly/semi annual
- » Contract is not delinquent for more than 30 days;
- » Either fixed-rate or floating-rate contracts (in the latter case indexed to one-, three- or six-month Euribor)
- » Contracts are regulated by Italian law
- » All assets are finished and delivered to the lessee
- » Lease assets are registered/located in Italy
- » The leased objects are regularly insured and are (1) real estate properties, (2) trains, ships, boats, airplanes, (3) auto and other commercial vehicles and (4) equipment
- » No lessee is either an Alba Leasing employee, shareholder or any government or semi-government institution.
- » All lease contracts are "net" leases (eg if the asset is destroyed or damaged the lessee is still obliged to make the payments)
- » All lease agreements include the option to buy the residual value
- » Maximum residual contractual duration is (1) auto 83 months, (2) equipment 119 months, (3) real estate 180 months, (4) airplanes/trains/ships 109 months.

Waterfall

Allocation of payments/pre accelerated waterfall: On each quarterly payment date, the issuer's available funds (i.e. interest and principal amounts received from the portfolio, the reserve fund, and interest earned on the issuer's account) will be applied in the following simplified order of priority:

- 1. Senior fees and expenses
- 2. Interest on Class A1 and Class A2 notes on a pro-rata basis
- 3. Interest on Class B notes
- 4. Interest on Class C notes, if gross cumulative defaults not larger than 10%
- 5. Fill-up of the debt service reserve account up to the required level
- 6. Principal on Class A1
- 7. Principal on Class A2
- 8. After repayment of Class A1 and A2 notes, principal on Class B
- 9. Interest on Class C notes on a pro-rata basis, if gross cumulative defaults exceed 10%

- 10. After repayment of Class B notes, principal on Class C
- 11. Cash trapping mechanism: If cumulative gross defaults exceed certain ratio level over deal life (see table below), available cash will be trapped to be available as issuer available funds on next payment date;
- 12. Interest on Class J
- 13. Principal on Class J
- 14. Additional return to the Class J

Exhibit 35

Summary of cumulative gross defaults for cash trapping mechanism

Payment Date	Trigger	
April 2019	1.75%	
July 2019	1.75%	
October 2019	2.25%	
January 2020	3.00%	
April 2020	3.50%	
July 2020	4.50%	
October 2020	5.00%	
January 2021	5.00%	
April 2021	6.00%	
Thereafter	6.00%	

Source: Alba Leasing

Allocation of payments/post accelerated waterfall:

- 1. Senior fees and expenses
- 2. Interest on Class A1 and Class A2 notes on a pro-rata basis
- 3. Principal on Class A1 and Class A2 notes on a pro rata and pari-passu basis
- 4. Interest on Class B notes
- 5. Principal on Class B notes
- 6. Interest on Class C notes
- 7. Principal on Class C notes
- 8. Interest on Class J
- 9. Principal on Class J

© 2018 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS AND MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE. HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1148933

CLIENT SERVICES

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454

