



NZX EQUITY INDICES METHODOLOGY

August 2010

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I. INTRODUCTION

A. NZX EQUITY INDICES

The NZX Equity Indices are the primary benchmarks for the New Zealand share market, and are widely used by investment professionals and the general public. Indices may be used:

- To provide a barometer of market movement, to illustrate day to day market sentiment or to measuring longer term returns;
- As a benchmark against which to measure performance of an investment portfolio;
- As a base for index-derived products, such as futures contracts or exchange traded funds (ETFs).

The headline market index is the NZX 50 Index, which comprises 50 of the largest and most widely traded companies listed in New Zealand. This index is complemented by a range of other indices including the NZX 50 Portfolio Index (similar to the headline NZX 50 Index but with a cap of 5.0% on the weight of each security), the blue-chip NZX 10 Index, and size segment indices such as the NZX MidCap Index and NZX SmallCap Index. Additional indices highlight performance in key sectors of the market, including the NZX SciTech Index for science and technology companies, and the NZAX All Index, which covers securities quoted on the NZX Alternative Market of smaller developing companies.

All NZX Equity Indices are calculated and broadcast throughout each trading day, with headline indices broadcast at intervals of down to as little as 30 seconds. End of day values are calculated using closing prices, from a closing auction executed at market close, within 30 seconds either side of 5pm.

Index data is available via NZX's network of global data distribution partners. NZX also offers a range of direct email services, including index announcements and data feeds, to investment professionals. Selected index data, including latest index levels and lists of index constituents, is available from the NZX Markets website, www.nzx.com.

NZX's index services are not limited to the NZX Equity Indices. NZX also calculates a family of Debt Indices, including Government Bond Indices, Interest Rate Swap Indices, Corporate Bond Indices, and Bank Bill Indices. NZX also operates a custom index service, providing bespoke products to meet the specific needs of institutional clients.

Further information on the NZX Indices is available through the NZX website, www.nzxgroup.com, or by emailing specific enquiries to data@nzx.com.

B. OUTLINE OF THIS DOCUMENT

This document first considers, in Section II Index Calculation General Notes, aspects of the Index Methodology that are common to all NZX Equity Indices. This includes definitions of some terminology, and an explanation of the mathematical formulae used to calculate the Capital Index series, Gross Index series and Gross with Imputation series.

Section III Indices examines the NZX Equity Indices one by one, detailing aspects of the methodology specific to each index.

Section IV Common Corporate Actions explains how the NZX Equity Indices are impacted by a variety of the most common corporate events.

Section V Historic Index Notes elaborates on some aspects of the Index Methodology that have changed over the years. This information may be useful to index users considering longer term index returns.

II. INDEX CALCULATION GENERAL NOTES

A. DEFINITIONS

This index methodology document assumes some background understanding of equity markets and in particular the New Zealand market. An understanding of the terms listed in this section will help readers interpret the Index Methodology.

Free Float – the portion of a security that is freely tradeable. Large, non-traded share holdings will be classed as Strategic and excluded from the Free Float. NZX's criteria for Strategic holdings are discussed further in the methodology for those indices that use Free Float.

Indexed Shares – the number of shares for each security included in an index. Indexed Shares calculated by NZX are always rounded to a whole number. The Indexed Shares determines a security's Index Weight.

Index Weight – the percentage of an index that a security represents. The Index Weight is calculated from the Market Capitalisation of the security's Indexed Shares (i.e. Indexed Shares multiplied by price), referred to as the security's "Indexed Capitalisation", as a proportion of the "Index Market Capitalisation" of the whole index. This is illustrated by the following formula, where the Σ symbol represents the sum across all securities in the index.

$$[\text{Index Weight of Security}] = \frac{[\text{Security's Indexed Capitalisation}]}{[\text{Total Index Market Capitalisation}]}$$

Or, more specifically:

$$[\text{Index Weight of Security}] = \frac{[\text{Security's Indexed Shares}] \times [\text{Price}]}{\Sigma([\text{Indexed Shares}] \times [\text{Price}])}$$

Listing Status – entities may list with NZX by taking up one of the following three classes of Listed Issuer, as is detailed in NZSX/NZDX Listing Rule 5.1. Eligibility for some indices and calculation of Indexed Shares may vary depending on the class adopted:

- a. New Zealand Listed Issuer, sometimes known as a Domestic Listed Issuer;
- b. Dual Listed Issuer, sometimes informally known as a Dual Primary or a Dual Full Listed Issuer; or
- c. Overseas Listed Issuer, sometimes informally known as a Secondary Listing.

Market Capitalisation – the number of Shares Issued of a security multiplied by the price of the security. This index methodology document, at different times, may make reference to calculating Market Capitalisation using either the latest available price, or an average price. There may also be reference to different kinds of Market Capitalisation, for example, "Free Float Market Capitalisation" is the Market Capitalisation of the Free Float portion of shares of a security.

NZSX Market (Main Board) and NZAX Market (Alternative Market) – NZX operates two equity markets, alongside the NZDX Debt Market. Eligibility for some equity indices may depend on which market a security is quoted on. The two equity markets are:

- a. NZSX Market, or the “New Zealand Stock Market” is the Main Board, NZX’s original market, and home to many of largest and most successful Listed Issuers.
- b. NZAX Market, or the “New Zealand Alternative Market” is the home to many smaller, fast growing companies, and entities with non-standard ownership structures.

Shares Issued – the number of shares of a security on issue. For the purposes of this index methodology document, this always excludes treasury stock (shares held by the issuer itself).

B. INDEX SERIES: GROSS VS CAPITAL

NZX calculates three data series for each index. The Gross Index series is the most popular version of each index – it approximates the total return available to investors in the New Zealand share market assuming reinvestment of dividends. To enhance the versatility of the indices, NZX also calculates a Capital Index series and Gross with Imputation Index series for each index, although not all of this data is publicly broadcast. The three index series can be described as follows:

1. Capital Index

- a. The Capital Index series represents movements in the prices of constituents, and neglects the value of any distributions received. The percentage change between Capital Index levels as at two dates represents what the change in the capital value of a portfolio of shares tracked against the index would have been for the period, excluding the value of distributions (such as dividends) received by the investor.
- b. Some index providers use the term “Price Index” to describe indices calculated by methods similar to NZX’s Capital Indices.
- c. NZX releases the Capital Index series for most, but not all, NZX Equity Indices.

2. Gross Index

- a. The Gross Index series represents the return to shareholders including price movements and reinvested dividends (excluding imputation tax credits). The percentage change between Gross Index levels as at two dates represents what the change in the total value of a portfolio of shares tracked against the index would have been for the period, if all distributions (such as dividends) were reinvested immediately across the portfolio.
- b. Some index providers use the terms “Return Index”, “Total Return Index” or “Accumulation Index” to describe indices similar to NZX’s Gross Indices.
- c. The Gross Index series is available for all NZX Equity Indices, is the most widely used version of each index in New Zealand, and is the index series most widely reported on websites, TV, radio and in newspapers.

3. Gross with Imputation Index

- a. The Gross with Imputation Index series represents the return to shareholders including price movements and reinvestment of distributions (such as dividends) and imputation tax credits. Imputation tax credits are a credit for corporate tax paid that companies can transfer to their shareholders, thus reducing the amount of tax that must be paid on dividends. They are analogous to the “Franking Credits” available in some other jurisdictions.
- b. The Gross with Imputation Index series is not currently widely broadcast, but may be released to users who request it from NZX.

Why the Gross Index is the Headline Index

NZX considers it important to measure the performance of the New Zealand share market using the Gross Index series rather than the Capital Index series because the New Zealand market has historically paid an unusually high dividend yield – the highest of any developed market. With this unusual dividend yield, use of a Capital Index series to measure the performance of the New Zealand share market will understate the historic returns of the market by several percentage points, especially when used for comparison with Capital (or Price) Index series of other markets. It is more appropriate to compare international markets using Gross (or Return) Index series. NZX also considers it essential to use the Gross Index series when comparing the returns of share market investment to other investment classes, such as property or fixed interest, as it is essential to consider the total return of the sharemarket when evaluating its historic returns.

C. CALCULATION FORMULA

Capital Index

The Capital Index series is calculated using the Paasche formula, which measures the change in market capitalisation of the basket of shares in the index:

$$[\text{Capital Index}_t] = \frac{[\text{Latest Index Mkt Capitalisation}]}{[\text{Index Mkt Capitalisation, Start of Day}]} \times [\text{Capital Index}_{t-1}]$$

Or, more specifically:

$$[\text{Capital Index}_t] = \frac{\sum ([\text{Indexed Shares}] \times [\text{Last Price}])}{\sum ([\text{Indexed Shares}] \times [\text{Adjusted Opening Price}])} \times [\text{Capital Index}_{t-1}]$$

Terms in the formula are defined in the following table.

TERM	DEFINITION
Index _t	Current index level
Index _{t-1}	Previous trading day's closing index level
Σ	Sum across each index constituent security
Indexed Shares	Number of shares of each security included in the index, discussed further in Section II.A Definitions.
Last Price	Price from most recent price-setting trade for each security. To be price-setting, a transaction must be matched on-market (i.e. negotiated deals and/or reported marriages are not price-setting) and be above minimum size thresholds. This is the same price-setting criteria as used by NZX to determine if a trade is eligible to set the first, high, low or last price of the trading day. If there is no price-

TERM	DEFINITION
	setting trading in a security on a given trading day, the Adjusted Opening Price will be used for index calculation.
Adjusted Opening Price	Previous trading day's closing price for each security, adjusted for pro-rata corporate actions such as capital reconstructions, share splits and rights issues, but not distributions.

Gross Index

The Gross Index series adapts the Capital Index series formula to include reference to distributions, such as dividends, in the numerator:

$$[\text{Gross Index}_t] = \frac{[\text{Latest Index Mkt Cap}] + [\text{Total Distributions Ex Today}]}{[\text{Index Mkt Capitalisation at Start of Day}]} \times [\text{Gross Index}_{t-1}]$$

Or, more specifically:

$$[\text{Gross Index}_t] = \frac{\sum \left(\frac{[\text{Indexed Shares}] \times [\text{Last Price}]}{[\text{Last Price}]} \right) + \sum \left(\frac{[\text{Indexed Shares}] \times [\text{Distribution per Share}]}{[\text{Distribution per Share}]} \right)}{\sum ([\text{Indexed Shares}] \times [\text{Adjusted Opening Price}])} \times [\text{Gross Index}_{t-1}]$$

Further terms in the formula are defined as follows:

TERM	DEFINITION
Distribution per Share	Distribution amount per share, for dividends (or other distributions) that have gone ex on the current trading day, converted to New Zealand dollars and rounded to \$0.001.

The interpretation of this formula is that index returns are calculated assuming all distributions are reinvested across the index, i.e. spread across each security in the index according to each security's Index Weight, with all constituents purchased at the closing prices on the ex date.

For the Gross Index series, the distribution amount used is the distribution amount as declared by the Listed Issuer, excluding any imputation credits. This methodology for dividend amount has been in place since 1 October 2005. Index users conducting analysis on index returns prior to this date may find it useful to refer to further discussion in Section V Historic Index Notes, under the heading Gross Index Series Return Methodology.

Supplementary Dividends (which are available only to non-resident shareholders) are not included in the index return.

Gross with Imputation Index

The Gross with Imputation Index series uses the same formula as the Gross Index series. Only the Distribution per Share amount is defined differently, so as to include New Zealand tax credits such as imputation credits.

What about the Divisor?

The published calculation formula for the NZX Equity Indices, unlike the formulae for indices of some other index providers, does not explicitly reference a "divisor" or the base value. Rather, the indices are calculated each day directly from the previous day's closing index levels. An

effective divisor is, however, implicit in the calculation, given by dividing the Index Market Capitalisation by the index level.

Limitations of the Calculation Method

An index of investment returns, for any class of investment, will always be an abstraction of the actual underlying investment opportunities. That is, in order to calculate an index, it is necessary to make some simplifying assumptions. Some of the most significant aspects of abstraction in the NZX Equity Indices, common to equity indices from other providers, relate to:

- Tax status of Investor: it is impossible for an index to accommodate every possible tax circumstance. For example: some investors may incur capital gains taxes and others will not; investors based overseas receive/incur different tax benefits/costs to domestic investors; and various investors may have different marginal tax rates. NZX attempts to serve the needs of various classes of investor by providing three data series for each index: the Capital Index, Gross Index and Gross with Imputation Index series. Analysts can use these data series to derive returns relevant to various tax statuses.
- Transaction Costs: in tracking an index it would be necessary to incur transaction costs such as brokerage. These costs, due to their variability between investors, are not practical to accurately incorporate into an index return, so are neglected.
- Dividend Reinvestment Timing: Distributions such as dividends are assumed, for the Gross Index series, to be reinvested across the index at closing prices on the ex date. However, an investor will not receive a dividend until the payment date, which may be some time after the ex date, so would not usually be able to invest the dividend on the ex date. By the time the dividend could be reinvested, the market may have moved down (allowing the investor to reinvest the dividend more cheaply and outperform the index) or up (causing the investor to reinvest the dividend into shares that are more expensive than they were on the ex date, leading to underperformance relative to the index).

D. COMMUNICATION OF INDEX CHANGES

Changes to index constituents, Indexed Shares numbers or index methodology are usually announced via the NZX Index Memo email service, which is available by subscription. Information on subscribing can be requested from data@nzx.com. When index changes are of general market interest, NZX may also make a Market Announcement and/or press release advising of the change.

E. ADMINISTRATION

1. The NZX Equity Indices are administered by NZX, which approves any adjustments to the indices and any changes to the index methodology and procedures. If there is any dispute as to the interpretation of the index methodology and procedures, or any matter relating to the NZX Equity Indices, NZX will resolve such dispute or other matter at its absolute discretion, which is final. In the event of discovery of an error in index data or calculation, NZX may, at its sole discretion, publish revised historic index data to correct the error, depending on the magnitude and recentness of the error.
2. The inclusion or exclusion of NZX Listed Issuers in/from an NZX Equity Index does not, in any way, reflect an opinion on the investment merits of any NZX Listed Issuer.

III. INDICES

A. NZX 50 INDEX

Background

The NZX 50 Index is the headline benchmark index for the New Zealand equity market, widely used by investment professionals, mainstream media, and the general public. It comprises 50 of the largest and most liquid securities traded on the NZSX Market. The NZX 50 Index, when launched in 2003, was designed to increase investability, improve measurability, and better reflect the true performance of the tradeable market, compared to its predecessor headline index, the NZX 40 Index.

The NZX 50 Index is weighted by an innovative “Modified Free Float” methodology. Tailored to suit the intricacies of the New Zealand market, this weighting methodology is intended to enhance the liquidity of the index whilst maintaining diversity, and is explained in detail in the methodology section that follows. Key aspects of the methodology include:

OFFICIAL NAME	NZX 50 Index
INDEX ID	NZ50 (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Modified Free Float Market Capitalisation
CONSTITUENTS	Fifty of the largest and most liquid securities traded on the NZ market
HISTORY	Launched 3 March 2003 from base value 1880.85 (NZX 40 Index closing level on previous day); historic data available back to 29 Dec 2000.
DATA SERIES BROADCAST	Gross Index

- Some of the largest (and hence usually most liquid) constituents, if they have exclusions from Free Float, are allowed an up-weighted Index Weight, higher than Free Float and closer to their full market capitalisation, thus increasing the overall liquidity of the index and reducing index concentration on the largest companies that are fully Free Float.
- The smallest (and hence usually least liquid) constituents are down-weighted to an Index Weight below their Free Float, again improving the overall liquidity of the index.
- The Modified Free Float methodology is applied using impartial mathematical methods, to ensure all index constituents are treated in a fair and transparent manner.

Methodology

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZSX Market.
- ii. Securities of New Zealand Listed Issuers, Dual Listed Issuers and Overseas Listed Issuers are eligible for the index.

b. Classes of Security

All classes of quoted equity are eligible for inclusion, except:

- i. Closed- and open-ended equity funds, for example ETFs (exchange traded funds);
- ii. Convertible securities including convertible notes, warrants and options;
- iii. Securities with restrictions on ownership that prevent a broad range of investors from trading the securities;
- iv. Securities with substantial debt-like characteristics, for example preference shares paying interest at fixed or index-linked rates.

2. Liquidity Requirement

a. Definitions

- i. Median Daily Liquidity (“Liquidity”) is defined as a security’s median daily value traded on the Main Board, over the most recent six months, divided by its average daily NZ Free Float Market Capitalisation over the same period, and usually expressed as a percentage, i.e.:

$$[\text{Median Daily Liquidity}] = \frac{[\text{Median Daily Value Traded (6 month)}]}{[\text{Average Daily NZ Free Float Mkt Cap (6 month)}]}$$

The definition of NZ Free Float Market Capitalisation is discussed in Clause 4 of this methodology, “NZ Free Float Shares and NZ Shares Issued”.

In the event of a significant liquidity-impacting event a security’s liquidity may be assessed over a shorter period, subject to NZX’s satisfaction that liquidity is sufficiently impacted that the security will continue to comply with the Liquidity Requirement beyond any short-term liquidity variation.

- ii. Market Liquidity is defined as the median value of the Liquidity of all those securities eligible for the NZX 50 Index which have Liquidity greater than zero. In practice, to have a Median Daily Liquidity greater than zero, a security must trade, on average, on at least 50% of trading days.

b. Liquidity Requirement for Addition to Index

To be eligible to be added to the NZX 50 Index a security must have a Liquidity of greater than half of Market Liquidity.

A security that has previously been excluded from the NZX 50 Index due to low Liquidity must, in the absence of a significant Liquidity-impacting event, meet this requirement at three consecutive Quarterly Index Reviews before it will be considered for addition to the index.

c. Liquidity Requirement to Remain in Index

A security of a New Zealand Listed Issuer or Overseas Listed Issuer for which Liquidity has fallen such that it is below one-third of Market Liquidity at two consecutive

Quarterly Index Reviews will be deleted from the index. Notwithstanding this, a security which has demonstrated consistent or increasing Liquidity, and is below one-third of Market Liquidity only due to an increase in Market Liquidity, will not be deleted from the index.

3. Price Floor Requirement

Membership in the NZX 50 Index requires a six-month average close price greater than 25c (NZD 0.25). This requirement was introduced in the August 2010 version of this document, with details of implementation noted below.

a. Share Price Requirement for Addition to Index

To be eligible to be added to the NZX 50 Index a security must have a six-month average close price greater than 25c as assessed at the relevant Monthly Index Update or Quarterly Index Review.

A security that has previously been excluded from the NZX 50 Index due to failing this share price requirement must, in the absence of a significant price-impacting event, meet this requirement at two consecutive Quarterly Index Reviews before it will be considered to be added to the index.

b. Share Price Requirement to Remain in Index

For a security in the NZX 50 index, a six-month average close price not greater than 25c for two consecutive Quarterly Index Reviews shall be grounds for removal from the index.

c. Implementation of Price Floor Requirement

Rule 3(a) above shall be assessed for the first time at the September 2011 Quarterly Review, against the price from March 2011 – August 2011; and rule (b) above first assessed at the following December 2011 Quarterly Review, covering prices March – August 2011 and June – November 2011.

4. NZ Free Float Shares and NZ Shares Issued

To rank securities for consideration for the index it is necessary to consider the NZ Free Float Market Capitalisation of each security, which is calculated from the “NZ Free Float Shares”. For some aspects of this index methodology, it is also necessary to consider the Full NZ Market Capitalisation of each security, which is calculated from the “NZ Shares Issued”. The definition of these figures varies depending on the status of the issuer, i.e. whether it is a New Zealand Listed Issuer, Dual Listed Issuer or Overseas Listed Issuer, as explained in the following points.

a. Strategic Holdings

To define the NZ Free Float Shares, it is necessary to identify the Strategic holdings of each security. Strategic holdings are those that are excluded from the NZ Free Float Shares and hence NZ Free Float Market Capitalisation.

- i. Blocks of shares greater than 20% of total Shares Issued, held by a single entity or group of related entities, are automatically classed as Strategic;

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- ii. Blocks of shares less than 5% of total Shares Issued, held by a single entity or group of related entities, are generally classed as non-Strategic;
 - iii. Blocks of shares between 5% and 20% of total Shares Issued, held by a single entity or group of related entities, will be considered case by case and will be classed as Strategic if NZX considers them to be held for strategic reasons;
 - iv. Holdings usually considered Strategic include: holdings for the purpose of control, including cross holdings by another company or related industry entity; government holdings; escrowed holdings, for the duration of any lock-in clause.
 - v. Holdings usually considered non-Strategic include: shares held by institutional investors solely for the purpose of an investment; nominee holdings;
 - vi. Holdings are monitored by review of Substantial Security Holder Notices, released pursuant to the Securities Markets Act 1988.

b. New Zealand Listed Issuers

- i. NZ Shares Issued is the number of Shares Issued.
- ii. NZ Free Float Shares is Shares Issued minus any Strategic holdings.

c. Dual Listed Issuers

- i. NZ Shares Issued is the number of Shares Issued multiplied by the proportion of the Issuer's revenue generated in New Zealand.
- ii. NZ Free Float Shares is the total number of Shares Issued, minus any Strategic holdings, and then multiplied by the proportion of the Issuer's revenue generated in New Zealand.
- iii. For a Dual Listed Issuer to be eligible for this revenue-based calculation, reliable revenue segmentation information must be publicly available, for example in the Issuer's audited financial statements, annual report or prospectus. After initial index inclusion, weighting on the basis of revenue generated in New Zealand is adjusted each year after the release of the Issuer's annual results.
- iv. Where a new Dual Listed Issuer is large enough to qualify for the NZX 50 Index based on NZ Free Float Shares, as calculated from the proportion of revenue generated in New Zealand, trading volumes on the Main Board may be insufficient to meet the Liquidity Requirement for index inclusion of all NZ Free Float Shares. In this circumstance, for new Dual Listed Issuers, the NZ Free Float Shares and NZ Shares Issued will be scaled down, for example by a factor of 0.50 or 0.25, to a level that is supported by the Main Board liquidity.

d. Overseas Listed Issuers

- i. NZ Shares Issued is the number of shares on the New Zealand register.
- ii. NZ Free Float Shares is the number of shares on the New Zealand register minus any Strategic holdings that are on the New Zealand register.

- iii. To calculate the number of shares on the New Zealand register, the Shares Issued is multiplied by the average of the percentage of shares held on the New Zealand register as at the three most recent month ends. For a security that is newly listed or has recently had a significant further issue, an average of less than three months' data may be used.

5. Weighting in Index: Modified Free Float Methodology

a. **Modified Free Float**

The weight at which a security is included in the index is known as the “Modified” Free Float Market Capitalisation. The way in which this is calculated varies depending on where the NZ Free Float Market Capitalisation sits relative to three thresholds: the Upper Threshold, Middle Threshold and Lower Threshold. The thresholds are subject to revision over time, as required to best suit market conditions.

For the purpose of calculating Modified Free Float Market Capitalisation, the NZ Free Float Market Capitalisation is calculated by multiplying the average adjusted daily closing price, for the six months to the most recent month end, by the latest available number of NZ Free Float Shares, i.e.:

For the purpose of calculating Modified Free Float:

$$[\text{NZ Free Float Mkt Cap}] = [\text{NZ Free Float Shares (latest)}] \times [\text{Avg Daily Adj Closing Price (6 months)}]$$

The table below lists the three thresholds and provides a brief explanation of index treatment within each capitalisation band; further discussion is provided in the following notes.

NZ FREE FLOAT MARKET CAPITALISATION	INDEX TREATMENT WITH “MODIFIED” FREE FLOAT METHODOLOGY
NZ Free Float Market Cap above Upper Threshold	<ul style="list-style-type: none"> ▪ Security included in index at Full NZ Market Cap.
UPPER THRESHOLD: NZ FREE FLOAT MARKET CAP = \$1.2 BILLION	
NZ Free Float Market Cap between Middle and Upper Thresholds	<ul style="list-style-type: none"> ▪ If there are Strategic holdings excluded from Free Float Market Cap, the security will be partially up-weighted from NZ Free Float Market Cap towards its Full NZ Market Cap. ▪ A security only just above the Middle Threshold will receive only a small amount of up-weighting; a security close to the Upper Threshold will be up-weighted almost completely to its Full NZ Market Cap. ▪ If there are no Strategic holdings, it is not possible to up-weight, as the security will already be at Full NZ Market Cap.
MIDDLE THRESHOLD: NZ FREE FLOAT MARKET CAP = \$600 MILLION	
NZ Free Float Market Cap between Lower and Middle Thresholds	<ul style="list-style-type: none"> ▪ Security included in index at NZ Free Float Market Cap.
LOWER THRESHOLD: NZ FREE FLOAT MARKET CAP = \$200 MILLION	

NZ FREE FLOAT MARKET CAPITALISATION	INDEX TREATMENT WITH “MODIFIED” FREE FLOAT METHODOLOGY
NZ Free Float Market Cap below Lower Threshold	<ul style="list-style-type: none"> ▪ Security down-weighted from NZ Free Float Market Cap. ▪ The further the NZ Free Float Market Cap is below the Lower Threshold, the greater the degree of down-weighting.

b. Above Upper Threshold

The security will be included in index at Full NZ Market Capitalisation, provided the security is liquid enough support inclusion at such weight, i.e.:

$$[\text{Modified Free Float Shares}] = [\text{NZ Shares Issued}]$$

c. Between Middle and Upper Thresholds

Up-weighting is applied on a sliding scale according to the formula below, provided the security is sufficiently liquid to support such up-weighting. The effect of the formula is that a security only just above the Middle Threshold will receive only a small amount of up-weighting; a security close to the Upper Threshold will be up-weighted almost completely to its Full NZ Market Capitalisation:

$$[\text{Modified Free Float Shares}] = [\text{NZ FF Shares}] + \left(([\text{NZ Shares Issued}] - [\text{NZ FF Shares}]) \times \frac{([\text{NZ FF Mkt Cap}] - [\text{Middle Threshold}])}{([\text{Upper Threshold}] - [\text{Middle Threshold}])} \right)$$

d. Between Lower and Middle Thresholds

The security will be included in the index at NZ Free Float Market Capitalisation, i.e.:

$$[\text{Modified Free Float Shares}] = [\text{NZ Free Float Shares}]$$

e. Below Lower Threshold

Down-weighting is applied on a sliding scale according to the formula:

$$[\text{Modified Free Float Shares}] = [\text{NZ FF Shares}] \times \frac{(\text{NZ FF Mkt Cap})}{(\text{Lower Threshold})}$$

f. Dual Listed and Overseas Listed Issuers capped at 5.0%

The Index Weight of an Overseas Listed Issuer or Dual Listed Issuer is capped at 5.0% of the index. This cap will be set on initial index inclusion, and then re-set each Quarterly Index Review, using the most recent available prices and expected new Indexed Shares for each constituent. Between Quarterly Index Reviews Index Weight of capped securities may fluctuate above or below 5.0%.

6. Quarterly Index Review

a. Timetable

- i. A Quarterly Index Review is conducted in March, June, September and December each year. Indices are rebalanced after market close on the third Friday of each month, with resulting index changes effective on the next business day.

-
- ii. A Quarterly Index Review Update Announcement is released seven trading days before the effective date, i.e. usually the Wednesday before the second Friday of the month. This announcement will give changes in index composition and list Indexed Shares numbers for all constituents, revised to reflect all changes to NZ Free Float Shares for example due to Substantial Security Holder or Allotment Notices.

b. Ranking

- i. All securities in the eligible pool are ranked by a six-month average of NZ Free Float Market Capitalisation, calculated by multiplying the adjusted average daily closing price, for the six months to the most recent month end, by the latest available number of NZ Free Float Shares, i.e.:

For purpose of Ranking NZX 50 Index candidates:

$$[\text{NZ Free Float Mkt Cap}] = [\text{NZ Free Float Shares (latest)}] \times [\text{Avg Daily Adj Closing Price (6 months)}]$$

- ii. A non-constituent security that ranks better than 45th (i.e. 44th or better) of the eligible pool, after excluding from the ranking any securities that fail the Liquidity Requirement, will be added to the index. The worst ranking constituent will be deleted.
- iii. A constituent security that ranks worse than 55th (i.e. 56th or worse) of the eligible pool, after excluding from the ranking any securities that fail the Liquidity Requirement, will be deleted from the index. The best ranking non-constituent will be added.

c. Setting Indexed Shares

For the Quarterly Index Review Announcement, Indexed Shares for all constituents are set using the most recently available NZ Free Float Shares data and applying the Modified Free Float Methodology detailed in Clause 4 Weighting in Index: Modified Free Float Methodology.

7. Monthly Index Update

a. Timetable

- i. A Monthly Index Update is conducted in each month for which there is no Quarterly Index Review. Indices are rebalanced after market close on the third Friday of each month, with resulting index changes effective on the next business day.
- ii. A Monthly Index Review Update Announcement is released five trading days before the effective date, i.e. usually the second Friday of the month. This announcement will give changes in Index composition and list any changes in Indexed Shares numbers, as per the next section.

b. Setting Indexed Shares

- i. At Monthly Index Updates each index constituent security is reviewed for Substantial Security Holder Notices or Allotment Notices that would result in a cumulative change to NZ Free Float Shares of more than 5.0% since the last Quarterly Index Review. For any such security, a new Indexed Shares number is calculated according to the Modified Free Float Methodology.
- ii. For securities that, as at the date of Monthly Index Update Announcement, have had a cumulative change to NZ Free Float Shares of less than 5.0% since the last Quarterly Index Review, no change will be made to indexed shares until the next Quarterly Index Review.

c. Additions and Deletions

- i. Neither additions to nor deletions from the index are routinely made at a Monthly Index Update.
- ii. However if, subsequent to a significant corporate event, a non-constituent ranks better than 25th (i.e. 24th or better) as at the date of the Monthly Index Update Announcement, that security will be added to the index, provided that at least 20 trading days' data will be available by the time of the Monthly Index Update Announcement. The worst ranking constituent will be deleted. The method for ranking securities is the same as per at a Quarterly Index Review.
- iii. Similarly, if, subsequent to a significant corporate event, a constituent ranks worse than 65th (i.e. 66th or worse) as at the date of the Monthly Index Update Announcement, that constituent will be deleted from the index. The highest ranking non-constituent, which is eligible for addition, will be added to the index. The method for ranking securities is the same as per at a Quarterly Index Review.
- iv. Significant corporate events might include new listings, significant takeover offer acceptances, major secondary offerings, or changes to Listed Issuer status.

8. Corporate Events

a. New Listings

- i. A new Listed Issuer that ranks better than 25th (i.e. 24th or better) will be eligible to be considered for "fast-track" inclusion in the index, i.e. addition at the first Monthly Index Update after listing, provided that at least 20 trading days' data will be available by the time of the Monthly Index Update Announcement. The worst ranking constituent will be deleted. The method for ranking securities is the same as per at a Quarterly Index Review.
- ii. A new Listed Issuer that does not rank better than 25th will be eligible to be considered for addition to the index at the next Quarterly Index Review, provided that at least 20 trading days' data are available by the time of the Quarterly Index Review Update Announcement.. The worst ranking constituent will be deleted.

b. Takeover Offers

- i. In the event of a successful takeover offer for 100% of a security, that security will be deleted from the index five trading days after the date the Offeror announces that it is entitled to and will proceed with compulsory acquisition, for example by releasing a Notice of Dominant Ownership. At the time of announcement of the change to the index, securities in the eligible pool will be re-ranked as per at a Quarterly Index Review, and the best ranking non-constituent security will be selected for addition to the index.
- ii. Where a takeover offer proceeds at less than 100% acceptance, the issuer will maintain its place in the index, unless it is removed pursuant to a Monthly Index Update or Quarterly Index Review. Indexed Shares will be adjusted according to the methodology outlined for Monthly Index Updates and Quarterly Index Reviews, subject to those takeover offer acceptances received having become unconditional. Indexed Shares will not be adjusted while the takeover offer remains conditional.

c. Delistings

- i. Where a company has announced publicly via the NZX Market Announcement Platform its intention to delist its securities, and NZX has approved the delisting, the affected securities will be removed from the index.
- ii. NZX will announce the last day for which the security is included in the index. Provided that the timing of the announcement and delisting dates allows it, the security will be removed from the index five trading days prior to delisting date.

d. Tranched Index Changes

If NZX is concerned about the ability of index users to obtain or exit from a security that is to be added to the index, deleted from the index, or subject to a significant change in Index Weight, for example due to a corporate event, NZX may, at its sole discretion, split the index change over more than one tranche.

B. NZX 50 PORTFOLIO INDEX

Background

The NZX 50 Portfolio Index is a replica of the NZX 50 Index, except with a cap on the weight of large securities of 5.0% each. Once a security has been capped, its actual Index Weight is allowed to fluctuate between 2.5% and 7.0%, as the price of that security (and of other securities in the index) moves. The capped methodology is designed to provide an index that will give a better measure of the returns of what investors, particularly retail investors, might hold in a diversified portfolio. The NZX 50 Portfolio Index was launched in 2003 alongside the new headline NZX 50 Index.

Methodology

1. Eligible Pool: Derived from NZX 50 Index

The NZX 50 Portfolio Index comprises the same constituents as the NZX 50 Index. Except where specifically described in this document, the methodology of the NZX 50 Portfolio Index replicates that for NZX 50 Index.

2. Weighting in Index: Modified Free Float Methodology with 5.0% Cap

a. Modified Free Float

Indexed Shares for constituents of the NZX 50 Portfolio Index are calculated by the Modified Free Float Methodology as described for the NZX 50 Index, i.e. Indexed Shares for a security in the NZX 50 Portfolio Index are the same as its Indexed Shares in the NZX 50 Index (the "Modified Free Float Shares"), except where this will result in a security breaching the requirements of the 5.0% cap.

b. Data used for Calculating Indexed Shares of Capped Securities

In assessing if it is necessary to adjust the cap on a security, and to set the correct Indexed Shares for capped securities, the Index Weight of all constituent securities will be calculated using latest available prices and projected new Indexed Shares.

c. Applying Cap

When a security is to be capped or re-capped, its Indexed Shares will be set to the number that will result in an Index Weight of 5.0%, with Indexed Shares rounded to the nearest whole number. If more than one security is to be newly capped or re-capped at the same time, the Indexed Shares for both (or all) such securities will be set at the same time, so that both (or all) such securities will be set at 5.0% Index Weight.

3. Quarterly Index Review

a. Timetable and Ranking

The timetable for Quarterly Index Review and ranking of candidate securities for addition to or deletion from the index is the same as for the NZX 50 Index.

OFFICIAL NAME	NZX 50 Portfolio Index
INDEX ID	NC50 (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Modified Free Float Market Capitalisation, 5.0% Cap
CONSTITUENTS	Fifty of the largest and most liquid securities traded on the NZ market
HISTORY	Launched 3 March 2003 from base value 1000; historic data available back to 29 Dec 2000.
DATA SERIES BROADCAST	Gross Index and Capital Index

b. Setting Indexed Shares with 5.0% Cap

- i. For a security that is already capped:
 - No adjustment will be made to Indexed Shares, unless:
 - The capped security's Index Weight would be greater than 7.0% or less than 2.5%, or
 - The capped security's Indexed Shares would be greater than the NZX 50 Indexed Shares. For example, this could occur if there has been a reduction in the NZX 50 Indexed Shares. In this case Indexed Shares will be set to NZX 50 Indexed Shares, and the security will no longer be capped, unless this would result in the security having an Index Weight greater than 7.0%.
 - A capped security that would have an Index Weight greater than 7.0% will have its Indexed Shares set such that its Index Weight will be 5.0%.
 - A capped security that would have an Index Weight below 2.5% of the index will have its Indexed Shares increased such that its Index Weight will be 5.0%, unless this Indexed Shares is greater than the NZX 50 Indexed Shares, in which case Indexed Shares will be set to NZX 50 Indexed Shares, and the security will no longer be capped.
- ii. For a security that is already in the index but not capped:
 - Indexed Shares will be the same as NZX 50 Indexed Shares, unless the security's Index Weight would be greater than 7.0%.
 - A security that would have an Index Weight greater than 7.0% will have its Indexed Shares set such that its Index Weight will be 5.0%.
- iii. For a new security entering the index:
 - Indexed Shares will be the same as NZX 50 Indexed Shares, unless the security's Index Weight would be greater than 5.0%.
 - A security that would have an Index Weight greater than 5.0% will have its Indexed Shares set such that its Index Weight will be 5.0%.

4. Monthly Index Update

a. Timetable, Additions and Deletions

The timetable for Monthly Index Updates and selection of securities for addition to or deletion from the index is the same as for the NZX 50 Index.

b. Setting Indexed Shares with 5.0% Cap

- i. As for the NZX 50 Index, each constituent security is reviewed for Substantial Security Holder Notices or Allotment Notices that would result in a cumulative

change to NZ Free Float Shares of more than 5.0% since the last Quarterly Index Review.

- ii. For a security that is already capped, and has had a cumulative change to NZ Free Float Shares of more than 5.0%:
 - No change will be made to Indexed Shares, unless the security's Indexed Shares would be greater than the NZX 50 Indexed Shares. For example, this could occur if there has been a reduction in the NZX 50 Indexed Shares due to a buyback. In this case Indexed Shares will be reduced to NZX 50 Indexed Shares, and the security will no longer be capped.
- iii. For a security that is already in the index but not capped, and has had a cumulative change to NZ Free Float Shares of more than 5.0%:
 - The new Indexed Shares number will be the same as the new NZX 50 Indexed Shares number, unless the security's Index Weight would be greater than 7.0%.
 - If the security's Index Weight were going to exceed 7.0%:
 - If the security's Index Weight would already exceed 5.0% at its old Indexed Shares, no increase will be applied to Indexed Shares, and the security will become a capped security.
 - If the security's Index Weight is below 5.0%, Indexed Shares will be set such that the security's Index Weight will be 5.0%, and security will become a capped security.
- iv. A new security entering the index at a Monthly Index Update will be subject to the 5.0% cap in the same way as described for a new security entering the index at a Quarterly Index Review.
- v. Except as outlined as above, or in exceptional circumstances, the Indexed Shares of a capped security are not normally adjusted, nor will previously non-capped securities become subject to capping, at a Monthly Index Update.

5. Corporate Events

Index implications of corporate events are the same as for the NZX 50 Index, except that a new security entering the index outside a Quarterly Index Review, or Monthly Index Update (for example due to another security being deleted from the index subsequent to a corporate event) will be subject to the 5.0% cap in the same way as described for a new security entering the index at a Quarterly Index Review.

C. NZX 10 INDEX

Background

The NZX 10 Index provides a measure of the performance of 10 of New Zealand's largest blue chip market-leading Listed Issuers. The NZX 10 Index is a "country" index – securities of non-New Zealand companies are not eligible for inclusion.

The NZX 10 Index was launched in 1989, making it one of the New Zealand market's longest serving equity indices.

Methodology

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZX Main Board.
- ii. Only securities of New Zealand Listed Issuers are eligible for the index. Securities of Dual Listed Issuers and Overseas Listed Issuers are not eligible.

b. Index Membership

Securities must be a constituent of the NZX 50 Index, or to be added to the NZX 50 Index concurrent with their addition to the NZX 10 Index.

2. Weighting in Index: Modified Free Float Methodology

Indexed Shares for constituents of the NZX 10 Index are calculated by the Modified Free Float Methodology as described for the NZX 50 Index, i.e. Indexed Shares for a security in the NZX 10 Index are the same as its Indexed Shares in the NZX 50 Index (the "Modified Free Float Shares").

3. Quarterly Index Review

a. Timetable

The timetable for Quarterly Index Review is the same as for the NZX 50 Index.

b. Ranking

- i. Securities in the eligible pool (i.e. all the securities of New Zealand Listed Issuers in the NZX 50 Index, so excluding those of Dual Listed or Overseas Listed Issuers) are ranked by a six-month average of Modified Free Float Market Capitalisation, calculated by multiplying the adjusted average daily closing price, for the six months to the most recent month end, by the new Indexed Shares number which is to be applied to the NZX 50 Index at the Quarterly Index Review, i.e.:

OFFICIAL NAME	NZX 10 Index
INDEX ID	T10 (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Modified Free Float Market Capitalisation
CONSTITUENTS	Ten of the largest New Zealand Listed Issuers
HISTORY	Launched late 1989; historic data available back to base value of 1000 on 30 June 1988
DATA SERIES BROADCAST	Gross Index and Capital Index

For purpose of Ranking NZX 10 Index candidates:

$$\frac{[\text{Avg Modified Free Float Mkt Cap}]}{[\text{New NZX 50 Indexed Shares}] \times [\text{Avg Daily Adj Closing Price (6 months)}]}$$

- ii. A non-constituent security that ranks better than 8th (i.e. 7th or better) of the eligible pool will be added to the index. The worst ranking constituent will be deleted.
- iii. A security that ranks worse than 13th (i.e. 14th or worse) of the eligible pool will be deleted from the index. The best ranking non-constituent will be added.

c. Setting Indexed Shares

Indexed Shares will be the same as for the NZX 50 Index.

4. Monthly Index Update

a. Timetable and Setting Indexed Shares

The timetable for Monthly Index Updates, and method of setting Indexed Shares, is the same as for the NZX 50 Index.

b. Additions and Deletions

- i. Neither additions to nor deletions from the index are routinely made at a Monthly Index Update.
- ii. However if, subsequent to a significant corporate event, a non-constituent ranks better than 8th (i.e. 7th or better) as at the date of the Monthly Index Update Announcement, that security will be added to the index, provided that at least 20 trading days' data will be available by the time of the Monthly Index Update Announcement. The worst ranking constituent will be deleted. The worst ranking constituent will be deleted. The method for ranking securities is the same as per at a Quarterly Index Review.
- iii. Similarly, if, subsequent to a significant corporate event, a constituent ranks worse than 20th (i.e. 21st or worse) as at the date of the Monthly Index Update Announcement, that constituent will be deleted from the index. The highest ranking non-constituent, which is eligible for addition, will be added to the index. The method for ranking securities is the same as per at a Quarterly Index Review.
- iv. Significant corporate events might include new listings, significant takeover offer acceptances, major secondary offerings, or changes to Listed Issuer status.

5. Corporate Events

Index implications of corporate events are generally the same as for the NZX 50 Index. A new security entering the NZX 50 Index outside a Quarterly Index Review will be added also to the NZX 10 Index if it ranks above 8th according to the NZX 10 Index ranking method described in the Quarterly Index Review section. The worst ranking constituent will be deleted.

D. NZX MIDCAP INDEX

Background

The NZX MidCap Index highlights the performance of the New Zealand market's solid core of medium sized Listed Issuers. It comprises the securities of the NZX 50 Index, excluding those included in the NZX 10 Index and excluding non-New Zealand companies.

Methodology

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZX Main Board.
- ii. Only securities of New Zealand Listed Issuers are eligible for the index. Securities of Dual Listed Issuers and Overseas Listed Issuers are not eligible.

b. Index Membership

Securities must be a constituent of the NZX 50 Index, or to be added to the NZX 50 Index concurrent with their addition to the NZX MidCap Index. Securities must not be in the NZX 10 Index.

2. Weighting in Index: Modified Free Float Methodology

Indexed Shares for constituents of the NZX MidCap Index are calculated by the Modified Free Float Methodology as described for the NZX 50 Index, i.e. Indexed Shares for a security in the NZX MidCap Index are the same as its Indexed Shares in the NZX 50 Index (the "Modified Free Float Shares").

3. Quarterly Index Review

a. Timetable

The timetable for Quarterly Index Review is the same as for the NZX 50 Index.

b. Ranking

All securities in the eligible pool are included in the index. That is, the index comprises all securities of New Zealand Listed Issuers (so excluding those of Dual Listed or Overseas Listed Issuers) in the NZX 50 Index, except the securities in the NZX 10 Index.

c. Setting Indexed Shares

Indexed Shares will be the same as for the NZX 50 Index.

OFFICIAL NAME	NZX MidCap Index
INDEX ID	SEMC (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Modified Free Float Market Cap
CONSTITUENTS	Medium-sized New Zealand Listed Issuers
HISTORY	Launched 7 April 1997; historic data available back to 28 Feb 1997
DATA SERIES BROADCAST	Gross Index and Capital Index

4. **Monthly Index Update**

a. **Timetable and Setting Indexed Shares**

The timetable for Monthly Index Updates, and method of setting Indexed Shares, is the same as for the NZX 50 Index.

b. **Additions and Deletions**

If, subsequent to a significant corporate event, there is an addition to or deletion from the NZX 50 Index or NZX 10 Index at a Monthly Index Update, securities will be added or deleted from the NZX MidCap Index as necessary to ensure that the NZX MidCap Index continues to comprise the securities of New Zealand Listed Issuers in the NZX 50 Index excluding those in the NZX 10 Index.

5. **Corporate Events**

Index implications of corporate events are generally the same as for the NZX 50 Index. A new security entering the NZX 50 Index outside a Quarterly Index Review will be added also to the NZX MidCap Index if it is a security of a New Zealand Listed Issuer (i.e. not a security of a Dual Listed or Overseas Listed Issuer) and is not being added to the NZX 10 Index. A security being deleted from the NZX 50 Index outside of a Quarterly Index Review will be deleted from the NZX MidCap Index also. Existing NZX 50 Index constituents being added to or deleted from the NZX 10 Index outside a Quarterly Index Review will be deleted from or added to the NZX MidCap Index correspondingly.

E. NZX 15 INDEX

Background

The NZX 15 Index is the New Zealand market's "derivative" index, designed to support derivative products. It comprises 15 of the largest and most liquid securities of New Zealand Listed Issuers. It is weighted by Free Float Market Capitalisation, with a cap of 30% on the weight of any one security.

The methodology has been optimised to best support derivative products. Index turnover is less than for NZX's other equity indices, with longer periods between updates, to minimise hedging costs. The stringent liquidity criteria ensure the index comprises only the most traded securities, allowing more efficient execution of trading strategies.

OFFICIAL NAME	NZX 15 Index
INDEX ID	ZXV (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Free Float Market Capitalisation, 30% Cap
CONSTITUENTS	Fifteen of the largest and most liquid New Zealand Listed Issuers
HISTORY	Launched 9 Feb 2004; historic data available back to base of 3000 on 1 Oct 2001
DATA SERIES BROADCAST	Gross Index and Capital Index

Methodology

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZX Main Board.
- ii. Securities of only New Zealand Listed Issuers are eligible for the index. Securities of Dual Listed Issuers and Overseas Listed Issuers are not eligible.

b. Classes of Security

All classes of quoted equity are eligible for inclusion, except:

- i. Closed- and open-ended equity funds, for example ETFs (exchange traded funds);
- ii. Convertible securities including convertible notes, warrants, and options;
- iii. Securities with restrictions on ownership that prevent a broad range of investors from trading the securities;
- iv. Securities with substantial debt-like characteristics, for example preference shares paying interest at fixed or index-linked rates.

2. Liquidity Requirement

Securities in the Eligible Pool are ranked by median daily value traded over the most recent six months, expressed in dollars. The top 25 securities by this ranking meet the Liquidity Requirement for addition to the index. The top 30 securities by this ranking meet the Liquidity Requirement for maintaining a place in the index, if they are already a constituent of the index.

3. **Weighting in Index: Free Float with 30% Cap**

a. **Free Float**

Constituents are weighted in the index at NZ Free Float Market Capitalisation, subject to a cap of 30% on the weight of any one constituent. Indexed Shares are based on the NZ Free Float Shares, as is defined in the NZX 50 Index Methodology. For the avoidance of doubt, this index does not use the Modified Free Float Methodology used for weighting securities in the NZX 50 Index (i.e. there is no up-weighting or down-weighting).

b. **Strategic Holdings**

Strategic holdings are defined in the same way as for the NZX 50 Index.

c. **Data used for Calculating Indexed Shares of Capped Securities**

In assessing if it is necessary to cap a security, and to set the correct Indexed Shares for capped securities, the Index Weight of all constituent securities will be calculated using latest available prices and projected new Indexed Shares.

d. **Applying Cap**

When a security is to be capped its Indexed Shares will be set to the number that will result in an Index Weight of 30%, with Indexed Shares rounded to the nearest whole number. When more than one security is to be capped at the same time, the Indexed Shares for all such securities will be set at the same time, so that all such securities will be set at 30% Index Weight.

2. **Quarterly Index Review**

a. **Timetable**

- i. The timetable for Quarterly Index Reviews is the same as for the NZX 50 Index, that is, a Quarterly Index Review is conducted in March, June, September and December each year. Indices are rebalanced after market close on the third Friday of each month, with changes effective at market open the next business day.
- ii. A Quarterly Index Review Update Announcement is released seven trading days before the effective date, i.e. usually the Wednesday before the second Friday of the month. This announcement will give changes in index composition and list Indexed Shares numbers for all constituents, revised to reflect all changes to NZ Free Float Shares, for example, due to Substantial Security Holder or Allotment Notices.

b. **Ranking**

- i. All securities in the eligible pool, that meet the Liquidity Requirement are ranked by a six-month average of NZ Free Float Market Capitalisation, calculated by multiplying the adjusted average daily closing price, for the six months to the most recent month end, by the latest available number of NZ Free Float Shares, i.e.:

For purpose of Ranking NZX 15 Index candidates:

$$[\text{NZ Free Float Mkt Cap}] = [\text{NZ Free Float Shares (latest)}] \times [\text{Avg Daily Adj Closing Price (6 months)}]$$

- ii. A non-constituent security that ranks better than 14th (i.e. 13th or better) will be added to the index. The worst ranking constituent will be deleted.
- iii. A constituent security that ranks worse than 17th (i.e. 18th or worse) will be deleted from the index.
- iv. Any constituent that fails to meet the Liquidity Requirement for maintaining a place in the index will be deleted. The best ranking non-constituent will be added.

c. Setting Indexed Shares with 30% Cap

At the Quarterly Index Review, the indexed shares number for each security will initially be set to the current number of NZ Free Float Shares. The constituents are then assessed to identify those that will need capping, and Indexed Shares are adjusted such that all capped securities have a weight of 30%, and there are no constituents with an Index Weight above 30%.

3. Monthly Index Update

There are no Monthly Index Updates for this index. Changes to NZ Free Float Shares due to Substantial Security Holder Notices or Allotment Notices will not be recognised until a Quarterly Index Review.

4. Corporate Events

a. New Listings

A new Listed Issuer will be eligible to be considered for addition to the NZX 15 Index at the next Quarterly Index Review, provided that at least 20 trading days' data will be available by the time of the Quarterly Index Review Update Announcement.

b. Takeover Offers

In the event of a successful takeover offer for 100% of a security, that security will be deleted from the index five trading days after the date the Offeror announces that it is entitled to, and will proceed with, compulsory acquisition, for example by releasing a Notice of Dominant Ownership. At the time of announcement of the change to the index, securities in the eligible pool will be re-ranked as per at a Quarterly Index Review, and the best ranking non-constituent security will be selected for addition to the index.

c. Delistings

- i. Where a company has announced publicly via the NZX Market Announcement Platform its intention to delist its securities, and NZX has approved the delisting, the affected securities will be removed from the index
- ii. NZX will announce the last day for which the security is included in the index. Provided that the timing of the announcement and delisting dates allows it, the security will be removed from the index five trading days prior to delisting date.

F. NZX ALL INDEX

Background

The NZX All Index is a broad market index. It comprises all securities quoted on the NZX Main Board of New Zealand Listed Issuers that are of a class eligible for indexation. It is weighted by Free Float Market Capitalisation.

METHODOLOGY

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZX Main Board.
- ii. Only securities of New Zealand Listed Issuers are eligible for the index. Securities of Dual Listed Issuers and Overseas Listed Issuers are not eligible.

b. Classes of Security

All classes of quoted equity are eligible for inclusion, except:

- i. Closed- and open-ended equity funds, for example ETFs (exchange traded funds);
- ii. Convertible securities including convertible notes, warrants and options;
- iii. Securities with restrictions on ownership that prevent a broad range of investors from trading the securities;
- iv. Securities with substantial debt-like characteristics, for example preference shares paying interest at fixed or index-linked rates.

2. Weighting in Index: Free Float

a. Free Float

Constituents are weighted in the index at NZ Free Float Market Capitalisation; Indexed Shares are based on the NZ Free Float Shares, as is defined in the NZX 50 Index Methodology. For the avoidance of doubt, this index does not use the Modified Free Float Methodology used for weighting securities in the NZX 50 Index (i.e. there is no up-weighting or down-weighting).

b. Strategic Holdings

Strategic holdings are defined in the same way as for the NZX 50 Index.

OFFICIAL NAME	NZX All Index
INDEX ID	ALL (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Free Float Market Capitalisation
CONSTITUENTS	New Zealand Listed Issuers with equity securities quoted on the NZSX Market
HISTORY	Launched start of 1987; historic data available back to base value of 1000 on 30 June 1986
DATA SERIES BROADCAST	Gross Index and Capital Index

3. Quarterly Index Review

a. Timetable

- i. The timetable for Quarterly Index Review is the same as for the NZX 50 Index, that is, a Quarterly Index Review is conducted in March, June, September and December each year. Indices are rebalanced after market close on the third Friday of each month, with changes effective at market open the next business day.
- ii. A Quarterly Index Review Update Announcement is released seven trading days before the effective date, i.e. usually the Wednesday before the second Friday of the month. This announcement will give changes in Index composition and list Indexed Shares numbers for all constituents, revised to reflect all changes to NZ Free Float Shares, for example, due to Substantial Security Holder or Allotment Notices

b. Ranking

There is no market capitalisation requirement for the NZX All Index. All securities in the eligible pool are included in the index.

c. Setting Indexed Shares

Indexed Shares will be set to the number of NZ Free Float Shares.

4. Monthly Index Update

a. Timetable

- i. The timetable for Monthly Index Updates is the same as for the NZX 50 Index. That is, a Monthly Index Update is conducted in each month for which there is no Quarterly Index Review. Indices are rebalanced after market close on the third Friday of each month, with changes effective the next business day.
- ii. A Monthly Index Review Update Announcement is released five trading days before the effective date, i.e. usually the second Friday of the month. This announcement will give changes in index composition and list any changes in Indexed Shares numbers, as per the next section.

b. Setting Indexed Shares

- i. At Monthly Index Updates each index constituent security is reviewed for Substantial Security Holder Notices or Allotment Notices that would result in a cumulative change to NZ Free Float Shares of more than 5.0% since the last Quarterly Index Review. For any such security, Indexed Shares will be updated to the latest NZ Free Float Shares.
- ii. For securities that, as at the date of Monthly Index Update Announcement, have had a cumulative change to NZ Free Float Shares of less than 5.0% since the last Quarterly Index Review, no change will be made to indexed shares until the next Quarterly Index Review.

c. Additions and Deletions

New securities that are eligible for the index may be added at a Monthly Index Update, as is described in the corporate events section below.

5. Corporate Events

a. New Listings

New securities that are eligible for the index will be added at the first Monthly Index Update or Quarterly Index Review after listing, provided the security has commenced trading prior to the Monthly Index Update Announcement or Quarterly Index Review Update Announcement.

b. Takeover Offers

- i. In the event of a successful takeover offer for 100% of a security, that security will be deleted from the index five trading days after the date the Offeror announces that it is entitled to, and will proceed with, compulsory acquisition, for example by releasing a Notice of Dominant Ownership.
- ii. Where a takeover offer proceeds at less than 100% acceptance, the issuer will maintain its place in the index. The indexed shares will be adjusted according to the methodology outlined for Monthly Index Updates and Quarterly Index Reviews, subject to those takeover offer acceptances received having become unconditional. Indexed Shares will not be adjusted while the takeover offer remains conditional.

c. Delistings

- i. Where a company has announced publicly via the NZX Market Announcement Platform its intention to delist its securities, and NZX has approved the delisting, the affected securities will be removed from the index.
- ii. NZX will announce the last day for which the security is included in the index. Provided that the timing of the announcement and delisting dates allows it, the security will be removed from the index five trading days prior to delisting date.

G. NZX SMALLCAP INDEX

Background

The NZX SmallCap Index comprises securities of smaller New Zealand companies listed on the NZX Main Board. Its selection methodology is based on inclusion of securities excluded from the NZX 50 Index.

The NZX SmallCap Index is a useful measure of small-cap performance.

Methodology

1. Eligible Pool: Derived from NZX All Index

The NZX SmallCap Index comprises a subset of the securities in the NZX All Index

2. Weighting in Index: Free Float

Constituents are weighted by Free Float Market Capitalisation, that is, Indexed Shares numbers are based on the NZ Free Float Shares, as is defined in the NZX All Index Methodology.

3. Quarterly Index Review

a. Timetable

The timetable for Quarterly Index Review is the same as for the NZX All Index.

b. Ranking

All securities in the eligible pool are included in the index, except those that are large enough to be included in the NZX 50 Index. That is, the index comprises all securities of New Zealand Listed Issuers (so excluding those of Dual Listed or Overseas Listed Issuers) of an eligible class, quoted on the NZX Main Board, except those large enough to be in the NZX 50 Index. It is possible for a security in the NZX All Index to be included in neither the NZX 50 Index nor the NZX SmallCap Index, if its NZ Free Float Market Capitalisation is so large so as to put it out of context compared to other companies in the NZX SmallCap Index, but it fails the NZX 50 Index Liquidity Requirement.

c. Setting Indexed Shares

Indexed Shares will be the same as for the NZX All Index, i.e. Indexed Shares will be set to the NZ Free Float Shares.

4. Monthly Index Update

a. Timetable and Setting Indexed Shares

The timetable for Monthly Index Updates, and method of setting Indexed Shares, is the same as for the NZX All Index.

OFFICIAL NAME	NZX SmallCap Index
INDEX ID	SCI (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Free Float Market Capitalisation
CONSTITUENTS	New Zealand Listed Issuers excluding those large enough to be in the NZX 50 Index
HISTORY	Launched 29 Apr 1993; historic data available back to 28 Dec 1990; based 1434.98 on 28 June 1991, to match headline index as at that date.
DATA SERIES BROADCAST	Gross Index and Capital Index

b. Additions and Deletions

A security being added to the NZX 50 Index will be removed from the NZX SmallCap Index. A security being deleted from the NZX 50 Index will be added to the NZX SmallCap Index if it is eligible and is not expected to delist. A new listing will generally not be added to the NZX SmallCap Index at a Monthly Index Update.

5. Corporate Events

Index implications of corporate events are generally the same as for the NZX All Index. A new security entering the NZX 50 Index outside a Quarterly Index Review will be deleted from the NZX SmallCap Index. A security deleted from the NZX 50 Index outside a Quarterly Index Review will be added to the NZX SmallCap Index if it is eligible and is not expected to delist.

a. New Listings

A new listing will be considered for addition to the NZX SmallCap Index at the first Quarterly Index Review subsequent to commencement of trading.

H. NZX SECTOR INDICES

Background

Constituents are classified for the NZX Sector Indices according to the industry sectors in which they operate. The NZX Sector Indices are each sub-indices of the NZX All Index, and are weighted by Free Float Market Capitalisation.

There are two levels to NZX's sector classification system. Listed Issuers are first classed into one of six Group Sectors. The Listed Issuers are then divided between the more specific Single Sectors, of which there are 16.

The sector classification system used for the NZX Sector Indices has uses including:

- Facilitating selection of companies by sector for sector-based investment;
- Comparing the performance of the various sectors available for investment on the NZ market, by comparing index returns.

OFFICIAL NAME	NZX Sector Indices
INDEX ID	Various: <i>Gnn</i> for Group Sectors; <i>Ann</i> for Single Sectors, where <i>nn</i> is a two digit code (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Free Float Market Capitalisation
CONSTITUENTS	New Zealand Listed Issuers with equity securities quoted on the NZX Main Board
HISTORY	Launched 1 Oct 1997 from base 1000; historic data available back to start of 1997; prior to Oct 1997, a different sector system was used
DATA SERIES BROADCAST	Gross Indices and Capital Indices

Methodology

1. Eligible Pool: Derived from NZX All Index

The NZX Sector Indices each comprises a subset of the securities in the NZX All Index.

2. Weighting in Index: Free Float

Constituents are weighted by Free Float Market Capitalisation, that is, Indexed Shares numbers are based on the NZ Free Float Shares, as is defined in the NZX All Index Methodology.

3. Quarterly Index Review

a. **Timetable**

The timetable for Quarterly Index Review is the same as for the NZX All Index.

b. **Classification**

All securities in the NZX All Index are classified into one of six Group Sector Indices. Securities are further classified into 16 Single Sector Indices, as illustrated in the table overleaf.

In some Group Sectors, there exists only one constituent Single Sector Index. These Single Sectors Indices (A05, A09 and A16) are not calculated; there is no need to as

their returns would replicate the corresponding Group Sector Indices. However, the Single Sectors and their identifying Index ID codes still exist for classification purposes.

NZX GROUP SECTORS (AND INDEX IDS)	NZX SINGLE SECTORS (AND INDEX IDS)
Primary (G01)	<ul style="list-style-type: none"> ▪ Agriculture & Fishing (A01) ▪ Mining (A02) ▪ Forestry & Forest Products (A03) ▪ Building Materials & Construction (A04)
Energy (G02)	<ul style="list-style-type: none"> ▪ Energy (A05)
Goods (G03)	<ul style="list-style-type: none"> ▪ Food & Beverages (A06) ▪ Textiles & Apparel (A07) ▪ Intermediate & Durables (A08)
Property (G04)	<ul style="list-style-type: none"> ▪ Property (A09)
Services (G05)	<ul style="list-style-type: none"> ▪ Transport (A10) ▪ Ports (A11) ▪ Leisure & Tourism (A12) ▪ Consumer (A13) ▪ Media & Telecommunications (A14) ▪ Finance & Other Services (A15)
Investment (G06)	<ul style="list-style-type: none"> ▪ Investment (A16)

c. Setting Indexed Shares

Indexed Shares will be the same as for the NZX All Index, i.e. Indexed Shares will be set to the NZ Free Float Shares.

4. Monthly Index Update

The timetable for Monthly Index Updates, and method of setting Indexed Shares, is the same as for the NZX All Index.

5. Corporate Events

Index implications of corporate events are the same as for the NZX All Index. A security being added to, or deleted from, the NZX All Index will be contemporaneously added to or deleted from the appropriate NZX Sector Indices.

a. Business

All NZX Listed Issuers will be periodically reviewed for gradual changes in their nature of business that would see them become eligible or ineligible for various NZX Sector Indices, with additions or deletions usually made at a Quarterly Index Review. NZX Listed Issuers undergoing a substantial and immediate change in nature of business, for example due to a “reverse takeover”, may be added to or deleted from an NZX Sector Index as soon as practicable after the transaction.

I. NZX SCITECH INDEX

Background

The NZX SciTech Index highlights the performance of the companies listed with NZX that have significant business interests in the development and commercialisation of new technologies. The index acts to promote and raise the profile of listed tech companies.

Eligible companies may have interests in the research, development or commercialisation of science or new technologies within the fields of biotechnology, information technology and industrial technology.

Methodology

1. Eligible Pool

a. Nature of Business

To qualify for the index, NZX Listed Issuers should source a substantial proportion of their revenue from, or engage a substantial proportion of their expenditure or assets towards, interests in the research, development or commercialisation of science or new technologies, in one of the following fields:

- i. **Biotechnology:** medical treatments, pharmaceuticals, health supplements, medical equipment or supplies; for human, agricultural, or horticultural applications.
- ii. **Information Technology:** information systems technology, including the development of software and electronic components.
- iii. **Industrial Technology:** systems and equipment for applications including engineering, manufacturing, transport and energy.

b. Listing Status

- i. Securities must be quoted on either the NZX Main Board or the NZX Alternative Market.
- ii. Securities of New Zealand Listed Issuers, Dual Listed Issuers and Overseas Listed Issuers are eligible for the index.

c. Classes of Security

All classes of quoted equity are eligible for inclusion, except:

- i. Closed- and open-ended equity funds, for example ETFs (exchange traded funds);
- ii. Convertible securities including convertible notes, warrants and options;

OFFICIAL NAME	NZX SciTech Index
INDEX ID	NZTS (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Full Market Capitalisation, 10% Cap
CONSTITUENTS	Issuers with interests in Biotechnology, Information Technology or Industrial Technology
HISTORY	Launched 16 May 2006; historic data available back to base value of 1000 on 31 Dec 2003
DATA SERIES BROADCAST	Gross Index and Capital Index

-
- iii. Securities with substantial debt-like characteristics, for example preference shares paying interest at fixed or index-linked rates.

2. Weighting in Index: Full Market Capitalisation with 10% Cap

a. Full Market Capitalisation

Securities are included in the index at Full Market Capitalisation, subject to a cap of 10% on the weight of any one constituent. Indexed Shares are based on the NZ Shares Issued:

- i. For New Zealand Listed Issuers NZ Shares Issued is the number of Shares Issued.
- ii. For Dual Listed Issuers, NZ Shares Issued is the number of Shares Issued multiplied by the proportion of the Issuer's revenue generated in New Zealand.
- iii. For Overseas Listed Issuers, NZ Shares Issued is the number of shares on the New Zealand register.

b. Data Used for Calculating Indexed Shares of Capped Securities

In assessing if it is necessary to cap a security, and to set the correct Indexed Shares for capped securities, the Index Weight of all constituent securities will be calculated using latest available prices and projected new Indexed Shares.

c. Applying Cap

When a security is to be capped or re-capped, its Indexed Shares will be set to the number that will result in an Index Weight of 10%, with Indexed Shares rounded to the nearest whole number. When more than one security is to be capped at the same time, the Indexed Shares for all such securities will be set at the same time, so that all such securities will be set at 10% Index Weight.

3. Quarterly Index Review

a. Timetable

The timetable for Quarterly Index Review is the same as for the NZX All Index.

b. Ranking

All securities in the eligible pool are included in the index.

c. Setting Index Shares with 10% Cap

At the Quarterly Index Review, the Indexed Shares number for each security will initially be set to the current number of NZ Shares Issued. The constituents are then assessed to identify those that will need capping, and Indexed Shares are adjusted such that all capped securities have a weight of 10%, and there are no constituents with an Index Weight above 10%.

4. Monthly Index Update

There are no Monthly Index Updates for this index. Changes to NZ Shares Issued will not be recognised until a Quarterly Index Review, except where specifically described otherwise in the corporate events section of this methodology.

5. **Corporate Events**

a. **Change in Nature of Business**

All NZX Listed Issuers will be periodically reviewed for gradual changes in their nature of business that would see them become eligible or ineligible for the index, with additions or deletions usually made at a Quarterly Index Review. NZX Listed Issuers undergoing a substantial and immediate change in nature of business, for example due to a “reverse takeover”, may be added to or deleted from the index as soon as practicable after the transaction.

b. **New Listings**

Qualifying new listings will be added to the index on their day of listing, subject to the availability of sufficient data from which to calculate the index (including an appropriate issue price or other base price, and data on the number of shares on issue and eligible to be included in the index). The 10% cap on Index Weight of a new security, if required, will be applied using the issue price of the security and the most recent prices available for other index constituents.

c. **Changes to Shares Issued**

In the event of a substantial change (greater than 25%) in the number of NZ Shares Issued of a constituent security, for example due to a secondary offering or share cancellation, the indexed shares number for the constituent may be adjusted as soon as practicable after the transaction. The 10% cap on Index Weight of the security will be applied if necessary, using the issue price of the security and the most recent prices available for other index constituents.

d. **Takeover Offers**

In the event of a successful takeover offer for 100% of a security, that security will be deleted from the index five trading days after the date the Offeror announces that it is entitled to and will proceed with compulsory acquisition, for example by releasing a Notice of Dominant Ownership. At the time of announcement of the change to the index, securities in the eligible pool will be re-ranked as per at a Quarterly Index Review, and the best ranking non-constituent security will be selected for addition to the index.

e. **Delistings**

- i. Where a company has announced publicly via the NZX Market Announcement Platform its intention to delist its securities, and NZX has approved the delisting, the affected securities will be removed from the index.
- ii. NZX will announce the last day for which the security is included in the index. Provided that the timing of the announcement and delisting dates allows it, the security will be removed from the index five trading days prior to delisting date.

J. NZAX ALL INDEX

Background

The NZAX All Index comprises all eligible securities listed on the NZAX Market (NZX Alternative Market). The NZAX Market was developed to meet the needs of the many smaller but fast-growing and developing companies in New Zealand, and of companies with non-traditional listed company ownership structures such as co-operatives.

The launch of the NZAX All Index coincided with the launch of the NZAX Market in November 2003.

Methodology

1. Eligible Pool

a. Listing Status

- i. Securities must be quoted on the NZX Alternative Market.
- ii. Only securities of New Zealand Listed Issuers are eligible for the index. Securities of Dual Listed Issuers and Overseas Listed Issuers are not eligible.

b. Classes of Security

All classes of quoted equity are eligible for inclusion, except:

- i. Closed- and open-ended equity funds, for example ETFs (exchange traded funds);
- ii. Convertible securities including convertible notes, warrants and options;
- iii. Securities with restrictions on ownership that prevent a broad range of investors from trading the securities;
- iv. Securities with substantial debt-like characteristics, for example preference shares paying interest at fixed or index-linked rates.

2. Weighting in Index: Free Float

a. Indexed Shares

Constituents are weighted in the index at NZ Free Float Market Capitalisation; the number of Indexed Shares is based on the NZ Free Float Shares, as is defined in the NZX 50 Index Methodology. For the avoidance of doubt, this index does not use the Modified Free Float Methodology used for weighting securities in the NZX 50 Index (i.e. there is no up-weighting or down-weighting).

b. Strategic Holdings

Strategic holdings are defined in the same way as for the NZX 50 Index.

OFFICIAL NAME	NZAX All Index
INDEX ID	AXAS (used to identify the index in NZX data feeds; other data suppliers may use different codes)
WEIGHTING METHODOLOGY	Free Float Market Capitalisation
CONSTITUENTS	Securities of New Zealand Listed Issuers quoted on the NZAX Market
HISTORY	Launched Nov 2003, from base 1000 as at 17 Nov 2003
DATA SERIES BROADCAST	Gross Index

3. **Quarterly Index Review**

a. **Timetable**

The timetable for Quarterly Index Review is the same as for the NZX All Index.

b. **Ranking**

All securities in the eligible pool are included in the index. That is, the index comprises all the securities of an eligible class, quoted on the NZX Alternative Market.

c. **Setting Indexed Shares**

Indexed Shares will be set to the NZ Free Float Shares.

4. **Monthly Index Update**

a. **Timetable**

The timetable for Monthly Index Updates is the same as for the NZX All Index.

b. **Setting Indexed Shares**

As for the NZX All Index, for any such security that has had a cumulative change to NZ Free Float Shares of more than 5.0% since the last Quarterly Index Review, Indexed Shares will be reset to the current NZ Free Float Shares.

c. **Additions and Deletions**

New securities that are eligible for the index may be added at a Monthly Index Update, as is described in the corporate events section below.

5. **Corporate Events**

Corporate events are generally treated in the same way as for the NZX All Index.

K. INDIVIDUAL SECURITY RETURNS

NZX calculates return series for each individual equity security with a methodology similar to that for the NZX Equity Indices. For each security, a Capital return series, Gross return series and Gross with Imputation return series is maintained. The return series for each security can be considered analogous to an index containing a single share of the security.

Uses of the individual security return series include:

- The Capital return series can be used to adjust historic price data, for example after pro-rata corporate actions such as share splits or rights issues;
- The Gross return series and Gross with Imputation return series can be used to express total returns of each security, making it possible to compare the performance of various securities, including dividends. There was a change to the methodology for gross returns, effective 1 October 2005. This is discussed in Section V Historic Index Notes, under the heading Gross Index Series Return Methodology.

The return series start at a base of 1,000, either corresponding to the price as at close of trading on the first day on which the security traded, or if suitable issue price information was available at the time listing, with the base of 1,000 corresponding to the issue price.

For securities with a longer history, these data series were first calculated in May 1993, starting from a base value of 1,000 as at close of trading on 5 January 1987.

IV. COMMON CORPORATE ACTIONS (DIARY ADJUSTMENTS)

NZX seeks to treat corporate actions on index constituents as consistently as is practical. NZX's index calculation system has been developed to allow automatic processing of the most standard corporate actions. A summary of index treatment for the most common corporate actions is described in this section.

This summary does not intend to capture every nuance of index treatment of corporate actions. For example, as capital markets evolve it is not unknown for companies to announce corporate actions that include unusual or new features that will demand customised index treatment. For such events, NZX will usually release to subscribers an Index Memo detailing index treatment.

When a security is subject to a corporate action, NZX may take the following steps to adjust the index calculation to ensure accuracy:

- An Adjusted Opening Price will be calculated, to be used for calculating the index on the ex date. The Adjusted Opening Price is based on the previous trading day's closing price, adjusted for the mathematically expected impact of the corporate action(s). Adjusted Opening Prices are rounded to \$0.001. For example, in the event of a 2:1 share split, the Adjusted Opening Price would be half the previous trading day's closing price.
- If necessary, there will be an adjustment to the Indexed Shares for the affected security on the ex date, to reflect what would happen to the shareholding of a passive investor. Indexed Shares are rounded to whole numbers. For example, in the event of a 2:1 share split, the number of Indexed Shares would be doubled.

Although Indexed Shares will be adjusted according to the declared pro-rata ratio of a corporate action, it is likely that the actual change to the number of shares eligible for the index will not change by exactly this ratio. This might occur, for example, due to the cumulative impact of rounding of individual share holdings, allotment of a minimum entitlement amount to small holders, or if a rights issue was not fully subscribed. When this happens, Indexed Shares will be corrected subsequently, according to the usual methodology for Monthly Index Updates or Quarterly Index Reviews.

A. BONUS ISSUE

A bonus issue of shares increases the number of shares without any movement of money. A bonus issue is usually declared with a ratio in the format "Ratio Shares New : Ratio Shares Existing". For example, a 1:4 ("one-for-four") bonus issue indicates shareholders will receive one bonus share for every four shares held on the record date (i.e. every four shares will become five shares, or a shareholder who had 4,000 shares will now have 5,000 shares). As no new money has come into the company, the overall value of the company will not have changed, and the price of the shares will be expected to fall according to the bonus issue ratio. The number of Indexed Shares will be increased by the number of shares expected to be issued.

$$[\text{Adj Opening Price}] = \frac{[\text{Ratio Shares Existing}]}{[\text{Ratio Shares New}] + [\text{Ratio Shares Existing}]} \times [\text{Prev Close Price}]$$

$$[\text{New Indexed Shares}] = \frac{[\text{Ratio Shares New}] + [\text{Ratio Shares Existing}]}{[\text{Ratio Shares Existing}]} \times [\text{Old Indexed Shares}]$$

For example, in a 1:4 Bonus Issue here Ratio Shares Existing = 4 and Ratio Shares New = 1.

A bonus issue may sometimes involve the distribution of imputation credits to shareholders. When this is the case, the value of these imputation credits will be included in the distributions amount added into the Gross with Imputation Index series return, but not the Gross Index series or Capital Index series.

A bonus issue may involve issue of securities of a class other than the parent security, including other listed classes of security or non-listed classes of security. Such bonus issues may require bespoke index treatment different from the above.

B. TRADEABLE RIGHTS ISSUE

A rights issue increases the number of shares on issue and money is brought into the company by payment of application money. A rights issue is usually declared with a ratio in the format “Ratio Shares New : Ratio Shares Existing”. For example, a 2:5 (“two-for-five”) rights issue indicates shareholders will receive a right to purchase two new shares for every five shares held on the record date. To purchase the new shares, the shareholder will have to pay an “Application Amount” for each new share purchased, which will usually be at a discount to the prevailing market price.

If a shareholder does not wish to exercise the rights, they can sell them on market. As a result of the issue of new shares at less than the prevailing market price, the value of the existing shares will be diluted, and the price can be expected to fall, to the Adjusted Opening Price.

$$[\text{Adj Opening Price}] = \frac{\left(\frac{[\text{Ratio Shares New}] \times [\text{Application Amount}] + [\text{Ratio Shares Existing}] \times [\text{Prev Close Price}]}{[\text{Ratio Shares Existing}]} \right)}{[\text{Ratio Shares New}] + [\text{Ratio Shares Existing}]}$$

$$[\text{New Indexed Shares}] = \frac{[\text{Ratio Shares New}] + [\text{Ratio Shares Existing}]}{[\text{Ratio Shares Existing}]} \times [\text{Old Indexed Shares}]$$

The effect of this index treatment is that full take-up of the rights is assumed, and the new shares expected to be allotted from the rights issue are included in the index from the ex date.

At opening of trading on the ex date the indexed capitalisation for the security (from which Index Weight is defined) is equal to the previous day’s closing indexed capitalisation, plus the funds expected to be raised by the rights issue. To replicate the model used to calculate the

index return, it would be necessary to raise funds to pay the Application Amount by selling shares from across the index portfolio at closing prices on the trading day prior to the ex date.

A rights issue may involve the issue of rights to purchase securities of a class other than the parent security, including other listed classes of security or non-listed classes of security. Such rights issues may require bespoke index treatment different from the above.

C. CAPITAL RECONSTRUCTION (INCLUDING SHARE SPLITS, SHARE CONSOLIDATIONS & CAPITAL REPAYMENTS)

A capital reconstruction, for the purposes of this methodology document, is a change to the number of shares on issue, applied pro-rata across all shares on issue, with or without a payment for any shares that are cancelled. With this definition, share splits, share consolidations and capital repayments can all be considered to be varieties of capital reconstruction.

A capital reconstruction is usually declared with a ratio in the format “Ratio Shares New : Ratio Shares Existing”. For example, a 2:1 (“two-for-one”) share split indicates each existing share will be split into two (i.e. every one share will become two shares, or a shareholder who had 1,000 shares will have 2,000 shares afterwards). Note the expression of the ratio is different from that for a bonus issue. For a 2:1 bonus issue, every one share would become three, and a shareholder who had 1,000 shares will have 3,000 shares afterwards.

A capital repayment will often be declared with a ratio by which shares on issue are to be reduced, in the form “New Shares : Existing Shares”, and with a payment to be made for each cancelled share. For example, a 3:5 capital reduction with a payment of \$5.00 per cancelled share would result in a holding of 5,000 shares being reduced to 3,000 shares, and a payment of \$10,000 (2,000 cancelled shares × \$5.00) being made to the shareholder.

The impact on Adjusted Opening Price and Indexed Shares can be described by the formulae:

$$[\text{Adj Opening Price}] = \frac{\left([\text{Ratio Shares Existing}] \times [\text{Prev Close Price}] - \left[\left([\text{Ratio Shares Existing}] - [\text{Ratio Shares New}] \right) \times [\text{Payment per Cancelled Share}] \right] \right)}{[\text{Ratio Shares New}]}$$

$$[\text{New Indexed Shares}] = \frac{[\text{Ratio Shares New}]}{[\text{Ratio Shares Existing}]} \times [\text{Old Indexed Shares}]$$

For capital reconstructions that involve payments, the effect of this index treatment is that any repaid capital is reinvested into all index series, i.e. the Capital Index series will not underperform the Gross Index series as it would if the payment were classed as a dividend. The index model assumes the cash is reinvested across the index portfolio at closing prices on the trading day prior to the ex date.

For capital reconstructions that do not involve payments to shareholders, the index model can be replicated by an investor without the need to trade. For a standard share split or share consolidation, an investor's portfolio will automatically adjust in the same way as the index.

Historically, index treatment of capital repayments for the NZX Equity Indices has been different. This is discussed in the Section V Historic Index Notes, under the heading Capital Repayment Index Methodology.

D. SHARE PURCHASE PLAN

Via a Share Purchase Plan, or Unit Purchase Plan, a Listed Issuer can offer its shareholders the opportunity to subscribe for a limited number of new shares at a discount to current market price, with all shareholders being offered the same number of new shares.

The NZX Equity Indices are not usually adjusted for a Share Purchase Plan or Unit Purchase Plan. A Share Purchase Plan may involve the issue of shares at a discount to market price. However, as any discount is usually modest, any adjustment would usually be small scale. Furthermore, as the issue of shares is not pro-rata according to the size of existing shareholdings, it is problematic to apply an adjustment in a manner that would be fair to investors with holdings of different sizes.

E. SPECIAL DIVIDENDS

Special dividends are treated in the same manner as regular scheduled dividends. That is, their value will be included in the return of the Gross Index series and Gross with Imputation Index Series, but is excluded from the Capital Index series.

V. HISTORIC INDEX NOTES

Various aspects of the NZX Equity Indices have been subject to further development over time. Factors which have led to changes in the NZX Equity Indices Methodology include development of the New Zealand market's needs, global trends in indexation, and NZX's determination to be an industry leading and innovative index provider. There are four parts within this Section of the document:

- Longer Term Index Returns
- Gross Index Series Return Methodology
- Free Float Methodology
- Capital Repayment Index Methodology

Longer Term Index Returns

NZX's headline index, the NZX 50 Index, was launched at the beginning of March 2003 and has back-calculated data available from 29 December 2000. While this provides a solid set of recent data for historic returns, to calculate performance of the New Zealand headline index over longer periods, it is necessary to combine the NZX 50 Index data with its predecessor headline indices.

The previous headline index for the New Zealand market was the NZX 40 Index, earlier known as the NZSE 40 Index. NZX broadcast a full set of data for the NZX 40 Index, including both a Gross Index series and Capital Index series, for the period 28 June 1991 to 31 March 2004. The two most significant differences between the NZX 40 Index and the NZX 50 Index, to be cognisant of when presenting historic returns, are (a) the NZX 40 Index was weighted by full market capitalisation, whereas the NZX 50 Index uses the innovative Modified Free Float methodology; and (b) the NZX 50 Index contains an additional 10 companies.

Index users can join the NZX 40 Index history to the NZX 50 Index history to calculate longer term index returns. The changeover from one index to the other could be applied either at 28 February 2003 (the last trading day before the launch of the NZX 50 Index, i.e. the day the NZX 50 Index officially became the headline benchmark index), or at 29 December 2000, the last trading day of the year 2000 and the earliest date for which NZX 50 Index data has been calculated. To create a continuous index series it will be necessary to rebase the historic NZX 40 Index data such that it matches up to the NZX 50 Index as at the changeover date.

The predecessor to the NZX 40 Index was the Barclays Index. Barclays Index data is held by NZX for the period from 11 January 1967 up until when it became the NZX 40 Index on 28 June 1991. For the Barclays Index, a Gross Index series is not available, as only a Capital Index series, which excludes dividends, was published.

NZX's longest running continuous index series is the NZX All Index. This broad market index is available in both Capital Index and Gross Index forms back to 30 June 1986.

Gross Index Series Return Methodology

Effective 1 October 2005, NZX changed the method by which its Gross Index series were calculated. The current formula for the Gross Index series, as detailed in Section II.C Calculation Formula, assumes reinvestment of the dividend amount as declared by the Listed Issuer, excluding imputation credits. Prior to 1 October 2005, the Gross Index was calculated using a dividend amount that included New Zealand tax credits such as imputation credits.

To coincide with the change to the Gross Index series methodology, NZX launched the Gross with Imputation Index series, which uses the methodology previously used for the Gross Index series, starting from the same index level as each Gross Index series closed on the previous trading day. For dates prior to 1 October 2005, the Gross with Imputation Index series can be considered to have the same historic data as the Gross Index.

Free Float Methodology

Free Float Methodology was introduced to the NZX Equity Indices through 2003 and 2004. The NZX 50 and NZX 50 Portfolio Indices, from launch in March 2003 and for their full history, available back to the end of the year 2000, were calculated using the Modified Free Float Methodology.

The NZX All Index, and those indices derived from it: the NZX SmallCap Index and NZX Sector Indices, converted to Free Float Market Capitalisation weighting at the beginning of January 2004. Prior to that time these indices were weighted by Full Market Capitalisation.

The sub-indices of the NZX 50 Index, that is the NZX 10 Index and NZX MidCap Index, converted to Modified Free Float Methodology on 1 July 2004. Prior to that date, these indices were weighted by Full Market Capitalisation.

Capital Repayment Index Methodology

The current methodology for treatment of capital repayments (as detailed in Section IV.C Capital Reconstructions), allows for Opening Adjusted Prices for the indices to be adjusted such that the repaid capital is included in the returns for all index series, Capital and Gross.

However, for a period from mid 1999 until April 2004, capital repayments were treated, for the NZX Equity Indices, in the same way as dividends. That is, the repaid capital would be added back in for the calculation of Gross Index series, but excluded from Capital Index series.

This difference in methodology has no impact on the returns of Gross Index series, but that does mean that Capital Index series for the period 1999 to April 2004 exhibit different returns from what they would have if they had been calculated by the present methodology. The old methodology will have had a negative performance impact on the Capital Index series returns for the period 1999 to April 2004, causing it to underperform the Gross Index series by more than would have been the case had the current methodology been used.