

iBoxx European ABS Index Methodology

September 2025

Table of Contents

Markit iBoxx European ABS Indices	3
1.1 Index family structure	3
1.2 Publication of the Markit iBoxx European ABS Indices	4
Selection criteria	5
2.1 Bond type	5
2.1.1 List of eligible bond types	5
2.1.2 List of ineligible bond types	5
2.2 Securitization type	5
2.2.1 List of eligible securitization types	5
2.2.2 List of ineligible securitization types	6
2.3 Issuer origin	6
2.4 Credit rating	6
2.5 Bond size and currency of issue	7
2.6 Market of issue	7
2.7 Data Availability	7
Index rebalancing	8
Data and index calculation	9
4.1 ABS bond prices	9
4.2 Payment data	9
4.2.1 Data source	9
4.2.2 Treatment of late or corrected payment information	9
4.3 FX data	9
4.4 Settlement conventions	9
4.5 Index formulas	9
4.5.1 Total return index (single currency)	9
4.5.2 Total return index unhedged	10
4.6 Treatment of certain intra-month events	10
4.6.1 Redemption payment	10
4.6.2 Reinvestment of coupons and redemption payments	10
4.7 Index review	10
4.8 Index history	10
Appendix	11

5.1 Definition of index fields	11
5.2 Analytics	11
5.2.1 Bond analytics	11
5.2.2 Index analytics	12
5.3 Annotations	12
Changes to the Markit iBoxx European ABS Indices	14
Further information	15
ESG Disclosure	16
Disclaimer	17
Performance Disclosure/Back-Tested Data	17
Intellectual Property Notices/Disclaimer	18
ESG Indices Disclaimer	20

Markit iBoxx European ABS Indices

The Markit iBoxx European ABS Index family is designed to measure the performance of EUR, GBP and USD denominated asset-backed securities originating from Europe. The index family allows market participants to benchmark to indices with various asset class, rating, currency, and country of collateral profiles. Investors can measure the relative performance of their assets to the overall index or relevant sub-index. Researchers can gain a better understanding of the returns available from the European ABS market, and advisers and fund managers will obtain insight into the relative performance of this assets class against other fixed income markets. The Markit iBoxx European ABS Index is calculated by S&P Dow Jones Indices (S&P DJI) on a daily basis.

This document covers the index family structure, rules and calculation methodology.

1.1 Index family structure

The index family comprises an overall index, and sub-indices by country, ABS sector, currency of issue, and rating; and combinations of the above. All indices are calculated in Euro, Pound sterling and US Dollar.

Table 1: Overall index family structure

Level 0	Level 1	Level 2	Level 3	Level 4
ABS	MBS	CMBS		
		RMBS	Buy-to-let RMBS	
			Non-conforming RMBS	
			Prime RMBS	excluding GRANM GRANM only
			RMBS	
	ABS ex MBS	Loan Obligations	CLO	
		Business ABS	SME CLO	
			Equipment lease	
			Trade Receivables	
			WBS	
		Retail ABS	Auto	Auto Lease Auto Loans
			Credit Card	
			Student Loan	

ABS geographical breakdown

Additional indices covering only bonds issued by Granite and indices excluding Granite bonds are calculated for Prime RMBS and the UK.

Region	Country
Europe	Austria
	Belgium
	Finland
	France
	Germany
	Greece

	Ireland
	Italy
	Netherlands
	Portugal
	Spain
Western Europe	Denmark
	Norway
	Sweden
	Switzerland
	UK
Eastern Europe	Russia
	Turkey
	Ukraine
Multi-country	

Table 2: Seniority breakdown

Number	Seniority	Definition
Senior	Super senior	A is normally senior unless specified, there is a priority of payment between series of A, then we consider Super Senior.
Senior	Senior	A is normally senior unless specified, there is a priority of payment between series of A, then we consider Super Senior
Non-senior	Subordinate	B is normally Subordinate unless specified otherwise, sometimes Mezzanine.
Non-senior	Mezzanine	M is normally Mezzanine unless specified otherwise, sometimes Subordinate.
Non-senior	Junior	Junior is the last subordinate bond in the capital structure.

1.2 Publication of the Markit iBoxx European ABS Indices

The indices are published on every weekday, including market holidays. An index is calculated if there is at least one bond available that matches all inclusion criteria. If no more bonds qualify for an index, then its level will remain constant. If at least one bond becomes available again, the index calculation will be resumed from the last calculated level.

Selection criteria

A number of selection criteria are applied to the outstanding universe of European Asset-backed Securities to determine the index constituents list:

- Bond type
- Securitization type
- Issuer origin
- Credit rating
- Bond size and currency of issue
- Market of issue
- Availability of pricing and payment information
- Floating-rate bonds
- Sinking funds and amortizing bonds
- Fixed-to-floater bonds (only after the switch to a floating rate coupon)
- Tap issues
- Fixed-rate bonds
- Fixed-to-floater bonds (during the fixed coupon period)

2.1 Bond type

2.1.1 List of eligible bond types

- Floating-rate bonds
- Sinking funds and amortizing bonds
- Fixed-to-floater bonds (only after the switch to a floating rate coupon)
- Tap issues

2.1.2 List of ineligible bond types

- Fixed-rate bonds
- Fixed-to-floater bonds (during the fixed coupon period)

2.2 Securitization type

The list of eligible ABS types is limited to standard ABS type in common in the market. Complex structures such as CDOs are not eligible. Only ABS issued by Special Purpose Vehicles (SPVs) are eligible for the index.

2.2.1 List of eligible securitization types

- Auto Leases
- Auto Loans
- Commercial Mortgage-Backed Securities (CMBS)

- Residential Mortgage-Backed Securities (RMBS)
- Buy-To-Let Residential Mortgage-Backed Securities (BTL RMBS)
- Prime Residential Mortgage-Backed Securities (PRMBS)
- Non-conforming Residential Mortgage-Backed Securities (SPRMBS)
- Credit Cards
- Equipment Leases
- Insurance Premium Loans
- Balance sheet collateralized loan obligations*
- Small & Medium-size Enterprises (SME) Collateralized loan obligations
- Student loans
- Trade receivables
- Whole business securitizations

*Balance sheet collateralized loan obligations are transactions distinguished by collateral that is originated by the same bank that is either selling the collateral into an SPV, or buying protection on the collateral.

2.2.2 List of ineligible securitization types

- Collateralized Debt Obligations (CDOs)
- Leveraged collateralized loan obligations

2.3 Issuer origin

The originating entity needs to be domiciled in Europe.

2.4 Credit rating

Bonds must be rated CCC or higher based on an average index rating. Please refer to the appendix for details of the average rating calculation. Ratings issued by Fitch Ratings, Moody's Investors Service, and S&P Global Ratings are considered. A constituent is removed from the index at the next rebalancing if its average index rating falls below CCC.

An average rating is used to determine a bond's index rating. Each rating is assigned a number according to the following procedure:

- Where more than one rating is available, scores will be added and the sum divided by the number of ratings. A non-integer result will be rounded to the nearest integer.
- For example, 4.33 is rounded down to 4, while 4.5 is rounded to 5. The resulting number is converted to the index rating.

Fitch	Moody's	S&P	Score	Index rating
AAA	Aaa	AAA	1	AAA
AA+	Aa1	AA+	2	AA
AA	Aa2	AA	3	AA
AA-	Aa3	AA-	4	AA
A+	A1	A+	5	A
A	A2	A	6	A
A-	A3	A-	7	A
BBB+	Baa1	BBB+	8	BBB
BBB	Baa2	BBB	9	BBB
BBB-	Baa3	BBB-	10	BBB
BB+	Ba1	BB+	11	BB
BB	Ba2	BB	12	BB
BB-	Ba3	BB-	13	BB

Fitch	Moody's	S&P	Score	Index rating
B+	B1	B+	14	B
B	B2	B	15	B
B-	B3	B-	16	B
CCC+	Caa1	CCC+	17	CCC
CCC	Caa2	CCC	18	CCC
CCC-	Caa3	CCC-	19	CCC
CC	Ca	CC	20	below CCC
C	C	C	21	below CCC
D/RD		D	22	below CCC

2.5 Bond size and currency of issue

The currency of the bond must be Euro-, Pound sterling- and US Dollar-denominated and all payments need to be in the issue currency.

At inclusion in the index, the minimum amount outstanding required for the index differs depending on the rating of the ABS:

- 500 million local currency for **originally** AAA rated securities
- 30 million local currency for securities **originally** rated AA and lower

Bonds will remain in the index until paid down completely regardless of outstanding size, so long as each meets all other selection criteria. The amortization schedule of ABS lends to having a sometimes large portion of the market having low outstanding balances. S&P DJI wishes to keep the index as representative of the market as possible by keeping smaller bonds in the index, noting that bonds are weighted in their respective indices by outstanding size. Bonds that had been excluded from index need to fulfill the full amount outstanding criterion in order to qualify for re-inclusion.

2.6 Market of issue

Bonds issued via private placements are not eligible for the index. Public issues and private placements which have subsequently become publicly traded are eligible for the index.

2.7 Data Availability

Bonds are only eligible for the index if an updated price is available in the period starting from the 7th business day prior to month-end to the 3rd last business day prior to month-end. At least one cash flow update is required to qualify for inclusion.

Index rebalancing

The index is rebalanced on the last calendar day of each month (“Rebalancing date”).

The cut-off date for meeting the eligibility criteria is three business days prior to the rebalancing date.

Newly issued bonds that have not settled three business days prior to the rebalancing date are only included in the index, if

1. they settle before the rebalancing date and
2. their rating and outstanding amount are known with certainty three business days prior to therebalancing date,
3. pricing is available.
4. at least one cash flow is known

Two business days prior to the rebalancing date; the membership list with the final outstanding amounts for each bond will be published.

On the last business day prior to the rebalancing date, S&P DJI publishes the closing prices of all bonds in the final membership list, at the close of business.

Data and index calculation

4.1 ABS bond prices

The calculation of the indices is based on bid prices. New securities are included in the indices at the respective ask prices when they enter.

For more information on bid prices, please refer to the iBoxx Pricing Methodology, available at <https://www.spglobal.com/spdji/en/>.

4.2 Payment data

4.2.1 Data source

Cash flow payment information used for Markit iBoxx ABS indices is provided by S&P Global Market Intelligence European Reference Cashflow Database (ERCD). ERCD incorporates validated payment data tranche by tranche directly from investor payment reports. Such data is used to track payments and shortfalls of interest and principal, as well as write downs and write down-reimbursements.

4.2.2 Treatment of late or corrected payment information

Information about principal repayments and interest shortfalls may not be received until after the effective payment date. In such instances, the index assumes that all interest payments have been made in full and that no principal repayments have been made. The pool factor of the bond in the index remains unchanged. The information is updated on the first calculation date after the information has become available and the market value, cash and accrued interest of the bond in the index is adjusted going forward. For the avoidance of doubt – no information received is applied retroactively; this includes pool factors and accrued interest. Accrued interest is calculated daily based on the current coupon observed on each bond with respect to its specific day count convention.

4.3 FX data

Currency conversions for the index are based on 4 pm London WMR FX mid rates versus the USD. This rate will be carried forward if not available.

4.4 Settlement conventions

All iBoxx indices calculate using the assumption of T+0 settlement days.

4.5 Index formulas

4.5.1 Total return index (single currency)

Market values and cash flows in currencies other than the index currency are translated into the index currency at the applicable daily spot rate.

The Total Return index is calculated as follows:

$$TR_t = TR_{t-s} \cdot \frac{\sum_{i=1}^n ((P_{i,t} + A_{i,t})F_{i,t} + \sum_{j=1}^{t-s < m \leq t} G_{i,j} \cdot F_{i,j-1} + \sum_{j=1}^{t-s < m \leq t} PR_{i,j}(F_{i,j} - F_{i,j-1})) \cdot N_{i,t-s}}{\sum_{i=1}^n (P_{i,t-s} + A_{i,t-s}) \cdot F_{i,t-s} \cdot N_{i,t-s}}$$

4.5.2 Total return index unhedged

$$TR_t^U = TR_{t-s}^U \cdot \frac{\sum_{i=1}^n ((P_{i,t} + A_{i,t})F_{i,t} + \sum_{j=1}^{t-s < m \leq t} G_{i,j} \cdot F_{i,j-1} + \sum_{j=1}^{t-s < m \leq t} PR_{i,j}(F_{i,j} - F_{i,j-1})) \cdot FX_{i,t} \cdot N_{i,t-s}}{\sum_{i=1}^n (P_{i,t-s} + A_{i,t-s}) \cdot F_{i,t-s} \cdot FX_{i,t-s} \cdot N_{i,t-s}}$$

4.6 Treatment of certain intra-month events

4.6.1 Redemption payment

Unscheduled pay downs (pre-payments)

Unscheduled redemption payments for bonds are taken into account on the recorded date. When a bond is fully repaid intra-month, the bond is treated as cash for the remainder of the month. The accrued interest up until the redemption date is treated as an unscheduled coupon payment.

Scheduled pay downs

Scheduled redemption payments for bonds are taken into account from the date they occur. Bonds that are fully repaid intra-month are taken into cash immediately.

4.6.2 Reinvestment of coupons and redemption payments

Cash received from coupons or redemption payments is held as cash from payment date until index rebalancing at which point it is reinvested in the index. Cash does not accrue interest.

4.7 Index review

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

4.8 Index history

The Index history starts on 31 December 2006. The indices have a base value of 100 on that date.

Appendix

5.1 Definition of index fields

Table 3: *Definitions of selected index fields*

Base asset value	value of the pool of assets at reset date
Asset Value	Based asset value * Price index level
Cash in	interest payment + principal payment (or interest shortfall/principal write-down)
Cash balance	sum of the cash in between two reset dates
Sector level	(Asset value + cash balance) /Base asset value
Price index level	Price of the securities * weighting of security in the index
Depth	number of securities used in the index in term of prices and sector levels
Av life	Average of the average life of the securities * weighting
Discount margin	Average of the spread of the securities * weighting
DM/WAL Depth	number of securities used in the index in term of Av life and Discount margin levels

5.2 Analytics

A number of bond and index analytics are calculated for the index.

5.2.1 Bond analytics

Base market value

The base market value denotes the market value of bond i at the last rebalancing. The base market value is calculated as follows:

$$MV_{i,t-s} = (P_{i,t-s} + A_{i,t-s}) \cdot F_{i,t-s} \cdot N_{i,t-s}$$

Market value

The market value of bond i in the index on date t is calculated as follows:

$$MV_{i,t} = (P_{i,t} + A_{i,t}) \cdot F_{i,t} \cdot N_{i,t-s}$$

New cash payments

Coupon payments and redemption payments attributable to bond i today is calculated as follows:

$$\Delta CASH_{i,t} = G_{i,t} \cdot F_{i,t-1} + PR_{i,t} \cdot (F_{i,t} - F_{i,t-1})$$

Cash payment

Coupon payments and redemption payments attributable to bond i since the last rebalancing is calculated as follows:

$$CASH_{i,t} = \sum_{j=1}^{t-s < m \leq t} G_{i,j} \cdot F_{i,j-1} + \sum_{j=1}^{t-s < m \leq t} PR_{i,j} (F_{i,j} - F_{i,j-1})$$

5.2.2 Index analytics

Base market value

The base market value (market value of all bonds in the index at the last rebalancing), is calculated as follows:

$$MV_{t-s} = \sum_{i=1}^n (P_{i,t-s} + AI_{i,t-s}) \cdot F_{i,t-s} \cdot N_{i,t-s}$$

Market value

The market value is calculated as follows:

$$MV_t = \sum_{i=1}^n (P_{i,t} + AI_{i,t}) \cdot F_{i,t} \cdot N_{i,t-s}$$

New cash payments

The total value of cash payments since from the last rebalancing date to date t is calculated as follows:

$$CASH_t = \sum_{j=1}^{t-s < m \leq t} [\sum_{j=1}^{t-s < m \leq t} G_{i,j} \cdot F_{i,j-1} + \sum_{j=1}^{t-s < m \leq t} PR_{i,j} (F_{i,j} - F_{i,j-1})] \cdot N_{i,t-s}$$

Number of Bonds/Depth

The number of bonds in an index on date t.

Month-to-date return

The month-to-date return is calculated as follows:

$$LR_{t-s,t} = \frac{TR_t - TR_{t-s}}{TR_{t-s}}$$

Year-to-date return

$$LR_{t-y,t} = \frac{TR_t - TR_{t-y}}{TR_{t-y}}$$

5.3 Annotations

$A_{i,t}$	Accrued interest of bond i on date t
$A_{i,t-s}$	Accrued interest on bond i on rebalancing date (t-s)
$CASH_{i,t}$	Total cash payments on bond i received since the last rebalancing
$CASH_t$	Total cash payments in the index received since the last rebalancing
$\Delta CASH_{i,t}$	Cash payments on bond i received on date t
$\Delta CASH_t$	Cash payments in the index received on date t
$F_{i,t}$	Redemption adjustment factor for bond i on date t

$F_{i,t-1}$	Redemption adjustment factor for bond i on the last calculation date prior to t
$F_{i,t-s}$	Redemption adjustment factor for bond i at the last rebalancing
$FX_{i,t}$	FX spot rate on date t
$FX_{i,t-s}$	FX spot rate at the last rebalancing
$G_{i,t}$	Coupon payments received from bond i on date t
$LR_{t-s,t}$	Month-to-date return for the Total Return Index
$LR_{t-y,t}$	Year-to-date return for the Total Return Index
$MV_{i,t}$	Market value of bond i on date t
$MV_{i,t-s}$	Market value of bond i at the last rebalancing (base market value of bond i)
MV_t	Market value of index on date t
MV_{t-s}	Market value of index at the last rebalancing (base Market value of index)
$N_{i,t-s}$	Amount issued of bond i at the last rebalancing
$P_{i,t}$	Clean price of bond i on date t
$P_{i,t-s}$	Clean price of bond i at the last rebalancing
$PR_{i,t}$	Redemption price of redeemed portion of bond i on date t
PR_t^{Index}	Total value of redemption payments in the index between rebalancing and date t
$R_{i,j}$	Redeemed portion of bond i at date j
TR_t	Total Return Index level on date t
TR_{t-s}	Total Return Index level at the last rebalancing

Changes to the Markit iBoxx European ABS Indices

September 2025	Reactivation of 1800 base indices
December 2021	Index restatement section replaced by Index review section
January 2019	Changes in the ABS pricing methodology
October 2014	Index restatement, complaints sections added
September 2014	Index Review
June 2011	Launch of the Markit iBoxx European ABS indices

Further information

Client support

For client support please contact index_services@spglobal.com.

Formal complaints

Formal complaints should be emailed to spdji_compliance@spglobal.com.

Please note: spdji_compliance@spglobal.com should only be used to log formal complaints.

General index inquiries

For general index inquiries, please contact index_services@spglobal.com.

ESG Disclosure

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY [1]		
1	Name of the benchmark administrator.	S&P Dow Jones Indices Limited
2	Underlying asset class of the ESG benchmark. [2]	N/A
3	Name of the S&P Dow Jones Indices benchmark or family of benchmarks.	iBoxx Benchmark Statement
4	Do any of the indices maintained by this methodology take into account ESG factors?	No
Appendix latest update:		May 2023
Appendix first publication:		May 2023

1. The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology and the retained EU law in the UK (The Benchmarks (amendment and Transitional Provision) (EU Exit) Regulations 2019).
2. The 'underlying assets' are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

Disclaimer

Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients by providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not

represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

Intellectual Property Notices/Disclaimer

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