Irish Stock Exchange

# ISE® Indices

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# ISEQ® Benchmark Indices Overview

The ISEQ® Benchmark Price Indices include: The ISEQ® Overall Index and it's series of sub-indices are the official price indices of the ISE.

In addition to the ISEQ® Overall Index, the ISE calculates and publishes five additional sub-indices, the ISEQ® Financial Index, the ISEQ® General Index, the ISEQ® 20 Index, the ISEQ® ESM Index and the ISEQ® Small Cap Index.

| INDEX | INDEX TYPE | ISIN |
|---|---|---|
| ISEQ® Overall Index | Price | IE0001477250 |
| | Return | IE0000506851 |
| ISEQ® Financial Index | Price | IE0000516009 |
| | Return | IE0000511505 |
| ISEQ® General Index | Price | IE0000506075 |
| | Return | IE0000512685 |
| ISEQ® 20 Index | Price | IE00B0500264 |
| | Return | IE00B0500488 |
| ISEQ® ESM Index | Price | IE00B2QF5299 |
| | Return | IE00B2QF5307 |
| ISEQ® Small Cap Index | Price | IE0000506299 |
| | Return | IE0000506745 |

## ISEQ® BENCHMARK INDICES INCLUSION CRITERIA

"Admission to the ISEQ indices is subject to the approval of the ISE. New entrants to the market will be eligible for inclusion in the ISEQ indices if they meet the following 3 criteria:

1. The security included in the calculation of the index is an ordinary share, (or similar security with equivalent rights),

2. The security is admitted to trading on either the Main Securities Market or Enterprise Securities Market.

3. The issuer of the security must:

(a) be incorporated in the Republic of Ireland, or

(b) be incorporated in Northern Ireland, or

(c) have its centre of economic interest in Ireland.*

**For the avoidance of doubt existing constituents of the ISEQ (of more than 2 years standing) but whose businesses have developed so that their centre of economic interest could be deemed to be outside Ireland will remain eligible for inclusion within the index, subject to continued compliance with the other relevant ISEQ rules. Any decision of the ISE on the interpretation of these admission criteria shall be final."*

## ISEQ® BENCHMARK INDEX BASE DATE AND VALUE

The ISEQ® Overall, ISEQ® Financial and ISEQ® General indices are based at 1,000 on January 4, 1988.

The ISEQ® 20 Index is based at 1,000 on December 31 2004.

The ISEQ® Small Cap Index is based at 1,000 on January 4 1999.

The ISEQ® ESM Index is based at 1,000 on December 30 2008.

Historic data for the ISEQ® Overall Index from the beginning of 1983 onwards is available.

## ISEQ® BENCHMARK INDEX TOTAL RETURN INDICES

In addition to the ISEQ® Price Indices, the ISE also produces the ISEQ® Total Return Indices.

Like the ISEQ® Price Index series, the ISEQ® Return Index series is comprised of the ISEQ® Return Overall, and five sub indices; the ISEQ® Return Financial, the ISEQ® Return General, the ISEQ® 20 Return, the ISEQ® Return Small Cap and the ISEQ® Return ESM Index. The components of the ISEQ® Return indices and the rules for inclusion are the same as for the ISEQ® Price Indices.

The difference between the ISEQ® Price and ISEQ® Return Indices is that in the latter, dividends, gross of tax, are assumed to be reinvested immediately on the day the security is marked ex dividend. In this way investors can see the "total" return from the market.

The gross dividends are calculated with reference to the published tax credit attaching. Details of tax credits, ex dividend dates and actual payment dates are available to the market to allow investors make appropriate adjustments according to their circumstances.

The ISEQ® Return Indices have the same base dates and values as the ISEQ® Price Indices.

Historical performance information for the ISEQ® Return Index is available from the beginning of 1988 onwards.

## ISEQ® BENCHMARK INDEX CALCULATION AND PUBLICATION FREQUENCY

The ISEQ® Price Indices are calculated and published once per minute during the trading day (08:00 - 17:15). ISEQ® Total Return Indices are calculated and published at the end of the day (17.15).

## ISEQ® BENCHMARK CALCULATION METHODOLOGY

At the base date of January 4, 1988 the capitalisation of the constituent companies were summed and given the base figure of 1,000. Subsequently the value of the Index at time t has been calculated as:

$$\frac{\sum_{i=1}^{n} I_{i_t} P_{i_t}}{\sum_{i=1}^{n} I_{i_s} P_{i_s}} \times 1{,}000$$

Where

| |
|---|
| Iit= constituent number isissued share capital at time t |
| Pit= constituent number isshare price at time t |
| Pis= constituent number isshare price at the base date |
| Iis= constituent number isissued share capital at the base date |
| n= last component of the index |

The base value above relates only to the start of the index. It is recalculated whenever a constituent's issued share capital changes or a company enters \ leaves the indices. For the purposes of calculating market capitalisation, partly paid shares are adjusted to the fully paid price.

The ISEQ® system has been devised and is operated by the ISE. It was designed to be as flexible as possible so that a number of extra outputs are available, such as an historical track of the performance (in numerical or graphical form) of the indices or any individual component stock.

Note that the ISEQ® 20 Index uses a different methodology to the other ISEQ® Indices.

## ISEQ® BENCHMARK TOTAL RETURN INDICES

The difference between the ISEQ® Price and ISEQ® Return Indices is that in the latter, dividends, gross of tax, are assumed to be reinvested immediately on the day the security is marked ex dividend. In this way investors can see the "total" return from the market.

The gross dividend are calculated with reference to the published tax credit attaching. Details of tax credits, ex dividend dates and actual payment dates are available to the market to allow investors make appropriate adjustments according to their circumstances.

The ISEQ® Return Indices have the same base dates and values as the ISEQ® Price Indices.

Historical performance information for the ISEQ® Return Index is available from the beginning of 1988 onwards.

**Calculation of the ISEQ® Return Indices:** On any given day (that is not an ex-dividend day) the ISEQ® Return Index will be calculated using Formula 1:

$$R_t = R_y \times \left( \frac{I_t}{I_y} \right)$$

Where:

| |
|---|
| Rt= ISEQ Return Index today |
| Ry= ISEQ Return Index yesterday |
| It= ISEQ Index today |
| Iy= ISEQ Index yesterday |

The calculation is modified when shares go ex-dividend. The effect of the shares going ex-dividend is calculated in ISEQ® index points, based on the closing ISEQ® Index of the day before the shares are marked ex-dividend (currently ex-dividend dates are set every Wednesday).The effect of dividends on the ISEQ® Return Index is calculated as Formula 2 :

$$R_o = R_y \times \left( \frac{I_y}{I_y - XDG} \right)$$

Where:

| |
|---|
| Ro= ISEQ Return Index "opening" Monday |
| Ry= ISEQ Return Index yesterday |
| Iy= ISEQ Index Friday close |
| XDG= The effect in Index points of the stocks going ex-dividend |

This measures the return over the instant of the stocks going from cum-dividend to the stocks going ex-dividend. The value Ro will, for the purposes of calculating the Return index at the end of the ex-dividend day, substitute Ry in Formula 1 above. This will give Formula 3 as follows:

$$R_o = R_y \times \left( \frac{I_y}{I_y - XDG} \right) \times \left( \frac{I_t}{I_y} \right)$$

Restated:

$$R_t = R_y \times \left( \frac{I_t}{I_y} \right)$$

Therefore to calculate the ISEQ® Total Return Index on any given day that is not an ex-dividend day, Formula 1 will be used. To calculate the Index on an ex-dividend day Formula 3 as restated above, will be used.

**Treatment of dividends:** Tax credits on Irish dividends were abolished with effect from6 April, 1999.

Dividend Withholding Tax (DWT) is now applied to distributions by Irish resident companies. DWT is applied at the standard rate of income tax. It will be generally applicable with the following exemptions, when dividends are paid to:

- An Irish resident company
- An Irish resident pension fund or registered charity
- A shareholder resident for tax purposes in another member state of the European Union, or in a country with which Ireland has a tax treaty
- A company resident in a non-treaty country outside the EU where the company is controlled by shareholders resident in another EU member state or in a treaty country

Full details of Irish Taxes can be found on the web site: www.revenue.ie.

# ISEQ® 20 Index

### Characteristics

The ISEQ® 20 Index represents the 20 most liquid and largest capped equities quoted on the ISE. The calculation methodology is based on industry best practice; a model which can be tracked accurately and easily.

The historic time series dates back to 31 December 1997. Both Price and Return (performance) indices are calculated and published. The ISEQ® 20 Index is based at 1,000 on December 31 2004.

### Calculation Methodology

The calculation of the ISEQ® 20 Index differs from the ISEQ® Overall Index. To allow for easier tracking the following attributes are applied:

- Constituents change infrequently. The constituent base is decided upon at set periods following a review of the potential constituent population (more about this below).
- Share changes, rights issues, stock splits and entitlement issues are applied at the start of the next chaining period.
- In line with industry norms, only order-book trades are included. This aids price formation, transparency, etc.
- Only the available constituent free-float shares in issue are included
- At chaining points, a maximum weighting of 20% is applied

In certain circumstances, the current ISE official closing price includes ND transactions. As such the price used to calculate the closing index may differ from the official closing price of the constituents. The prices used to calculate the closing index are publicly available at 18:00 Irish local time each day. They are published on the ISE website, by file transfer, e-mail, etc. to the market and press. Contact the ISE for further details.

## ISEQ® 20 INDEX INCLUSION CRITERIA

***Selection population - What instruments are considered for inclusion?***

All ISEQ Overall Index constituents are included for final consideration by the selection panel. This allows for decisions based upon qualitative factors to be included, whereas a specific mathematical formula alone, such as for the ISEQ Small Cap does not.

***Selection Panel - Who decides on the constituents?***

The selection of constituents is reviewed by the Selection Panel

***Selection criteria - What criteria are to be measured when selecting the constituents?***

Market capitalization and order-book turnover are the key criteria. The number of transactions, number of executed orders, and price performance are all valid ranking indicators and are also examined when selecting the constituent base.

***Selection frequency - How often are the constituents reviewed?***

The review and selection of instruments is a standard periodic task carried out quarterly & annually. This is a separate task to “chaining” discussed below.

**Quarterly:**

Fast Exit (30/30): Constituents, that rank > 30 in order-book turnover and/or free-float market capitalization, will be replaced, if an inclusion candidate, that ranks <= 25 in both criteria, exists.

Fast Entry (15/15): Non-constituents, that rank <= 15 in order-book turnover and/or free-float market capitalisation, will be included. Excluded then will be the lowest capitalized constituent, which ranks > 25 in one of the criteria. If no such component exists, the lowest capitalized constituent will be excluded.

The Panel reserves the right to review, at its sole discretion the rules and number of constituents at any stage.

**Annual:**

Regular Exit (25/25): Constituents, that rank >25 in order-book turnover and/or free-float market capitalization, will be replaced, if an inclusion candidate, that ranks <= 25 in both criteria, exists

Regular Entry (20/20): Non-constituents, that rank <= 20 in order-book turnover and/or free-float market capitalization, will be included, if a constituent, that ranks >25 in one of the criteria, exists.

The Panel reserves the right to review, at its sole discretion the rules and number of constituents at any stage.

**Additional Rules:**

If, when applying the above rules, more than one candidate for inclusion/exclusion exists, then the candidate with the highest / lowest free-float market capitalization will be included / excluded.

To determine the free-float market capitalization the average VWAP (volume weighted average price) of the previous 20 trading days is used in order to avoid manipulation of index decisions.

Takeovers, mergers, new listings and delistings will be dealt with on an ad hoc basis by the Selection Panel.

Changes are applied to the ISEQ® 20 Index two business days following the decision of the Selection Panel to alter the constituent base.

The Panel reserves the right to review, at its sole discretion the rules and number of constituents at any stage.

***Free-float calculation - Does the ISEQ® 20 Index include available free-float in issue or all listed shares?***

Only free-float shares are included in index calculation and are applied at the start of each chaining period.

When calculating free-float, two types of shareholder are excluded; firstly shares held by interested parties (strategic holdings, directors, employee holdings etc.) and secondly shareholders of a significant portion of the issued shares. Sources of free-float figures include company secretaries, registrars, etc. The ISE has developed a regime for monitoring free float on a quarterly basis.

***Weighting limitations - Are weighting restrictions on the constituents required?***

It is necessary to cap weightings of constituents within the ISEQ® 20 Index at 20%.

***Chaining period - How often will adjustment factors be reset?***

As a company issues dividends or experiences corporate actions, the index is kept consistent through the use of adjustment factors. The chaining of an index is where changes to the adjustment factors are reset and any necessary share changes are applied. These chaining adjustments are applied quarterly on the third Friday of March, June, September and December.

# ISEQ® Small Cap Index

**Characteristics**

The Small Cap Index represents an asset class of it's own, i.e. the smaller quoted companies. This type of asset class offers potential for growth which may not always seen in larger entities. It also represents an attractive asset class from the portfolio theory perspective; i.e. diversification into chosen smaller capitalisation stocks is likely to improve the risk return equation for investors.

The ISEQ® Small Cap Index is more representative of domestic economic performance compared to the ISEQ® Overall Index which contains internationally influenced constituents.

The ISEQ® Small Cap Index has a different volatility profile than the ISEQ® Overall Index. This is due to both liquidity and constituent weighting. As the Small Cap stocks are generally less liquid, changes in price can be relatively greater (in percent terms) than more liquid stocks, thus causing a relatively greater change in the Small Cap Index. Market Cap weightings are spread more evenly among Small Cap stocks than is seen in the ISEQ® Overall Index. Thus, a move in price in a large weighted Small Cap stock will have a smaller effect on the ISEQ® Small Cap Index compared to a corresponding move of a large weighted stock on the ISEQ® Overall Index.

## ISEQ® SMALL CAP INDEX INCLUSION CRITERIA

For companies whose listing date on the ISE is later than January 4th 1999, inclusion in the ISEQ® Small Cap Index depends on it meeting the following criteria:

- Companies must be eligible for inclusion in ISEQ® Overall Index
- Companies which are included in the ISEQ®20 Index are excluded
- Companies must have a market capitalisation of less than or equal to the current SCI Market Cap Threshold

If a company de-lists or is removed from the ISEQ® Overall Index, then that company will be removed from the ISEQ® Small Cap Index.

If a company enters into the ISEQ®20 Index then it will be removed from the ISEQ® Small Cap Index upon the next ISEQ® Small Cap Index Constituent Review.

## ON-GOING ISEQ® SMALL CAP INDEX CONSTITUENT REVIEW

The ISE reviews the constituents on a quarterly basis in March, June, September and December each year to ensure their continuing suitability for inclusion in the ISEQ® Small Cap Index.

The review ascertains whether a company's freefloat market capitalisation is within the current SCI Market Cap Threshold.

This review is made of all ISEQ® Overall Index constituents which are not included in the ISEQ®20 Index.

## ISEQ® SMALL CAP INDEX MARKET CAP THRESHOLD RE-EVALUATION

The ISE reviews the SCI Market Cap Threshold at each ISEQ® Small Cap Index Constituent Review to ensure that it is representative of the smaller companies quoted on the ISE.

## ISEQ® SMALL CAP INDEX BASE AND VALUE

The ISEQ® Small Cap Index is based at 1,000 on January 4 1999. Publication of the ISEQ® Small Cap Index began on December 1st, 1999.

# ISEQ® Strategic Indices Overview

The suite of ISE indices includes its Benchmark Equity Indices, Strategic Equity Indices and Bond Index Series.

The ISEQ® Strategic Price Indices include:

The ISEQ® 20 Leveraged Strategy Index and the ISEQ® 20 Capped Strategy.

| INDEX | INDEX TYPE | ISIN |
|---|---|---|
| ISEQ® 20 Leveraged Strategy Index | Price | IE00B2QF4Y48 |
| ISEQ® 20 Capped Strategy Index | Price | IE00B2QF4Z54 |
| ISEQ® 20 Capped Strategy Index | Return | IE00B2QF5075 |

## ISEQ® 20 CAPPED STRATEGY INDEX

The ISEQ®20 Capped Strategy Index contains the same constituents as the ISEQ®20, however it limits constituent weights so that no constituent has a weighting higher than 9% at chaining.

The reduction of the relative weightings of the largest capped stocks in the Index will provide greater diversification across the index, thereby reducing risk of exposure to a concentrated set of stocks.

**Cap Limit**

On the day of regular quarterly chaining, the weighting of any single company in the ISEQ® 20 Capped Strategy Index is capped to 9 percent of the index capitalisation.

For this purpose, the index capitalisation is computed using the total number of all freely available shares. If any single class of shares accounts for a share of more than 9 percent in the respective capitalisation, the number of shares used as weight for that company is reduced to 9 percent of the index capitalisation (which is being reduced accordingly). This procedure is repeated until all constituent weightings are within the respective cap limit.

Where the capped share of a company falls or rises below or above 9 percent during the quarter, it may only be raised or lowered to 9 percent again on the following chaining date as the above-described procedure is repeated for every single chaining process.

**ISEQ®20 Capped Strategy Index Calculation Methodology**

The ISEQ®20 Capped Strategy Index follows the same calculation methodology as the ISEQ®20 Index.

## ISEQ® 20 LEVERAGED STRATEGY INDEX

Based on the ISEQ®20 Price Index, the ISEQ 20® Leveraged Strategy Index is calculated so as to magnify moves in the ISEQ20® Price Index 200%. A positive move in the ISEQ20® Price Index will result in double performance in the ISEQ20® Leveraged Strategy Index and vice versa.

The leveraged effect is managed by the use of borrowed funds that are reinvested in the ISEQ20® Price Index. The investor gets the benefit of a larger investment with a lower initial outlay. It is important to note that the ISEQ20® Leveraged Strategy Index also inherits the risk of over proportional losses (downside risk)

### ISEQ®20 Leveraged Strategy Index Calculation Methodology

$$LEV_t = LEV_{t-1}\left(2 * \frac{ISEQ20®_t}{ISEQ20®_{t-1}} - 1\right) - LEV_{t-1}\left(\frac{EONIA}{360}\right)(d)$$

LEV = ISEQ20® Leveraged Index
t = Time of calculation
t-1 = Close of last day prior to t
EONIA = Overnight Interest Rate
d = Number of calendar days between t and t-1

* EONIA (Euro Overnight Index Average )

A measure of the effective interest rate prevailing in the euro interbank overnight market. It is calculated as a weighted average of the interest rates on unsecured overnight lending transactions denominated in euro, as reported by a panel of contributing banks.

# FREE FLOAT

The ISE has a free-float based methodology for calculating its ISEQ® indices. A free-float weighted ISEQ® methodology ensures that investors are not at a disadvantage when trying to match the constituent weighting of a stock where a significant portion of an issuers shares are not available for active trading in the market.

**Free-float collection and publication**

The ISEQ®20 index has been free-float based since its inception in March 2005. In June 2007 all ISEQ® indices adopted the same process of free-float collation and calculation.

- Free-float information is received directly from ISEQ constituent companies as well as from third party sources.
- Free-float figures calculation dates are the last trading day of February, May, August and November.
- Free-float adjustments are applied on the third Friday of the last month in each calendar quarterly; i.e. March, June, September and December. This quarterly adjustment procedure is known as "Chaining".
- Free-float adjustments are made available to the market in advance of each Chaining date.

## DEFINITION OF FREE FLOAT

The ISE's approach has been to ensure full consistency with international norms. Accordingly its interpretation of free-float uses the standard definition of leading index providers. It is interpreted as follows:

In the calculation of free-float, two types of shareholding are excluded; firstly shares held by interested parties and secondly long term, strategic shareholdings of a significant portion of the issued shares.

**Interested parties:**

- Management and Board members: Shares owned by a company's management or Board of Directors are not included in free-float. Similarly, shares owned by persons related to or affiliated with the company's management or Board of Directors are not included in free-float.
- Corporations: Shares held by a company itself as treasury shares (or in some equivalent form) are not included in free-float. Note that, as the ISE does not currently include treasury shares in total market capitalization of the company, treasury shares are excluded from the base upon which the free-float is calculated. Please refer to the example below for further guidance.
- Employee Share Ownership Plans (ESOPs): Shares held by a ESOT, even if not allocated to underlying beneficiaries, are not included in free-float.

**Strategic shareholdings**

Private or public shareholdings with investment objectives that indicate those holdings are not likely to be available to be traded in the market due to their long term investment horizon.

- Individuals: Free-float generally includes shares owned by individuals not included in the definition of Management and Board Members above. However, significant shareholdings held by individuals that are strategic in nature should not be included in free-float. There is a rebuttable presumption that any holding of 5% or more in the capital of an issuer held by any individual and corporation, other than an institution acting for its clients, be considered a long term strategic holding.

- Governments: Shares owned by governments and affiliated entities where the investment objective indicates that it is strategic should not be included in free-float (e.g. the Government's 20% holding in Aer Lingus Plc).

- Government agencies and government-related investment funds: The investment objective of the agency / fund will determine whether the shareholding is strategic and therefore not included in free-float.

- Investment funds, mutual funds or unit trusts: Shares owned in investment funds, mutual funds and unit-trusts are included in free-float.

- Pension funds: Generally, shares held by pension funds (including shares of a company for whose employees the fund has been established) are included in free-float unless there is a strong indication that the holding is strategic.

- Venture capital funds: Shareholdings are included in free-float unless the investment is strategic in nature.

- Banks / Lenders:Shareholdings by such entities are included in free-float if the investment is non-strategic in nature.

- Nominees or trustees: Nominee or trustee registered shareholdings are classified as strategic or non-strategic based on an analysis of the beneficial owner of the shares.

- Insurance companies: Shareholdings are included in free-float unless the investment is strategic in nature.

- Lock-up periods: Shareholdings that are subject to lock-up periods are not considered to be free-float during the lock-up period. When the lock-up period expires, the shares are classified as free-float or non free-float based on the nature of the shareholder and is subject to standard free-float rules.

- Others:Inclusion in free-float should be based on analysis of the strategic or non-strategic nature of the holding.

## FREE FLOAT CALCULATION

Non Free-float (%) = strategic shareholding + interested party shareholding /total number of shares outstanding excl. treasury shares

Free-Float (%) = 100% - Non Free-float (%)

| Example | Issuer A (Treasury shares) | Issuer B<br><br>(No Treasury shares) |
|---|---|---|
| Total shares created by company | 110 | |
| Treasury Shares | 10 | |
| **Total shares listed** | **100** | **100** |
| Strategic holding | 5 | 3 |
| Interested party holding | 10 | 5 |
| **Non Free-float** | **15** | **8** |
| Free-Float holding | 85 | **92** |
| **Free-Float %** | **85%** | **92%** |

**Example of impact on current ISEQ® weighting**

| Current weighting | Free-float | Calculation | Free-Float weighting |
|---|---|---|---|
| 2.5% | 100% | = 2.5% X 100% | 2.5% |
| 0.5% | 90% | = 0.5% X 90% | 0.45% |
| 2.5% | 80% | = 2.5% X 80% | 2.0% |
| 0.5% | 70% | = 0.5% X 70% | 0.35% |

## FREE FLOAT FAQ'S

***Q1. What is Free-float?***

A1. Free-float is the proportion of an issuers share capital that is available for purchase in the public equity markets by investors.

***Q2. How is Free-float calculated?***

A2. In the calculation of free-float, two types of shareholding are excluded; firstly shares held by interested parties and secondly long term, strategic shareholdings of a significant portion of the issued shares .Further details of the calculation methodology are available above.

***Q3. What is the free-float calculation schedule?***

A1. The dates on which free-float will be calculated for each constituent of the ISEQ indices will be quarterly on:

- Last day of February
- Last day of May
- Last day of August
- Last day of November

Free-float adjustments will then be applied to the calculation of the indices on the third Friday of the last month in each calendar quarterly; i.e. March, June, September and December. This quarterly adjustment procedure is often referred to as "Chaining".

***Q4. Why use a free-float methodology?***

A4. A free-float based methodology has become best industry practice for the calculation of benchmark indices such as the ISEQ. It ensures that investors are not at a disadvantage when trying to match the constituent weighting of a stock where a significant portion of its listed shares are not available for active trading in the market.

***Q5. What additional advantages are there?***

A5. It facilitates investment in the underlying stocks as some investors or investment strategies are now restricted to free-float indices.

***Q6. Where else is the free-float methodology used?***

A6. Free-float index calculation has become the industry norm for domestic and European benchmark indices. The indices using free-float include FTSE 100, the German DAX, Italy's MIB, the French CAC, Eurostoxx 50 and the S&P Euro. The introduction of a free-float methodology ensures the ISEQ indices are in line with best industry practice.

The EU's Markets in Financial Instruments Directive (MIFID), implemented on 1st November 2007 requires that liquid instruments are identified not only by turnover but also by the free-float market capitalisation of the company. As such free-float calculation is relevant to all market participants.

***Q7. What effect does free-float have on the ISEQ index constituent companies?***

A7. The effect on the company relates only to the proportion of market capitalisation used in the calculation of the ISEQ indices. The total market capitalisation of the company remains the same and will continue to be published within ISE public reports, on the ISE website, and in other public media as it always has. Example illustrates the calculation:

| Company | Shares in issue | Price | Market Cap (shares X price) | Non Free-float ISEQ Weighting | Free-float % | Free-float Market Cap (used for ISEQ calculation) | Free-float ISEQ Weighting |
|---|---|---|---|---|---|---|---|
| **A** | 1,000 | 10.00 | 10,000.00 | 50.0% | 90% | 9,000.00 | 50.0% |
| **B** | 2,000 | 3.00 | 6,000.00 | 30.0% | 100% | 6,000.00 | 33.3% |
| **C** | 1,600 | 2.50 | 4,000.00 | 20.0% | 75% | 3,000.00 | 16.7% |
| **Total** | | | **20,000.00** | **100.0%** | | **18,000.00** | **100.0%** |

As can be seen above, the market capitalisation of the company does not change.

The weighting of the company in the ISEQ index is adjusted to reflect the company specific proportion of the total free-float market capitalisation of the ISEQ index.

***Q8. What affect does free-float have on the ISEQ indices?***

A8. The total market capitalisation used for the calculation of the ISEQ indices will change to reflect the available free-float of underlying constituents. The ISEQ indices calculation methodology will remain the same. The following example based on an elaboration of Q7 details the calculation:

| | Market Cap (used for ISEQ calculation) | Base-value Divisor | ISEQ Value |
|---|---|---|---|
| Pre Free-float (market close June 15th, 2007) | 20,000.00 | 2.0 | 10,000.00 |
| Post Free-float (market open June 18th, 2007) | 18,000.00 | 1.8 | 10,000.00 |

The base-value divisor is adjusted to ensure that the free-float market capitalisation does not impact the value of the ISEQ index.

***Q9. How was the changeover to free-float implemented on June 18th, 2007?***

A9. Following the market close on June 15th, 2007 the free float values were applied to the constituents to calculate the total free-float market capitalisation of the ISEQ indices. The base-values are also adjusted to ensure no change in ISEQ values when the market opened on June 18th, 2007.

**Q10. What happened after the free-float implementation on June 18th,2007?**

A10. The ISEQ indices continued to be calculated as before. Free-float adjustments are applied at quarterly chaining events thereafter.

***Q11. Where will free-float values be published?***

A11. The ISE will publish free-float values on the ISE website and in its ISEQ Index Pack information product.

***Q12. Where are free-float values sourced from?***

A12. Free-float information is received directly from ISEQ constituent companies and comparative analysis is done on the information received from two other market sources.

***Q13. Can a practical sample of a given company's free-float be illustrated?***

A13. The free-float calculation for Issuer X is shown below in two scenarios, one where it has treasury shares the other with no treasury shares.

$$\text{Non Free-float (\%)} = \frac{\text{strategic shareholding} + \text{interested party shareholding}}{\text{total number of shares outstanding excluding treasury shares}}$$

$$\text{Free-float (\%)} = 100\% - \text{Non Free-float (\%)}$$

| **Example Issuer X** | **Example A (Treasury Shares)** | **Example B(No Treaury Shares)** |
|---|---|---|
| Total shares created by company | 110 | |
| Treasury shares | 10 | |
| **Total shares listed** | **100** | **100%** |
| | | |
| Strategic holding | 5 | 3% |
| Interested party holding | 10 | 5% |
| **Non Free-float** | 15 | 8% |
| | | |
| Free-float holding | 85 | |
| **Free-Float %** | 85% | 92% |
| | | |

# ISEQ® Bond Index

The suite of ISE indices includes its Benchmark Equity Indices, Strategic Equity Indices and Bond Index Series .

The ISE produces 6 Official Price Bond Indices and 6 Official Total Return Bond Indices, "ISEQ®-BIS". These are calculated once per day at 4.30pm. The 12 bond indices are categorised by the time to maturity. The categories are as follows:

| SEDOL | Bondindex | MaturityBand |
|---|---|---|
| B0FXSJ8 | ISEQ® All BondIndex(Price) | Constituent time to maturity is > 20 days |
| B0G2JK2 | ISEQ® All Bond Index(Return) | Constituent time to maturity is > 20 days |
| B0FXSK9 | ISEQ® Under3BondIndex(Price) | Constituent time to maturity is > 20 days and < 1,096 days |
| B0G2JM4 | ISEQ® Under3BondIndex(Return) | Constituent time to maturity is > 20 days and < 1,096 days |
| B0FXSM1 | ISEQ® Under5BondIndex(Price) | Constituent time to maturity is > 20 days and < 1,826 days |
| B0G2JN5 | ISEQ® Under5BondIndex(Return) | Constituent time to maturity is > 20 days and < 1,826 days |
| B0FXSN2 | ISEQ® Under10BondIndex(Price) | Constituent time to maturity is > 20 days and < 3,651 days |
| B0G2JP7 | ISEQ® Under10BondIndex(Return) | Constituent time to maturity is > 20 days and < 3,651 days |
| B0FXSP4 | ISEQ® 5 PlusBondIndex(Price) | Constituent time to maturity is > 1,825 days |
| B0G2JR9 | ISEQ® 5PlusBondIndex(Return) | Constituent time to maturity is > 1,825 days |
| B0FXSQ5 | ISEQ® 10PlusBondIndex(Price) | Constituent time to maturity is > 3,650 days |
| B0G2JS0 | ISEQ® 10PlusBondIndex(Return) | Constituent time to maturity is > 3,650 days |

Admission to the ISEQ®-BIS is subject to the following criteria.

1. The bond included in the calculation of the index will be a fixed coupon Irish Government Bond.

2. The bond has more than 20 days to maturity and is within the required maturity bands for the index.

## ISEQ® BOND INDEX BASE DATE AND VALUE:

All 6 ISEQ® Price Bond Indices are based at 100 on the 30th June 2004.

Historic data for the ISEQ®-BIS from March 2003 onwards is available.

**ISEQ® Bond Indices (Total Return) Overview.**

The difference between the ISEQ® Price BIS and ISEQ® Return BIS is that the ISEQ® Price BIS uses the clean prices while the ISEQ® Return BIS uses the dirty prices in the calculation of the indices. The dirty price is the clean price plus accrued interest. In this way investors can see the "total" return from the market.

The ISEQ® Return BIS has the same base dates, values and Historical performance as the ISEQ® Price BIS.

## ISEQ® BOND INDEX CALCULATION METHODOLOGY

The Clean Price Index value on day t is calculated as follows:

$$IndexValue(t) = IndexValue(t-1) \times (1 + r_t)$$

$$r_t = \frac{\sum_{1}^{n} [(P_{q,t}) / 100] \times C_{q,t-1}}{\sum_{1}^{n} [(P_{q,t-1}) / 100] \times C_{q,t-1}} - 1$$

Where

| | |
|---|---|
| P = Clean Price | q = Constituent |
| C = Amount Outstanding | |

The Total Return Index value on day t is calculated as follows:

$$IndexValue(t) = IndexValue(t-1) \times (1 + r_t)$$

$$r_t = \frac{\sum_{1}^{n} [(P_{q,t} + A_{q,t}) / 100] \times C_{q,t-1} + \sum_{1}^{n} CPN_{q,t}}{\sum_{1}^{n} [(P_{q,t-1} + A_{q,t-1}) / 100] \times C_{q,t-1}} - 1$$

Where

| | | |
|---|---|---|
| P = Clean Price | q = Constituent | CPN= Total Coupon Cashflow |
| C = Amount Outstanding | A= Accrued Interest | |

## ISEQ® BOND INDEX ENTRANTS, DEPARTURES & CORPORATE ACTIONS

**New Entrants**: Government Bonds will be added to one or more indices in the BIS under the following circumstances:

- Whenever a Government Bond is issued for the first time, it is included in the relevant indices of the BIS based on its maturity date.
- Due to the ongoing daily change in the time to maturity, the Government Bond leaves one maturity band and enters another maturity band within the BIS.

The return for day t is based on the outstanding amounts from the previous business day; therefore a new entrant into an index on day t will only affect the return on that index from day t+1 onward. The price for a new Government Bond issued for the first time on day t is set equal to the closing price on the day (t) on which it was issued.

**Departures:** Government Bonds are removed from one or more indices in the BIS under the following circumstances:

- There are less than 20 business days to maturity, resulting in the removal of the Government Bond from all indices in the BIS
- The Government Bond leaves a maturity band due to the its change in the number of days to maturity, resulting in the removal of the Government Bond from the relevant indices within the BIS
- Upon instruction form the National Treasury Management Agency (NTMA) due to the Government Bond being bought back or removed from the market

**Corporate Action Processing:** Changes to the amount in issue (issued capital adjustment):

This event doesn't cause a change in the index as the index changes are only due to price. As stated above this is because the return for day t is based on the outstanding amounts from the previous business day.

# ISEQ® Publication and Distribution

## ISEQ® EQUITY INDICES

In Q2 2000, the Irish Stock Exchange (ISE) and the Deutsche Börse formed an alliance under which the Deutsche Börse provides the ISE with electronic trading facilities for equities. The ISE runs its market on the Irish control segment of the ISE-Xetra® trading platform.

The Deutsche Börse calculates the ISEQ® Index on behalf of the ISE and publishes ISEQ® Index and Equity market data real-time via the Consolidated Exchange Feed (CEF) on all Xetra® trading days over international data vendor services.

The ISEQ® Price Indices are calculated and published once per minute during the trading day (08:00 - 17:15). ISEQ® Total Return Indices are calculated and published at the end of the day (17.15).

In addition to vendor services, ISEQ® Index data is published over various other media including (but not limited to):

- National Press and Television media
- The ISE Website
- ISE® Information Products:
- ISE® Index Pack
- ISE® Comprehensive Pack
- Periodic Publications & Statistical Updates:
- ISE® Daily Official List
- ISE® Daily Market Summary
- ISE® Monthly Report
- ISE® Annual Statistical Review
- ISE® Quarterly Publications

## ISEQ® BOND INDICES

The ISEQ® - Bond Index Series is calculated once a day at 16:30 and is published over the following media.

- National Press and Television media
- The ISE Website
- ISE® Bond Index Pack

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