

Economic Relations between New Zealand and the Philippines: An Empirical Analysis

SAYEEDA BANO

University of Waikato,
Hamilton, New Zealand
Ph: 64 7 838 4931/ 64 7 838 4045
Email: sbano@mngt.waikato.ac.nz

And

JOSE TABBADA

University of the Philippines
Diliman Campus
Manila, Philippines
Phone: 6329311022
Email: josetabbada@hotmail.com

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Abstract

Trade, aid and investment flows between New Zealand and the Philippines have expanded over the last 20 years. This paper analyzes the direction, composition and trends in the trade relations between the two countries. Trade intensity indices, trade potentials, complementarities and revealed comparative advantages are identified. The study shows that trade has been beneficial to both countries and that there is significant potential for further growth.

Key Words: *International trade, intra-industry trade, regional economic integration, Philippines Trade, New Zealand Trade, FTAs, ASEAN, RCA Dynamic RCA*

JEL Classification: F10, F02, F13, F14, F15

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Introduction

As a country that was settled mainly by peoples from Europe, New Zealand has historically looked to the West for its economic, political and socio-cultural ties. But times have changed, and continue to change. If there is any truth to the saying that “geography is destiny”, it should be true of New Zealand, which may be turning its attention towards its neighbors particularly in South and Southeast Asia and the Pacific.

This shift towards Asia may have been aided or pulled in no small part by the rapid economic growth which characterized East and Southeast Asia during the last decades of the 20th century, and which presently characterizes China and India, both of which have been growing at unprecedented rates. Growth, of course, attracts trade and investment in the same manner that magnet attracts iron.

This paper attempts to assess the nature, magnitude and extent of the shift in economic relations between New Zealand and Asia, using the Philippines as an illustrative case. This paper is primarily exploratory, although it also poses a few questions that are central to discussions on foreign trade and economic relations between two countries. What is the current state of bilateral trade between New Zealand and the Philippines? Are there any patterns and regularities in the trade and economic relationship, and if so, how may these be explained? What is the potential for further trade and economic relations between the two countries?

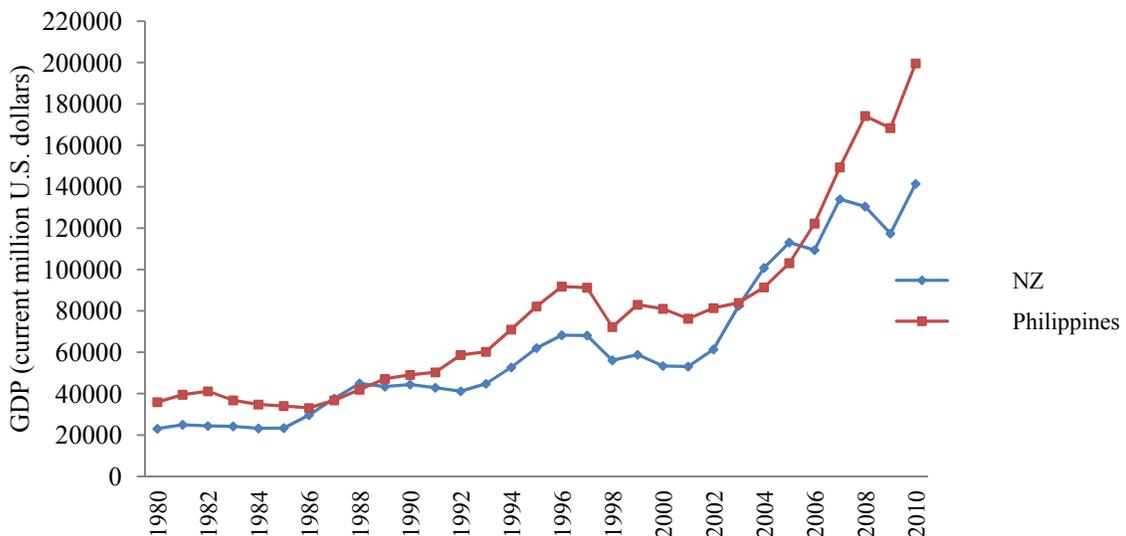
Overview of the Two Economies

New Zealand and the Philippines are two countries in the Asia-Pacific that bear striking similarities as well as stark contrasts with each other. In terms of size and location, both are relatively small (compared to, say, Indonesia) insular countries which are located off large continental land masses, beside which they appear as peripheries: Australia in the case of New Zealand and China (and India) in the case of the Philippines. Both are, to a large degree, agricultural and resource-based economies with identifiable product specializations: meat and

dairy products for New Zealand; banana, coconut and other tropical fruits for the Philippines. Both economies are, to some extent, also diversified.

But the major similarities end there. Although the two countries are approximately equal in land area – with both even having two major islands, a northern and a southern half – they differ widely in their population densities. While the Philippine population is now over 90 million, which makes it one of the more densely populated countries in the region, New Zealand has only four-and-a-half million inhabitants, making it one of the most sparsely settled medium-size countries. Thus, although their GDPs are almost equal, with that of the Philippines even surpassing New Zealand's in recent years, their per capita income levels differ widely, with New Zealand being a high-income country and the Philippines a low middle-income country with a persistent poverty problem. Also as a consequence of their contrasting economic-demographic profiles, the Philippines is a sending country while New Zealand is a recipient country for migrants.

Figure 1: GDPs of New Zealand and the Philippines, 1980 - 2010



Source: UNCTAD Stats. retrieved 16 June 2012 from www.unctad.org

It can be seen in Figure 1 that New Zealand and the Philippines have GDP levels that are approximately equal, with the GDP of the Philippines above New Zealand's for most of the period 1980-2010, and with the gap widening since 2007, which was the onset of the current recession that still has the US and some EU countries in its grip. In 2010 the Philippines' GDP

was approximately \$200 billion while that of New Zealand was around \$140 billion. However, since the Philippine population is more than 20 times that of New Zealand's, per capita income in the latter is so much higher, around 15 times, than that of the former.

There is casual evidence of growing economic relations between New Zealand and the Philippines. Bilateral business councils have been established between the two countries. There are also several New Zealand companies in the Philippines in the energy industry (e.g., Fletchers), infrastructure development (e.g., Sinclair Knight Merz) and housing construction (e.g., Pacific Development). The ANZ Bank has one of ten foreign bank licenses to operate in the Philippines. (The Philippine Constitution and Philippine laws limit the number of foreign bank branches that are allowed to open and operate in the country). New Zealand has been an important source of official development assistance to the Philippines especially in the areas of forestry, environment and education. In recent years, the Philippines has been an important source of new migrants to New Zealand.

The New Zealand Economy in Brief

History and geography

The islands of New Zealand were initially occupied by the Maoris, who arrived around A.D. 800. Beginning in the 1700s British settlers arrived in the islands, and in 1840 the nation of New Zealand was founded with the signing of the Treaty of Waitangi.

The vast majority of New Zealand's 268,021 sq. km. land area is accounted for by the two main islands, the North Island and the South Island. Other outlying islands within the jurisdiction of New Zealand include Stewart Island, the Antipodes Islands, Auckland Islands, Bounty Islands, Campbell Island, Chatham Islands, and Kermadec Islands. The coastline of New Zealand is approximately 15,134 kms. long. New Zealand has a number of significant natural resources, including natural gas, iron ore, sand, coal, timber, hydropower, gold, and limestone (CIA, 2009).

Population

As of 2008 New Zealand's population was estimated at 4.2 million people, and has been growing at around 1%. The vast majority of the population are in the North Island, with approximately 32.4% residing in Auckland, New Zealand's largest city. New Zealand is relatively urbanised, with approximately 87% of the population estimated to live in urban areas. The 2006 census indicates that approximately 64.8% of New Zealanders identify themselves as European, while 14.0% are Maori, 8.8% Asian, and 6.6% Pacific Islanders (Statistics New Zealand, 2009).

Economy

Annual GDP growth since the early 1990s has been higher than the OECD average, with recent growth of 4.0 percent (recorded in 2002) being one of the highest in the OECD. The average growth rate for the previous four years 1999-2002 was 3.3 percent and for the subsequent four years 2003-2006, 2.7 percent, rates which are respectable for a developed economy. Growth rates slowed down with the current global recession (there is a noticeable drop in the GDP, as shown in Figure 1), with low growth of 0.2% recorded in 2008 and negative growth predicted for 2009. Prior to the recession, New Zealand had the fourth lowest unemployment rate among OECD countries, but in recent years the unemployment rate has risen from around 3.5% in 2007 to over 5% in the first quarter of 2009 (Statistics New Zealand, 2009). New Zealand's governments have run budget surpluses consistently for over 10 years.

Trade

New Zealand is a member of the WTO, and is committed to trade liberalization. In recent years, New Zealand has become party to a number of regional, bilateral and multilateral trade agreements. These include agreements with the ASEAN nations, China, Brunei, Chile, and of course Australia. These agreements are:

- ASEAN-Australia/NZ Free Trade Area

- New Zealand-China Free Trade Agreement
- Trans-Pacific Strategic Economic Partnership (Brunei/Chile/New Zealand/Singapore)
- New Zealand and Thailand Closer Economic Partnership
- New Zealand and Singapore Closer Economic Partnership
- Australia and New Zealand Closer Economic Relations

Table 1: New Zealand Bilateral Trade as a Percentage of Total NZ Trade, 2011

Partner	Exports to Partner as a % of Total NZ Exports	Imports from Partner as a % of Total NZ Imports
EU	11.24	15.60
NAFTA	10.50	12.53
ASEAN	9.41	13.98
Australia	22.74	15.71
US	8.38	10.72
Japan	7.21	6.23
China	12.34	15.86
UK	3.24	2.70
World	100.00	100.00

Source: Statistics New Zealand. retrieved 16 June 2012 from www.stats.govt.nz

New Zealand is one of the most open economies in the world. Table 1 shows the importance of trade relations with Australia, the US, EU, ASEAN and China, which, combined, account for almost 55% of New Zealand's exports and almost 58% of its imports. As stated above, New Zealand has free trade agreements with Australia and China, which are New Zealand's largest trading partners, as well as with Singapore and Thailand.

Table 2a: New Zealand's Main Exports by Commodity, 2011

Commodity	Value (NZ\$ million)	Share of Total NZ Exports (%)
Milk powder, butter, and cheese	11334	24.60
Meat and edible offal	5398	11.72
Logs, wood, and wood articles	3200	6.95
Crude oil	1997	4.33
Mechanical machinery and equipment	1733	3.76
Fruit	1487	3.23
Fish, crustaceans, and molluscs	1382	3.00
Aluminium and aluminium articles	1260	2.73

Total Exports	46072	100
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Source: New Zealand in Profile: 2012. retrieved 16 June, 2012 from www.stats.govt.nz

Table 2b: New Zealand's Main Imports by Commodity, 2011

Commodity	Value (NZ\$ million)	Share of Total NZ Imports (%)
Petroleum and products	7236	16.05
Mechanical machinery and equipment	5487	12.17
Vehicles, parts, and accessories	4270	9.47
Electrical machinery and equipment	3890	8.63
Textiles and textile articles	2077	4.61
Plastics and plastic articles	1645	3.65
Aircraft and parts	1439	3.19
Optical, medical and measuring equipment	1373	3.05
Total Imports	45073	100

Source: New Zealand in Profile: 2012. retrieved 16 June, 2012 from www.stats.govt.nz

The agricultural, horticultural, forestry, mining, energy and fishing industries play important roles in New Zealand's economy, particularly in the export sector and in employment. Overall, the primary sector contributes over 50 percent of New Zealand's total export earnings.

New Zealand tends to export dairy, meat, oil and timber, and to import machinery, electronics and textiles. Table 2a clearly shows the importance of the primary industries to New Zealand's export sector. As Table 2b shows, petroleum and petroleum products are also important import commodities. It can be seen from Tables 2a and 2b that New Zealand had a trade surplus in 2011, which is a turnaround from a trade deficit of over NZD\$5.5 billion in 2008.

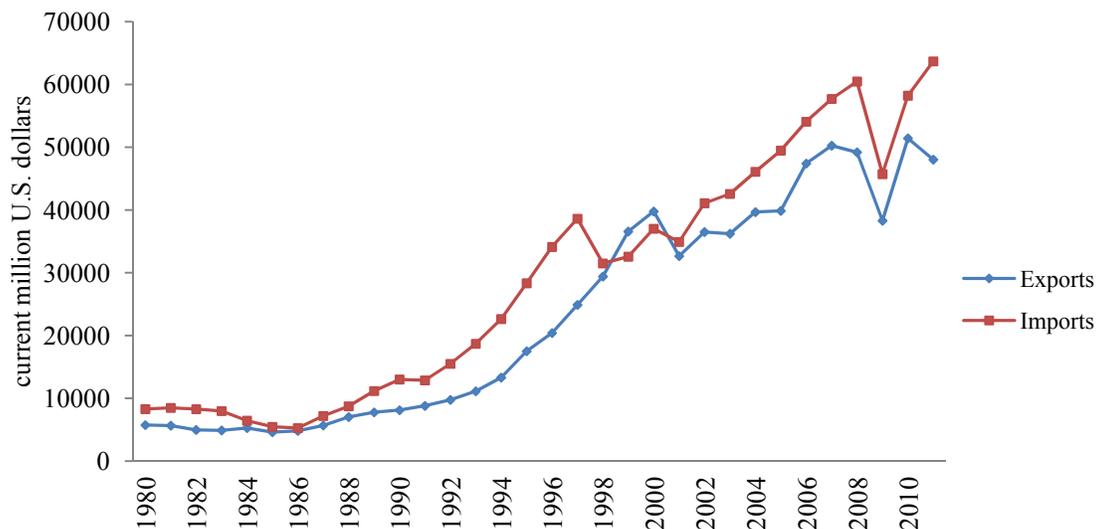
The Philippine Economy in Brief

The Philippines has a relatively diversified economy, with key sectors being services and agriculture, and with the former expanding faster than the other sectors, including manufacturing, in the past 3-4 decades. Important industries include food processing, textiles, electronics and automobile parts. In recent years, increasing household spending, fueled largely by remittances

from Filipinos working abroad - of which there are presently around 10 million who remitted an estimated \$17 billion in 2008 - has led to strong growth in the services sector.

Despite occasional bursts of rapid growth in some years, as in 2007 and 2010, the long-term growth of the Philippine economy has been rather slow in comparison to other ASEAN nations like Thailand, Malaysia, Indonesia and Vietnam, and to the “Asian tigers” (Singapore, South Korea, Taiwan and Hong Kong). Economists differ in their analyses of the causes of the generally poor economic performance of the Philippines, but there is a consensus that a combination of wrong policies (of extended protection, for example) and poor governance (including pervasive corruption in government, with the Philippines being consistently ranked as one of the world’s most corrupt societies) are to be blamed. Slow growth and a highly unequal distribution of income contribute to the persistence of poverty in the Philippines.

Figure 2: Philippine Trade with the World, 1980 - 2010



Source: UNCTAD Stats. retrieved 16 June 2012 from www.unctad.org

Foreign trade has not been as important in the Philippines as in neighboring countries such as Thailand, Singapore and Malaysia, but the import plus export- to- GDP ratio of over 50 percent makes the Philippines a relatively open economy. This is an improvement over the trade-to-GDP ratio in the decades immediately following World War II, when the Philippines maintained a policy of import and foreign exchange controls, which had the effect of limiting the entry of

foreign goods into the country; the same policy also put a premium on production for the domestic market rather than for export, and hence restricted the growth of the export sector.

Total exports and imports of the Philippines between 1980 and 2007 are shown in Figure 2. Except for a few years in the late 1990s, imports have exceeded exports during most of the period. From around 1997 to 2002, the growth of imports and exports flattened out, but imports and exports have since then risen rapidly, with the former exceeding the latter and with the trade deficit widening in recent years.

The main exports of the Philippines are semiconductors and electronic products, transport equipment, garments, copper products, petroleum products, coconut oil, and fruits. The main imports, on the other hand, are electronic products, mineral fuels, machinery and transport equipment, iron and steel, textile fabrics, grains, chemicals and plastic (CIA, 2009). The concentration on electronics products, which account for over 70 percent of Philippine exports of manufactures, makes the sector, and the economy that is dependent upon it, vulnerable to the vagaries of the world's electronics market. Thus, although the export mix has changed, the present situation is not very different from that of the 1970s when the Philippine economy also relied on a narrow range of export products like coconut, minerals and sugar, whose prices were also very volatile.

It is interesting to note that electronic products and transport equipment are both exported from and imported into the Philippines. This is not an unusual feature of the current phase of globalization, where outsourcing of parts and labor has become a widespread practice for developed-country firms. For electronic products, the export and import of seemingly similar products comes from the fact that computer chips are imported into the Philippines, where they are assembled by local labor, which is relatively cheap, and then re-exported to the more industrialized countries.

Table 3 shows that the US and Japan, which have been the Philippines' traditional trading partners, continue to be the most important ones, with the two countries accounting for approximately 30% of total Philippine trade. China, which includes Hong Kong, is also an

increasingly important trading partner of the Philippines, especially as an export market. The Philippines also has strong bilateral trading relationships with ASEAN members, particularly with Singapore and Malaysia. Efforts by past Philippine governments to diversify the country's trade destinations (export) and origins (import) have met with some success, albeit modest.

Table 3: Philippine Trade with Major Trading Partners, 2011

Partner Country	Value (millions USD)		Share (%) of Total Philippines Trade	
	Exports	Imports	Exports	Imports
USA	7,102	6,536	14.7	10.8
Japan	8,886	6,516	18.4	10.77
China	6,237	6,085	12.91	10.06
Korea	2,237	4,420	4.63	7.31
Singapore	4,279	4,899	8.86	8.1
Total Selected Partner Country	28,741	28,457	59.5	47.04
Others	19,564	32,039	40.5	52.96
Total	48,305	60,496	100	100

Source: Trade Statistics. retrieved 16 June from www.dti.govt.ph

New Zealand-Philippines Bilateral Trade Relations

Although trade between New Zealand and the Philippines has had upswings and downswings, it has expanded over the past years and continues to expand to the present. The increase, as indicated in raw export and import figures, is more rigorously measured in a later section by the trade intensity index (TII), the trade potential index, and trade complementarities between the two countries.

Tables 4a and 4b show New Zealand's exports to and imports from the Philippines as a percentage of New Zealand's total exports and imports. Starting from a very low base (see Table 4a), New Zealand's exports to the Philippines have grown in both value and percentage share between 1990 and 2011. The value of exports increased from around US \$83.5 million in 1990 to over US \$597 million in 2010, a more than seven-fold increase. However, as a percentage of New Zealand's total exports, exports to the Philippines declined from 2010 to 2011, after doubling from 0.88% in 1990 to 1.68 in 2010. Nevertheless the long-term trend in New Zealand's exports to the Philippines seems to be one of increase.

Table 4a: NZ Exports to the Philippines as a Share of Total New Zealand Exports

	1990	1995	2000	2005	2010	2011
Value (millions, current USD\$)	83.48	137.74	183.20	355.40	518.52	597.08
Share (%)	0.88	1.00	1.38	1.64	1.68	1.59

Source: UN comtrade database. retrieved 16 June from comtrade.un.org

New Zealand's imports from the Philippines have also grown in both value and percentage share between 1990 and 2011, although they are much lower in value than exports to the same country (see Table 4b). The value of imports increased from around US \$12.7 million in 1990 to over US \$159 million in 2007, but declined to US \$93.15 in 2007, before partly recovering to US \$107.05 million in 2011. The share of imports coming from the Philippines in New Zealand's total exports increased from 0.13% in 1990 to 0.32 in 2005, but declined, if slightly, to 0.31 in 2010 and 0.30 in 2011. Compared to exports, imports from the Philippines show a slower rate of absolute and percentage increase.

Table 4b: Imports from the Philippines as a Share of Total New Zealand Imports

	1990	1995	2000	2005	2010	2011
Value (millions, current USD\$)	12.68	35.57	32.76	85.12	93.15	107.05
Share (%)	0.13	0.25	0.24	0.32	0.31	0.30

Source: UN comtrade database. retrieved 16 June from comtrade.un.org

Tables 5a and 5b examine bilateral trade between the two countries from the perspective of the Philippines. Exports to New Zealand from the Philippines show an upward trend in both value and percentage share between 1995 and 2005, then declined in 2010, before increasingly sharply in 2011. (Note: Please check again the figures on Phil exports to New Zealand. The original table, up to 2007, is interpreted thus: Exports have increased in value from around US\$22 million in 1995 to over US \$114 million in 2007. The share of total Philippine exports going to New Zealand increased marginally by 0.1% over the same period.)

Philippine imports from New Zealand increased steadily between 1995 and 2010, and at a higher rate than the growth in exports, with the value increasing from US \$147 million in 1995 to US \$544.5 million in 2010. The share of total Philippine imports coming from New Zealand also steadily increased from 0.52% in 1995 to 0.85% in 2011.

Table 5a: Philippines Exports to New Zealand as a Share of the Philippines Total Exports

	1990	1995	2000	2005	2010	2011
Value (millions, current USD\$)	N/A	22.3	18.59	38.86	32.70	44.65
Share (%)	N/A	0.13	0.05	0.09	0.06	0.09

Source: UN comtrade database. retrieved 16 June from comtrade.un.org

Table 5b: Imports from New Zealand as a Share of the Philippines Total Imports

	1990	1995	2000	2005	2010	2011
Value (millions, current USD\$)	N/A	147	183.88	291.35	426.75	544.52
Share (%)	N/A	0.52	0.50	0.59	0.73	0.85

Source: UN comtrade database. retrieved 16 June from comtrade.un.org

New Zealand's exports to the Philippines have been growing faster than the latter's exports to the former. On the other hand, Philippine imports from New Zealand have been growing faster than the latter's imports from the former. The combination of the two trends has resulted in a deficit in the Philippines' trade balance with New Zealand.

Composition of New Zealand –Philippines Trade

Next to the US, the Philippines was (in 2007) the largest export market for New Zealand's dairy products. In 2010 New Zealand exported NZ\$512.3 million worth of dairy products alone to the Philippines, constituting almost 68% of its total exports of NZ\$756.5 million to the latter. Aside from dairy products, eggs and honey, other major export products to the Philippines are wood and articles of wood, meat, and paper and paperboard, as shown in Table 6a. Note that these are

primarily resource-based and agricultural products being exported from a more developed to a less-developed country.

Table 6a: New Zealand's Most Significant Exports to the Philippines (NZ\$ million), 2011

Commodity	Exports Value (NZ\$ million)	Share of Total NZ Exports to the Philippine (%)
Dairy Prods; Eggs; Honey	512.3	67.72
Wood And Articles Of Wood;	52.6	6.95
Meat	44.1	5.83
Paper & Paperboard	38.5	5.09
Prep Cereal, Flour, Starch Or Milk; Bakers Wares	36.0	4.76
Total Exports to Philippines	756.5	100

Source: Trade stats. retrieved 16 June from www.asean.fta.govt.nz

A significant share (over one third) of New Zealand's imports from the Philippines is made up of food commodities, as Table 6b shows. Machinery and electrical machinery are also significant imports, as are mineral fuels and oils, which make up approximately a quarter of total imports from the Philippines. In addition to food items, other important imports are intermediate and capital goods, which are being exported from a less-developed to a more developed country, contrary to what one would normally expect. New Zealand maintains a healthy trade surplus with the Philippines, with the value of exports to the Philippines exceeding the value of imports from the same country by over 3.5.

Table 6b: New Zealand's Most Significant Imports from the Philippines (NZ\$ million), 2011

Commodity	Imports Value (NZ\$ million)	Share of Total NZ Imports from the Philippines (%)
Edible Fruit & Nuts	58.4	48.30
Electric Machinery Etc	15	12.41
Inorg Chem; Prec & Rare-Earth Met & Radioact Compd	4.8	3.97
Prep Vegetables, Fruit, Nuts	4.7	3.89
Boilers, Machinery Etc	4.2	3.47
Total Imports from the Philippines	120.9	100

Estimating the Trade Potential

The trade potential between two countries can be examined by matching export supply and import demand. The importance of products in bilateral trade is examined in terms of their estimated potential for expansion. The estimation of potential trade is based on the following formula:

$$\text{Trade Potential} = [\min, SE, MI] - ET$$

where

SE - Suppliers' (NZ) Global Exports

MI - Markets' (Philippines) Global Imports

ET - Existing Bilateral Exports from Supplier

By matching import demand with export supply, the formula provides for the possibility of trade expansion under the optimistic scenario that their bilateral supply/demand is fully utilized before allowing for third country imports (Mukherji, 2005). The competitiveness of the exports of the exporting country is therefore an important factor. In this section, traded commodities in 2011 between New Zealand and the Philippines are aggregated into one-digit SITC (revision 3) categories. The equation above is then used to determine the potential for trade expansion within each SITC category. Table 7 below presents the results of this analysis.

As Table 7 shows, the SITC categories within which New Zealand has the greatest room for trade expansion are food and live animals (SITC 0), manufactured goods classified chiefly by material (SITC 6), and machinery and transport equipment (SITC 7). The food and live animals category already has a commodity export value more than ten times that of any other commodity classification in the trade with the Philippines. However, there is clearly still room for further trade expansion within this classification, in relation to dairy products exports and other food commodities.

Table 7: Trade Potential between New Zealand and the Philippines (US\$ million), 2011

Commodity Grouping	SITC (1 digit) Revision 3	NZ exports (SE)	Y imports (MI)	Existing trade (ET)	Trade potential
Food and live animals	0	18857.00	5642.05	486.05	5156.00
Beverages and tobacco	1	1104.20	229.73	2.32	227.40
Crude materials, inedible, except fuels	2	4319.96	1637.85	20.13	1617.73
Mineral fuels, lubricants and related materials	3	1948.19	12810.38	0.12	1948.07
Animal and vegetable oils, fats and waxes	4	151.37	570.70	5.24	146.14
Chemicals and related products, n.e.s.	5	1652.39	6761.43	13.28	1639.11
Manufactured goods classified chiefly by material	6	3364.93	5800.44	61.06	3303.87
Machinery and transport equipment	7	2961.23	18024.66	7.22	2954.01
Miscellaneous manufactured articles	8	1391.41	2178.50	1.66	1389.74

Source: UN comtrade database. (Authors Calculations).

Revealed Comparative Advantage and Dynamic Revealed Comparative Advantage

Index of Revealed Comparative Advantage (RCA)

Balassa (1967) developed an approach to measure RCA assuming that a country's comparative advantage is revealed in its exports to the world market. As such, the static RCA of exports is represented by a country's commodity composition of exports compared with that of the world.

The RCA index is defined as:

$$RCA_{ki} = (X_{ki} / X_{ti}) / (X_{kw} / X_{tw})$$

where: X_{ki} represents the value of country i 's exports of commodity k

X_{ti} represents the value of country i 's total exports

X_{kw} represents the value of world exports of commodity k

X_{tw} represents the value of total world exports (of all commodities)

The RCA of country i in the trade of product k is measured by that item's share in country's exports relative to its share in the world exports. The first term in the equation represents commodity k 's share in country i 's exports, while the second term represents commodity k 's share in world exports. If the value of RCA index is less than one (indicating that the share of commodity k in country i 's exports is less than the share of commodity k in world exports), it means that country i does not have revealed comparative advantage in commodity k . On the other hand, if the value of this index exceeds unity, it implies that the country has revealed comparative advantage in that product.

Index of Dynamic Revealed Comparative Advantage/Disadvantage (DRCA)

To create an index which takes into account the time dimension of revealed comparative advantage, Balassa suggested a method based on the assumption that while the past trend in relative shares can be expected to continue, this will take place at a declining pace as compared to the past (Balassa, 1967). This index is known as a 'Dynamic Revealed Comparative Advantage' (DRCA) index. It is calculated by taking the ratio of RCA in the current year and its normalized value. For normalization, the RCA in the current year has been multiplied by the ratio of RCA in the current/terminal year to the base year (Sharma, 2006). The DRCA index has been estimated according to the following formula:

$$DRCA_{ik} = \frac{1}{2} [(X_{ikt} / X_{it}) + (X_{ikt} / X_{it}) * (X_{ikt} / X_{it}) * (X_{ik0} / X_{i0})],$$

where the variables have been defined as follows:

RCA at current / terminal year (t) :

$$RCA_t = X_{ikt} / X_{it} = (X_{ikt} / X_{it}) / (X_{wkt} / X_{wt})$$

RCA at base year (0) :

$$RCA_0 = X_{ik0} / X_{i0} = (X_{ik0} / X_{i0}) / (X_{wk0} / X_{w0})$$

Where X , i , and k have the same meaning as in the (static) RCA index. Here 0 indicates the base year, t the current / terminal year, and X_{ikt}/X_{it} the RCA value of commodity k .

Unlike the RCA, the numerical value of DRCA ranges from zero to infinity, with 100 as the point separating comparative advantage from comparative disadvantage. A value above 100 indicates that the country has a comparative advantage compared to world shares in producing commodity k . The DRCA has an edge over RCA, which reveals comparative advantage at a point in time, because DRCA takes into account change over time, i.e., changes in relative shares between the terminal year and the base year (Sharma, 2006).

Using trade data collected from the United Nations Commodity Trade Database, Table 8 presents an analysis of both RCA and DRCA for New Zealand in recent years. RCA is calculated at both a 1-digit SITC (revision 3) aggregate level as well as at a more detailed 3-digit level for key commodities exported by New Zealand.

Table 8: Static and Dynamic Revealed Comparative Advantage Index Values for New Zealand, by Industry

Description	SITC	RCA (2000)	RCA (2005)	RCA (2011)	DRCA (2000-2011)	DRCA (2005-2011)
Food and live animals; Beverages and tobacco	0 & 1	6.98	8.54	10.97	426.05	519.85
- Bovine meat	011	22.62	28.31	26.74	8101.69	10139.24
- Other meat, meat offal	012	19.85	24.57	23.99	5724.97	7083.94
- Milk and cream	022	37.12	48.21	93.01	160587.09	208556.05
- Butter, other fat of milk	023	83.06	74.97	149.11	923553.01	833598.94
Crude materials, inedible; Animal, veg. oils, fats, wax	2 & 4	4.4	3.34	2.96	20.8	16.12
- Hides, skins (ex. furs), raw	211	14.88	12.47	16.96	2149.27	1803
- Wood rough, rough squared	247	20.9	15.89	55.87	32640.03	24828.86
- Wool, other animal hair	268	41.55	47.86	45.48	42999.23	49533.08
Fuels, lubricants, etc.	3	0.28	0.21	0.63	0.37	0.36
Animal, veg. oils, fats, wax	4	1.68	0.87	0.8	0.94	0.68
- Animal oils and fats	411	11.85	11.41	13.92	1154.19	1111.7
Chemicals, reltd. pros. nes	5	0.98	0.57	0.5	0.37	0.32
- Starches, insulin, etc.	592	30.27	20.91	19.37	5686.32	3930.71

Machines, transport equip.	7	0.26	0.31	0.28	0.15	0.15
- Agric. machines, ex. tractor	721	2.04	2.82	2.97	10.51	13.96
Manufactured goods; Misc. manufactured articles	6 & 8	0.69	0.71	0.67	0.49	0.49
- Veneers, plywood, etc.	634	6.01	5.89	6.26	120.84	118.47
- Aluminum	684	5	4.33	4.46	52.01	45.34

Source: UN comtrade database. (Authors' Calculations)

Table 8 shows that at a 1-digit level New Zealand possesses a strong RCA in SITC categories 0 & 1 (Food and live animals; beverages and tobacco) and weaker one in categories 2 & 4 (Crude materials, inedible; Animal, veg. oils, fats, wax). Within 0 & 1, the high and growing RCA index value is driven strongly by the export of various commodities within the meat and dairy industries. While the values of revealed comparative advantage for meat commodities at the 3-digit SITC level have fallen between 2005 and 2011 (see 011 and 012), values for dairy commodities have risen (see 022 and 023). Values for these commodity groupings are far above the cut-off value of one, indicating very high levels of comparative advantage. DRCA indices for 0 & 1 at a 1-digit aggregate level show a dynamic advantage in production in this sector for both 2000-2011 and 2005-2011. DRCA calculations for the individual industries included also reveal strong dynamic advantage for New Zealand in these commodities. The values are particularly high for milk, cream and butter, with DRCA values in the tens of thousands.

The revealed comparative advantage within aggregate commodity categories 2 & 4 is relatively strong, with all values at the 1-digit level exceeding two. However, the comparative advantage of New Zealand in these commodity aggregations has decreased over the 2000- 2011 period. The advantage in these aggregations of goods is driven primarily by such crude material industries as hides (211), wool (268), and wood (247). New Zealand has considerable advantage in these industries, with values all exceeding 10. Index values have remained relatively constant between 2005 and 2011. In commodity category 4, New Zealand has maintained a comparative advantage in the production of animal oils and fats. New Zealand does not have a dynamic revealed comparative advantage in 2 & 4 at a 1-digit aggregated level. However, New Zealand does have a considerable dynamic comparative advantage in 211, 247, 268, and 411; wool (268) in particular has a very high DRCA value of over 30,000.

Although New Zealand's RCA in the remaining industries at a 1-digit aggregate level are not shown, New Zealand does have RCA in some individual industries within these aggregations at a 3-digit level. Within SITC 5 (Chemicals), New Zealand has an advantage in 'Starches, insulin, etc.' (592). This is a relatively strong advantage, but has, however, been declining between 2000 and 2011. Within SITC 7 (Machines, transport equipment), New Zealand, unsurprisingly given the strength of New Zealand in agricultural sectors, has a relatively slight comparative advantage in 'Agricultural machines, etc.' (721). From SITC 6 & 8 (Manufactured goods), New Zealand has a revealed comparative advantage in producing Aluminum (684) and manufactured wood products such as plywood (634). However, the level of comparative advantage in each of these industries has been falling from 2000 to 2011, although only slightly. New Zealand's DRCA in these industries lies quite strongly in category 592, 'Starches, insulin, etc.', and a weaker one for aluminum (684).

In summary, New Zealand's RCA lies primarily in the 'Food and live animals' aggregation of commodities, which are meat and dairy commodities. Wool is also another commodity in which New Zealand has a strong static and dynamic revealed comparative advantage. These findings confirm the pattern and composition of New Zealand's exports to the Philippines.

The Philippines' Revealed Comparative Advantage

A similar analysis of static and dynamic RCAs for the Philippines is presented in Table 9.

Table 9: Static and Dynamic Revealed Comparative Advantage Index Values for the Philippines, by Industry

Description	SITC	RCA (2000)	RCA (2005)	RCA (2011)	DRCA (2000-2011)	DRCA (2005-2011)
Food and live animals; Beverages and tobacco	0 & 1	0.57	0.79	1.49	1.37	1.62
- Fruit, nuts excl. oil nuts	057	2.62	3.25	6.20	53.46	65.51
Crude materials, inedible; Animal, veg. oils, fats, wax	2 & 4	0.76	1.01	1.68	1.92	2.27
Fuels, lubricants, etc.	3	0.13	0.16	0.36	0.19	0.19
Animal, veg. oils, fats, wax	4	4.04	4.85	6.07	77.55	92.46
- Fixed veg. fat, oils, other	422	11.80	13.17	12.03	860.34	958.97

- Animal, veg. fats, oils, nes	431	0.60	1.62	0.95	0.74	1.21
Chemicals, reltd. pros. nes	5	0.10	0.14	0.45	0.23	0.24
Machines, transport equip.	7	1.86	2.13	1.49	2.80	3.10
- Elec. power mach. Parts	771	0.46	0.63	5.80	10.62	13.56
- Elec. dist. equip. nes	773	2.50	3.55	4.84	31.72	44.00
- Transistors, valves, etc.	776	9.38	11.78	6.47	199.35	249.40
Manufactured goods; Misc. manufactured articles	6 & 8	0.59	0.62	0.82	0.61	0.62
- Copper	682	1.40	1.75	4.21	14.53	17.61

Source: UN comtrade database. (Authors Calculations)

At the 1-digit level, the Philippines possesses a strong RCA in SITC category 4 (Animal, veg. oils, fats, wax) and a weaker RCA in category 7 (Machines, transport equip.). Within 4, the strong RCA index value is driven primarily at the 3-digit SITC level by the export of 422 (Fixed veg. fat, oils, other), which is likely to be coconut oil. A much weaker comparative advantage is indicated for 431 (Animal, veg. fats, oils, nes). Values for these commodity groupings are far above the cut-off value of one, indicating significant levels of comparative advantage.

The revealed comparative advantage within aggregate commodity category 7 (Machines, transport equipment) is also above one, indicating a slight RCA. At the 3-digit level, higher levels of comparative advantage are revealed for individual electronic machinery commodities produced in the Philippines, which include 771 (Elec. power mach. Parts), 773 (Elec. dist. equip. nes), and 776 (Transistors, valves, etc.). Index values for 771 for the years 2000 and 2005 are, however, below one indicating no RCA. But the index values for 773 and 776 have been rising, if slowly, and in the case of 776 even falling between 2005 and 2011; overall, the Philippines has retained its RCA in this category.

While not showing RCA in the remaining industries at a 1-digit aggregate level, the Philippines does have slight RCA in some individual industries at the 3-digit level. Within SITC 0 & 1 (Food and live animals), the Philippines has an advantage in 057 (Fruit, nuts excl. oil nuts). Within SITC 6, the Philippines has RCA in the production of copper (682), which tripled between 2000 and 2011.

Index values for the Philippines do not show strong DRCA in the 1-digit commodity aggregations or in almost the entire example commodities included in Table 9. A relatively strong, and growing, DRCA index value can only be found in ‘Fixed veg. fat, oils, other’ (422), and to a lesser extent in 776 (transistors, valves, etc.), indicating a strengthening of the position of the Philippines in the production and export of these goods.

Overall the results of our analysis using static and dynamic RCAs confirm the existing composition of exports of both New Zealand and the Philippines. What they suggest is for the two countries to maintain and to strengthen their current exports where they have static and dynamic RCAs and at the same time to look for new exports to replace those where they have low RCAs.

Trade Intensity

In studying the strength of trade ties, it is often desirable to take into account the importance of a country's trade partners’ share in world trade. One group of indices that does this is the trade intensity index (TII). The intensity of bilateral trade between two countries can be measured from either an export or import perspective. For trade flows from country a to country b, these indices are measured as follows:

i. Export Intensity Index

$$XII_i = (X_{ij} / X_{iw}) / (M_{jw} / (M_w - M_{iw}))$$

ii. Import Intensity Index

$$MII_i = M_{ij} / M_{iw} / (X_{jw} / (X_w - X_{iw}))$$

Where: XII_i represents the export intensity index for country i,
 MII_i represents the import intensity index for country i,
 X_{ij} represents the value of country i’s exports to country j,
 X_{iw} represents the value of country i’s total exports to the world,

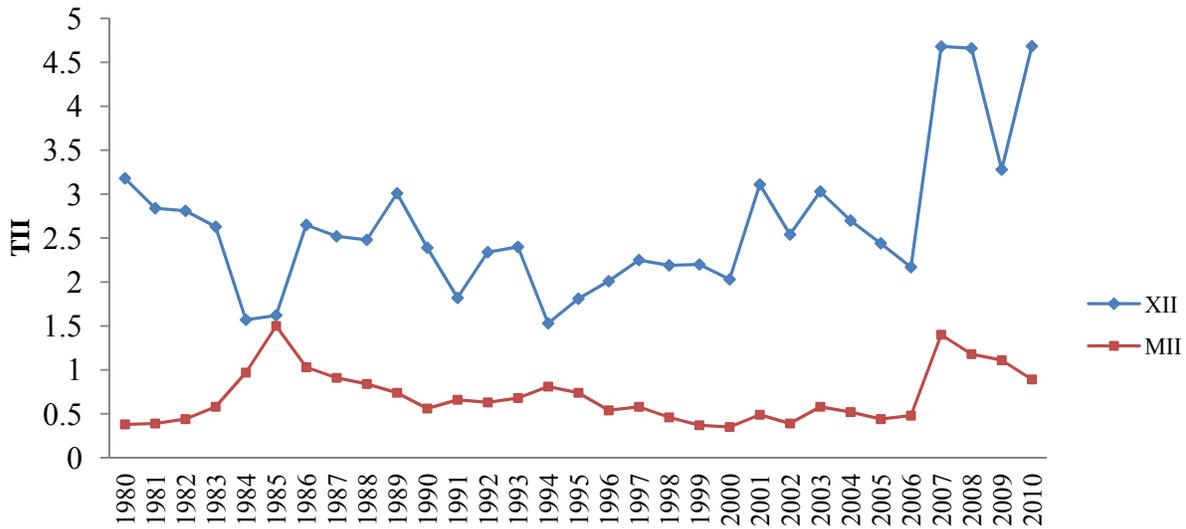
M_{jw} represents the total value of imports from the world into country j,
 M_w represents the value of total world imports,
 M_{iw} represents the total value of imports from the world into country i,
 M_{ij} represents the value of imports from country j into country i,
 X_{jw} represents the total value of country j's exports to the world,
 X_w represents the total value of world exports

The index determines whether bilateral trade between countries i and j is greater or lesser than might be expected given the importance of the trading partner's share in total world trade. As discussed by Bano (2008), trade intensity indices provide a way to measure the strength of trading relations without the bias caused by the comparative size of the trading partners. A value greater than one indicates that the relationship between the home country and the trading partner is greater than is expected given the trading partner's share of world trade, while a value of less than one indicates that the strength of the trading relationship is less than is expected.

As Figure 3 shows, the value of the export intensity index for trade with the Philippines has remained above 1.5 over the entire 1980-2010 period. This indicates a strong export relationship of New Zealand with the Philippines. There is little real trend in the export intensity index, with values fluctuating around 2.5. The intensity of the export relationship which New Zealand has with the Philippines is higher than that of imports throughout the whole period.

The import intensity of goods from the Philippines is lower than would be expected given the Philippines' share of world trade, with almost all values below one. Since around 2000, however, there has been an indication of an upward trend in the import intensity relationship with regard to goods imported by the Philippines. It remains to be seen whether this trend will continue over time.

Figure 3: Trade Intensity Indices for New Zealand’s Bilateral Trade with the Philippines, 1980-2010



Source: IMF Direction of Trade Statistics Yearbooks various issues (Authors Calculations).

Complementarities of Trade between New Zealand and the Philippines

Are the Philippines and New Zealand complementary or competitive in foreign trade? Two countries may be complementary or competitive depending upon the nature of the products that they import and export. To determine this, one only has to measure potential trade complementarity, since potential trade competitiveness between two countries is merely the movement in the opposite direction in the interval 0 - 1. In other words, if the products of two countries are not complementary, they are competitive.

The trade complementarity index to be used here is the so-called ‘cosine measure’ and is the same form as that used in Linnemann (1966), Mukherji (2007), and Basu & Datta (2007). The formula is as follows:

$$\text{Cos}_{ij} = \frac{\sum_k X_{ik}M_{jk}}{\sqrt{\sum X_{ik}^2} \sqrt{\sum M_{jk}^2}}$$

where:

k is the commodity classification (SITC rev. 3) 1, 2 ... 8,

X_{ik} is the exports of New Zealand of commodity k to the world,

M_{jk} is the imports of country j of commodity k from the world.

The trade complementarity index produces a value which lies between 0 and 1. In the absence of any complementarity between the exports of one country and the imports of another, the index would take a value of zero. Where there is perfect complementarity, the measure would take the extreme value of one. The movement from 0 to 1 is thus an indication of increasing trade complementarity between two countries. The cosine measure could also be considered as an indicator of the extent of competitiveness between the two countries, where a lower value of the cosine measure would indicate that the two countries have potential competitiveness rather than potential complementarity (Mukherji, 2007).

Each commodity classification has been aggregated using SITC revision 3 to the 1-digit level, i.e., 0 & 1 (food and live animals, beverages and tobacco), 2 & 4 (crude materials, inedible, except fuels, animal and vegetable oils, fats and waxes), 4 (animal and vegetable oils, fats and waxes), 3 (mineral fuels, lubricants and related materials), 5 (chemicals and related products, n.e.s.), 7 (machinery and transport equipment), and 6 & 8 (manufactured goods classified chiefly by material, miscellaneous manufactured articles). Table 10 shows the results from these calculations.

Table 10: Complementarity of New Zealand's Exports with Philippine Imports, 2000-2011

	2000	2005	2010	2011
Complementarity Index	0.39	0.37	0.41	0.46

Source: UN comtrade database. retrieved 16 June from comtrade.un.org

The complementarity index values shown in Table 10 have been increasing, at least since 2005. According to Mukherji (2007), values that lie within the range of more than 0.250 but less than 0.550 indicate moderate potential for further increasing trade between two countries. In other words, the economies (at least in certain products) of New Zealand and the Philippines are becoming increasingly complementary (and less competitive) with each other.

Summary and Conclusion

Following an overview of the two economies in which the similarities and contrasts were highlighted, the study sought to identify, at an aggregate level, commodity groups where there is potential for trade expansion. The trade potential analysis identified food and live animals, manufactured goods classified chiefly by material, and machinery and transport equipment as the product categories in which New Zealand has the greatest room for expansion of trade. The food and live animals category already has a commodity export value of more than ten times that of any other commodity classification in trade with the Philippines. However, there is clearly still room for further trade expansion within this classification, in relation to dairy exports as well as other food commodities.

In the next section the study identified commodities in which New Zealand and the Philippines have a revealed in comparative advantage in producing. Both static and dynamic RCA show that New Zealand possesses a strong revealed comparative advantage in food and live animals as well as beverages and tobacco and weaker revealed comparative advantage in crude materials, inedible and animal and vegetable oils as well as fats and wax. Wool is another commodity in which New Zealand has a strong static and dynamic RCA.

The Philippines, on the other hand, possesses strong static and dynamic RCA in animal and vegetable oils as well as fats and wax, and a weaker RCA in machinery and transport equipment. The strong RCA in the former is driven primarily by the export of fixed vegetable fat and oils.

Export and import intensity indices were reported and discussed in the next section. The export intensity index for exports from New Zealand to the Philippines has remained above 1.5 over the entire 1980-2010 period, indicating a strong export relationship for New Zealand with the Philippines. The import intensity of goods from the Philippines is lower than expected given the Philippines' share of world trade.

The last test used is the complementarity index to determine whether the Philippines and New Zealand are complementary or competitive in foreign trade. The complementarity index values

for the period 2000-2011 are all close to 0.4 and show signs of increasing. The result indicates moderate potential for increasing trade between the two countries.

Overall the findings of the study show no surprises. The existing composition and pattern of trade between the two countries confirm what trade theory would predict, which is that countries export commodities in which they have a comparative advantage and import commodities in which they have a comparative disadvantage vis-à-vis their trading partner(s). But there is scope for further strengthening trade and economic relations (e.g., aid and investment) between the two countries.

As indicated at the outset, this paper is exploratory; it is also preliminary. It is preliminary to a more complete and in-depth study that would examine the relationships between trade and other economic activities like trade and investment. For instance, given increased trade between two countries, does increased foreign direct investment follow, as predicted, for example, in the product life-cycle theory? Or, considering that trade barriers are going down, especially between countries that have signed bilateral free trade arrangements (and more and more countries are entering into such arrangements in the Asia-Pacific region), is there still a need for foreign direct investment? These are some of the issues that an extension or sequel to this study may pursue.

Appendix A: New Zealand's Share in World Trade

Year	World Trade			NZ Trade Values			NZ Share in World (%)		
	XW	MW	TTW	XNZ	MNZ	TTNZ	XNZ/XW	MNZ/MW	TTNZ/TTW
1980	2035542	2078123	4113665	5421	5472	10893	0.27	0.26	0.26
1981	2015160	2075052	4090212	5622	5734	11356	0.28	0.28	0.28
1982	1884488	1952237	3836725	5571	5782	11353	0.30	0.30	0.30
1983	1847639	1894962	3742601	5414	5333	10746	0.29	0.28	0.29
1984	1959038	2018405	3977443	5518	6203	11721	0.28	0.31	0.29
1985	1972579	2035858	4008437	5720	5992	11712	0.29	0.29	0.29
1986	2149734	2225540	4375274	5880	6063	11942	0.27	0.27	0.27
1987	2531820	2594332	5126152	7195	7276	14471	0.28	0.28	0.28
1988	2878228	2968273	5846501	8850	7342	16192	0.31	0.25	0.28
1989	3096540	3197901	6294440	8876	8784	17660	0.29	0.27	0.28
1990	3479910	3588078	7067988	9394	9501	18895	0.27	0.26	0.27
1991	3508245	3620913	7129158	9619	8381	17999	0.27	0.23	0.25
1992	3765264	3873200	7638465	9785	9201	18986	0.26	0.24	0.25
1993	3778317	3839865	7618182	10542	9636	20178	0.28	0.25	0.26
1994	4317088	4377756	8694844	12184	11913	24098	0.28	0.27	0.28
1995	5178004	5235502	10413506	13645	13957	27602	0.26	0.27	0.27
1996	5406471	5492461	10898932	14362	14724	29086	0.27	0.27	0.27
1997	5588101	5685071	11273173	14223	14519	28742	0.25	0.26	0.25
1998	5502834	5636127	11138961	12084	12701	24785	0.22	0.23	0.22
1999	5719568	5868412	11587980	13023	14726	27749	0.23	0.25	0.24
2000	6448643	6662565	13111208	13879	14235	28113	0.22	0.21	0.21
2001	6189714	6430784	12620498	13741	13370	27111	0.22	0.21	0.21
2002	6480731	6672862	13153594	14029	14968	28997	0.22	0.22	0.22
2003	7561836	7786690	15348526	16645	18894	35539	0.22	0.24	0.23
2004	9189016	9488734	18677750	20593	23547	44140	0.22	0.25	0.24
2005	10502059	10795091	21297150	21927	26854	48781	0.21	0.25	0.23
2006	12133567	12369949	24503516	22867	26667	49535	0.19	0.22	0.20
2007	14005053	14254629	28259681	28122	31476	59598	0.20	0.22	0.21
2008	16124213	16462251	32586464	30905	34036	64942	0.19	0.21	0.20
2009	12526253	12667253	25193507	24860	25259	50120	0.20	0.20	0.20
2010	15255869	15381406	30637274	32288	31818	64106	0.21	0.21	0.21
2011	18197117	18277033	36474151	37675	37075	74750	0.21	0.20	0.20

Source: UNCTAD Stats. retrieved 16 June from unctad.org

All values in current millions of US dollars.

Source: WTO Statistics Database.

XW = world exports, MW = world imports, TTW = world total trade (exports + imports), XNZ = New Zealand exports, MNZ = New Zealand imports, TTNZ = New Zealand total trade (exports + imports).

Appendix B: Philippines Share in World Trade

Year	World Trade			Philippines Trade Values			P Share in World (%)		
	XW	MW	TTW	XP	MP	TTP	XP/X W	MP/ MW	TTP/ TTW
1980	2035542	2078123	4113665	5741	8291	14033	0.28	0.40	0.34
1981	2015160	2075052	4090212	5655	8478	14132	0.28	0.41	0.35
1982	1884488	1952237	3836725	4969	8272	13241	0.26	0.42	0.35
1983	1847639	1894962	3742601	4890	7976	12866	0.26	0.42	0.34
1984	1959038	2018405	3977443	5274	6432	11706	0.27	0.32	0.29
1985	1972579	2035858	4008437	4611	5455	10066	0.23	0.27	0.25
1986	2149734	2225540	4375274	4806	5261	10066	0.22	0.24	0.23
1987	2531820	2594332	5126152	5677	7187	12864	0.22	0.28	0.25
1988	2878228	2968273	5846501	7022	8731	15753	0.24	0.29	0.27
1989	3096540	3197901	6294440	7767	11171	18938	0.25	0.35	0.30
1990	3479910	3588078	7067988	8117	13004	21121	0.23	0.36	0.30
1991	3508245	3620913	7129158	8801	12862	21663	0.25	0.36	0.30
1992	3765264	3873200	7638465	9751	15497	25247	0.26	0.40	0.33
1993	3778317	3839865	7618182	11129	18688	29817	0.29	0.49	0.39
1994	4317088	4377756	8694844	13304	22641	35945	0.31	0.52	0.41
1995	5178004	5235502	10413506	17502	28341	45842	0.34	0.54	0.44
1996	5406471	5492461	10898932	20408	34126	54534	0.38	0.62	0.50
1997	5588101	5685071	11273173	24882	38622	63504	0.45	0.68	0.56
1998	5502834	5636127	11138961	29414	31496	60911	0.53	0.56	0.55
1999	5719568	5868412	11587980	36576	32568	69144	0.64	0.55	0.60
2000	6448643	6662565	13111208	39783	37027	76810	0.62	0.56	0.59
2001	6189714	6430784	12620498	32664	34921	67585	0.53	0.54	0.54
2002	6480731	6672862	13153594	36502	41092	77594	0.56	0.62	0.59
2003	7561836	7786690	15348526	36229	42576	78805	0.48	0.55	0.51
2004	9189016	9488734	18677750	39680	46102	85783	0.43	0.49	0.46
2005	10502059	10795091	21297150	39879	49487	89367	0.38	0.46	0.42
2006	12133567	12369949	24503516	47416	54081	101497	0.39	0.44	0.41
2007	14005053	14254629	28259681	50270	57708	107978	0.36	0.40	0.38
2008	16124213	16462251	32586464	49205	60485	109690	0.31	0.37	0.34
2009	12526253	12667253	25193507	38308	45735	84043	0.31	0.36	0.33
2010	15255869	15381406	30637274	51432	58229	109660	0.34	0.38	0.36
2011	18197117	18277033	36474151	48042	63693	111735	0.26	0.35	0.31

Source: UNCTAD Stats. retrieved 16 June from unctad.org

All values in current millions of US dollars.

Source: WTO Statistics Database.

XW = world exports, MW = world imports, TTW = world total trade (exports + imports), XP = Philippines exports, MP = Philippines imports, TTP = Philippines total trade (exports + imports).

Appendix C: Trade with the Philippines as a Share of New Zealand's Total Trade

Year	NZ Total Trade			NZ Philippines Bilateral Trade Values			NZ Philippines Bilateral Trade Shares (%)		
	XNZ	MNZ	TTNZ	NZXP	NZMP	NZPTT	NZXP / XNZ	NZMP / MNZ	NZPTT / TTNZ
1990	9394	9501	18895	83	13	96	0.89	0.13	0.51
1991	9619	8381	17999	63	14	78	0.66	0.17	0.43
1992	9785	9201	18986	92	16	108	0.94	0.17	0.57
1993	10542	9636	20178	119	20	138	1.12	0.21	0.69
1994	12184	11913	24098	115	31	146	0.95	0.26	0.61
1995	13645	13957	27602	138	36	173	1.01	0.25	0.63
1996	14362	14724	29086	170	30	201	1.19	0.21	0.69
1997	14223	14519	28742	224	39	264	1.58	0.27	0.92
1998	12084	12701	24785	149	30	178	1.23	0.23	0.72
1999	13023	14726	27749	146	32	178	1.12	0.22	0.64
2000	13879	14235	28113	183	33	216	1.32	0.23	0.77
2001	13741	13370	27111	237	37	274	1.73	0.27	1.01
2002	14029	14968	28997	216	43	260	1.54	0.29	0.90
2003	16645	18894	35539	285	74	358	1.71	0.39	1.01
2004	20593	23547	44140	331	77	408	1.61	0.33	0.92
2005	21927	26854	48781	355	85	441	1.62	0.32	0.90
2006	22867	26667	49535	332	95	427	1.45	0.36	0.86
2007	28122	31476	59598	492	159	651	1.75	0.51	1.09
2008	30905	34036	64942	523	124	647	1.69	0.36	1.00
2009	24860	25259	50120	358	88	446	1.44	0.35	0.89
2010	32288	31818	64106	519	93	612	1.61	0.29	0.95
2011	37675	37075	74750	597	107	704	1.58	0.29	0.94

Source: UNCTAD Stats & UN comtrade database. retrieved 16 June from unctad.org and comtrade.un.org

All values in current millions of US dollars.

Source: UN Comtrade Database.

XNZ = New Zealand exports, MNZ = New Zealand imports, TTNZ = New Zealand total trade (exports + imports), NZXP = New Zealand exports to Philippines, NZMP = New Zealand imports from Philippines, NZPTT = New Zealand total trade with Philippines (exports + imports).

Appendix D: Trade with New Zealand as a Share of Philippines's Total Trade

Year	Philippines Total Trade			Philippines NZ Bilateral Trade Values			Philippines NZ Bilateral Trade Shares (%)		
	XP	MP	TTP	PXNZ	PMNZ	PNZTT	PXNZ / XP	PMNZ / MP	PNZTT / TTP
1990	5741	8291	14033	-	-	-	-	-	-
1991	5655	8478	14132	10	75	85	0.18	0.88	0.60
1992	4969	8272	13241	13	101	114	0.25	1.23	0.86
1993	4890	7976	12866	14	133	147	0.28	1.67	1.14
1994	5274	6432	11706	18	137	155	0.34	2.13	1.32
1995	4611	5455	10066	22	147	169	0.48	2.69	1.68
1996	4806	5261	10066	20	171	192	0.43	3.26	1.91
1997	5677	7187	12864	22	245	267	0.38	3.41	2.07
1998	7022	8731	15753	16	147	163	0.22	1.68	1.03
1999	7767	11171	18938	18	156	174	0.24	1.40	0.92
2000	8117	13004	21121	19	184	202	0.23	1.41	0.96
2001	8801	12862	21663	19	244	263	0.21	1.90	1.22
2002	9751	15497	25247	21	239	260	0.22	1.54	1.03
2003	11129	18688	29817	36	273	308	0.32	1.46	1.03
2004	13304	22641	35945	38	290	328	0.29	1.28	0.91
2005	17502	28341	45842	39	291	330	0.22	1.03	0.72
2006	20408	34126	54534	53	289	342	0.26	0.85	0.63
2007	24882	38622	63504	114	372	486	0.46	0.96	0.77
2008	29414	31496	60911	49	428	477	0.17	1.36	0.78
2009	36576	32568	69144	29	318	347	0.08	0.98	0.50
2010	39783	37027	76810	33	427	459	0.08	1.15	0.60
2011	32664	34921	67585	45	545	589	0.14	1.56	0.87

Source: UNCTAD Stats and UN comtrade database. retrieved 16 June from unctad.org and comtrade.un.org

All values in current millions of US dollars.

Source: UN COMMTRADE Database.

XP = Philippines exports, MP = Philippines imports, TTP = Philippines total trade (exports + imports), PXNZ = Philippines exports to New Zealand, PMNZ = Philippines imports from New Zealand, PNZTT = Philippines total trade with New Zealand (exports + imports).

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