iBoxx AUD Large Cap Index Guide

September 2017

Changes to the iBoxx AUD Large Cap index

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1. iBoxx AUD Large Cap Indices

The iBoxx AUD Large Cap index family is designed to reflect the performance of AUD denominated bonds with an iBoxx average rating of investment grade. The index rules aim to offer a broad coverage of the AUD bond universe from domestic Australian investor's perspective whilst maintaining a basic liquidity in the underlying bonds comprising the index. The index is an integral part of the global iBoxx index families, which provide the marketplace with accurate and objective indices by which to assess the performance of bond markets and investments.

All iBoxx indices are priced based on multiple data inputs. The iBoxx AUD Large Cap index uses multi-source prices as described in the document *Markit iBoxx Pricing Rules* publically available on *http://www.markit.com/Documentation/Product/IBoxx*. Additionally, the index rules and their application will be governed by Index Oversight Committee.

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

1.1. Index Governance

In order to ensure the independence and the objectivity of the iBoxx AUD Large Cap indices, the index rules and their enforcement will be governed by an Index Oversight Committee, in line with the governance structure for the main iBoxx index families.

Oversight Committee

The Oversight Committee is comprised of representatives from a broad range of asset managers, consultants and industry bodies. The purpose of this committee is to review the recommendations made by IHS Markit and also to provide consultation on any market developments which may warrant rule changes.

1.2. Publication of the Index

All indices are calculated as end-of-day and distributed once daily. The indices are calculated every day except on common Australian bank holidays. On Australian holidays the index is being calculated with prices from the previous business day. In addition, the indices are calculated with the previous trading day's close on the last calendar day of each month if that day is not a trading day. Index data and bond price information is also available from main information vendors.

Bond and index analytical values are calculated each trading day using the daily closing prices. Closing index values and key statistics are published at the end of each business day in the indices section on *www.markit.com/indices* for registered users.

2. Bond Selection Rules

The following selection criteria are used to determine the index constituents:

- Issuer Type
- Bond Type
- Credit Rating
- Time to Maturity
- Amount Outstanding
- Market of Issue

2.1. Issuer Type

Bonds issued by Australian commonwealth government, semi-government and corporate issuers are eligible for the indices. The bond classification criteria are detailed in Section 3 of this document.

2.2. Bond Type

The iBoxx AUD Large Cap indices include only AUD denominated bonds. The following bond types are eligible for the index:

- Fixed coupon bonds ("plain vanilla bonds")
- Step-ups
- Event-driven bonds, such as rating- or tax-driven bonds, with a maximum of one coupon change per period
- Covered bonds
- Callable and putable bonds
- Certificates of Deposit (CD)

The following bond types are specifically excluded from the indices:

- Zero coupon bonds
- Sinking funds and amortizing bonds
- Floating rate notes and other fixed-to-floater bonds
- Perpetuals
- Optionally and mandatory convertible bonds
- Subordinated bank or insurance debt with mandatory contingent conversion features or with any conversion options before the first call date is ineligible for the index.
- Collateralized Debt Obligations (CDOs) and bonds collateralized by CDOs
- Retail bonds. The list of retail bonds is updated every month and published on *http://www.markit.com/NewsInformation/GetNews/IBoxx* under *News & Information*
- Private placements. The list of private placements is updated every month and published on *http://www.markit.com/NewsInformation/GetNews/IBoxx* under *News & Information*. Partial private placements where information on the specific amounts publicly placed and privately placed can be ascertained are included in the indices with the amount publicly placed. If the amount publicly placed is below the cut-off, the bond is not included in the indices.
- Bonds with differences between accrual and coupon payment periods and monthly-paying bonds.

- For retail bonds and private placements, publicly available information is not always conclusive and the classification of a bond as a retail bond or a private placement will be made at IHS Markit's discretion based on the information available at the time of determination. IHS Markit may consult with the specific Index Advisory Committees to review potential retail bonds or private placements. Any bond classified as retail or private placement is added to the list of excluded private placements and retail bonds. The list is published on *http://www.markit.com/NewsInformation/GetNews/IBoxx* under *News & Information* for future reference and to ensure decision's consistency.

2.3. Credit Rating

All bonds in the iBoxx AUD Large Cap indices must have an iBoxx rating of investment grade. Ratings from the following three credit rating agencies are considered for the calculation of the Rating:

- Fitch Ratings
- Moody's Investor Service
- S&P Global Ratings

Investment grade is defined as BBB- or higher from Fitch and Standard & Poor's and Baa3 or higher from Moody's.

If a bond is rated by more than one of the above agencies, then the iBoxx rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade. Rating notches are not used. For more information on how the average rating is determined, please refer to the *Markit iBoxx Rating Methodology* document. The methodology can be found on *http://www.markit.com/Documentation/Product/IBoxx* under Methodology.

2.4. Time to Maturity

All bonds must have a remaining time to maturity of at least one year at the rebalancing date. The time to maturity is calculated from the rebalancing date to the workout date of the bond by using the day count convention of the bond.

The expected remaining life is expressed in years and calculated as follows:

- For plain vanilla bonds, the expected remaining life of the bond is its time to maturity, calculated as the number of days between the last calendar day of the current month and its maturity.
- For callable/putable bonds, a yield-to-worst calculation determines when the bond is expected to redeem. This date is the expected redemption date. The expected remaining life is calculated as the number of days between the last calendar day of the current month and its expected redemption date.
- For soft bullets, the expected remaining life of the bond is its time to the expected maturity and not to its final maturity date.

2.5. Amount Outstanding

The minimum amount outstanding cut-off for the bond included into iBoxx AUD Large Cap Index is:

- Australian Government Securities: AUD 2 billion
- Non-Government: AUD 200 million

2.6. Market of Issue

Only bonds issued in the Australian domestic market and clearable through Austraclear are eligible for the index.

3. Bond Classification

All bonds are classified based on the principal activities of the issuer and the main sources of the cash flows used to pay coupons and redemptions. In addition, a bond's specific collateral type or legal provisions are evaluated. Hence, it is possible that bonds issued from different subsidiaries of the same issuer carry different classifications.

The issuer classification is reviewed regularly based on updated information received by IHS Markit, and status changes are included in the indices at the next rebalancing if necessary.

Where the sector classification of a specific entity is not very clear due to the diversified business of the entity, the decision will be made at IHS Markit's discretion. IHS Markit will assign the IHS Markit classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. IHS Markit will also compare the classification to peers in the potential sectors, and IHS Markit may consult with the Index Advisory Committees. Membership lists including classification is published on the FTP server and in the indices section on *www.markit.com/indices* for registered users for future reference and to ensure decision's consistency.

3.1. Australian Government

Bonds issued by Australian Commonwealth government denominated in AUD.

3.2. Sovereigns

Bonds issued by a central government other than the Australian Commonwealth government and denominated in AUD.

3.3. Semi-Governments

Bonds issued by entities with explicit or implicit government backing due to legal provision, letters of comfort or the public service nature of their business. The issuer requires a strong central government ownership/relationship if its bonds are not explicitly guaranteed by the central government.

The four main semi-government sectors are:

- *Agencies:* Bonds issued by entities whose major business is to fulfil a government-sponsored role to provide public, non-competitive services (e.g. Kreditanstalt fuer Wiederaufbau). Often, such business scope is defined by a specific law, or the issuer is explicitly backed by the government. Agencies could be AU agencies or Non-AU agencies according to the domicile of issuer.

- *Public Banks:* Bonds issued by publicly owned and backed banks that provide regular commercial banking services (e.g. NV Bank Nederlandse Gemeenten).

- *Regions:* Bonds issued by local governments

    — *AU Regions:* Bonds issued by state governments or special territories of Australia, including New South Wales Treasury Corporation, Queensland Treasury Corporation, South Australian Government Financing Authority,

Treasury Corporation of Victoria, Western Australian Treasury Corporation, Tasmanian Public Finance Corporation; as well as the Australian Capital Territory and Northern Territory Treasury Corporations.

— **Non-AU Regions:** Bonds issued by regional government other than Australian region governments. E.g. Province of Manitoba Canada

- **Supranational:** Bonds issued by supranational entities, i.e. entities that are owned by more than one central government (e.g. International Bank for Reconstruction and Development)

- **Other Semi-Governments:** All remaining bonds considered semi-government. There are three main types of bonds and issuers falling into this category:
    > *Non-Financials:* A government backed issuer from a non-financial sector such as public utilities.
    > *Guaranteed Financials*: A specific bond issued by a private sector financial institution that is irrevocably guaranteed by a government. Most of these bonds are issued under programmes set-up after the 2008 financial crisis.
    > Bonds issued by unguaranteed institutions with an irrevocable and explicit guarantee by a central government that covers amount and timeliness of all interest and principal payments until the maturity of the bond.

3.4. Covered Bonds

Bonds which are secured by a general pool of assets in case the issuer becomes insolvent, in particular bonds conforming to the criteria specified in UCITS 22.4 or similar directives, e.g. CAD III. In addition, bonds with a structure affording an equivalent risk and credit profile that are considered by the market as covered bonds are also included in the iBoxx covered bond indices.

3.5. Corporates

Bonds issued by public or private corporations. Bonds secured by a 'floating charge' over some or all assets of the issuer are considered corporate bonds. Corporate bonds are further classified into Financials and Non-Financials bonds and then into their multiple-level economic sectors, according to the issuer's business scope. The category Guaranteed & Wrapped is added under Financials for corporate bonds whose timely coupon and/or principal payments are guaranteed by a special mono-line insurer or letter of credit from bank. The sector overview is shown in Table 1 below.

Table 1: Overview of iBoxx Corporates Sectors

	Economic Sector	Market Sector	Market Sub-Sector
Financials	Financials	Banks	Banks
		Insurance	Life Insurance
			Nonlife Insurance

	Economic Sector	Market Sector	Market Sub-Sector
		Financial Services	General Financial
		Real Estate	Real Estate Investment & Services
			Real Estate Investment Trusts
		Guaranteed & Wrapped	*
Non-Financials	Oil & Gas	Oil & Gas	Oil & Gas Producers
			Oil Equipment / Services & Distribution
	Basic Materials	Chemicals	Chemicals
		Basic Resources	Industrial Metals
			Mining
			Forestry & Paper
	Industrials	Construction & Materials	Construction & Materials
		Industrial Goods & Services	Aerospace & Defense
			Electronic & Electrical Equipment
			General Industrials
			Industrial Engineering
			Industrial Transportation
			Support Services
	Consumer Goods	Automobiles & Parts	Automobiles & Parts
		Food & Beverage	Beverages
			Food Producers
		Personal & Household Goods	Household Goods
			Personal Goods
			Tobacco

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Economic Sector	Market Sector	Market Sub-Sector
Health Care	Health Care	Pharmaceuticals & Biotechnology
Consumer Services	Retail	Food & Drug Retailers
		General Retailers
	Media	Media
	Travel & Leisure	Travel & Leisure
Telecommunications	Telecommunications	Fixed Line Telecommunications
		Mobile Telecommunications
Utilities	Utilities	Electricity
		Gas / Water & Multi-utilities
Technology	Technology	Software & Computer Services
		Technology Hardware & Equipment

4. Index Calculation

4.1. Static Data

Information used in the index calculation is sourced from offering circulars and checked against standard data providers.

4.2. Bond Prices

For more details please refer to the *Markit iBoxx Pricing Rules* document, available in the Methodology section of the iBoxx Documentation page on *http://www.markit.com/Documentation/Product/IBoxx*.

4.3. Rebalancing Process

The index is rebalanced monthly on the last business day of the month after the close of business. Changes to amounts outstanding are only taken into account if they are publicly known three business days before the end of the month. Changes in ratings are only taken into account if they are publicly known two business days before the end of the month. New bonds issued are taken into account if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating has become known at least three business days before the end of the month.

Ten business days before the end of each month, a preview membership list is published.

Three business days before the end of each month ("bond selection cut-off date") the constituents of the index are determined and an updated membership list is published.

Two business days before the end of each month, the rating information for the constituents is updated and the list is adjusted for all rating changes which are known to have taken place three business days before the end of the month.

On the last business day of each month, IHS Markit publishes the final membership with closing prices for the bonds, and various bonds analytics based on the index prices of the bonds.

4.4. Index Data

The calculation of the indices is based on bid prices. New bonds are included in the indices at their respective ask prices when they enter the index family. In the event that no price can be established for a particular bond, the index continues to be calculated based on the last-available price. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets. If the required inputs become impossible to obtain, IHS Markit may consult the specific Index Advisory Committees at the following rebalancing date. To ensure consistency, decisions taken are made publicly available on a timely basis and IHS Markit has the ability to refer back to previous cases.

On the last trading day of a month, the rebalancing takes place after the daily index calculation for the current month's list, including the calculation of the last calendar day's indices, has been performed.

4.5. Index Weights

The IBoxx AUD Large Cap Overall indices are volume-weighted indices, with a bond's market value as the weighting factor. The amount outstanding of a bond is only adjusted within the monthly rebalancing process at the end of each month. However, bonds that are fully redeemed intra-month are taken into account immediately. Fully redeemed bonds are bonds that are fully called or have been completely repurchased.

All calculations are based on the adjusted amount outstanding that reflects the outstanding bond notional at the last rebalancing. The bond prices relate to the nominal value of 100.

4.6. Index Calculus

For specific index formulae please refer to the *Markit iBoxx Bond Index Calculus* document, available in the Methodology section of the iBoxx Documentation page on *http://www.markit.com/Documentation/Product/IBoxx*.

4.7. Treatment of the Special Intra-month Events

Data for the application of corporate actions in the indices may not be fully or timely available at all times, e.g. the final call prices for make-whole calls or the actual pay-in-kind percentage for PIK-payment options. In such cases, IHS Markit will estimate the approximate value based on the available data at the time of calculation.

4.7.1. Funged bonds

Bonds may be issued in several tranches. The different tranches are initially legally separate and therefore trade independently for a certain period. On and after the funge date, the tranches will be combined into one bond, i.e. the parent tranche will contain the original security, as well as the additional notional(s) from the new tranche(s). After the funge date, the prices for both the securities are the same, because they constitute one uniform bond. This is reflected in the indices as follows:

4.7.1.1. Parent and new tranche are both index constituents

- After the funge date, the price from the parent tranche is used for the funged tranche; no price for the funged bond
- Funged tranche leaves the index at the next rebalancing and parent amount outstanding increases accordingly.

4.7.1.2. Parent is an index constituent, but the new tranche is not

- No special intra-month treatment necessary
- Parent amount outstanding increases at the next rebalancing

4.7.1.3.Parent is not an index constituent but the new tranche is

- No special intra-month treatment necessary
- Funged tranche leaves the index; parent tranche enters the index at the next rebalancing

4.7.2. Unscheduled full redemption – exercised calls, puts and buybacks

If a bond is fully redeemed intra-month, the bond effectively ceases to exist. In all calculations, the redeemed bond is treated as cash based on the last price, the call price or repurchase price, as applicable. The redemption factor $F_{i,t}$, Redemption portion $R_{i,t}$ and the Redemption Price $RP_{i,t}$ are used to treat these events in the index and analytics calculation. In addition, the clean price of the bond is set to the redemption price, and the interest accrued until the redemption date is treated as an irregular coupon payment.

4.7.3. Bonds trading flat of accrued

If a bond is identified as trading flat of accrued, the accrued interest of the bond is set to 0 in the total return index calculation and is excluded from the calculation of all bond and index analytical values.

Bonds will be considered trading flat of accrued in any of the following situations:

- default rating
- issuer has announced a failure to pay a coupon
- issuer has announced an intention not to make a payment on an upcoming coupon (grace period)

4.7.4. Multi-coupon bonds

Some bonds have pre-defined coupon changes that lead to a change in the annual coupon over the life of the bond. In all instances, the coupon change must be a fixed amount on top of a fixed coupon, i.e. floating coupon bonds are not eligible for the indices. The two main categories of bonds are step-up bonds and event-driven bonds.

- Step-up bonds: These are bonds with a pre-defined coupon schedule that cannot change during the life of the bond. The coupon schedule is used in all bond calculations.
- Event-driven bonds: These are bonds whose coupon may change upon occurrence (or non-occurrence) of pre-specified events, such as rating changes, e.g. rating-driven bonds, failure to register a bond, e.g. register-driven bonds, or failure to complete a merger, e.g. merger-driven bonds. In the calculation of the indices and the analytics, the coupon schedule as of the calculation date is used. That is to say, any events occurring after the calculation date are ignored in the determination of the applicable coupon schedule.
- Example of an event-driven bond: A bond's rating changes on 31 December 2003 from A- to BBB+, and the coupon steps up from 6% to 6.25% from 01 March 2004 onwards. The coupon dates are 01 October and 01 April each year. The correct coupon schedule for the bond and index calculations is date dependent. The index calculation on 20 December 2003 uses the 6% coupon for the whole life of the bond, while the calculation on 31 January 2004 uses a 6% coupon for the current coupon period to 29 February 2004, and a 6.25% coupon for all later interest payments. The index calculation on 20 March uses a 6%

coupon until 29 February, a 6.25% coupon for the remainder of the current coupon period and a 6.25% coupon for all future coupon payments. The index calculation after 01 April uses a 6.25% coupon.

4.7.5. Ex-dividend conventions

Some markets have ex-dividend conventions. Ex-dividend means that the next coupon is detached from the bond several days in advance of the coupon payment date. The date on which the next coupon is detached is the ex-dividend date and the period between the ex-dividend date and the coupon payment date is the ex-dividend period. If a bond is in the ex-dividend period, the next coupon payment will not be paid to a buyer of this bond, but will be paid to the original bond holder.

The indices and analytics calculations take ex-dividend conventions into account. During the ex-dividend period, the accrued interest of the bond is negative, while the next coupon payment is held separate in the variable coupon adjustment ($CP_{i,t}$). If the bond enters the index during the ex-dividend period, then the next coupon payment (and the coupon adjustment) will not accrue to the index, however, if the bond was already in the index, the next coupon payment needs to be included in the total return calculations. This is controlled via the ex-dividend indicator ($XD_{i,t}$) which is 0 if the bond enters the index during the current ex-dividend period and 1 if not. The same treatment is also applied to all analytics calculation, i.e. the first cash flow is excluded from the calculations if the bond enters during the current ex-dividend period.

4.8. Index History

The history of Australian government index starts on 31 December 2001 and the index has a base value of 100 on that date. All other index history starts on 30 November 2011 having a base value of 100 on that date.

4.9. Settlement Conventions

All iBoxx indices are calculated using the assumption of t+0 settlement days.

4.10. Calendar

IHS Markit publishes an index calculation calendar in the *Index Calendar* section of the iBoxx Documentation page on *http://www.markit.com/Documentation/Product/IBoxx*. This calendar provides an overview of the index calculation holidays of the iBoxx bond index families in a given year.

4.11. Data Publication and Access

The table below summarises the publication of iBoxx AUD Large Cap index data in the indices section of the Markit website *www.markit.com/indices* and on the FTP server.

Frequency	File Type	Access
Daily	Underlying file – Bond level	IHS Markit FTP Server
	Indices files – Index level	IHS Markit FTP Server / IHS Markit website/ Bloomberg for index levels only
Monthly	End of Month Components	IHS Markit FTP Server / Markit website
	XREF files	IHS Markit FTP Server

4.12.   Index Restatement

Index restatement follows the policy described in the *Markit iBoxx Index Restatement Policy* document, available in the Methodology section of the iBoxx Documentation page on *http://www.markit.com/Documentation/Product/IBoxx*.

4.13.   Annual Index Review

The rules for the index are reviewed once per year during the annual index review process to ensure that the index provides a balanced representation of the AUD bond market. Decisions made following the annual index review will be published on IHS Markit's website shortly after both committees have been held. The publication will contain a detailed overview and timelines for implementation of the rules changes.

5. Further Information

GLOSSARY OF KEY TERMS

The *Markit iBoxx Glossary* document of key terms is available in the Methodology section of the iBoxx Documentation page on *http://www.markit.com/Documentation/Product/IBoxx*.

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FORMAL COMPLAINTS

Formal complaints can be sent electronically to our dedicated email address *complaints_indices@markit.com.*

For any general index enquiries, please contact Markit iBoxx indices support group at *iBoxx@markit.com*.

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