

## INVESTIGATION OF NEW ZEALAND'S INWARD FOREIGN AFFILIATE TRADE STATISTICS USING EXISTING DATA SOURCES

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### **Abstract**

*Foreign Affiliate Trade Statistics (FATS) can provide useful measures of the impact of foreign direct investment on an economy.*

*Foreign affiliates are entities with overseas ownership greater than 50 percent, and are often established to deliver goods and services that require close contact between the supplier and the consumer. However, because foreign affiliates are considered resident entities in their host country, their transactions in these countries are not recorded in the Balance of Payments and International Investment Position statistics, but they do form part of the host economy's Gross Domestic Product (GDP). FATS statistics attempt to measure the impact of foreign investment on the host economy and supplement existing statistical areas such as foreign direct investment and international trade in goods and services.*

*This paper looks at New Zealand's inward FATS, which are statistics relating to the activities of foreign-owned enterprises in New Zealand. The paper examines how the contribution of these firms to the New Zealand economy can be determined using existing data sources. It also touches on how and where New Zealand's inward FATS might be used to support policy research and other areas of enquiry.*

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## 1. Introduction

Foreign Affiliate Trade Statistics (FATS) are indicators that provide information on the activities and structure of related-party firms. FATS can be outward (the activities of New Zealand-owned firms abroad), or inward (foreign-owned firms operating in New Zealand).

For inward FATS much of the data is already collected in the calculation of GDP, and it is simply a matter of identifying the foreign affiliate firms. Outward FATS are generally much more difficult to measure. The firms that we want to get information about for outward FATS are overseas, and therefore are not subject to the same statutory requirements for completing Statistics New Zealand's business surveys that domestic firms are. This paper focuses on New Zealand's inward FATS.

New Zealand does not currently produce statistics on foreign affiliates, though they have been produced in the past. Up until 1983 Statistics New Zealand produced official statistics about foreign affiliates, 'Companies with Overseas Affiliations'. Since the last publication of 'Companies with Overseas Affiliations' there have been few attempts to quantify the interests and behaviour of foreign affiliates in New Zealand. Most research into foreign investment in New Zealand has been qualitative in nature (see, for example, Scott-Kennel (2004)), although the work of Rosenberg (1998) is a notable exception. Rosenberg (1998) produced a series of statistics on foreign affiliates. This useful work drew on a variety of sources, and highlights the fact that, in the absence of official data, gathering information on foreign affiliates is complicated.

Statistics New Zealand currently collects a variety of information relating to foreign affiliates which is published as official series. For example, when a foreign affiliate is set up in New Zealand, the value of the foreign investment is captured in the International Investment Position (IIP) (essentially New Zealand's balance sheet with the rest of the world); transactions between the new affiliate and its parent company are recorded in the Balance of Payments.

The Balance of Payments (BoP) deals exclusively in transactions between New Zealand and the rest of the world. Similarly, the International Investment Position statement (IIP) records stocks of assets and liabilities between New Zealand residents and non-residents. In the IIP, the value of the proportion of the foreign affiliate owned abroad would be recorded as Foreign Direct Investment (FDI) attributed to the country of the immediate parent. Any transactions between the parent company and its foreign affiliate, including distributed and retained earnings, are measured in the Balance of Payments.

Foreign affiliate activities are also recorded in Gross Domestic Product (GDP) statistics. Residency guidelines in the System of National Accounts (SNA93) and the Balance of Payments Manual (BPM5) mean that a foreign affiliate is deemed to be a resident of its host country regardless of ultimate ownership. Residency applies to the centre of economic interest for an entity; so if a firm is registered in New Zealand, pays taxes and trades goods and services in New Zealand then it is considered a New Zealand firm. Because inward foreign affiliates are considered New Zealand firms, their production is included in New Zealand's GDP.

The question arises, why are we interested in FATS if we already measure foreign affiliate activity in GDP, and in transactions between foreign affiliates and their parent companies? In short, existing statistics relating to foreign investment have an external focus. BoP and IIP statistics, for example, describe stocks and flows of foreign capital in and out of the New Zealand economy. They tell us very little, however, about what is done with foreign capital once it reaches New Zealand's shores. In addition, the treatment of foreign affiliates as New Zealand firms in the calculation of GDP means that their activities are presently indistinguishable from those of domestic firms. FATS separate out the activities of foreign and New Zealand firms, and provide information about the structure and activities of foreign-owned capital in the New Zealand economy.

This paper shows some of the characteristics of foreign affiliate enterprises in New Zealand, using experimental series based on existing data sources, and paves the way for discussion on what other indicators may be of use to policy analysts and researchers in the future.

The paper is set out in five sections. In the next section we discuss briefly why statistics on foreign affiliates may be a useful resource for economic and policy research in New Zealand. We then discuss some of the definitional issues associated with FATS and the definitions we have adopted for our experimental series. Section four of the paper describes the data sets our experimental series are based on, and problems faced in using these existing data sources. Section five provides tables of experimental FATS and some discussion on what these statistics tell us about foreign affiliates in New Zealand. We conclude the paper with some conclusions about the usefulness of FATS, and prospects for future development of these statistics.

## 2. Motivation for investigating FATS

FATS can contribute to most areas of policy analysis and research where foreign investment is of particular interest. This includes research into the impact of foreign investment on New Zealand's economic performance; economic integration and other outcomes of increased global economic interconnectedness; patterns of trade (inward and outward) and the contributions of foreign firms; financial account flows and New Zealand's International Investment Position.

There are many reasons why it might be useful to deepen our understanding about foreign investment and the structure and activities of foreign affiliates in the New Zealand economy. For instance, there are good theoretical reasons to believe foreign affiliates behave differently to domestic firms. Firms with the capacity to locate outside their home economy are likely to be large firms, with better access to capital than domestic firms. This suggests they will be most prevalent in capital-intensive industries and industries with strong economies of scale or scope. This in turn raises questions for industry policy.

Foreign investment is thought to be an important source of productivity gains through invigorating domestic competition and providing a source of technology transfer. Davis (2003) argues that these processes are not well understood and that it is possible foreign investment could result in greater market concentration and reduced competition in the long run. He suggests that improved understanding of foreign investment is necessary to help target policy initiatives which might induce beneficial foreign investment, particularly productivity 'spillovers'.

The impact of foreign investment on productivity and competition, amongst other things, is particularly important in the New Zealand context because of our reliance on foreign capital. Many major firms in New Zealand are branches or subsidiaries of overseas companies. For example, all of New Zealand's major banks are majority foreign-owned. Understanding more about the activities of foreign-owned firms is also important for evaluating and monitoring the stability of New Zealand's financial system and sustainability of New Zealand's external debt position. Other things being equal, a large stock of external claims, particularly debt funding, may be seen as an indicator of macroeconomic instability and diminished capacity of the economy to weather adverse external events. However, a large stock of external claims is more likely to be sustainable if it is linked to substantive production and physical assets. Similarly, debt funding from a parent company to a New Zealand affiliate may be at less risk from capital flight than debt funding from other international sources. Hence, understanding how foreign capital is employed through statistics such as FATS can contribute usefully to sound prudential and macroeconomic policies.

FATS can also deepen our understanding of international economic integration and assist policy-makers in prioritising resources for trade negotiations. On their own, foreign direct investment statistics are simply quantity measures associated with financial flows. FATS can provide a means of assessing the quality of foreign investment. Measures of quality of foreign investment, by country of origin, would assist policy-makers in assessing which countries might deliver the most benefit to New Zealand through enhanced economic integration or free trade agreements.

FATS are also potentially useful for increasing our understanding of international services trade. Foreign affiliate trade in services is a growing and complex part of international trade in services, but we have no way of measuring this trade when it is conducted through a firm acquiring a commercial presence in New Zealand - 'Mode 3' services trade, as it is known in international trade parlance. Although New Zealand has signed up to regional, bilateral, and multilateral trade agreements which include commitments on trade in services by commercial presence, we cannot quantify the interests of either New Zealand or our trade partners in terms of services trade via commercial presence. FATS are potentially the only way to gain accurate measures of 'Mode 3' trade.

## 3. Definitions and concepts

As a starting point for constructing our experimental FATS series, we have drawn on guidelines in the 2002 Manual on Statistics of International Trade in Services (MSITS). The MSITS was developed following the establishment of the General Agreement of Trade in Services (GATS) when it was identified that gaps existed in international statistics for trade in services. The manual is associated with, and considered a supplement to, the Balance of Payments (BPM5) and System of National Accounts (SNA93) manuals. Within the MSITS manual, there are guidelines for the collection of FATS variables.

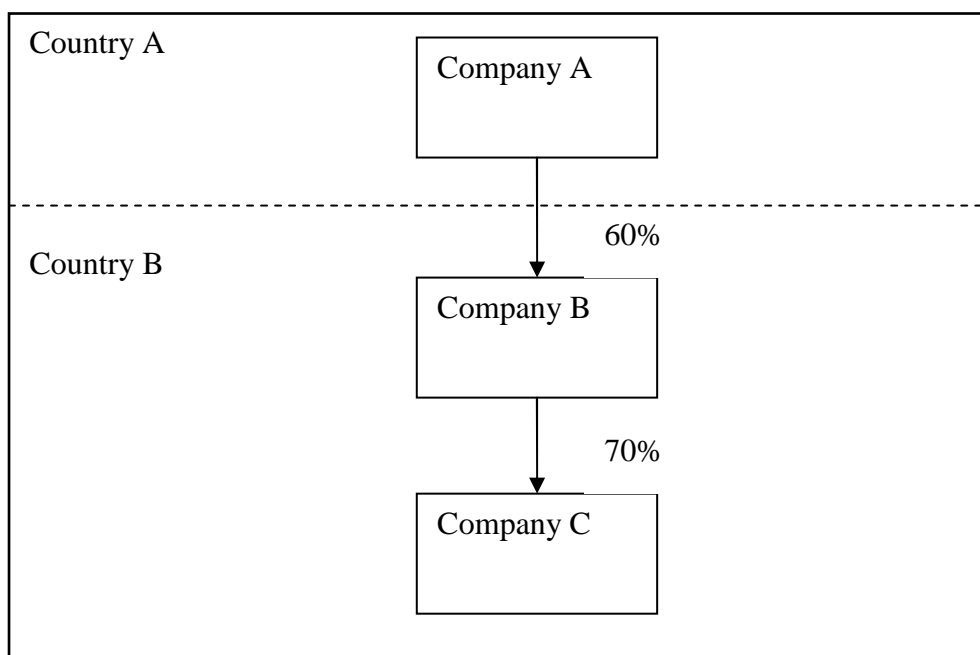
Wherever practical we have adopted the standards and definitions in the MSITS. However, it is not always feasible to use the MSITS standards and in some cases, such as defining 'ownership' of a foreign affiliate, the MSITS provides minimal practical guidance.

### 3.1 Defining Foreign Ownership

In the MSITS, foreign affiliates are defined as enterprises where the direct investor has a majority of the ordinary shares or voting power. In more practical terms, this relates to enterprises where the foreign ownership is greater than 50 percent. This is consistent with international guidelines that define direct investment as 10 percent or more ownership, more than 50 percent ownership as a foreign affiliate, and 100 percent ownership as a branch. These guidelines offer international comparability.

This 50 percent ownership criterion for foreign affiliates differs from direct investment ownership in BoP and IIP of 10 percent or more. The theory behind the BoP definition of direct investment is that it shows a lasting interest in an enterprise and a significant degree of influence on the enterprise's activities. For example, a foreigner holding more than 10 percent of the shares of a New Zealand company would, in theory at least, have considerable say in the direction of that enterprise. Foreign affiliates however, represent more than just a lasting interest. In general, foreign affiliates are New Zealand subsidiaries or branches of foreign firms. The FATS definition of majority ownership theoretically reflects a greater degree of control over the enterprise than is the case with FDI.

International ownership structures can be complicated, and ownership interests in a firm are not always a good proxy for the controlling interests. In theory, an enterprise that has 50 percent or more foreign ownership is considered a foreign affiliate (Company B is a foreign affiliate of Company A in the diagram below). Further, any domestic subsidiary of that foreign affiliate, if majority owned, is also considered an affiliate of the foreign enterprise (Company C is also considered a foreign affiliate of Company A, even though Company A's ownership in Company C is just 42 percent ( $0.70 * 0.60$ )). This still holds true, even if the foreign ownership interest is less than 50 percent in the foreign affiliate's subsidiary.



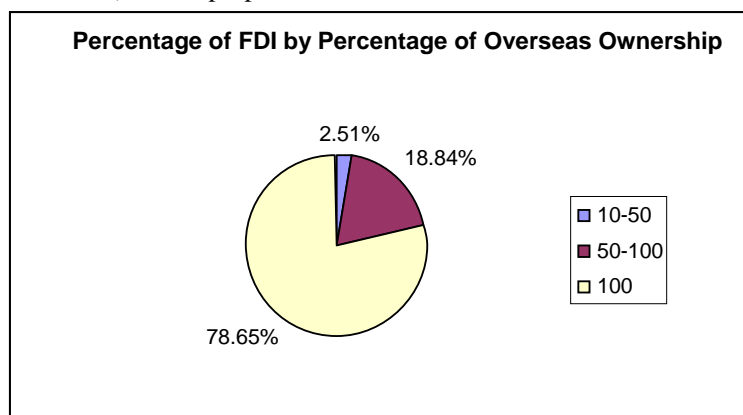
In practice, it was difficult to ascertain the exact level of foreign ownership using Statistics New Zealand's Business Frame (BF). The frame holds information on whether an enterprise has foreign ownership, and there is also an indicator for the percentage of foreign ownership. However, the percentage of foreign ownership field is not always accurate. Because of the sheer number of enterprises on the BF, and the fact that it was designed as an activity-based frame, the percentage ownership indicator is not always up to date. Because of this complication, a decision was made to treat all enterprises on the BF that have foreign ownership as being foreign affiliates.

In this paper, a broad assumption has been made that if any New Zealand Group Top Enterprise (GTE) was foreign-owned, then we considered all of its New Zealand subsidiaries to be foreign affiliates.

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Foreign Affiliates, as we have defined them, are a subset of Foreign Direct Investment (FDI) enterprises. FDI differs from foreign affiliate ownership, both in terms of percentage of equity and in terms of the kinds of financial interest that are included. Foreign affiliation is concerned with equity ownership, while FDI includes non-equity claims that a foreign investor has over a New Zealand subsidiary, such as loans, trade credits, equity securities and other instruments.

Despite differences between FDI and inward FATS, FDI is likely to be a good proxy for how New Zealand's inward FATS change over time. Information on foreign investment from the Quarterly International Investment Survey (QIIS) shows that 79 percent of total FDI for the December 2004 quarter can be attributed to enterprises that are 100 percent foreign owned<sup>1</sup>. In addition, of the enterprises that make up FDI, 98 percent are in the category of 50 percent or more foreign ownership (see chart below). These proportions are consistent over time.



### 3.2 Variables

In choosing the range of FATS variables for our experimental series, the desire to measure as much information about foreign affiliates as possible is necessarily constrained by data and resource limitations. The MSITS suggests the collection of at least the following basic FATS variables:

- (a) Sales (turnover)
- (b) Employment
- (c) Value-added
- (d) Exports and imports of goods and services
- (e) Number of enterprises.

We have captured all but two of these variables in our experimental series in section 5. Value-added was the only category that we were unable to produce using existing data sources available to us. This is unfortunate, as value-added includes only the proportion of output that originates in the firm itself, and is therefore a particularly useful measure for analysing the impact of globalisation on the economy. Exports and imports of goods and services data were missing in our experimental series, because we were unable to finalise the work in this area in time.

Sales and turnover are interchangeable terms for our purposes. Sales are a useful indicator of the activity of the foreign affiliate in the host country and are seen as a substitute for output/value added, which is more difficult to measure. For services transactions, sales are a very good proxy for output.

The number of enterprises provides a basic indicator of the prevalence of majority-owned enterprises, while the employment number shows the effect on the labour market and is a useful proxy for the size of an enterprise. Of course, using employment as a measure of size is best done in cases of intra-industry comparison rather than across industries, as some industries, particularly services, are much more labour intensive than others.

In addition to these basic FATS variables, we have also obtained data on firm equity, assets, operating surpluses and income. In theory, any number of FATS variables could be produced. These are just a few we have chosen, based on what was available from existing data sources.

### 3.3 Origin of Investment

The MSITS suggests that for FATS the country of ultimate investor is the most interesting, but it recognises that for many countries the ultimate destination or source of investment is not always possible to determine. As Balance of

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Payments FDI statistics are measured on the basis of the immediate investor, this is offered as a more practical alternative for FATS.

There has been a research project by Statistics New Zealand to determine the ultimate source of New Zealand's direct investment; however the results were not available in time to be of use in this paper. As it was not available, the tables in this paper refer to the country of the immediate investor.

### 3.4 Industry and product categories

The MSITS manual recommends that where possible, FATS variables are disaggregated by both activity and product. The manual recognises that for some variables the product breakdown would not be feasible. In this paper, we have tried to express the available FATS variables by industry type where possible, using the current ANZSIC industry classification<sup>2</sup>. By not having a product breakdown, we are unable to distinguish between sales of goods and services from the AES data. No attempt has been made to further disaggregate the variables presented in this paper, because in an economy the size of New Zealand's confidentiality issues are likely to arise.

Without a services/product break-down we are unable to estimate the services trade interests of foreign affiliates in New Zealand. As a result, we cannot measure Mode 3 services imports using our experimental series.

There were practical issues encountered when trying to determine the industry of foreign affiliates. In large groups of enterprises, different enterprises may engage in different activities. An example of this is a company that may be involved in manufacturing, but also have enterprises dedicated to marketing, investing or retailing. When identifying the FATS enterprises, we attempted to establish the predominant activity of the group so as to be consistent with our investment data by industry publication. The determination for predominant activity was the industry that employed the greatest number of people in that group.

#### 4. Data sources used for inward FATS estimates

Statistics New Zealand data sources that were used to compile inward FATS estimates for this paper included:

- The Business Frame
- The Annual Enterprise Survey.

##### 4.1 The Business Frame

The Statistics New Zealand Business Frame (BF) is a database of individual, private and public sector enterprises in New Zealand engaged in the production of goods and services. The Frame is maintained to provide a framework for selecting respondents for Statistics New Zealand's business surveys. There are approximately 400,000 enterprises on the Business Frame.

The Business Frame stores an extensive range of characteristics about New Zealand enterprises, such as the level of foreign ownership, the number of employees, the type of activity that the enterprise is involved in, and information on the structure of groups of enterprises. Foreign affiliate enterprises were identified from the ownership levels and the group structure information contained on the BF. The BF was also used to identify the number of enterprises and employees in New Zealand, and the proportion of these attributed to foreign affiliates.

Like all data sources, the BF has its limitations. One of the limitations of the BF is that it is an on-line system that can be updated at any time from a number of different data sources. While this is a positive characteristic for what it was designed for – survey selection – it means that information from the BF only represents a snapshot in time, making time series analysis possible, but difficult.

Another limitation of the BF is that it excludes enterprises that fall below the threshold criteria of 'economic significance'. For example, enterprises that have annual turnover for GST purposes of less than \$30,000 are excluded, and agricultural production is also excluded from industry coverage. The threshold criteria for 'economic significance' are designed to maintain a balance between coverage of the New Zealand economy, the availability of data sources used to maintain the frame, and maintenance costs of the frame.

##### 4.2 The Annual Enterprise Survey (AES)

The AES is designed to provide annual data on the financial performance and financial position of New Zealand enterprises by industry. The target population is all enterprises in New Zealand. Enterprises that are not economically significant or are in certain exclusion industries (such as residential property operators and religious organisations) are not covered by AES.

The AES is a collection of both survey and administrative data. There are a number of different questionnaires in AES, customised for different industries. The administrative data source is tax data from the Inland Revenue Department (IRD). The population of the 2003 AES was 366,790 statistical units, of which 20,590 were in the sample of units directly surveyed, 221,760 were surveyed using administrative tax data and 4,357 were surveyed with other surveys.

Among the AES variables used in this paper were:

- Sales of goods and services – this is the same as turnover, and includes sales of goods not further processed.
- Total assets – the total assets of the enterprise.
- Equity – shareholders' funds or owners' equity includes accumulated retained earnings, other reserves and long-term provisions.
- Operating Surplus per FTE – the amount of operating surplus (revenue less expenses) per full-time equivalent employee.
- Return on total assets – operating surplus divided by total assets.

These variables were looked at for the enterprises identified as being foreign affiliates, and, where possible, compared with total AES data by industry. The variables selected are by no means exhaustive - potentially any of the variables collected in AES could have been applied to FATS. Discussion about how the industries were assigned to foreign affiliate enterprises is outlined in the definitions and concepts section of this paper.

One of the major limitations with the AES survey is timeliness. The nature of the survey means that the results are published approximately 18 months after the reference period. For this FATS paper, the AES data used for analysis was for the 2003 financial year.

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Another limitation is that the AES survey is designed to collect responses for a certain financial year. Because different companies have different balance dates, the actual period that responses in that survey cover can vary according to when the companies' last financial reports were filed. The 2003 AES results include financial data for organisations which have an end-of-financial year balance date of between 1 October 2002 and 30 September 2003.

In the AES, non-responses are imputed for. The level of imputation may vary between industries and affect the quality of the data. In this FATS paper, the imputations designed for the AES were also included in the foreign affiliate enterprise estimates.

#### 4.3 General Caveat

Comparisons between the indicators in this paper derived from AES (2003 financial year) and the Business Frame (as at 31 March 2005) must be interpreted with care.

### 5. Experimental FATS series<sup>3 4</sup>

The results in this section are based on the data sources and methodologies outlined above. We have divided our results into sub-sections. The first is a stock-take of the number of foreign affiliates in the New Zealand economy, their relative size according to employment levels, concentration by industry, and origin of direct investor. The second looks at a collection of activity and financial indicators, by industry and country of origin of direct investor.

Throughout this section our focus is on identifying where major differences exist between foreign affiliate firms and domestically owned firms. We also provide discussion around the limitations of these results in addition to those raised earlier.

#### 5.1 Foreign affiliate enterprises, employees, and origin

Of the 419,049 enterprises on the Business Frame as at 31 March 2005, 3,779 (0.9 percent) were identified as foreign affiliates of overseas firms. Those 3,779 foreign affiliate enterprises accounted for 14.5 percent of all employees. Indeed, in every industry, foreign affiliate firms employ greater numbers of staff relative to New Zealand-owned enterprises. This confirms our expectation that foreign affiliate enterprises are generally much larger than New Zealand-owned firms.

The concentration of employment in foreign affiliate enterprises is most pronounced in the Finance and Insurance industry. Foreign affiliates make up just 5.5 percent of the number of firms in the Finance and Insurance industry, yet account for 66.7 percent of the employees. The main reason for this is that all major New Zealand banks are foreign-controlled and they operate on a large scale which is reflected in the high number of employees in this industry.

**Table 1**  
**Number of Foreign Affiliate Enterprises and Employees by Industry**  
*As at 31 March 2005*

Industry	Number of foreign affiliates	Number of employees (FATS)	Total number of enterprises	Total number of employees	Percentage of FATS enterprises to total	Percentage of FATS employees to total
Agriculture, Forestry and Fishing	84	846	80,291	112,870	0.1	0.7
Mining	41	972	401	3,732	10.2	26.0
Manufacturing	430	62,154	22,433	263,043	1.9	23.6
Electricity, Gas and Water Supply	11	1,632	202	6,957	5.4	23.5
Construction	49	10,241	42,993	103,522	0.1	9.9
Wholesale Trade	952	28,406	17,586	107,690	5.4	26.4
Retail Trade	91	30,027	37,927	226,660	0.2	13.2
Accommodation, Cafes and Restaurants	57	10,699	12,341	102,582	0.5	10.4
Transport and Storage	183	14,372	12,032	72,271	1.5	19.9
Communication Services	27	4,111	3,423	26,009	0.8	15.8
Finance and Insurance	958	34,825	17,477	52,211	5.5	66.7
Property and Business Services	770	44,328	124,651	201,679	0.6	22.0

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Government Administration and Defence	0	0	210	76,105	0.0	0.0
Education	34	849	6,516	121,145	0.5	0.7
Health and Community Services	15	3,480	14,484	174,135	0.1	2.0
Cultural and Recreational Services	47	2,876	11,875	42,450	0.4	6.8
Personal and Other Services	30	4,326	14,207	62,374	0.2	6.9
<b>Total All Industries</b>	<b>3,779</b>	<b>254,144</b>	<b>419,049</b>	<b>1,755,435</b>	<b>0.9</b>	<b>14.5</b>

Table 2 provides a breakdown of FATS enterprises by origin of immediate investor. This table shows that Australia is the principal country of origin for foreign affiliated enterprises in New Zealand. Australia is the origin of 44 percent of foreign affiliate invested enterprises in New Zealand. The second largest is the United States with 18 percent of enterprises, more than double the next largest source of foreign affiliate investment.

Other things being equal, reliance on two source countries, Australia and the USA, for 62 percent of foreign affiliated enterprises might raise concerns that New Zealand's portfolio of foreign affiliate enterprises is not very diversified. This raises the prospect of shocks to these economies impacting heavily on the New Zealand economy. However, there may be good reason to set Australian-parented foreign affiliates to one side on the basis that our economies are highly integrated. If we do this, the foreign affiliate profile appears well diversified, with a wide range of countries contributing to the number of foreign invested enterprises New Zealand.

**Table 2**  
**Number of Foreign Affiliates and Employees by Country of Immediate Investor**  
*As at 31 March 2005*

Country of immediate investor	Number of FATS enterprises	Number of employees (FATS)
Australia	1,665	123,589
Bermuda	61	4,192
British Virgin Islands	51	475
Canada	58	2,497
France	74	7,577
Germany	120	3,333
Hong Kong	39	1,122
Japan	141	9,362
Malaysia	28	2,776
Netherlands	126	5,187
Singapore	97	4,938
Sweden	27	1,890
Switzerland	70	7,373
United Kingdom	283	21,911
USA	689	49,937
Other countries	301	8,460
<b>Total All Countries</b>	<b>3,779</b>	<b>254,144</b>

Table 2 serves to remind us that immediate investor definitions are potentially poor in showing the true source of interest in a foreign affiliated enterprise. For example, it is probable that ownership of foreign affiliates by companies registered in Bermuda and British Virgin Islands, comprising 3.0 percent of foreign affiliate enterprises, do not represent ultimate investor interests, but instead reflect structured financing arrangements, where the capital supporting these enterprises is registered as being held in these locations.

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The distinction between ultimate investor and direct investor is an important one for trade policy, to the extent that investment relationships are considered when prioritising trade negotiations (Rose, (2004)). Table 2 reminds us that existing statistics on origins of foreign investment provide an incomplete picture about ultimate sources of foreign investment in New Zealand.

### 5.2 Activities and financial structure of foreign affiliate firms in New Zealand

This section is derived from the 2003 Annual Enterprise Survey (AES). Identified foreign affiliates were matched to existing AES data and the relevant variables extracted.

Turnover is equal to Sales of Goods and Services and Sales of Goods Not Further Processed from the AES.

There was a coverage issue (see right hand column in table below) with this section of the data, due to the fact that AES has a two-tier sample structure for these variables. One sample provided information on equity and total assets from the Statement of Financial Position, while the other sample provided data on operating surplus and total income from the Statement of Financial Performance. We found that some foreign affiliates were included in one sample but not the other. In the interest of comparability, we only used data on enterprises included in both samples. Where the proportion of foreign affiliates represented in both samples was too low compared with total foreign affiliates in a particular industry, this data was suppressed. Agriculture, Forestry, and Fishing was combined with Mining, and Cultural and Recreational Services was combined with Personal and Other Services to make data non-confidential for these industries.

**Table 3**  
**FATS enterprises covered in both AES samples**

Industry	Number of foreign affiliates in AES data	Number of employees for foreign affiliates in AES data	Number of foreign affiliates	Number of employees for foreign affiliates	Coverage for number of foreign affiliates	Coverage for number of employees for foreign affiliates
Agriculture, Forestry and Fishing	35	590	84	846	41.7%	69.7%
Mining	19	871	41	972	46.3%	89.6%
Manufacturing	115	38,511	430	62,154	26.7%	62.0%
Electricity, Gas and Water Supply	10	..C	11	..C	90.9%	..C
Construction	9	6,535	49	10,241	18.4%	63.8%
Wholesale Trade	101	15,057	952	28,406	10.6%	53.0%
Retail Trade	14	24,956	91	30,027	15.4%	83.1%
Accommodation, Cafes and Restaurants	8	5,642	57	10,699	14.0%	52.7%
Transport and Storage	27	8,677	183	14,372	14.8%	60.4%
Communication	6	3,610	27	4,111	22.2%	87.8%
Finance and Insurance	458	33,287	958	34,825	47.8%	95.6%
Property and Business Services	217	28,670	770	44,328	28.2%	64.7%
Government Administration and Defence		..	..	..	..	..
Education	5	..C	34	849	11.8%	..C
Health and Community Services	4	..C	15	..C	46.7%	..C
Cultural and Recreational Services	7	2,101	47	2,876	6.4%	73.1%
Personal and Other Services	3	3,010	30	4,326	10.0%	69.6%
<b>Total</b>	<b>1,166</b>	<b>175,830</b>	<b>3,779</b>	<b>254,144</b>	<b>30.9%</b>	<b>69.2%</b>

..C confidential

Foreign affiliate enterprises are estimated to contribute 22.8 percent of turnover, 38.1 percent of total assets and 24.2 percent of equity.

Turnover by foreign affiliate enterprises was estimated to be \$74.9 billion for the 2003 financial year. The Wholesale Trade and Manufacturing industries contributed \$24.9 billion and \$18.9 billion of this, respectively. However, due to only 53 percent of foreign affiliates being represented, these figures may not be a completely accurate representation of this industry.

Atwell, J., & Wido van, L. (2007). Investigation of New Zealand's Inward Foreign Affiliate Trade Statistics Using Existing Data Sources.

Foreign affiliate enterprises dominate the Finance and Insurance Industry in terms of turnover (61.2 percent), total assets (60.8 percent) and shareholders equity (52.2 percent). Of the \$374.3 billion of total assets attributed to foreign affiliate enterprises, \$296.8 billion were owned by the Finance and Insurance Industry.

**Table 4**  
**Activity of Foreign Affiliate Firms by Industry**  
**2003 Financial Year**  
**\$NZ (million)**

Industry	Turnover (sales) of foreign affiliates	Total assets of foreign affiliates	Equity of foreign affiliates	Total turnover (sales)	Total assets	Total owners equity
Agriculture, Forestry, Fishing, and Mining	1,845	8,241	6,258	26,052	94,292	51,314
Manufacturing	18,919	18,329	8,368	64,951	53,625	24,507
Electricity, Gas and Water Supply	na	na	na	10,021	28,913	16,387
Construction	1,837	695	194	18,582	8,390	2,944
Wholesale Trade	24,925	10,591	3,536	68,950	25,074	8,757
Retail Trade	6,831	1,387	613	44,161	12,436	4,559
Accommodation, Cafes and Restaurants	658	1,403	711	5,569	6,323	2,914
Transport, Storage and communication	4,330	5,084	2,463	20,283	25,838	11,294
Finance and Insurance	6,257	296,836	63,886	10,215	488,081	122,310
Property and Business Services	5,646	24,640	4,000	36,404	114,887	43,155
Government Administration and Defence	0	0	0	7,501	97,742	81,891
Education	na	na	na	2,614	8,304	6,201
Health and Community Services	..C	..C	..C	3,718	8,758	4,017
Cultural, Recreational, Personal, and Other Services	1,031	621	229	9,203	9,612	5,726
<b>All Industries</b>	<b>74,890</b>	<b>374,338</b>	<b>93,457</b>	<b>328,223</b>	<b>982,275</b>	<b>385,976</b>

..C confidential

na data suppressed due to the insufficient coverage of foreign affiliates

Foreign affiliates typically have more assets than New Zealand firms, controlling some 38 percent of assets across all industries. This figure is skewed, however, by the dominance of foreign affiliates in the banking industry, and by the majority of assets held in that industry, as mentioned above. If we remove the banking industry as an outlier, we find that foreign affiliate shares of assets are only slightly higher than foreign affiliate shares of employment -15.7 percent as compared to 14.5 percent of employment.

The negative equity of foreign affiliates with parent companies in Bermuda (Table 5) provides further evidence of foreign affiliates or parent companies having a preference for debt financing through international holding companies.

Table 5 also reconfirms the importance of Australia as a source of foreign investment and foreign affiliate enterprises in the New Zealand economy.

**Table 5**  
**Activity of Foreign Affiliate Firms by Country of Immediate Investor**  
**2003 Financial Year**  
**\$NZ (million)**

Country of immediate investor	Turnover (sales) of foreign affiliates	Total assets of foreign affiliates	Equity of foreign affiliates
Australia	31,246	236,089	48,862
Bermuda	1,515	4,346	-795
British Virgin Islands	106	2,073	805
Canada	..C	588	85
France	1,969	4,255	956
Germany	1,514	..C	740
Hong Kong	..C	..C	..C
Japan	5,955	4,591	1,874
Malaysia	444	..C	..C
Netherlands	3,726	..C	..C
Singapore	1,503	1,180	653
Sweden	463	..C	..C
Switzerland	1,347	..C	..C
United Kingdom	5,284	6,574	2,298
USA	15,423	48,257	18,741
Other Countries	3,718	14,351	2,082
<b>Total All Countries</b>	<b>74,890</b>	<b>374,338</b>	<b>93,457</b>

..C confidential

The data in tables six and seven below is also from the 2003 Annual Enterprise Survey (AES). It gives a comparison of foreign affiliates against total firms in New Zealand, using financial ratios. Extreme outliers have been removed from the return on assets, return on equity, and debt to equity ratio data.

Foreign affiliates outperform total New Zealand firms in terms of total income per FTE for almost all industries they participate in. The Wholesale Trade industry was where foreign affiliate enterprises had by far the largest total income per FTE. However, due to coverage issues mentioned earlier this may not be truly representative of this particular industry.

The figures for operating surplus per FTE are much more balanced between foreign affiliates and all New Zealand firms. The Wholesale Trade industry again stands out. This industry also has the second highest concentration of FATS employees compared with total employees in the industry. The Finance and Insurance industry has the highest concentration of FATS employees (66.7 percent), which may help to explain why total income and operating surplus per FTE is lower than for all New Zealand firms for this industry.

**Table 6**  
**Income and Operating Surplus per Full-time Equivalent Employee (FTE) by Industry**  
**2003 Financial Year**  
**\$NZ (000's)**

Industry	Total income per FTE for foreign affiliates	Operating surplus per FTE for foreign affiliates	Total income per FTE	Operating surplus per FTE
Agriculture, Forestry, Fishing, and Mining	1,930	722	875	212
Manufacturing	505	48	262	18
Electricity, Gas and Water Supply	na	na	na	na
Construction	456	3	158	18
Wholesale Trade	5,683	1,157	714	38
Retail Trade	551	18	232	15
Accommodation, Cafes and Restaurants	139	3	81	6
Transport, Storage and communication	722	49	225	28
Finance and Insurance	223	28	915	228
Property and Business Services	479	-78	192	33
Government Administration and Defence	0	0	263	9
Education	na	na	na	na
Health and Community Services	..C	..C	..C	..C
Cultural, Recreational, Personal, and Other Services	286	30	277	30
All Industries	<b>1,094</b>	<b>125</b>	<b>248</b>	<b>25</b>

..C confidential

na data suppressed due to the insufficient coverage of foreign affiliates

There are substantial differences for some of the industry figures in table seven (below) between foreign affiliates and all New Zealand firms, reaffirming the belief that foreign affiliates perform better in some industries than others.

Foreign affiliates have their lowest return on equity (-3.0 percent) in the Property and Business Services industry and their highest return on equity (55.9 percent) in the Retail Trade industry. Compare this with the figures for all New Zealand firms, where the lowest return on equity (2.7 percent) is for the Agriculture, Forestry, Fishing, and Mining industry and the highest return on equity (72.3 percent) is in the Wholesale Trade industry.

Figures for return on assets have their highest and lowest values in the same industries as the return on equity, for both foreign affiliates and all New Zealand firms.

Foreign affiliates seem to significantly outperform New Zealand resident enterprises in the Agriculture, Forestry, Fishing, and Mining industry and the Retail Trade industry. Conversely, New Zealand firms have much higher returns on equity and total assets in the Accommodation, Cafes, and Restaurants industry and the Wholesale Trade industry. However, both these industries had low coverage of foreign affiliates in the dataset.

The magnitudes of the return on equity and total assets are generally smaller for foreign affiliates than for total New Zealand firms, reflecting the fact that foreign affiliates have, on average, much higher levels of equity and total assets.

Foreign affiliates, in aggregate, have higher debt levels than domestically owned firms, as measured by debt to equity ratios (calculated as assets less equity, divided by total equity). Total foreign affiliate debt to equity is 3.01 to 1 compared with 1.69 to 1 in the case of all New Zealand enterprises. This sizable difference is largely due to large debt to equity ratios in four industries: Property and Business Services, Finance and Insurance, Education, and Construction.

Foreign affiliates are often the recipients of debt financing from parent companies, which is consistent with high levels of debt relative to equity. Accessing capital as debt rather than equity may have benefits in terms of tax liabilities, amongst other things. Foreign affiliates may be able to access this kind of financing more easily than domestic firms, and so are more likely to appear highly leveraged.

**Table 7**  
**Debt/Equity Ratios and Return on Equity, Total Assets by Industry**  
**2003 Financial Year**  
**Percent**

Industry	Return on equity for foreign affiliates	Return on total assets for foreign affiliates	Debt/equity ratio for foreign affiliates	Return on equity	Return on total assets	Debt/equity ratio
Agriculture, Forestry, Fishing, and Mining	11.8%	9.0%	0.31	2.7%	1.4%	0.73
Manufacturing	17.8%	8.1%	1.19	14.8%	10.0%	1.29
Electricity, Gas and Water Supply	na	na	na	na	na	na
Construction	3.4%	0.9%	2.59	9.5%	5.4%	2.00
Wholesale Trade	32.0%	10.6%	2.01	72.3%	25.4%	1.37
Retail Trade	55.9%	24.7%	1.26	42.4%	14.8%	2.13
Accommodation, Cafes and Restaurants	3.7%	1.9%	0.97	60.9%	22.3%	1.25
Transport, Storage and communication	3.7%	1.8%	1.06	13.4%	6.2%	1.87
Finance and Insurance	7.5%	1.6%	3.65	23.6%	10.3%	3.28
Property and Business Services	-3.0%	-0.5%	5.31	9.0%	2.3%	1.71
Government Administration and Defence	0.0%	0.0%	0.0	15.8%	5.9%	0.24
Education	na	na	na	na	na	na
Health and Community Services	..C	..C	..C	..C	..C	..C
Cultural, Recreational, Personal, and Other Services	27.7%	10.2%	1.71	25.4%	11.6%	0.84
All Industries	9.4%	2.3%	3.01	18.0%	11.0%	1.69

..C confidential

na data suppressed due to the insufficient coverage of foreign affiliates

## Conclusion

As expected, FATS enterprises are generally larger than other New Zealand enterprises in terms of number of employees, total assets and equity. In contrast, FATS enterprises are much more aligned with New Zealand firms in terms of returns on equity and total assets. Foreign affiliates are by definition part of multinational firms, and other New Zealand enterprises include a number of small businesses.

This paper has considered the usefulness and investigated the feasibility of producing inward FATS. Section one of the paper introduced the idea of foreign affiliates and explained the links with the current macro-economic statistics. Section two looked at why FATS are important, not just in a global context but in the New Zealand context. New Zealand is a net debtor with the rest of the world due to the excess of foreign investment in New Zealand over New Zealand investment abroad. Therefore, it is important to understand the impacts of this investment on the New Zealand economy. FATS can also support trade negotiations by providing an understanding of international economic integration, and assist in prioritising resources. Sections three and four explained the measurement framework and concepts for FATS, and listed the data sources and their limitations. Section five presented experimental series for FATS, also providing analysis and interpretation.

Clearly, there is scope to regularly produce inward FATS from existing data sources as demonstrated in the paper. However, there would be further work required to improve their quality and usefulness, particularly for them to be released as official series.

Further work would be required on establishing the ultimate investor, improving the coverage of FATS enterprises within the AES framework, investigating data on value-added and providing trade data for foreign affiliates, especially broken down into product classifications. The latter would be useful in measuring Mode 3 trade in goods and services while value added is useful for measuring the impact of globalisation and investment contribution to the New Zealand economy.

This paper has highlighted just how prevalent foreign affiliates are in the New Zealand economy and the substantial contribution they make in terms of employment, amongst other things. Therefore improving our understanding of the impact of foreign investment in an increasingly global world is important.

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## Glossary of Terms

ABS	Australian Bureau of Statistics	Australia's official statistical agency, the equivalent of Statistics New Zealand.
ANZSIC	Australia New Zealand Standard Industrial Classification	A standard classification system used by both Statistics New Zealand and the Australian Bureau of Statistics for industry breakdowns.
BoP	Balance of Payments	A set of accounts that records transactions between New Zealand and the rest of the world. Records the flows, while the IIP records the stocks.
BF	Business Frames	The Business Frame is a database of individual, private and public sector businesses and organisations engaged in the production of goods and services in New Zealand.
BPM5	Balance of Payments Manual 5 <sup>th</sup> Edition	The compilation of Balance of Payments and International Investment Position statistics are based on this manual.
FATS	Foreign Affiliate Trade Statistics	Indicators that help provide a more complete picture of foreign direct investment, and trade in goods and services.
GATS	General Agreement on Trade in Services	A multi-lateral agreement between WTO members on international trade in services.
IIP	International Investment Position	The statement which records New Zealand's international assets and liabilities with the rest of the world. Records the stocks, while the BoP records the flows.
Inward FATS		Statistics on the structure and activities of foreign-owned enterprises in New Zealand.
IMF	The International Monetary Fund	
IRD	Inland Revenue	New Zealand's tax collection agency.

Department

MSITS	The Manual on Statistics of International Trade in Services	An international manual guiding the compilation of services statistics.
Mode 3 supply		See <i>Modes of supply</i>
Modes of supply		There are four modes of supply for the delivery of services as outlined in MSITS; they are: <ul style="list-style-type: none"><li>• Mode 1 – cross-border supply</li><li>• Mode 2 – consumption abroad</li><li>• Mode 3 – commercial presence (i.e. FATS)</li><li>• Mode 4 – presence of natural persons.</li></ul>
Outward FATS		Statistics on the structure and activities of New Zealand firms' overseas-based subsidiaries.
Turnover		In the FATS context is the same as sales of goods and services.
WTO	World Trade Organisation	

**JEL classification:**

F23 Multinational Firms; International Business

C82 Methodology for Collecting, Estimating, and Organising Macroeconomic Data

**Key words:**

Foreign affiliates; direct investment; trade.

<sup>1</sup> The QIIS surveys approximately 500 enterprises that make up 95 percent of New Zealand's international assets and liabilities.

<sup>2</sup> A new and updated version of ANZSIC will be available in 2006.

<sup>3</sup> Data in the analysis section are based on experimental series; therefore care must be taken when interpreting the results.

<sup>4</sup> Data may not sum to stated totals due to rounding.