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New Zealand's Main Economic Indicators

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Parliamentary Library Research Paper

Introduction

This paper looks at the main economic, international trade and business indicators used in New Zealand. There is an explanation of each indicator, how it is calculated and how it is used in measuring New Zealand's economic performance.

In general, economic indicators assist a nation and its decision-makers by achieving several important objectives. First, they allow users to monitor progress towards economic goals and to benchmark a nation's performance against that of other nations. Second, a comprehensive set of indicators allows users to track and compare performance both in terms of high-level outcomes (such as income and wealth levels) and the underlying factors that may influence these outcomes over time (such as levels of innovation and skills). Finally and perhaps most importantly, indicators can help users to evaluate the effectiveness of economic policy by tracking the direction or pace of change over time.

The paper covers five main economic indicators in New Zealand as well as the key market indices. It follows a similar layout to that of the Parliamentary Library's Monthly Economic Review (MER). The indicator areas that are examined include:

- Economic growth – *National Accounts and Gross Domestic Product (GDP)*
- Employment and unemployment – *Quarterly Employment Survey (QES), Labour Cost Index (LCI) and Household Labour Force Survey (HLFS)*
- Inflation – *Consumer Price Index (CPI), Food Price Index (FPI) and Producer Price Index (PPI)*
- External – *Balance of Payments (BOP)*
- Finance and International – *Stock market and exchange rate indicators*

This paper can be used as a supporting document for the MER, by providing the user with background information on each of the major economic indicators. In all there are four topics covered for each indicator:

- Background
- Methodology
- Availability
- Usability

Information for Parliamentary Intranet users

The major indicators can all be accessed via the Parliament's Intranet, [Our House](#). The Parliamentary Library updates the indicators as they are published by the statistical agencies. These are presented in two formats, as statistical [Data Series](#) and [Statistical Bulletins](#). Statistical *Data Series* consist of comprehensive tables that are historically backdated. Data Series of interest would include, balance of payments with data backdated to 1908, gross domestic product (GDP) with series back to 1900s, exchange rates and interest rates data series, OECD countries GDP per capita and Quarterly Employment Survey (QES) and Household Labour Force Survey (HLFS) data back to the late 1970s and early 1980s. For commentaries and analysis from the Parliamentary Library, *Statistical Bulletins* are provided and can be found in a similar location on *Our House*. These bulletins are designed to provide two-page summaries of each economic indicator, with a mix of economic commentary and data for use by MPs and their staff.

Analysis

Statistics New Zealand provides the official confirmation on economic conditions and therefore is relied upon for objective and factual results. For an instant link to the 11 economic indicators published quarterly see [Economic indicators](#) on the Statistics New Zealand website. Additional analysis from Treasury, the Reserve Bank, the OECD, private sector economic research firms and banks provides a more complete picture of economic performance.

Economic growth indicators

All economic indicators are important as they each capture a different aspect of a nation's economy. Measuring prices, the external sector and employment all assist in drawing specific conclusions on economic performance. However, it is often the case that a single all-encompassing measure is best for describing and evaluating the shape of an economy. If there is one indicator that surpasses all others for its comprehensiveness in assessing economic performance, it is gross domestic product (GDP).

Background – National Accounts and GDP

New Zealand's economic growth is measured in the National Accounts and published by Statistics New Zealand. The National Accounts record the nation's economic transactions and through income and outlay accounts and the external account, financial transactions. These include businesses buying and selling goods, the government collecting taxes and transferring money to beneficiaries, and people earning and spending money.¹ The headline indicator from the National Accounts publication is gross domestic product (GDP). It is an important tool that helps a range of users to understand and manage the New Zealand economy.² The measure itself places a total market value on all goods and services produced in New Zealand (gross output or value added) after deducting the cost of those goods and services utilised in the process of production (intermediate consumption), but before deducting allowances for the consumption of fixed capital (depreciation).³

Methodology – Calculating GDP

In New Zealand and as commonly reported internationally with national accounting statistics, there are three approaches to measuring GDP. In theory they all result in the same total but in practice they are often a little

¹ Statistics New Zealand, *National Accounts and GDP*, August 2008, <http://www.stats.govt.nz/datasets/economic-indicators/national-accounts-and-gdp.htm>.

² Statistics New Zealand, *Quarterly GDP Sources and Methods*, March 2006, http://www.stats.govt.nz/NR/rdonlyres/AE14C367-448A-4445-AA86-87FEEB26EAFB/0/3584_QGDPSourcesandMethods_Web.pdf.

³ Statistics New Zealand, *Information about the National Accounts - Year ended March*, August 2008, <http://www2.stats.govt.nz/domino/external/omni/omni.nsf/d9168e3797342cd64c25683a0000d5d0/37b3202ab7455963cc25707e00109340?OpenDocument>.

different due to each being measured independently. This can be due to different data sources (e.g. income and expenditure), timing differences and the scope or coverage of various statistical collections feeding into the national accounts framework.

The three different measures of GDP

- **Production** - this approach measures the *value added* of producers, by deducting the value of goods and services used up in production from the total value of goods and services produced.

$$\text{GDP(P)} = \text{Value added} = (\text{Gross output} - \text{Intermediate Consumption})$$

- **Expenditure** - this approach directly measures the value of goods and services demanded, by measuring purchases by all consumers for final use (both domestically and internationally).

$$\text{GDP(E)} = \text{Private Consumption} + \text{Investment/Inventory} + \text{Government Spending} + \text{Net Trade(Exports- Imports)}$$

- **Income** - this approach measures the *value added* of producers by summing the incomes accruing to the factors of production i.e. labour payments plus profit.

$$\text{GDP(I)} = \text{Compensation of employees} + \text{Gross operating surplus} + \text{Taxes on production and imports} - \text{subsidies}$$

All of these are different methods that in theory achieve the same

Availability – Annual and Quarterly GDP

GDP is released in two formats, an annual publication and a quarterly publication. The annual National Accounts' release is published each November and provides the first look at the most recent years' consolidated accounts of the nation in nominal terms. While gross domestic product (GDP) is a key figure in this publication, the National Accounts release is more useful for the detail it provides on the wider economy. The additional information in the annual accounts includes; industry detailed tables (each industry's contribution to GDP), household income and outlay accounts (a look at the nation's savings position after all incomings and outgoings), capital stock series and the external account (the nation's trading position). The National Accounts are published approximately seven months after the end of the reference period. The National Accounts are useful for comparable time series data back as far as 1972. The years up to but not including the two most recent or provisional years are released as a balanced set of accounts. This means that the production and expenditure sides are equal and there is no statistical discrepancy unlike in the provisional years. The balancing is done behind the scenes through a supply and use framework that balances at the detailed commodity level transactions by industry. This is where almost 400 commodity classifications are used to ensure the production and consumption accounts accurately measure economic activity.⁴

⁴ Statistics New Zealand, *Consumers Price Index Tradable and Non-tradable Series*, September 2004, <http://www2.stats.govt.nz/domino/external/pasfull/pasfull.nsf/84bf91b1a7b5d7204c256809000460a4/4c2567ef00247c6acc256f6b00723f56?OpenDocument>.

The headline capturing quarterly GDP release is published within 13 weeks of the end of the reference quarter (March, June, September and December). It provides a three-month snapshot of performance for the economy, published in real terms for production and expenditure-based GDP and in nominal terms for expenditure-based GDP. The real GDP series are chain volume measures expressed in 1995/96 prices and both seasonally adjusted and actual figures are available. This means the series more appropriately reflects economic activity by adapting to any change in relative prices of goods and services prevailing in the economy (i.e. adjusted for the effects of inflation).⁵ Other key aggregates are also published each quarter and these include real gross national disposable income (RGNDI), GDP per capita (in both real and nominal terms) and RNGDI per capita.

Availability of GDP series by method

National Accounts Publications	Current Price (nominal)		Chain-volume (real) (adjusted for inflation)	
	Series	Years available	Series	Years available
National Accounts (Annual)	GDP Production	(1972 – Present)		
	GDP Production by industry	(1972 – latest balanced year)		
	GDP Expenditure	(1972 – Present)		
	GDP Income	(1972 – Present)		
GDP (Quarterly)	GDP Expenditure	(1988 – Present)	GDP Production	(1988- Present)
			GDP Expenditure	(1988- Present)

Usability – GDP in politics and policy

The headline figure used in analysis of New Zealand's economic activity is the production measure of GDP, but as the accounts are balanced (within two years of the reference year) then any of the three measures are equally useable. New Zealand's national accounts are based on the international standard, System of National Accounts 1993 (SNA). This allows for direct comparisons across countries as the SNA is endorsed by the United Nations, the OECD, the World Bank and the International Monetary Fund.⁶ All industry analysis is based on, the Australian and New Zealand Standard Industrial Classification 1996 (ANZSIC96)⁷ and is used by both national statistical agencies to allow comparability across a wide array of indicators.⁸

The GDP release is used by the Reserve Bank and Treasury in policy assessment and forecasting. The banking sector also pays close attention to GDP releases as it can provide a regular and official report on the state of the economy. This informs foreign investors and can make the country more or less attractive for short-term money trades which in turn can increase or decrease the value of the New Zealand dollar. Domestically the figure can also influence business and consumer confidence. Internationally the OECD monitors each nation's economic performance. New Zealand's position can be compared with other nations through per capita and exchange rate adjusted GDP rankings.⁹

⁵ Statistics New Zealand, *Quarterly GDP Sources and Methods*, March 2006, http://www.stats.govt.nz/NR/rdonlyres/AE14C367-448A-4445-AA86-87FEEB26EAFB/0/3584_QGDPSourcesandMethods_Web.pdf.

⁶ Ibid.

⁷ A new industrial classification (ANZSIC 2006) is due to be introduced to the national accounts by the end of 2011 along with future changes from the revised international framework.

⁸ Statistics New Zealand, *Quarterly GDP Sources and Methods*, March 2006.

⁹ Purchasing power parities (PPP's) is the OECD's preferred method for comparing per capita GDP over time.

Employment and unemployment indicators

A measure of a nation's labour force participation, remuneration from in-work activity and the cost of human capital in the production process are three areas that are critical in understanding the operating capacity and effectiveness of a nation's economy.

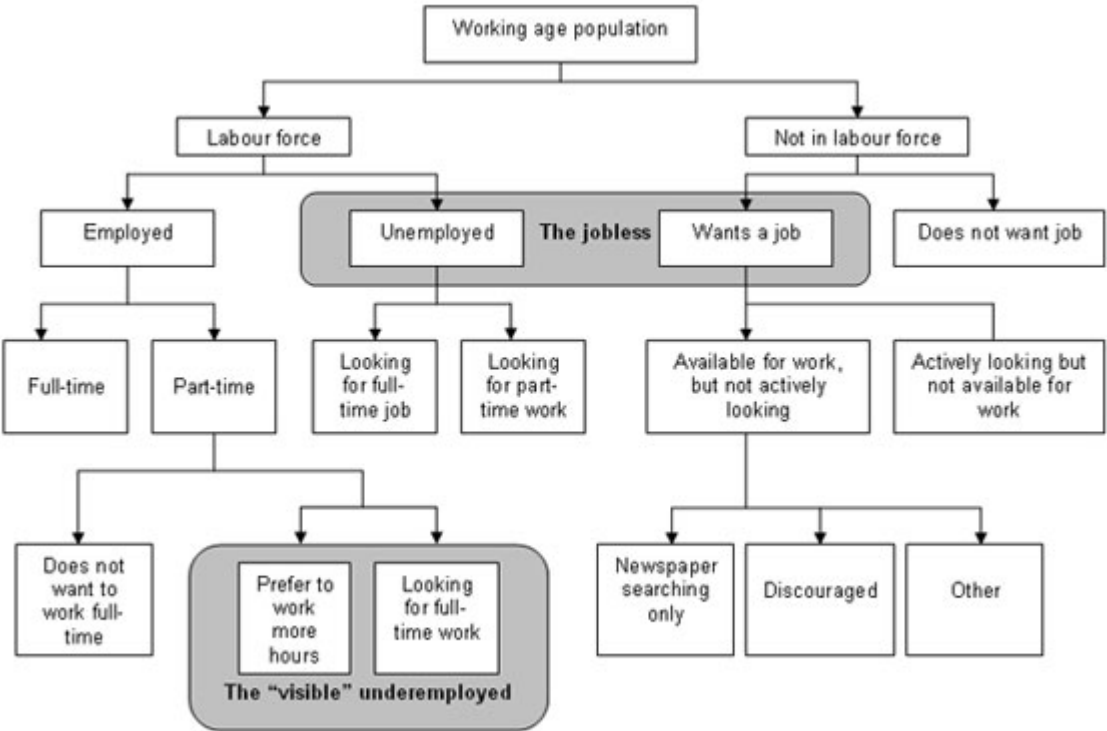
Background – Quarterly Employment Survey (QES), Labour Cost index (LCI) and Household Labour Force Survey (HLFS)

Statistics New Zealand provides a comprehensive range of statistics relating to the employed, the unemployed and those not in the labour force who comprise New Zealand's working-age population. In order to capture each distinctive part of the labour market three main publications cover this information on a quarterly basis. The Household Labour Force Survey (HLFS) is the headline capturing publication. It includes the unemployment rate and a few other aspects that are related to employment and unemployment. The other two publications; the Quarterly Employment Survey (QES) and the Labour Cost Index (LCI) are released simultaneously and are used for their assessment of the level of the average wage, hours worked and index related price changes in the cost to businesses of employing labour by industry and sector.

Methodology – Measuring employment

The HLFS measures the labour force participation rates for each quarter from a representative sample of all those who are of working age (15 years and over). For the purposes of the survey a person is considered 'employed' if during the reference period they worked for one hour or more, or were not at work due to illness or injury, personal or family responsibility. The levels of employment also known as total employed (employees in employment plus the self-employed) are used to indicate an economy's current output potential. While the levels of unemployed are usually defined as the unemployment rate, which is used as an indicator of spare labour capacity and unutilised resources. The series dates back to the first quarter of 1986 and is published on a quarterly basis, available within five weeks of the end of the reference period.

Breakdown of New Zealand's Working Age Population according to Employment status



The purpose of the Quarterly Employment Survey (QES) is to measure quarterly estimates of the changes in and levels of average hourly and average weekly (pre-tax) earnings, average weekly paid hours, and the number of filled jobs. The key figure from the QES is average earnings (weekly and annual). This represents the money wages and salaries of workers in private non-agricultural industries. Non-cash fringe benefits are excluded. The series dates back to the first quarter of 1989 and is published on a quarterly basis, available one month after the reference period has ended.

The Labour Cost Index measures changes in base salary and ordinary time wage rates, overtime wage rates (on a quarterly basis), and a range of non-wage labour-related costs (on an annual basis). It has fixed industry and occupation weights and measures changes in salary and wage rates for a fixed quantity and quality of labour output.

Availability – Quarterly data

Each publication captures a different aspect of the labour market. The indicators that make it into the news are the unemployment rate, the average wage, the number of people either employed or unemployed and the change in the cost of labour over time. In the international arena, the Statistical Annex of the OECD's Employment Outlook, contains comparative annual labour statistics: from unemployment rates by gender, selected age groups and educational attainment, to annual hours worked and public expenditures on labour market programmes.¹⁰

Indicators available in each employment/unemployment publication

Survey/Publication	Significant indicators
Quarterly Employment Survey (QES)	<ul style="list-style-type: none"> • Average hourly earnings • Average weekly wage • Number of filled jobs • Number of full-time equivalent employees (FTEs)
Labour Cost Index (LCI)	<ul style="list-style-type: none"> • Change in public/public sector salary/wages costs • Change in salary/wages costs by industry and occupation
Household Labour Force Survey (HLFS)	<ul style="list-style-type: none"> • Unemployment rate • Number of unemployed • Number of employed • Number not in the labour force • Labour force participation rate

Usability – Employment news

Labour market indicators are used in understanding capacity constraints as well as areas for further expansion based on the availability of human capital. Monitoring the unemployment rate and how sectors of the economy adjust their employment numbers allow government agencies to assess the relative success of policy.¹¹ These indicators can also provide a better idea of how effectively an economy is using its available resources. The cost of labour on the other hand, is an important factor influencing the development of inflation in an economy, as increases in the cost of labour ultimately place pressure on the producers of goods and services to pass on these costs in the form of price increases. Consequently, central banks monitor closely the development of labour costs in their analysis of the economy and in their deliberations concerning monetary policy.¹²

¹⁰ Giovannini, Enrico. *Understanding Economic Statistics: An OECD Perspective*, October 2008, <http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=302008271P1&LANG=EN>.

¹¹ The Economist, *Guide to Economic Indicators: making sense of economics*. Profile Books Ltd, London, 2000. p. 62.

¹² Giovannini, *Understanding Economic Statistics: An OECD Perspective*, 2008.

Inflation indicators

Measuring inflation is an important component when analysing a nation's economic situation. In New Zealand the relative rate of change in the price of goods and services allows the Reserve Bank to keep track of monetary policy, employer and employee interest groups to monitor the cost of living in wage setting, and many government transfer payments are set in accordance with the official rate of inflation.

Background – Consumer Price Index (CPI), Food Price Index (FPI) and Producer Price Index (PPI)

The official releases that measure the rate of price change or inflation or deflation are the price index publications from Statistics New Zealand. The three main indicators include the consumer price index (CPI), the food price index (FPI) and the producer price index (PPI). These price indices are used to measure changes in the level of prices, not the actual level of the prices themselves, although the FPI and the CPI do provide weighted average retail prices of selected items for price level analysis.

Methodology – Calculating Inflation

The index

A price index is a single figure that shows how a set of prices for goods and services has changed over time. Statistics New Zealand publishes a wide range of indices, covering everything from capital goods to labour services. The average price level of goods and services in the expression base period are assigned an index number of 1000. This is the benchmark to which average prices in other periods are compared. That is, if the index number for a period is 1150, prices have increased by 15.0 percent since the base period. Changes in the level of a price index are calculated by weighting the changes in the surveyed prices of a particular set of items. The set of items represents the basket of goods and services that the index purports to measure. Item (expenditure) weights are estimates of the overall significance of each of the different items in the basket.

Consumers Price Index (CPI)

The CPI is a measure of the price change in the types of goods and services purchased by private New Zealand households. The CPI measures the changing cost of purchasing a fixed basket¹³ of goods and services which represents the average expenditure pattern of New Zealand households at the index base period. The three-yearly Household Economic Survey (HES) is used to estimate this expenditure pattern. In compiling the CPI, each consumer item is attributed a weighting based on its relative importance to the overall basket. Expenditure weights are also derived from the HES and show the proportion of average household expenditure made on the items in the regimen. The CPI is produced quarterly from prices gathered at a range of retail outlets in 15 urban areas. It is published approximately three weeks after the conclusion of the reference period.¹⁴

¹³ *Statistics New Zealand's* CPI basket is reviewed once every three years and the latest review and listing can be found at [Consumer Price Index, 2008 Review](#)

¹⁴ Statistics New Zealand, *Information about the Consumers Price Index*, September 2008, <http://www2.stats.govt.nz/domino/external/omni/omni.nsf/outputs/Consumers+Price+Index>.

Food Price Index (FPI)

Due to the political and consumer interest in the price of food and its likely impact on the domestic economy, Statistics New Zealand produces a monthly food price index (FPI). This is a subgroup of the CPI and therefore covers the same population by measuring the rate of price change of food and food services purchased by households. Food is the only commodity group of the CPI for which an index is prepared each month.

Producers Price Index (PPI)

The Producers Price Index (PPI) measures prices relating to the production sector of the economy. The PPI has two types of indices: the outputs indices, which measure changes in the prices received by producers and the inputs indices, which measure changes in the cost of production (excluding labour and capital costs).¹⁵ The publication is released quarterly, within eight weeks of the reference period.

Availability – Monthly and quarterly

The two main series, CPI and PPI are published quarterly and tend to be the headline capturing publications of all the inflation indices. The FPI, which is published monthly, is based along the same lines as the CPI. The quarterly CPI data series is available back to 1926 and for selective quarters (for annual comparisons) back to 1914. The FPI is available back to January 1960, while the PPI is available from the June quarter 1994.

Usability – Is the price right?

These three price indices are used to monitor the success of policy and are a standard whereby wage growth and transfer payments are compared. The headline figure, the CPI, is used as the source of news stories about the cost of living and inflation. It is used to assess which categories of spending are driving inflation, by comparing price changes in the different groups of goods that make up the CPI. The Reserve Bank, in monitoring its monetary policy performance uses the CPI. The Reserve Bank has an official inflation target or inflation band (1-3%) over the medium term that it is expected to take into account when setting monetary policy.¹⁶ The CPI is used in the decision making process when making, changing and analysing other government and non-government agencies' policies. The CPI is also used in the setting of specific local and central government rates and levies on an annual basis.¹⁷ The CPI is used as a measure of inflation, an indicator for monitoring economic and monetary policy, an indicator of the effect of price change on the purchasing power of households' incomes, as a means to adjust benefits, allowances and incomes, and as a price deflator.

Other indices of interest are the capital goods index (CGI), which measures the cost of construction and agricultural goods, and the Labour Cost index (LCI), which is covered in this paper under the employment and unemployment section.

¹⁵ Statistics New Zealand, *Information about the Producers Price Index*, August 2008, <http://www2.stats.govt.nz/domino/external/omni/omni.nsf/outputs/Producers+price+index>.

¹⁶ Reserve Bank of New Zealand, *Policy Targets Agreement (PTA) 2007*, May 2007, <http://www.rbnz.govt.nz/monpol/pta/3027051.html>.

¹⁷ McCaw, Sharon, *Government charges, the CPI and monetary policy*, Reserve Bank of New Zealand Bulletin, Vol. 61. No. 3. September 1998, pp 203-211. http://www.rbnz.govt.nz/research/bulletin/1997_2001/1998sep61_3McCaw.pdf

External indicators

In trading nations, investors and policymakers use trade balances and trade information as an alternative way to determine the health of the New Zealand economy. The status of a nation's trade relationship with the rest of the world is covered in Statistics New Zealand's Balance of Payments release.

Background – Balance of Payments (BOP)

The balance-of-payments accounts are the most comprehensive measure of New Zealand's economic transactions with other countries. The transactions include exports and imports of goods and services, income receipts and payments on foreign investment, transfer payments such as pensions and government grants, and changes in New Zealand's foreign holdings of financial assets and liabilities associated with international monetary reserves, banking and direct investment.

Methodology – External accounts

The balance of payments statement is a record of New Zealand residents' transactions with residents of other countries. The accounting framework covers the external transactions of all sectors of the economy, from the household and government sectors to the business and financial sectors. Transactions are recorded in New Zealand dollars and at the time ownership changes, or, in the case of services, when the service is performed.¹⁸ The balance of payments statement consists of three accounts, the current account, the capital account and the financial account. Double entry bookkeeping is used, so that in an accounting sense the accounts always balance. This means that the balance of the capital account and financial account is always equal to the balance of the current account, but with the opposite sign. The current account records income and expenditure flows, and, is similar to a firm's profit and loss account or income statement. The current account is the part of a country's balance of payments that covers transactions of goods, services, international investment income, and current transfers for things such as foreign aid.¹⁹ A "balance of payments deficit" refers to a deficit of the current account. The capital account of the balance of payments has two components: capital transfers and acquisition or disposal of non-financial assets.²⁰ Finally, the financial account records the financial transactions involving New Zealand's transactions with non-residents. The financial account is classified into assets and liabilities, which are broken down by type of investment and instrument of investment.²¹

Availability – Annually, quarterly (and monthly data for merchandise trade)

The Balance of Payments and International Investment Position are published each quarter. The BOP data is published a quarter after the respective reference quarter and usually in the same week as quarterly GDP. In addition, the year-ended accounts are published in the September quarter each year and are for the year ended March. Monthly merchandise trade statistics are also available through Statistics New Zealand's Overseas Merchandise Trade exports and imports. Balance of payments data is available back to the first quarter of 1987 and on an annual basis from 1988 onwards.

¹⁸ St. Clair, Robert, *The balance of payments accounting framework*, Reserve Bank of New Zealand Bulletin, Vol. 61. No.1. March 1998, pp. 35-41, http://www.rbnz.govt.nz/research/bulletin/1997_2001/1998mar61_1stclair.pdf.

¹⁹ Giovanninini, *Understanding Economic Statistics: An OECD Perspective*, 2008.

²⁰ Statistics New Zealand, Balance of Payments and International Investment Position, *Technical notes, December 2008*, p.14, <http://www.stats.govt.nz/products-and-services/hot-off-the-press/balance-of-payments-intl-investment-position/balance-of-payments-and-international-investment-position-sep08qtr-hotp.htm?page=para003Master>

²¹ *ibid.*

Available indicators in each of the BOP publications

Major Accounts	Indicators
New Zealand's Current Account	Balance on goods (Exports and Imports) Balance on services (Exports and Imports) Balance on Income (Income from investment abroad and income from foreign investment) Balance on current transfers (Inflow of current transfers and outflow of current transfers) Current account balance
New Zealand's Capital Account	Balance on capital (capital account inflow and capital account outflow)
New Zealand's Financial Account	New Zealand investment abroad (Direct, portfolio and other investments and reserve assets) Foreign investment in New Zealand (Direct, portfolio, other investment) Net international investment position
International Assets and Liabilities	By sector holdings (banks, government, private) By currency of holdings By Residual Maturity periods Net international equity, debt and asset position

Usability – Foreign investment

Balance of payments data is important for economic and monetary policy formation and analysis, both for short-term and structural information, as well as an indicator of monetary stability.²² Particular attention is focused on payment imbalances and trends of trade in goods and services, the current account, and in financial flows inward and outward foreign investment. The balance of payments data also provide further information and links to specialised statistical frameworks, such as those on international trade in services, and foreign direct investment.²³

²² Giovannini, Understanding Economic Statistics: An OECD Perspective, 2008.

²³ Ibid.

Finance and international indicators

The finance and business sector has a very important part to play in an economy. It not only contributes to a large proportion of a nation's GDP each year, but it reacts faster and has its performance assessed instantly by two key indicators, making this sector and its economic indicators like no other. Measuring the performance in such a dynamic sector is the key to understanding market reactions to current political and business issues as well as picking future trends and market directions. Minutes can cost, so this sector is monitored in real time and summarised and analysed at the end of trading each day. When assessing the current status of the market and looking at how a country is viewed by foreign investors, two indicators dominate; a nation's exchange rate and the performance of its publicly listed companies in the stock market.

Background – Stock markets and Exchange rate indicators

Stock market and exchange rate indicators are usually presented in the form of an index. For the stock market, these indices are a method of measuring the performance of the market as a whole. Many indices are compiled by news or financial services firms and are used to benchmark the performance of particular portfolios. The main indicator used when measuring exchange rates involves a collection of a nation's trading currencies in the form of a trade weighted index, compiled by the central bank.

Stock market indicators

There are many different averages that are available as indicators or indices to indicate the general health of stock prices throughout the world. Some concentrate on specific sectors, such as the high tech NASDAQ-100, which focuses on non-financial companies.

Dow Jones Industrial Average Index (DJIA) – USA

The Dow Jones (The Dow) consists of 30 of the largest and most widely held public companies in the United States. It is one of the oldest and most widely quoted of all the market indicators. These 30 stocks represent about a fifth of the \$8 trillion-plus market value of all U.S. stocks and about a fourth of the value of stocks listed on the New York Stock Exchange.²⁴ The Dow is price-weighted and to compensate for the effects of stock splits (when a company increases the number of shares on offer), it is a scaled average, not the actual average of the prices of its component stocks.²⁵ However this has a downside in that it can give relatively higher-priced stocks more influence over the average than those lower-priced ones. This can distort the picture somewhat as large movements in lower-priced stock are neglected. Consequently, many critics recommend the float-adjusted market-value weighted S&P 500.

S&P 500 Index – USA

This stock market index is the most notable of the many indices owned and maintained by Standard & Poor's. The market average contains the stocks of 500 large capitalisation (large cap) companies, most of which are American.²⁶ The index is regarded as the standard for measuring the stock market performance of those large cap firms as it includes a representative sample of leading companies in leading industries.²⁷ The S&P 500 is used by 97% of U.S. money managers and pension plan sponsors. Some US\$626 billion is indexed to the S&P 500.²⁸

²⁴ Nasdaq, *Index Descriptions*, September 2008, <http://www.nasdaq.com/reference/IndexDescriptions.stm>.

²⁵ Dow Jones Indexes, *Dow Jones Industrial Averages*, November 2008, <http://www.djaverages.com/?view=question&page=three>

²⁶ Alyuda Research, AmpleSight, *Major Stocks Market Indices*, November 2008, http://www.amplesight.com/major_stocks_market_indices.htm#sp_500

²⁷ Nasdaq, *Index Descriptions*, September 2008, <http://www.nasdaq.com/reference/IndexDescriptions.stm>.

²⁸ Ibid.

FTSE 100 Index – UK

The Financial Times Stock Exchange Index is a stock index of the 100 most highly capitalised companies listed on the London Stock Exchange.²⁹ The index is overseen by the FTSE Group, an independent company jointly owned by the Financial Times and the London Stock Exchange.³⁰ Because the index is based on market capitalisation, stocks are weighted according to their free-float value. As such, FTSE 100 companies represent about 82% of the market capitalisation of the whole London Stock Exchange.³¹ The index began in 1984 with a base level of 1000 and the highest value reached to date was 6950.6 in December 1999.

Nikkei225 Index – Japan

The Nikkei225 is a stock market index for the Tokyo Stock Exchange (TSE). The Nikkei average is the most watched index of Asian stocks. It dates back to 1950 and has been calculated daily by the Nihon Keizai Shimbun (Nikkei) newspaper since 1971.³² The 225 components of the Nikkei Stock Average are among the most actively traded issues on the first section of the TSE. Like the Dow Jones, it is a price-weighted average (the unit is Yen), and the components are reviewed once a year to ensure the mix of the index is both highly liquid and representative of Japan's industrial structure.³³

NZX 50 Index – New Zealand

This index comprises shares in the top fifty companies on the New Zealand Stock exchange (NZSX). The composition of the index is weighted according to the free-float value of the stocks on the exchange.³⁴ In other words, this is the market capitalisation of a company based on the percentage of shares freely available for trading on the open market. The NZX 50 differs from other capitalisation based indices (S&P 500 or FTSE 100) in that it is a gross index. By doing this the index is able to capture dividend repayments of New Zealand companies, which tend to pay out a higher proportion of earnings than companies hosted on overseas exchanges. To maintain integrity, the index excludes companies that do not meet market liquidity requirements and limits the weighting of any one security to 5% of the index (although weightings can fluctuate between 2.5% to 7% between quarterly reviews).³⁵

Foreign Currency indicators

The value of a nation's currency is a fundamental concern in trade. The more highly valued a nation's currency is to its trading partners then the better it is for the import sector as the domestic currency goes further when purchasing foreign goods. The reverse is true for the export sector and thus monitoring the relative worth of a nation's currency to its major trading partners is fundamental when gauging returns on trade. The value of the domestic currency is also a concern for investors who look for stability when investing in that nation.

The trade-weighted index (TWI)

The trade weighted index is an economic indicator used by economies to compare their exchange rate against those of their major trading partners. The TWI, also known as the effective exchange rate, is a multilateral real

²⁹ Independent Investor, *Guide to trading FTSE100 Shares*, November 2008,

http://www.independentinvestor.co.uk/investment_guide/trade_ftse100_shares.html

³⁰ The FTSE: The Index Company, November 2008, http://www.ftse.com/About_Us/index.jsp.

³¹ The FTSE, *Fact Sheet*, June 2008, http://www.ftse.com/Indices/UK_Indices/Downloads/FTSE_100_Index_Factsheet.pdf.

³² Pravda, *Japan's Nikkei drops nearly 2% caused by U.S. falling jobs*, 3 October 2008, <http://english.pravda.ru/news/business/104438-1/>

³³ Ibid.

³⁴ Smart Shares, *NZX 50 Portfolio Index*, October 2008 http://www.smartshares.nzx.com/products/fonz/NZSX50_index_port.

³⁵ Ibid.

exchange rate which is a weighted average of real exchange rates of domestic and foreign currencies, with the weight for each foreign country equal to its share in trade.³⁶

The TWI used in New Zealand is a measure of the value of the New Zealand dollar (NZD) relative to the currencies of New Zealand's five major trading partners USA (\$), UK (£), Australia (\$), Japan (¥) and Europe (€). The TWI is the Reserve Bank's preferred summary measure for capturing the medium-term effect of exchange rate changes on the New Zealand economy and inflation.³⁷ The Reserve Bank's TWI has been calculated since 1979 as a weighted-average of New Zealand's trading partners' bilateral NZD exchange rates relative to their share of New Zealand's bilateral trade. Following the introduction of the Euro in 1999, a new weighting method was adopted by the Reserve Bank to better reflect the indirect effect of exchange rate changes on the New Zealand price level, through influencing activity in the New Zealand economy.³⁸

Each currency's Trade Weighted Index proportions

Country	Currency	Proportion of TWI (2008)
United States	United States Dollar (\$)	29.9%
European Union	Euro (€)	27.4%
Japan	Japanese Yen (¥)	14.9%
Australia	Australian Dollar (\$)	20.6%
United Kingdom	UK Sterling (£)	7.2%

The current TWI weights the currencies on the basis of the size of the trading partner's economy (GDP), and on their share of New Zealand's bilateral trade. Weights are updated annually on a calendar year basis once both trade and GDP data are available. In addition to the current official five-currency TWI, the Reserve Bank also publishes an extended 14 currency TWI, which includes the currencies of a number of Asian economies with which New Zealand's bilateral trade has increased markedly in recent years.³⁹

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³⁶ White, Bruce, *The trade weighted index (TWI) measure of the effective exchange rate*, Reserve Bank of New Zealand Bulletin, Vol. 60. No.2. 1997, pp. 121-132, http://www.rbnz.govt.nz/research/bulletin/1997_2001/1997jun60_2white.pdf

³⁷ Reserve Bank of New Zealand, *Trade Weighted Index and Exchange rates*, August 2008, <http://www.rbnz.govt.nz/statistics/exandint/twi/index.html>.

³⁸ Reserve Bank of New Zealand, *Reserve Bank proposes TWI revisions*, October 1998, <http://www.rbnz.govt.nz/statistics/exandint/twi/0067347.html>.

³⁹ Reserve Bank of New Zealand, *Trade Weighted Index and Exchange rates*, 2008.