

# **S&P/ASX Australian Indices** *Methodology*

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# Table of Contents

Introduction	3
<b>Partnership</b>	<b>3</b>
<b>Index Family</b>	<b>3</b>
<b>GICS® Indices</b>	<b>5</b>
<b>Industrials and Resources Indices</b>	<b>5</b>
<b>Gold and Metals &amp; Mining Indices</b>	<b>5</b>
<b>Equal Weight Indices</b>	<b>5</b>
<b>Leveraged and Inverse Indices</b>	<b>6</b>
<b>S&amp;P/ASX 200 Futures Index</b>	<b>6</b>
Eligibility Criteria	7
<b>Index Eligibility</b>	<b>7</b>
<b>Eligibility Factors</b>	<b>7</b>
<b>Timing of Intra-Quarter Constituent Changes</b>	<b>10</b>
Index Construction	11
<b>Approaches</b>	<b>11</b>
<b>Index Calculations</b>	<b>11</b>
<b>S&amp;P/ASX 200 Futures Index</b>	<b>11</b>
Index Maintenance	13
<b>Rebalancing</b>	<b>13</b>
<b>Frequency</b>	<b>13</b>
<b>Corporate Actions</b>	<b>14</b>
<b>Investable Weight Factor (IWF)</b>	<b>15</b>
Index Data	17
<b>Total Return Indices</b>	<b>17</b>
<b>Franking Credit Adjusted Total Return Indices</b>	<b>17</b>
Index Governance	18
<b>Index Committee</b>	<b>18</b>

Index Policy	19
<b>Announcements</b>	<b>19</b>
<b>Pro-forma Files</b>	<b>19</b>
<b>Holiday Schedule</b>	<b>19</b>
<b>Unexpected Exchange Closures</b>	<b>19</b>
<b>Recalculation Policy</b>	<b>19</b>
<b>Real-Time Calculation</b>	<b>19</b>
Index Dissemination	20
<b>Tickers</b>	<b>20</b>
<b>FTP</b>	<b>20</b>
<b>Web site</b>	<b>20</b>
Appendix I	21
<b>A Chronology of S&amp;P/ASX Indices</b>	<b>21</b>
Appendix II	23
<b>Methodology Changes</b>	<b>23</b>
S&P Dow Jones Indices' Contact Information	24
<b>Index Management</b>	<b>24</b>
<b>Product Management</b>	<b>24</b>
<b>Media Relations</b>	<b>24</b>
<b>Client Services</b>	<b>24</b>
Disclaimer	25

# Introduction

The S&P/ASX Australian indices are closely aligned with S&P Dow Jones Indices global suite of indices, and are recognized internationally as Australia's principal investable equity indices. S&P Dow Jones Indices global indices are liquid, tradable, and easily replicable, allowing extensive use by institutional investment managers, mutual fund managers, and professional advisors.

The S&P/ASX indices are real-time, market capitalization-weighted indices that include the largest and most liquid stocks in the Australian market. The S&P/ASX 200 covers approximately 80% of the Australian equity market by capitalization, with a constituency that is highly liquid and tradable. Such characteristics ensure that the S&P/ASX 200 is representative of the Australian market while maintaining a limited number of eligible securities.

## Partnership

The S&P/ASX 200, together with the entire S&P/ASX index series, was launched in the Australian market in April 2000. The launch of these indices coincided with S&P Dow Jones Indices taking over the index business, formerly owned and managed by the Australian Securities Exchange (ASX).

Before April 2000, the All Ordinaries index was considered Australia's institutional benchmark. The All Ordinaries index was launched in January 1980, to act as an indicator of the Australian equity market. As institutional investors grew increasingly sophisticated, there became a need to introduce a benchmark index that was complimentary to the narrowly defined requirements for equity portfolios.

With the introduction of the S&P/ASX index series in 2000, Australia's indices have been placed at the forefront of the global market. The indices showcase the performance of the Australian equity market and sit alongside other leading international indices, including the S&P 500 of the U.S., as some of the world's most transparent and investable equity benchmarks.

## Index Family

The S&P/ASX index series includes the S&P/ASX 200, the S&P/ASX 300, the S&P/ASX 20, the S&P/ASX 50, and the S&P/ASX 100. This index family also contains component indices that represent the Australian market capitalization hierarchy. These component indices include the S&P/ASX Small Ordinaries, S&P/ASX Mid-Small and the S&P/ASX MidCap 50.

The S&P/ASX All Australian 50 and the S&P/ASX All Australian 200 are comprised of securities that have been assessed as "Australian" (domestic) for index purposes. The S&P/ASX All Australian 50 and the S&P/ASX All Australian 200 generally overlap with the domestic constituents of the S&P/ASX 50 and the S&P/ASX 200, with the resulting differential being that the S&P/ASX 50 and the S&P/ASX 200 also extend index eligibility to all foreign-domiciled securities listed on the ASX. With the exception of the All Ordinaries, all indices are float-adjusted. The All Ordinaries index includes 500 stocks with no screening for liquidity.

The S&P/ASX relationship has brought many initiatives to the Australian market including the introduction of real-time S&P/ASX Global Industry Classification Standard (GICS<sup>®</sup>) sector indices.

**S&P/ASX 200.** Upon its introduction in April 2000, the S&P/ASX 200 replaced the All Ordinaries index as the primary gauge for the Australian equity market. The S&P/ASX 200 measures the performance of the 200 largest index-eligible stocks listed on the ASX by float-adjusted market capitalization. Representative, liquid and tradable, it is widely considered Australia's preeminent benchmark index. The index is float-adjusted, covering approximately 80% of Australian equity market capitalization. Listed companies place

immense significance on their membership in the S&P/ASX 200 index. Inclusion in the index generates significant institutional interest for constituents, and proliferates widespread media and buy/sell side analytical coverage.

**S&P/ASX 100.** The S&P/ASX 100 is comprised of the 100 largest index-eligible stocks listed on the ASX by float-adjusted market capitalization. The index is float-adjusted, with securities that are highly liquid and, therefore, institutionally investable. The S&P/ASX 100 represents both the large cap and mid cap component of the S&P/ASX suite of indices and covers approximately 74% of Australian equity market capitalization.

**S&P/ASX 50.** The S&P/ASX 50 is Australia's most prominent large cap equity index, representing 50 of the largest and most liquid index-eligible stocks listed on the ASX by float-adjusted market capitalization. The S&P/ASX 50 represents approximately 63% of Australian equity market capitalization.

**S&P/ASX 20.** The index includes actively traded and highly liquid securities that are among the 20 largest securities listed on the ASX. It is the narrowest capitalization-based index in the S&P/ASX index family, covering 46% of Australian equity market capitalization.

**S&P/ASX 300.** Covering a wide opportunity-set of index constituents, the S&P/ASX 300 is extensively used as a performance benchmark index. The index is highly liquid, float-adjusted and includes up to 300 of Australia's largest securities by float-adjusted market capitalization. The S&P/ASX 300 index includes the large cap, mid cap and small cap components of the S&P/ASX index family. The index covers approximately 81% of Australian equity market capitalization.

**S&P/ASX MidCap 50.** The index is comprised of those companies within the S&P/ASX 100, but not in the S&P/ASX 50. The index is float-adjusted and covers approximately 11% of Australian equity market capitalization.

**S&P/ASX Small Ordinaries.** The S&P/ASX Small Ordinaries index is used as an institutional benchmark for small cap Australian equity portfolios. The index is comprised of companies included in the S&P/ASX 300, but not in the S&P/ASX 100. The index covers approximately 7% of Australian equity market capitalization.

**S&P/ASX Mid-Small.** The index is comprised of companies included in the S&P/ASX 300, but not in the S&P/ASX 50. It is a combination of the S&P/ASX MidCap 50 and the S&P/ASX Small Ordinaries. The index covers approximately 18% of Australian equity market capitalization.

**All Ordinaries.** The All Ordinaries index is considered the total market indicator for the Australian equity market. The index is comprised of the 500 largest securities listed on the ASX and the constituents are not screened for liquidity. It is the only index that is not float-adjusted.

**S&P/ASX All Australian 50.** Launched in June 2007, the S&P/ASX All Australian 50 is made up of ASX listed securities that have been defined as 'domestic' or 'Australian' for index purposes. The S&P/ASX All Australian 50 is the Australian component of the S&P Global 1200. It is comprised of highly liquid constituents that are considered to be 50 of the largest index-eligible Australian securities listed on the ASX by float-adjusted market capitalization. S&P/ASX All Australian 50 follows the same index construction rules relating to market capitalization and liquidity that are applied to the S&P/ASX 50. The only exception relates to the index eligibility of securities, with eligibility extending to Australian securities only.

**S&P/ASX All Australian 200.** Launched in June 2007, the S&P/ASX All Australian 200 is made up of ASX listed securities that have been defined as 'domestic' or 'Australian' for index purposes. The S&P/ASX All Australian 200 is comprised of highly liquid constituents that are considered to be 200 of the largest index-eligible Australian securities listed on the ASX by float-adjusted market capitalization. The S&P/ASX All Australian 200 follows the same index construction rules relating to market capitalization and liquidity that are applied to the S&P/ASX 200. The only exception relates to the index eligibility of securities, with eligibility extending to Australian securities only.

*For a complete definition of “Domestic/Australian” securities, please refer to the section on Eligibility Criteria.*

## **GICS® Indices**

The indices are designed to measure the performance of various sectors and industry groups within the Australian equities market, as defined by the Global Industry Classification Standard (GICS®).

*For more information on GICS, please refer to S&P Dow Jones Indices’ GICS Methodology available at [www.spdji.com](http://www.spdji.com).*

## **Industrials and Resources Indices**

Resource companies play a significant role within the Australian economy, with the Resources sector comprising approximately 15% of total Australian equity market capitalization. As a result, the prominence of resources stocks within the domestic market has drawn attention from a number of institutional investors, whose performance may be driven by the economic fortunes of resource stocks. The decision to split the Australian equity market between Resources and Industrials allow benchmark comparisons to be made against portfolios that are tailored to the respective broad sectors.

The industrials and resource indices were launched for the S&P/ASX 100, S&P/ASX 200, S&P/ASX 300, S&P/ASX MidCap 50 and S&P/ASX Small Ordinaries. The indices are defined and constructed around criteria relating to GICS. Resources are defined as companies classified in the Energy sector (GICS Tier 1) and the Metals & Mining industry (GICS Tier 3). The industrials indices are composed of everything else and are distinctly different from the GICS Industrials sector.

## **Gold and Metals & Mining Indices**

Launched in August 2006, these indices recognize the mining sector’s importance in the Australian equity market, and enhance the profile of the Gold and Metals & Mining industries within both the Australian and international markets. The S&P/ASX 300 Metals & Mining index is based on the S&P/ASX 300, and is comprised of companies that are classified in the Metals & Mining industry (GICS Tier 3). The S&P/ASX All Ordinaries Gold index includes companies that are included in the Gold sub-industry (GICS Tier 4) of the All Ordinaries index.

## **Equal Weight Indices**

In response to interest in alternative index weighting structures, S&P Dow Jones Indices created equal weight versions of the S&P/ASX 100 and S&P/ASX 200. Each index has the same constituent companies as their float-adjusted market capitalization weighted counterpart, but each company is allocated a fixed weight of 1.00% for the S&P/ASX 100 Equal Weight and 0.50% for the S&P/ASX 200 Equal Weight at each quarterly rebalancing.

Acknowledging the importance of A-REITs and to provide an alternative to the standard A-REIT Indices, S&P Dow Jones Indices has created the S&P/ASX 200 A-REIT Equal Weight Index. Similarly, the S&P/ASX 200 A-REIT Equal Weight Index includes the same constituent companies as the float-adjusted market capitalization weighted S&P/ASX 200 A-REIT. However, each company is allocated a fixed, equal weight at each quarterly rebalancing.

Constituents that announce traditional renounceable rights issues will not have the rights class added to the Equal Weight versions of the S&P/ASX indices, but will be treated with a price adjustment to the headline stock line on the ex-date of the event.

When a company is added to the index intra-quarter, it takes the weight of the company that it replaced. The one exception is when a company is removed from an index at a price of \$0.00. In such a case, the company’s replacement is added to the index at the weight using the previous day’s closing value, or the most immediate prior business day that the deleted company was not valued at \$0.00.

For the equal weight indices above, constituents' index shares are calculated using closing prices on the Wednesday prior to the second Friday of the rebalancing month as the reference price. Index shares are calculated and assigned to each stock to arrive at the weights determined on the reference date. Since index shares are assigned based on prices seven business days prior to rebalancing, the actual weight of each stock at the rebalancing may differ from these weights due to market movements.

*Please refer to S&P Dow Jones Indices' Index Mathematics Methodology at [www.spdji.com](http://www.spdji.com) for more detailed information on equal weight index calculations.*

### **Leveraged and Inverse Indices**

S&P Dow Jones Indices' Leveraged Indices are designed to generate a multiple of the return of the underlying index in situations where the investor borrows funds to generate index exposure beyond his/her cash position. The approach is to first calculate the underlying index, then calculate the daily returns for the leveraged index and, finally, to calculate the current value of the leveraged index by incrementing the previous value by the daily return. There is no change to the calculation of the underlying index.

S&P Dow Jones Indices' Inverse Indices are designed to provide the inverse performance of the underlying index; this represents a short position in the underlying index. When an investor holds a short position he/she must pay dividends and interest for the borrowed stock. The calculation follows the same general approach as the leveraged index with certain adjustments. First, the return on the underlying index is reversed and is based on the total return of the underlying index, so that dividends and price movements are included. Second, while the costs of borrowing the securities are not included, there is an adjustment to reflect the interest earned on both the initial investment and the proceeds from selling short the securities in the underlying index. These assumptions reflect normal industry practice. (Straightforward adjustments can be made either to include the costs of borrowing securities or to exclude the interest earned on the shorting proceeds and the initial investment.)

*Please refer to S&P Dow Jones Indices' Index Mathematics Methodology at [www.spdji.com](http://www.spdji.com) for more detailed information on leveraged and inverse index calculations. Note, the borrowing rate used for the indices is the Reserve Bank of Australia (RBA) Overnight Cash Rate.*

### **S&P/ASX 200 Futures Index**

The S&P/ASX 200 Futures Index tracks the returns generated from investment in the near-month futures contract. The underlying index for the futures contract is the S&P/ASX 200. The futures contract is traded on ASX under the symbol 'AP'. Both excess return and total return versions are calculated. The total return is calculated using the Australian three-month Bank Bill rate as the risk free rate of return.

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

# Eligibility Criteria

**S&P/ASX Index Series.** This index series offers investors exposure to the largest and most liquid stocks listed on the Australian Securities Exchange (ASX). S&P Dow Jones Indices' global indices are constructed with a fixed number of companies. The aim is not to replicate a fixed percentage of the market capitalization, but to design a highly liquid and tradable index whose total market capitalization is large enough to approximate the market segment it is capturing while keeping the number of stocks at a minimum. This creates a highly cost-effective, easily replicable trading instrument that provides an appropriate barometer of the market's performance. The fixed number of stocks also ensures minimum turnover as changes are made due to corporate activity or a reduction in a stock's size or liquidity that makes it ineligible for inclusion.

**All Ordinaries index.** This index is used as a broad-based indicator of the Australian market. The All Ordinaries index is drawn from the S&P/ASX index series and extends representation to 500 stocks listed on the ASX. There is no liquidity or minimum IWF requirement for inclusion in the All Ordinaries index.

## Index Eligibility

The index companies are drawn from the universe of ordinary and preferred equity stocks listed on the ASX.

## Eligibility Factors

**Listing.** Only stocks listed on the Australian Securities Exchange are considered for inclusion in any of the S&P/ASX indices.

**Domicile.** The index draws from the entire universe of ASX listed stocks, which includes both primary and secondary listings on the ASX. A secondary listing occurs when the ASX is not the primary exchange and the stock is listed in multiple markets. This includes foreign-domiciled entities that are incorporated or registered overseas and have their primary listing on an exchange other than the ASX.

Securities classified as 'foreign-domiciled' are eligible for inclusion in the majority of S&P/ASX indices, with the exception being the S&P/ASX All Australian 50 and the S&P/ASX All Australian 200. Foreign-domiciled securities may be subject to specialized treatment due to the data reporting conventions of certain foreign securities listed on the ASX. Such action is necessary in order to ensure the indices are representative of the Australian market while limiting constituent turnover and reducing index volatility. The rules relating to foreign-domiciled securities specifically relates to capitalization and index maintenance, as detailed further in the document.

Securities classified as 'domestic' are eligible for inclusion into all S&P/ASX indices and adhere to the commonly standardized index rules that determine index-eligibility and index-weight. Domestic securities are drawn upon to form the universe for the S&P/ASX All Australian 50 and the S&P/ASX All Australian 200.

The index definition of domestic and foreign-domicile is detailed as:

- **Domestic.** A company is considered to be domestic if:
  - The company is incorporated in Australia and traded on the ASX; or
  - The company is incorporated overseas but has an exclusive listing on the ASX; or
  - The company is incorporated overseas and is traded on other overseas markets, but most of the trading activity occurs on the ASX.

- **Foreign-Domicile.** Generally, a foreign-domicile company is a company that is:
  - Incorporated overseas; and/or
  - Listed on one or more overseas markets; and
  - Has the majority of its trading activity occurring on an overseas exchange.

**Eligible Securities.** All common and equity preferred stocks (which are not of a fixed income nature) are eligible for inclusion in the indices. Hybrid stocks such as convertible stock, bonds, warrants, and preferred stock that provide a guaranteed fixed return are not eligible. Listed Investment Companies (LICs) that invest in a portfolio of securities are not eligible for index inclusion.

Companies that are currently under consideration for merger or acquisition are not eligible for inclusion or promotion within the S&P/ASX index hierarchy.

**Market Capitalization.** The S&P/ASX indices only include securities that are considered to be institutionally investable, and market capitalization is a key criterion for stock selection. Stocks are included if they are large enough to meet the minimum ranking requirements for the representative indices within the Australian market.

The market capitalization criterion for stock inclusion is based upon the daily average market capitalization of a security over the last six months. The stock price history (last six months), latest available shares on issue and the *Investable Weight Factor (IWF)* are the relevant variables for the calculation. The IWF is a variable that is primarily used to determine the available float of a security for ASX listed securities.

**Quoted Shares Issued.** When considering the index eligibility of securities for inclusion or promotion into S&P/ASX indices, the number of index securities under consideration is based upon the latest available ASX quoted securities. For domestic securities this figure is purely based upon the latest available data from the ASX.

Foreign-domiciled securities may quote the total number of securities on the ASX that is representative of their global equity capital; whereas other foreign-domiciled securities may quote securities on the ASX on a partial basis that represents their Australian equity capital. In order to overcome this inconsistency, the S&P/ASX indices will quote the number of index securities that are represented by CHESS Depository Interests (CDIs) for a foreign entity. When CDIs are not issued we will use the total securities held on the Australian register (CHESS and where supplied the Issuer Sponsored register). This quoted number for a foreign entity is representative of the Australian equity capital, thereby allowing the S&P/ASX indices to be increasingly reflective of the Australian market.

The number of CDIs or shares of a foreign entity quoted on the ASX can experience more volatility than is typically the case for ordinary shares on issue. Therefore, an average number will provide a more robust figure to gauge index market capitalization. The average number on issue will be applied over a six-month period.

Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data.

*Monthly data for the number of CDIs and CHESS holdings is available on the ASX Web site at [http://www.asx.com.au/products/indices/foreign\\_entity\\_data.htm](http://www.asx.com.au/products/indices/foreign_entity_data.htm)*

**Investable Weight Factor (IWF).** A stock's weight in an index is determined by the float-adjusted market capitalization of the stock. This is a function of current index shares, the latest available stock price and the IWF. The IWF represents the float-adjusted portion of a stock's equity capital. Therefore any strategic holdings that are classified as either corporate, private or government holdings reduce the IWF which, in turn, results in a reduction in the float-adjusted market capital.

Shares owned by founders, directors of the company, trusts, venture capitalists and other companies are also excluded. These are also deemed strategic holders, and are considered long-term holders of a stock's equity. Any strategic shareholdings that are greater than 5% of total issued shares are excluded from the relevant float.

*Refer to the Investable Weight Factor section, under Index Maintenance, for details on float/index weight-adjustment.*

**Liquidity.** Only stocks that are regularly traded are eligible for inclusion in any S&P/ASX index. A stock's liquidity is measured relative to its peers. Relative Liquidity is calculated as follows:

$$\text{Relative Liquidity} = \frac{\text{Stock Median Liquidity}}{\text{Market Liquidity}}$$

where:

- *Stock Median Liquidity* is the median daily value traded for each stock divided by the average float/index weight-adjusted market capitalization for the previous six months and;
- *Market Liquidity* is determined using the market capitalization weighted average of the stock median liquidities of the 500 companies in the All Ordinaries index.

Relative Liquidity thresholds are as follows:

- **S&P/ASX 200.** Stocks require a minimum Relative Liquidity of 50% for inclusion in the S&P/ASX 200 and higher hierarchical indices. Should a stock's Relative Liquidity drop below half of this level at a quarterly review it may be considered for removal.
- **S&P/ASX 300.** Stocks require a minimum Relative Liquidity of 30% for inclusion in the S&P/ASX 300. Should a stock's Relative Liquidity drop to below half of this level at a semi-annual review it may be considered for removal.

S&P Dow Jones Indices believes turnover in index membership should be avoided when possible. At times a company may appear to temporarily violate one or more of the addition criteria. However, the addition criteria are for addition to an index, not for continued membership. As a result, an index constituent that appears to violate criteria for addition to that index will not be deleted unless ongoing conditions warrant an index change.

**Sector Classification.** Stocks are classified by the Global Industry Classification Standard (GICS®). These sectors, consistent throughout all the S&P-branded indices, are Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services, Utilities and Real Estate. GICS classifies a stock according to a number of measures, including revenues, earnings and the market's perception of a company.

In addition to the 11 GICS Sectors, S&P Dow Jones Indices also recognizes other industry segments relevant to the Australian market and promotes the following indices:

- A-REIT = Equity Real Estate Investment Trusts 601010 (GICS Tier 3) plus Mortgage Real Estate Investment Trusts 402040 (GICS Tier 3)
- Resources = Energy 10 (GICS Tier 1) plus Metals & Mining 151040 (GICS Tier 3); and Industrials = All other stocks
- Metals & Mining 151040 (GICS Tier 3)
- Gold 15104030 (GICS Tier 4)

## Timing of Intra-Quarter Constituent Changes

**Announcements to Market.** Changes to index composition will generally be made two-to-five business days in advance of index implementation of anticipated corporate events whenever practical, bearing in mind that the timing of such events is occasionally uncertain. Notification will be made outside of trading hours by way of an Index Announcement.

**Intra-Quarter Additions.** Between rebalancing dates, an index addition is generally made only if a vacancy is created by an index deletion. This rule applies to the S&P/ASX 200 and all related indices that sit higher within the index hierarchy. Therefore, it is not applicable to the S&P/ASX 300 and the All Ordinaries index. Index additions are made according to market size and liquidity. An initial public offering (IPO) is added to the index only when an appropriate vacancy occurs and is subject to proven liquidity for at least eight weeks. An exception may be made for extraordinary large offerings where sizeable trading volumes justify index inclusion.

An intra-quarter addition will only be made to the S&P/ASX 200 A-REIT Equal Weight Index if a vacancy is created due to a REIT replacing another REIT in the parent S&P/ASX 200. When a company is added intra-quarter, it assumes the weight of the company it replaces. In all other cases, additions will be made only at quarterly rebalancings.

For all indices, with the exception of the S&P/ASX 200 A-REIT Equal Weight Index, S&P/ASX 300 and the All Ordinaries, an addition is made as soon as a place has been vacated due to an index deletion.

**Intra-Quarter Deletions.** Deletions can occur between index rebalancing dates due to acquisitions, mergers and spin-offs or due to suspension or bankruptcies. The decision to remove a stock from the index will be made once there is sufficient evidence that the transaction will be completed. Stocks that are removed due to mergers & acquisitions activity are removed from the index at the cash offer price for cash-only offers. Otherwise the best available price in the market is used.

# Index Construction

## Approaches

The S&P/ASX index series is calculated using a base-weighted aggregate methodology. That means the level of an index reflects the total market value of all the component stocks relative to a particular base period. The total market value of a company is determined by multiplying the price of its stock by the number of shares available after float (IWF) adjustment. An indexed number is used to represent the result of this calculation in order to make the value easier to work with and track over time. It is much easier to graph a chart based on indexed values than one based on actual market values.

## Index Calculations

On any given day, the index value is the quotient of the total available market capitalization of the index's constituents and its divisor. Continuity in index values is maintained by adjusting the divisor for all changes in the constituents' share capital after the base date. This includes additions and deletions to the index, rights issues, share buybacks and issuances, spin-offs, and adjustments in availability. The divisor's time series is, in effect, a chronological summary of all changes affecting the base capital of the index. The divisor is adjusted such that the index value at an instant just prior to a change in base capital equals the index value at an instant immediately following that change.

Please refer to *S&P Dow Jones Indices' Index Mathematics Methodology* at [www.spdji.com](http://www.spdji.com) for details on index level calculations.

## S&P/ASX 200 Futures Index

**Futures Roll.** The index includes a provision for the replacement of the index futures contract as it approaches maturity (also referred to as "rolling" or "the roll"). This replacement occurs over a one-day rolling period every quarter, which is one business day prior to the expiration of the futures contract.

The near-month futures contract expires on the third Thursday of each quarter. In case the third Thursday is a holiday, it expires on the immediately preceding business day.

**Calculation of Index Excess Return Index.** The excess return is calculated from the price change of the underlying futures contract. On any trading date,  $t$ , the level is calculated as follows:

$$ERIndex_t = ERIndex_{t-1} * (1 + CDR_{t,t-1}) \quad (1)$$

where:

$ERIndex_{t-1}$  = The Excess Return Index level on the preceding business day, defined as any date on which the index is calculated.

$CDR_{t,t-1}$  = The Contract Daily return =  $\frac{DCRP_t}{DCRP_{t-1}} - 1$

$DCRP$  = The Daily Contract Reference Price of the futures contract. The DCRP is the official close, as designated by the ASX.

**Calculation of Total Return Index.** For a funded investment, the total return between dates  $t-1$  and  $t$  includes the risk free return for the initial cash outlay:

$$TRIndex_t = ERIndex_t + RiskFreeRate_t \quad (2)$$

where:

$ERIndex_t$  = The Excess Return Index level on day  $t$ , as defined in formula (1) above.

$RiskFreeRate_t$  = The daily-compounding Australian three-month Bank Bill Rate, as determined by the following formula:

$$RiskFreeRate_t = \left[ \frac{1}{1 - \frac{91}{365} * ABBR_{t-1}} \right]^{\frac{Delta_t}{91}} - 1 \quad (3)$$

where:

$Delta_t$  = The number of calendar days between the current and previous business days.

$ABBR_{t-1}$  = The simple discount rate for the generic three-month Australian Bank Bill rate, effective on the preceding business day, using an ACT/365 day-count convention.

# Index Maintenance

Changes in the index level reflect changes in the total market capitalization of the index that are caused by price movements in the market. They do not reflect changes in the market capitalization of the index, or of the individual stocks, that are caused by corporate actions such as dividend payments, stock splits, distributions to shareholders, mergers, or acquisitions. When a corporate action affects the price of a security – such as when the price drops on a special distribution ex-date – the price of the security is adjusted to reflect the ex-date and the index divisor is adjusted to offset any change in the total market value of the index.

When a stock is replaced by another stock, the index divisor is adjusted so that the change in index market value that results from the addition or deletion does not change the index level.

## Rebalancing

Rebalancing of the S&P/ASX Australian index series occurs on a regular basis. Both market capitalization and liquidity are assessed using the previous six months' worth of data to determine index eligibility. Shares and Investable Weight Factors (IWFs) updates are also applied regularly. The reference date used for the six months worth of trading data is the last Friday of the month prior to the rebalancing.

## Frequency

- The S&P/ASX 20, S&P/ASX 50, S&P/ASX 100 and S&P/ASX 200 index constituents are rebalanced quarterly to ensure adequate market capitalization and liquidity. Quarterly rebalancing changes take effect after the market close on the third Friday of March, June, September and December.
- The S&P/ASX 300 is rebalanced every six months, with changes taking effect after the market close on the third Friday of March and September.
- The S&P/ASX MidCap 50, S&P/ASX Mid-Small and S&P/ASX Small Ordinaries are rebalanced when and if constituent changes are made in any of their respective parent indices.
- The All Ordinaries index is rebalanced annually, after the market close on the third Friday of March. Therefore, the entire S&P/ASX index series is rebalanced after the market close on the third Friday of March.

Rebalancing announcements are made on the second Friday of March, June and December; therefore, a one-week notice period is provided before the rebalancing takes effect at these reviews. The rebalancing announcement is made on the first Friday of September, therefore a two-week notice period is provided before this rebalancing takes effect.

Eligible stocks are considered for index inclusion based on their rank relative to the stated quota of securities for each index within the S&P/ASX hierarchy. For example, a stock that is currently in the S&P/ASX 300 and is ranked at 175, based on float-adjusted market capitalization, within the universe of eligible securities may be considered for inclusion into the S&P/ASX 200, provided that liquidity hurdles are met.

**Buffers.** In order to limit the level of index turnover, eligible securities will only be considered for index inclusion once another stock is excluded due to a sufficiently low rank and/or liquidity, based on the float-adjusted market capitalization. Potential index inclusions and exclusions need to satisfy buffer requirements in terms of the rank of the stock relative to a given index. The following buffers aim to limit

the level of index turnover that may take place at each quarterly rebalancing, maximizing the efficiency and limiting the cost associated with holding the index portfolio.

Index	Rank Buffer for	
	Addition	Deletion
S&P/ASX 20	14 <sup>th</sup> or higher	26 <sup>th</sup> or lower
S&P/ASX 50	39 <sup>th</sup> or higher	61 <sup>st</sup> or lower
S&P/ASX 100	84 <sup>th</sup> or higher	116 <sup>th</sup> or lower
S&P/ASX 200	179 <sup>th</sup> or higher	221 <sup>st</sup> or lower
S&P/ASX 300	274 <sup>th</sup> or higher	326 <sup>th</sup> or lower

These float-adjusted market capitalization rank buffers serve as the guidelines used by the Index Committee to arrive at any potential constituent changes to the indices. However, the Index Committee has complete discretion to by-pass these rules when circumstances warrant.

**Share Updates.** The share count for all index constituents are updated quarterly and are rounded to the nearest thousand ('000) for all Australian indices. The update to the number of issued shares will be considered if the change is at least 5% of the float-adjusted shares or A\$ 100 million in value.

Share updates for foreign-domiciled securities will take place annually at the March rebalancing. The update to the number of index shares will only take place when the six-month average of CDIs or the Total Securities held in the Australian branch of issuer sponsored register (where supplied) and in CHESS, as of the March rebalancing, differs from the current index shares by either 5% or a market-cap dollar amount greater than A\$ 100 million.

Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data. Monthly data for the number CDIs and CHESS holdings is available on the ASX Web site at: [http://www.asx.com.au/products/indices/foreign\\_entity\\_data.htm](http://www.asx.com.au/products/indices/foreign_entity_data.htm)

Intra-quarter share changes are implemented at the effective date or as soon as reliable information is available; however, they will only take place in the following circumstances:

- Changes in a company's float-adjusted shares of 5% or more due to market-wide shares issuance;
- Right's issues, bonus issues and other major corporate actions and;
- Share issues resulting from index companies merging and major off-market buy-backs.

Share changes due to mergers or acquisitions are implemented when the transaction occurs, even if both of the companies are not in the same index and regardless of the size of the change.

*For more information regarding the above treatment, please see S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

Notification of intra-quarter changes to the number of issued shares generally takes place three business days prior to the index implementation date.

## Corporate Actions

Maintaining the S&P/ASX indices includes monitoring and completing the adjustments for company additions and deletions, share changes, stock splits, stock dividends, and stock price adjustments due to restructurings or spin-offs. Some corporate actions, such as stock splits and stock dividends, require simple changes in the common shares outstanding and the stock prices of the companies in the index. Other corporate actions, such as share issuances, change the market value of an index and require an index divisor adjustment to prevent the value of the index from changing.

Adjusting the index divisor for a change in market value leaves the value of the index unaffected by the corporate action. This helps keep the value of the index accurate as a barometer of stock market performance, and ensures that the movement of the index does not reflect the corporate actions of the companies in it. Divisor adjustments are made after the close of trading and after the calculation of the closing value of the index. Any change in the index divisor also affects the corresponding sub-indices and divisors. Each sub-index is maintained in the same manner as the headline index.

Corporate actions such as splits, stock dividends, spin-offs and rights offerings are applied on the ex-date.

The following table summarizes the types of index maintenance adjustments and indicates whether a divisor adjustment is required.

### Corporate Actions and the Effect on the Divisor

Events	Index Treatment	Divisor Adjustment Required
Cash Dividend	Applied only to total return indices	No
Special Cash Dividend	Price adjustment needed	Yes
Stock dividend and/or split	Shares are multiplied by and price is divided by the split factor	No
Stock dividend from class A shares into existing class B shares, both of which are included in the index	Adjustment for price of A; adjustment for shares in B	Yes
Stock dividend of different class, same company and is not included in the index	Price adjustment	Yes
Reverse Split	Adjustment for price and shares	No
Rights offering	Adjustment for price and shares	Yes
Rights offering for a new line	Adjustment for price	Yes
New share issuance	Adjustment for shares	Yes
Reduction of capital	Share adjustment	Yes
New addition to index	Share adjustment	Yes
Deletion from index	Share adjustment	Yes
Merger (acquisition by index company for stock)	Share increase	Yes

*The above table applies to capitalization weighted indices only. For more information on corporate actions and the effect on the divisor for alternatively weighted indices please refer to S&P Dow Jones Indices' Index Mathematics Methodology at [www.spdji.com](http://www.spdji.com).*

**Spin-offs.** A spun-off company is added to all indices of the parent company at a zero price on the ex-date. Should the spun-off company not be considered eligible for any S&P/ASX index that it is added to on the basis of its float-adjusted market capitalization then it will be removed from the respective index after at least one day of regular way trading.

*For more information, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

### Investable Weight Factor (IWF)

Investable Weight Factor = 1 – Sum of the % held by strategic shareholders who possess 5% or more of issued shares.

All issues in the S&P/ASX indices – with exception of the All Ordinaries – are assigned a float factor, called an Investable Weight Factor. The IWF ranges between 0 and 1 and is an adjustment factor that accounts for the publicly available shares of a company. A company must have a minimum IWF of 0.3 to be eligible for index inclusion. The company's adjusted market capitalization determines an equity issue's relative weight in the index.

S&P Dow Jones Indices identifies the following shareholders whose holdings are considered to be control blocks and are subject to float adjustment:

1. Government and government agencies;
2. Controlling and strategic shareholders/partners;
3. Any other entities or individuals which hold more than 5%; excluding insurance companies, securities companies and investment funds;
4. Other restricted portions such as treasury stocks.

IWFs are reviewed annually as part of the September quarterly review. However, any event that alters the float of a security in excess of 5% will be implemented as soon as practicable by an adjustment to the IWF.

The function of the IWF is also to manage the index weight of foreign-domiciled securities that quote shares on the basis of CDIs. Due to the volatility that is displayed by CDIs, unusually large changes in the number of CDIs on issue could result. Where this is the case, the IWF may be used to limit the effect of unusually large changes in the average number of CDIs (and, thereby, limit the potential to manipulate this figure). Where the Australian Index Committee sees fit to apply the IWF in this manner, the rationale for the decision will be announced to the market. This will be reviewed annually at the March-quarter index rebalancing date.

# Index Data

## Total Return Indices

Both a price return and a total return index series are calculated for all S&P/ASX indices. Cash dividends are applied on the ex-date of the dividend (dividend franking credits are not included in the total return calculations).

## Franking Credit Adjusted Total Return Indices

Additional total return indices are available for a number of indices in the family, including the S&P/ASX 200 and S&P/ASX 300 that adjust for the tax effect of franking credits attached to cash dividends. The indices utilize tax rates relevant to two segments of investors: one version incorporates a 0% tax rate relevant for tax-exempt investors and a second version uses a 15% tax rate relevant for superannuation funds. The franking credits attached to both regular and special cash dividends are included in the respective calculations.

- **Franking Credit Adjusted Annual Total Return Indices.** This index series accrues a pool of gross dividend points on a daily basis and reinvests them across the index annually after the end of the financial year. Reinvestment occurs at market close on the first trading day after June 30<sup>th</sup>. The gross dividend points are derived by taking the value of the gross dividend market capitalization (less the as reported dividend market capitalization) and dividing it by the index divisor effective on the ex-date of the respective dividend. The 0% and 15% tax rates are applied to the gross dividend amount to determine the net tax effect applied in the return calculation.
- **Franking Credit Adjusted Daily Total Return Indices.** Rather than allowing a separate accrual of gross dividend points, this index series reinvests the gross dividend amount across the index at the close of the ex-date on a daily basis. Again, the 0% and 15% tax rates are applied to the gross dividend amount to determine the net tax effect applied in the return calculation.

# Index Governance

## **Index Committee**

Each of S&P Dow Jones Indices' global indices is the responsibility of an Index Committee that monitors overall policy guidelines and methodologies, as well as additions to and deletions from these indices. S&P Dow Jones Indices' chairs the S&P/ASX Index Committee, which is comprised of five voting members representing both S&P Dow Jones Indices and the Australian Securities Exchange.

Decisions made by the Index Committee include all matters relating to index construction and maintenance. The Index Committee meets regularly to review market developments and convenes as needed to address major corporate actions.

It is the sole responsibility of the Index Committee to decide on all matters relating to methodology, maintenance, constituent selection and index procedures. The Index Committee makes decisions based on all publicly available information and discussions are kept confidential to avoid any unnecessary impact on market trading.

*For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

# Index Policy

## Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events report (.SDE), delivered daily via ftp to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

Market-sensitive announcements, including the additions or deletions of stocks in indices, are normally made when markets are closed.

All methodology changes are posted to S&P Dow Jones Indices' Web site and announced via email to all clients. The latest available version is always posted on the Web site at [www.spdji.com](http://www.spdji.com).

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files for each index each time the indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and it contains all constituents and their index shares effective for the upcoming rebalancing.

*Please visit [www.spdji.com](http://www.spdji.com) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The S&P/ASX indices are calculated on all business days, this is inclusive of state public holidays. The exchange is closed for trading on national public holidays; indices are not calculated on those days.

*A complete holiday schedule for the year is available at [www.spdji.com](http://www.spdji.com).*

## Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).

## Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).

## Real-Time Calculation

Real-time, intra-day, index calculations are executed for certain S&P/ASX price indices, with index values updated every 30 seconds as constituent prices change throughout the course of the day. Real-time indices are not restated.

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com), major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

## Tickers

Tickers for the primary indices are shown in the following table.

Index (Price Index)	Bloomberg	Reuters	IRESS
S&P/ASX 200	AS51	.AXJO	XJO
S&P/ASX 100	AS25	.ATOI	XTO
S&P/ASX 50	AS31	.AFLI	XFL
S&P/ASX 20	AS26	.ATLI	XTL
S&P/ASX 300	AS52	.AXKO	XKO
S&P/ASX MidCap 50	AS34	.AXMD	XMD
S&P/ASX Mid Small	SPAXMS	.AXMS	XMS
S&P/ASX Small Ordinaries	AS38	.AXSO	XSO
All Ordinaries	AS30	.AORD	XAO
S&P/ASX 200 A-REIT	AS51PROP	.AXPJ	XPJ
S&P/ASX 200 Financials-x-A-REIT	AS51FNXP	.AXXJ	XXJ
S&P/ASX 300 A-REIT	AS52PROP	.AXPK	XPK
S&P/ASX 300 Financials-x-A-REIT	AS52FNXP	.AXXK	XXK
S&P/ASX 300 Metals & Mining	AS52XMM	.AXMM	XMM
S&P/ASX All Ordinaries Gold	AS30XGD	.AXGD	XGD
S&P/ASX Emerging Companies	SPAXEC	.AXEMI	XEC
S&P/ASX Infrastructure	SPAXIF	.AXIF	XIF
S&P/ASX 100 Equal Weight Index	SPAXEW	.AXEW	XEW
S&P/ASX 200 Equal Weight Index	SPAX2EAP	--	--
S&P/ASX 200 A-REIT Equal Weight Index	AS51PE	--	--
S&P/ASX 200 Futures Index	SPAX2F	--	--

## FTP

Daily stock level and index data are available via FTP subscription.

For product information, please contact S&P Dow Jones Indices, [www.spdji.com/contact-us](http://www.spdji.com/contact-us).

## Web site

For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).

# Appendix I

## A Chronology of S&P/ASX Indices

- 1979 The All Ordinaries index was created, with a base date of December 31<sup>st</sup>, 1979, replacing the regional indices, which were independently run out of the Sydney and Melbourne exchanges.
- 1987 Global equity markets crash, with the All Ordinaries index recording its largest one-day loss, falling by 516 points (25%) on October 20<sup>th</sup>, 1987.
- 1988 ASX introduces the Stock Exchange Automated Trading system (SEATS) electronic trading platform.
- 1992 The Sydney Futures Exchange (SFE) issues the first equity futures contract in Australia.
- 1997 Spurred on by the technology boom, the All Ordinaries index records its highest one-day points gain, rising 144 points (6%) on October 29<sup>th</sup>, 1997.
- 1998 The ASX implements the first of a series of index rule changes, including the liquidity rule, whereby a stock's liquidity must be 50% of the overall market liquidity to be eligible for index inclusion.
- 2000 S&P Dow Jones Indices takes over the index business from the ASX, introducing:
- The S&P/ASX index series;
  - End-of-day calculation of the 24 ASX sectors, for the S&P/ASX 200 and the S&P/ASX 300;
  - The S&P/ASX 200 replaces the All Ordinaries index as the key institutional benchmark index for the Australian market;
  - The All Ordinaries index subsequently changes to include 500 companies with no liquidity requirements for constituents, effectively becoming Australia's broad-based market "indicator" index.
- 2001 Introduction of Global Industry Classification Standard (GICS<sup>®</sup>) for the Australian market:
- Real-time GICS indices are launched for the S&P/ASX 200.
  - End-of-day GICS indices are launched for the S&P/ASX 300.
- 2001 S&P Dow Jones Indices take over index calculation from the ASX, using proprietary index-calculation engines, streamlining the day-to-day index methodology, and allowing for earlier distribution of official closing index values.
- 2002 SSgA launches streetTRACKS 200 and 50 exchange-traded funds (ETFs) for the S&P/ASX 200, the S&P/ASX 50 and the S&P/ASX 200 Property Trust Indices.
- S&P Dow Jones Indices discontinues the Old 24 ASX sectors.
- The S&P/ASX methodology changes to incorporate float adjustment.
- The ASX launches the ASX Mini Futures contracts for the S&P/ASX 200.
- 2004 SFE launches the SPIDO (SFE SPI 200<sup>TM</sup>) Intra-Day Options.
- The ASX launches the S&P/ASX Buy-Write Index.
- The S&P/ASX 200 Price Index rises above 4000 points in December.

- 2006 The S&P/ASX 200 Price Index closes above 5000 points in March.  
S&P Dow Jones Indices launches the S&P/ASX 300 Metals & Mining and All Ordinaries Gold Indices.
- 2007 The S&P/ASX 200 Price Index closes above 6000 points in March.  
The S&P/ASX methodology changes to extend index eligibility to foreign domiciled companies listed on the ASX.  
S&P Dow Jones Indices launches the S&P/ASX All Australian 50 and the S&P/ASX All Australian 200.
- 2009 S&P Dow Jones Indices launches the S&P/ASX Infrastructure and the S&P/ASX Emerging Companies Indices.
- 2010 S&P Dow Jones Indices launches the S&P/ASX 200 2x Inverse Daily Index and the S&P/ASX 200 2x Leverage Daily Index.
- 2010 S&P Dow Jones Indices launches the S&P/ASX Dividend Opportunities Index.
- 2011 S&P Dow Jones Indices launches the S&P/ASX Mid Small and the S&P/ASX 100 Equal Weight Indices.
- 2014 S&P Dow Jones Indices launches the S&P/ASX 200 A-REIT Equal Weight Index and the Franking Credit Adjusted Total Return Indices.
- 2015 S&P Dow Jones Indices launches the S&P/ASX 200 Futures Index.
- 2016 S&P Dow Jones Indices launches the S&P/ASX 200 Equal Weight Index.

# Appendix II

## Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
Weight used for intra-quarter replacements:  S&P/ASX 100 Equal Weight Index	10/07/2016	Intra-quarter replacements are added to the index with a weight of 1.00%.	Intra-quarter replacements are added to the index at the weight of the company they are replacing.
Index name change:  S&P/ASX 100 Equal Weighted Index	10/04/2016	S&P/ASX 100 Equal Weighted Index	S&P/ASX 100 Equal Weight Index

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