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The impact of CER on trade between New Zealand and Australia

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New Zealand and Australia signed a comprehensive free trade agreement known as Australia New Zealand Closer Economic Relations Agreement (CER) in 1983 to promote free trade, movement of capital, and labour between the two countries. The CER is a key factor in integrating both the economies. As a consequence of this agreement Australia has emerged as New Zealand's most important trading partner accounting for a significant share of merchandise exports and imports. New Zealand exports to Australia in the post-CER period have doubled. This paper examines the growth in trade intensity and the degree of Intra-Industry Trade between New Zealand and Australia in the post-CER period.

Key words: CER, Trade Intensity, Intra-Industry Trade

I Introduction

New Zealand is a trading nation. In the year 2007 trade accounted for 29% of New Zealand's GDP which is significantly higher compared with some of its major trading partners e.g. in the case of Australia this ratio was 20.7% and for the US it was 14.7% (OECD 2009**)**. This can be attributed to the fact that large countries need not have to depend on the external sector as much as the small countries. In order to achieve higher economic growth and maintain a higher standard of living small countries tend to depend on the external sector (Baldauf *et al*, 2000;Greenway 1998). New Zealand is no exception. Being a small country with a small market size New Zealand is dependent on export earnings to achieve long-term sustainable growth and to improve the standard of living by providing goods and services it cannot produce competitively in the domestic market (NZIER 2005). Over the years there has been a significant shift in New Zealand's export markets. Historically, New Zealand had a special trading relationship with the UK and the latter was New Zealand's only major trading partner. Both countries signed a trade agreement in 1932 that enabled NZ exporters gain access to the British markets at lower tariffs. The same agreement enabled the British exporters to export capital goods to New Zealand at reduced tariff rates. During the 50s and 60s two major features of New Zealand's external trade were firstly, bulk of the exports were agricultural products consisting of Dairy, Meat and Wool products accounting for as high as 90% of NZ's merchandise exports, and secondly the UK accounted for 70% of NZ's exports.

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This heavy reliance on UK markets continued till the mid 70s when UK decided to join the EEC in 1973 which practically ended the special status enjoyed by New Zealand with regard to the access to British markets (Abbott 2007). As a consequence, New Zealand was compelled to diversify its export destinations and gain entry into new markets. An important development in this direction was signing the Closer Economic Relations (CER) agreement with Australia which came into force in 1983. The main objective of the CER was to promote free trade by eliminating barriers to trade and promoting free competition. Total free trade in manufactured goods was achieved by 1990 (MFAT 2005). Consequently, Australia has emerged as New Zealand's most important trading partner in the post CER period. The rest of the paper is organised as follows. Section II provides an overview of New Zealand's external trade. Literature review of economic integration and trade is provided in Section III. Objectives and methodology are explained in Section IV. Section V consists of empirical analysis and discussion, and Section VI concludes.

II Overview of New Zealand's External Trade

A consequence of rapid globalisation is an increase in global trade with a positive influence on the world GDP growth. In the year 2006, world merchandise exports increased by 8.5% and the world GDP increased by 3.5% whereas in 2008 the world merchandise exports grew by 1.5% and the world GDP increased by 1.5% (WTO 2009) indicating the positive correlation between these two variables. Rising global trade makes countries more interdependent for their economic welfare, particularly those countries which have comparative advantage in a narrow range of products. Since New Zealand has a small domestic market with a comparative advantage mostly in land based products its economic prosperity depends on external trade. Although there has been some diversity in the export structure, of the 2000 products exported in the year 2007, New Zealand had comparative advantage in 611 products with food and agricultural products having higher levels of comparative advantage (NZIER 2009). Consequently, over the years New Zealand's share of trade in GDP has not increased whereas its more industrialised trading partners achieved growth (Table-1).

Table -1 Share of Trade in GDP 1980-2007 (%)

Year	New Zealand	Australia	USA	Japan
1980	30.0	16.1	10.4	14.2
1985	31.0	16.9	8.6	12.7
1990	26.7	16.3	10.3	10.0
1995	28.6	19.4	11.7	8.5
2000	34.7	22.5	13.2	10.3
2001	33.9	21.1	12.1	10.2
2002	31.6	20.4	11.7	10.7
2003	28.9	18.8	11.8	11.2
2004	29.5	19.9	12.8	12.3
2005	29.1	21.0	13.5	13.6
2006	29.8	21.2	14.2	15.4
2007	29.0	20.7	14.7	16.8
Average	30	19.5	12	11

Source: OECD Factbook, 2009.

In spite of some inherent limitations such as comparative advantage in a narrow range of products, New Zealand has been able to maintain an average trade to GDP ratio of 30% which is higher than the US (12%), Japan (11%) and Australia (19.5%). for the same period. Also there has been a significant increase in the value of New Zealand's exports and imports of merchandise goods (Table-2).

Table-2 NZ's merchandise exports and imports.

Year	Exports ($m)	Imports ($m)
1980	5,457	5,516
1985	5,732	5,998
1990	9,470	9,483
1995	13,745	13,956
2000	13,272	13,904
2001	13,730	13,307
2002	14,382	15,044
2003	16,527	18,557
2004	20,345	21,308
2005	21,730	26,219
2006	22,409	26,424
2007	26,931	30,890

Source: UNCOMTRADE

The merchandise exports recorded a 393% increase and imports an increase of 460% indicating New Zealand's growing dependence on and ability to expand trade. This growth in trade, particularly from 1990s, can be attributed *inter alia* to implementing free trade policies as a consequence of APEC membership in 1989 and expanding the scope of CER in 1990 by eliminating all tariffs and quantitative restrictions on all goods produced in both the countries. Economic theory suggests that free trade policies are an important pre-requisite to increase trade among the countries as is evident from New Zealand's experience.

III Literature Review

The Recordian theory of comparative advantage states that international trade based on specialisation as a result of lower opportunity costs, enhances welfare among the trading countries (Cho & Moon 2005). The benefits of free trade accrue to an economy through increased exports and imports which in turn will contribute to growth in real GDP. Studies have shown that trade liberalisation, achieved either through regional or multi-lateral trade agreements, is a key to promote free trade and enjoy the benefits of free trade. Lesser (2008), found that as a member of EU Finland benefitted from the regional trade agreements and also from the multilateral trade negotiations as a member of the WTO. The export penetration ratio in the manufacturing sector increased to 48% in 2005 from 43% in 1995. An empirical analysis of the impact of open trade i.e. complete elimination of tariff and non-tariff barriers shows that exports of goods within OECD could increase by 21%

(Nicolelli *et al*. 2003).The significance of trade, particularly for small countries was emphasised by Foster (2008) in a study on the impact of trade liberalisation on economic growth. He concluded that trade liberalisation enables small countries to enhance the benefits of trade due to economies of scale and facilitates import of capital goods not available domestically with spill-over benefits of knowledge and technology contributing to growth. Kneller *et al* (2008), in their study on the effect of trade liberalisation on growth found evidence that liberal countries that import goods with high R&D levels achieve higher growth. In a simulated study of the impact of the regional trade liberalisation policies on emerging economies, it was found that Vietnam's exports will increase substantially with significant welfare gains as a result of joining the regional and multilateral trading agreements such as ASEAN Free Trade Area (Heng & Gayathri 2004). In a study of the relationship between trade liberalisation and economic growth Thirlwall (2000), concluded that trade liberalisation and export growth are positively correlated, and exports act as an engine of growth. In another study of 22 developing countries that adopted trade liberalisation policies since the mid-70s, it was found that trade liberalisation accounted for about 70% of the increase in export growth achieved during the post-

liberalisation period (Santos – Paulino & Thirlwall 2004). Thus, the benefits of liberal trade policies to an economy are well established.

In addition to the positive contribution to the overall growth in trade, trade liberalisation also has a similar impact on intra-industry trade. Traditional trade theories (Ricardo; Hecksher-Ohlin) emphasise that exchange of goods among countries takes place because of differences in comparative advantage resulting in inter-industry trade. However, in the modern world, trade is not restricted to inter-industry goods but includes intra-industry goods, which consist of the export and import of goods belonging to the same industry. Some underlying reason for the growth in intra-industry trade include economies of scale in an industry, economic integration, geographical proximity, differentiated products and consumers' demand for variety (Greenway 1987; Grubel & Lloyd 1971; Hummels & Levinsohn 1993;Thorpe & Zhang 2005).

IV Objectives and Methodology

Given that trade liberalisation leads to growth in trade as well as in intra-industry trade, this study aims to investigate whether New Zealand's trade with Australia has been growing higher than the trade with other major trading partners in the post-CER period. Secondly, whether there has been a significant growth in the intra-industry trade between NZ and Australia in respect of selected merchandise goods.

Trade Intensity Indices

Trade Intensity Indices for New Zealand's merchandise exports to Australia have been calculated for each of the years from 1985 – 2008 to examine the magnitude of trade flows between New Zealand and Australia in the post-CER period. Trade Intensity Indices are computed for other major trading partners, *viz.,* USA and Japan for comparison purposes. This is because although both USA and Japan are New Zealand's major trading partners, presently there are no free trade agreements with them. A comparison of the trade intensity indices can be expected to provide an indication of the impact of the free trade agreement on the trade flows between the two countries.

Trade Intensity Index (I_{ij}) for country i's exports to country j is defined as the share of county j in country i's total exports (X_{ij}/ X_i) relative to the share of j's imports (M_j) in total world imports, net of i's imports ($M_w – M_i$).

$$I_{ij} = (X_{ij}/ X_i)/ (M_j/(M_w – M_i))$$

The term M_i is deducted from the denominator to take into account that a country does not import to or export from itself. A value of the index greater than unity indicates that country i trades with country j more intensely than does the world as a whole. A value of less than unity indicates a small flow of trade between i and j relative to j's trade with the rest of the world (Braga 1994; Faezeh1998).

Intra-Industry Trade

To measure the extent of IIT, this study uses Grubel-Lloyd (1975) index.

For an individual industry *i the share of IIT is calculated as:*

$$GLi = 1 - (|Xi - Mi| / (Xi + Mi))$$

Where, Xi and Mi denote the exports and imports of industry *i.*

If all trade was balanced GLi would equal 1. On the other hand, if all trade was one-way, GLi would equal zero. Thus, the closer GLi is to 1 (that is, Xi = Mi), all trade in industry *i* is intra-industry trade. The closer GLi is to zero (that is, either Xi = 0 or Mi = 0), all trade in industry *i* is inter-industry trade (Ali & Ali 2007; Rana 2008).

V Data Analysis and Discussion

Data on merchandise exports and imports of individual countries and world imports is sourced from UN Comtrade database. Trade intensity indices are computed using SITC Rev 2 data up to 1989, HS 1992 from 1990 to 1995 and HS 1996 from 1996 to 2008. For the years 1983-1987 world imports data is reported under SITC classification. From 1988 to 2006 some countries used SITC classification and some used HS classification, accordingly these two values are combined to arrive at the total world imports. For the years 2007 and 2008 all the values are under HS classification. Intra-Industry Indices have been calculated for products from six groups of merchandise exports and imports consisting of Food, Beverages and Tobacco, Mineral fuels, Chemical products, Manufactured goods, and Machinery &Transport goods. These items were among the top 25 exports to and imports from Australia in 1985.

Table-3 Trade Intensity Indices

Year	NZ-Australia	NZ-USA	NZ-Japan
1985	12.23	0.58	1.88
1990	16.23	0.71	2.12
1991	16.45	0.73	2.13
1992	17.75	0.70	2.21
1993	16.73	0.58	2.03
1994	17.33	0.55	2.13
1995	17.30	0.54	2.21
1996	17.20	0.50	2.15
1997	17.65	0.52	2.17
1998	18.42	0.61	2.40
1999	18.60	0.59	2.17
2000	18.32	0.60	2.16
2001	19.30	0.64	2.11
2002	18.65	0.68	2.10
2003	19.08	0.70	2.06
2004	18.27	0.73	2.15
2005	18.58	0.71	2.03
2006	18.40	0.69	2.03
2007	19.23	0.67	1.95
2008	17.60	0.59	1.53

Calculations based on UN Comtrade data.

Table-4 NZ-Australia Intra-Industry Trade Indices

Product	1985	1990	1995	2000	2005	2006	2007	2008
Meat	0.12	0.70	0.95	0.36	0.59	0.55	0.27	0.19
Dairy Products	0.10	0.08	0.22	0.21	0.25	0.28	0.35	0.23
Cereals	0.59	0.01	0.02	0.00	0.02	0.03	0.03	0.01
Coffee, Tea	0.87	0.10	0.05	0.08	0.26	0.27	0.36	0.52
Beverages	0.98	0.58	0.44	0.97	0.98	0.87	0.75	0.61
Tobacco&Tobproducts	0.93	0.75	0.71	0.94	0.56	0.70	0.46	0.53
Petroleum&PetroProd	0.48	0.75	0.84	0.72	0.55	0.56	0.88	0.63
Pharmaceutical	0.61	0.29	0.20	0.25	0.38	0.36	0.34	0.40
Fertilisers	0.64	0.17	0.56	0.70	0.07	0.07	0.06	0.23
Plastics	0.38	0.88	0.92	0.95	0.97	0.92	0.92	0.88
Raw hides & Leather	0.32	0.62	0.68	0.77	0.82	0.52	0.32	0.31
Rubber	0.80	0.87	0.83	0.85	0.83	0.87	0.62	0.47
Wood&articlesofwood	0.14	0.08	0.10	0.13	0.20	0.20	0.21	0.18
Paper & paperboard	0.60	0.62	0.68	0.73	0.69	0.78	0.88	0.88
Iron & Steel	0.36	0.66	0.62	0.64	0.91	0.81	0.95	0.96
Gen machinery(Indl)	0.94	0.99	0.90	0.76	0.82	0.81	0.75	0.85
Elec machinery	0.75	0.96	0.87	0.96	0.92	0.95	1.00	0.99

Calculations based on UN Comtrade data.

As shown in table-3 the values of trade intensity indices between New Zealand and Australia are significantly higher than the values with other major trading partners i.e. USA and Japan. The value which stood at 12.23 in 1985 reached a peak of 19.30 in 2001 but decreased to 17.60 in 2008 recording a 44% increase. The decline 2008 can be attributed to the recessionary conditions in both the countries caused by the recent global economic downturn. In contrast, the values with USA ranging from 0.58 to 0.78 1.88 to 2.40 with Japan are relatively low confirming the significant impact of the CER on trade flows between New Zealand and Australia.

The intra-industry indices presented in table-4 reveal mixed results i.e. an increase in intra-industry trade in the case of some products and a decrease in the case of others. Plastics recorded an impressive growth from 0.38 in 1985 to 0.88 in 2008, Paper and paperboard from 0.60 to 0.88, Iron and Steel from 0.36 to 0.96 and Electrical machinery from 0.75 to 0.99. Some products such as cereals achieved a significant decline from 0.59 to 0.01. Food items such as meat and dairy show an increase in the intra-industry trade but the values remain at less than 0.25 i.e. far below unity.

VI Conclusions

This study shows that during study period the CER had a significant positive impact on the merchandise exports from New Zealand to Australia in comparison with other major trading partners as measured by the trade intensity indices. The trade intensity index between New Zealand and Australia has increased by 44% between 1985 and 2008 indicating a significant growth in New Zealand's merchandise exports to Australia (Table-3). Complete elimination of trade barriers between the two countries in 1990 has contributed this growth. However, the impact of growth in trade as a consequence of CER on intra-industry trade is mixed with ten out of 18 products recording a decline and the remaining eight showing an increase. The evidence shows that the trade has been moving in the direction of inter-industry trade from intra-industry trade for some products such as cereals and fertilisers. On the other hand, iron and steel and electrical machinery have moved towards complete intra-industry trade. In the case of some products such as beverages and pharmaceuticals the index has declined in 2008 compared to 1985 (Table-4). New Zealand has recently signed free trade agreements with Malaysia and ASEAN.

Further research can be done to ascertain whether such agreements will have a similar impact on New Zealand's merchandise exports as the CER.

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