NZX
NEW ZEALAND'S EXCHANGE

Guide to index futures

Key features

Gain exposure to a broad range of stocks in one transaction
Index futures provide users with the ability to gain exposure to a range of stocks in one single transaction at a fraction of the cost of buying the actual underlying shares

Hedging (Protecting the value of your portfolio)
If you think the market is going to depreciate but do not want to sell shares, you can protect your portfolio by selling S&P/NZX 20 Index Futures.

Leveraged returns
The full value of a futures contract is not paid or received when the contract is opened. Rather a deposit is paid ("initial margin") when opening the position, which is a percentage of the contract's value. Over the life of the contract you will either pay or receive margin based on the price movements (profit and loss) of the contract ("variation margin").

Trading multi directional markets
Futures provide traders with an efficient way of gaining exposure to rises or falls in the market; in particular, a futures position can be opened by buying or selling. While trading futures can provide users with the ability to gain, like with any financial instrument it brings with it the potential for losses.

Index futures & index composition

S&P/NZX 20 INDEX FUTURES

S&P/NZX 20 Index Futures are based on the S&P/NZX 20 Capital Index. The S&P/NZX 20 Index comprises 20 of the largest and most liquid companies listed on the NZX Main Board. Ranking and weighting is by free float market capitalisation. The only index series calculated for the S&P/NZX 20 Index is the capital index series (no gross index is published for the S&P/NZX 20 Index).

TRADING INDEX FUTURES

To create a futures contract, two parties enter an agreement to buy or sell an asset at an agreed date in the future, at a price agreed upon today.

Some futures contracts at expiration call for physical delivery of the asset while others are settled through the exchange of a cash equivalent.

For index futures this means agreeing to buy or sell the index at a given date in the future at the price agreed upon today. At maturity of the contract a cash settlement takes place.

Buying an index future means you agree to purchase the underlying index at a future date at an index level (price) agreed upon today. Your profit (or loss) is determined by the index level (price) at expiry of the contract or when you close out your position by selling the same contract you had purchased (position squaring).

Selling an index future means you agree to sell the underlying index at a future date at an index level (price) agreed upon today. Your profit (or loss) is determined by the index level (price) at expiry of the contract or when you close out your position by purchasing the same contract you had sold (position squaring).

Initial margin is required for any seller or buyer to open a futures position. Initial margin is then "marked to market" daily and as the underlying index moves, a trader's account will be debited or credited accordingly (variation margin).

All futures contracts expire at a given point in time and for exchange traded index futures, these are standardised time periods i.e. 3 months, 6 months, 9 months or 12 months.

Depending on market sentiment and the cost of carry model used, most futures contracts trade at a premium to the index price prior to maturity. Conversely, in certain market conditions they can trade at a discount. This premium is known as the "cost of carry". As a futures contract nears expiration, the futures price generally converges to the index price such that at the date of expiration, the futures price and underlying index price are equal.

Index futures strategy examples

Traders can take advantage of rising and falling markets using index futures.

Example: Going short

If you have a view that the price of the index is going to fall, you can sell futures and buy them back when the price has decreased. Assume you sell an S&P/NZX 20 Index futures contract when the index level is 2,000 giving you $50,000 worth of exposure ($25*2,000 = $50,000).

If the market priced S&P/NZX 20 Index Futures 100 points lower at 1,900 points, the value of your exposure would have decreased from $50,000 to $47,500 ($25*1,900 = $47,500). To realise a gain of $2,500, you would buy back your futures contract at the lower price.

Example: Going long

If you have a view that the price of the index is going to rise, you can buy futures and sell them when the price has risen.

S&P/NZX 20 futures contracts are valued at NZ$25 per index point. Assume you purchase one S&P/NZX 20 Index Futures contract when the index level is 2,000 giving you $50,000 worth of exposure ($25*2,000 = $50,000).

If the market priced S&P/NZX 20 Index Futures 100 points higher at 2,100 points, the value of your exposure would have increased from $50,000 to $52,500 ($25*2,100=$52,500). To realise a gain of $2,500, you would sell your futures contract at the increased price.

To enter this trade required an initial outlay of approximately $5,000 (assuming an initial margin rate of 10%) as opposed to $50,000 if this position was created by purchasing the underlying shares.

In either of these examples, if the market had moved in the opposite direction, you would have made an equivalent loss.

Hedging

As an investor, if your portfolio largely tracks the S&P/NZX 20 Index and you believe there is going to be volatility in the market, futures can help with risk management. If you think the market is going to depreciate but do not want to sell your shares, you can protect your portfolio by selling S&P/NZX 20 Index Futures contracts instead.

WHAT ARE THE BENEFITS OF HEDGING?

Market volatility can significantly affect the performance of a portfolio. The ability to manage this volatility and mitigate risk through the use of futures can enhance performance and protect against losses.

- Lock in portfolio returns
- Gain quick and efficient exposure to specific market sectors and to easily switch that exposure when needed without incurring transaction costs of having to buy or sell the underlying shares
- Protect against market losses

Example: You own a portfolio worth $500,000 that tracks the S&P/NZX 20 Index (or has a high correlation to the S&P/NZX 20 Index). The current index level is 3,000 points and you expect the market to drop by 10% within the next few months.

One strategy would be selling your portfolio for its current value and purchasing it again once the market has declined, incurring significant transaction costs on both the buy and sell side. An alternative strategy would be to maintain the original portfolio and sell futures contracts instead.

Suppose the S&P/NZX 20 Index Futures price is at 3,000 points; accordingly one futures contract is worth $75,000 ($25*3,000). To calculate the number of futures contracts that will need to be sold in order to protect your portfolio, divide the notional value of your portfolio by the current value of a futures contract ($500,000/$75,000 = 6.6). In this instance, 7 contracts will need to be traded to provide an adequate hedge for this portfolio. The investor should therefore sell 7 S&P/NZX 20 Index Futures contracts to hedge their portfolio.

If your market prediction is correct and the S&P/NZX 20 Index Futures price dropped by 300 points to 2,700 and your portfolio value dropped by 10% ($50,000), you would now be in a position to buy back the 7 futures contracts you have sold and close out your position.

Sell futures contracts (3,000*$25)* 7 futures contracts	$525,000
Buy futures contracts (2,700*$25)*7 futures contracts	($472,500)
Net Gain/(loss) on futures	$52,500
Loss on portfolio $500,000*0.1	($50,000)
Overall Gain/(Loss)	$2,500

Although the value of the portfolio in this case has decreased by $50,000, the opposite result in the short sold futures offsets this loss.

Glossary

Cash Settlement
A method of settling futures contracts by cash rather than by physical delivery of the underlying asset. The parties settle by paying/receiving the loss/gain related to the contract in cash when the contract expires. S&P/NZX 20 Index Futures are cash settled.

Closing out a position
Executing an opposite trade to your open position in the same futures contract that offsets your current position and eliminates your initial exposure.

Cost of Carry
Costs incurred as a result of a financial position. These costs are the result of any interest costs, less dividends received.

Free Float Weighted Index
Is the method by which the S&P/NZX 20 Index is calculated. Free-float market capitalisation is calculated by multiplying the stock's current market price by the number of shares that are freely tradable. Large, non-traded share holdings will be classed as strategic and excluded from the free float.

Initial Margin
The percentage of the notional value of a listed derivatives contract that an investor must deposit to open a position.

Marked to Market
The daily revaluation of positions, upon which profits or losses on futures contracts are determined and settled daily.

Maturity
The date a contract expires and the payment of a financial obligation is due. NZX Main Board: The main equities market operated by NZX.

Opening a position
The agreement by two parties to buy or sell an asset at an agreed date in the future, at a price agreed upon today.

Variation Margin
Price changes in the underlying asset are reflected by debits or credits to an investor's margin account. An investor may be required to top up their margin account if it falls below the maintenance margin used.

Disclaimer

The information provided in this document is a guide only and intended for general information purposes. It shall not constitute investment advice. In particular it does not constitute an offer, solicitation or recommendation to acquire or dispose of any investment or to engage in any transaction.

While reasonable care has been taken in the preparation of this document to provide details that are accurate and not misleading NZX Limited ("NZX"), its subsidiaries, directors, officers, employees, contractors and agents (a) do not make any representations or warranties regarding the use, accuracy, correctness, quality, reliability, completeness or timeliness of such information, and (b) shall not be responsible or liable for any use of any information contained herein under any circumstances. All descriptions, examples and calculations contained in this document are for illustrative purposes only.

To the maximum extent permitted by law, NZX and its subsidiaries, directors, officers, employees, contractors and agents shall not be liable for any loss or damage arising in any way (including by way of negligence) from or in connection with any information provided or omitted or from anyone acting or refraining to act on this information. NZX and its subsidiaries offer services to market participants and to participants in its clearing and settlement system. Those who desire to trade any products available on any NZX market or to offer and sell any such products to others or to become a participant in the clearing and settlement system, should consider the requirements of the applicable Rules and other legal and regulatory requirements relevant to them, as well as the associated risks, before doing so.

All intellectual property, proprietary and other rights and interests in this document are owned by NZX and its subsidiaries including, without limitation, all patent, registered design, copyright, trademark and service mark rights. No part of this document may be redistributed or reproduced in any form or by any means or used to make any derivative work without the written consent of NZX.

NZX Derivatives Market is a licensed market operated by NZX, a licensed market operator regulated under the Financial Markets Conduct Act 2013.

The "S&P/NZX 20 Capital Index" is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJI") and NZX Limited ("NZX"). Standard & Poor's® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); NZX® is a registered trademark of NZX Limited and these trademarks have been licensed for use by SPDJI. S&P/NZX 20 Index Futures are not sponsored, endorsed, sold or promoted by SPDJI, S&P, Dow Jones or their respective affiliates and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P/NZX 20 Capital Index.