

Investigating the Economic Contribution of Immigrants to New Zealand

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A Dissertation submitted to
Auckland University of Technology
in partial fulfilment of the requirements for the degree of
Master of Business (MBus)

19.05.2011

Economics Department

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Acknowledgements

This dissertation is dedicated to Michelle Wu, who is my life-time mentor in every aspect of my life. Without her care, love and support, I would not be able to complete my master degree.

I am especially grateful to my parents, Zihong Mai and LiangHua Zhang, whose faith and encouragement has kept me moving forward. I thank you for giving me the opportunity to study overseas and for being patient with me.

I am especially grateful to my supervisor, Scott Fargher, who has been a great mentor in facilitating my master's dissertation. His wisdom, knowledge, creativity and patience triggered and maintained my research focus. Participants in a seminar on the New Zealand economic impacts of immigration held on 17 December 2010 provided helpful input into developing my research.

I would like to thank everyone else who has been part of my life: Andrew, Mary, Leon and Jodi and whoever I may have forgotten to mention for sharing my ups and downs. Particularly, thank you to Mary Bateman, who helped my work proof read.

Abstract

In an increasingly competitive world market, the key to success for New Zealand is to develop competitive advantages in its advanced industries. Specifically, if it can attract more skilled immigrants it will provide New Zealand with the opportunity to enhance the overall level of human capital, encourage enterprise and innovation, and foster international links, leading to economic growth. However, New Zealand faces a sizeable challenge in the retention of its most skilled immigrants as well as attracting skilled return migration.

This dissertation critically reviews the evidence relating to the contribution of immigrants to the New Zealand economy, focusing on key factors critical to economic growth: human capital and innovation, and international trade and direct foreign investment (FDI). It also examines the ‘push and pull’ factors underlying New Zealand migration flows helping us to understand how we can attract and retain immigrants to New Zealand, which in turn, will promote economic growth.

A critical review of the relevant literature suggests that: (1) immigrants entering New Zealand are expected to have an effect on the efficiency of the labour force by sharing their knowledge and skills; (2) immigrants are expected to reduce barriers to international trade and influence investment decisions abroad through their connection with their home countries, which in turn will increase New Zealand’s link with global markets; (3) immigrants are expected to facilitate business links and help attract FDI to New Zealand, thus contributing to economic growth; (4) a long-term strategy to deepen New Zealand’s relationship with leading-edge technological countries such as the USA, Japan and Germany may also help to ensure that highly skilled immigrants will choose to live in New Zealand; (5) programs, initiatives and service infrastructure need to be put in place by governments, communities and non-government organizations (NGOs) to help New Zealand attract and retain migration.

1. Introduction

Traditionally, New Zealand has been recognised as a diversified and multicultural country, which designs its immigration policies with the aim of attracting immigrants from all over the world to help build its economy. At the time of the 2006 Census, 23 percent of New Zealand's population was born overseas (NZ Census Data 2006). Immigrants to New Zealand have been recognised not only as a source of population growth, but also as a significant force in the shaping of New Zealand's human capital development and economic growth. In today's increasingly competitive world market, the key to success for a nation is to develop competitive advantages in its advanced industries. Attracting more skilled immigrants can undoubtedly provide New Zealand with the opportunity to facilitate this development and economic growth. While the impact of immigration on the New Zealand economy is clearly extensive, a key question is how immigration contributes to economic growth.

There is a growing literature on the accumulated effect of the human capital of immigrants on economic growth of host country. According to Dolado, Alessandra and Andrea (1993, p. 195), immigrants bring accumulated human capital when entering the host country, and a large number of high-skilled immigrants continue to have a beneficial effect on innovation and improvement in technology, thus contributing to economic growth. However, immigration can also make other contributions to the host country. Immigrants can reduce barriers to international trade and influence investment decisions abroad through their connection with their home countries, which in turn increases the host country's link with global markets (Foad, 2008, p. 22).

The motivation underlying this dissertation is a desire to understand the extent to which immigration promotes economic growth in New Zealand. There is much evidence in

New Zealand that migration has enabled our country to grow through the exchange of knowledge and population, and in this respect New Zealand has benefitted from the accumulated human capital of immigrants. Many economists have also argued that New Zealand, the United States, Australia and Canada are important examples of traditional immigration receiving countries¹. In general, these countries have experienced strong economic growth. Can a strong relationship between immigration and economic growth be found? What lessons we can learn from the experience of other destination countries?

This dissertation confirms that New Zealand loses over 25,000 people to Australia almost every year. People are concerned about a ‘brain drain’ because of a continuous outflow of primarily young well-educated New Zealand citizens, reduce the level of human capital and thus having a negative impact on GDP per capita growth. It is important that immigration policy needs to be adjusted in response to contemporary economic conditions and political concerns. Lessons for New Zealand from a critical review of the international literature and experience are described in this dissertation. We hope that this dissertation provides useful basis for the evaluation of the immigration system in New Zealand while balancing economic development and social cohesion concerns.

The contribution of immigrants is described in Section 2, including a brief description of the determinants of immigrant entrepreneurship and the relationship between immigrant human capital and innovation, as well as exploring how innovation is important to New Zealand’s economic growth, innovation drivers and innovation assessment. The impact of immigration on international trade and FDI is described in Section 3. Foreign direct investment in terms of existing international literature and its

¹ Receiving or host (destination) countries, means countries that receive migrants from other countries. Sending or sourcing countries means countries that send migrants to other countries.

relevance to the New Zealand context is described in section 4. Section 5 is used to investigate New Zealand's migration Patterns and Section 6 is used to investigate the attraction and retention of New Zealand immigrants. Section 7 concludes this dissertation.

2. The Contribution of Immigrant Human Capital to Economic Growth

This section outlines the key factors that determine how immigrants promote economic growth. The contribution of immigrant human capital to labour productivity and labour utilization suggests that immigrants can influence industrial innovation, entrepreneurship, international investment decisions and international trade within global markets.

In a global economy, attracting skilled human talent is one of the most important objectives of formulating immigration policies. Dolado et al. (1993) investigate the contribution of the human capital brought by immigrants to the host economy: immigrants arrive in the host country with their own skills accumulated before arrival, and accumulate further human capital after arrival in the host country. Therefore the stock of human capital in a host country increases as immigrants contribute human capital.

Dolado et al. (1993, p. 213) concludes that the stock of accumulated skills that immigrants bring is typically fairly high and similar to the domestic labour force. However, after immigrants arrive in the host country, it takes time for them to assimilate into the domestic labour market in terms of adaptation of human capital, earnings, the educational attainment of the next generation and many other dimensions (Djajic, 2003, p. 834). Friedberg (2000, p. 225) argues that human capital is imperfectly transferable across countries including the fact that previously accumulated immigrant human capital may not be valued in the host country. More generally, the pace of transferring human capital may impact on the ability of immigrants to accumulate new human capital and contribute to economic growth in the host country. For example, the

language skills of immigrants can have a significant impact of the accumulation of human capital specific to the host country; as a result, immigrants need to invest time and resources to develop the requisite language skills.

Dullep and Regets (1999, p. 186) built a model to analyse the differences between human capital, investment patterns based on various types of immigrants and point out that the initial human capital obtained in the source country is positively correlated with accumulating new human capital in the host country. They (1999, p. 189) conclude that investment in education should be encouraged for immigrants with lower skill transferability. Consequently, investment in education helps immigrants with lower skill transferability accumulate further human capital. If the stock of human capital accumulation successfully converts to labour productivity, this will undoubtedly provide an additional beneficial effect on economic growth due to the fact that the productivity gains can act as a driving force for technology innovation and improvement (Borjas, 2001, p. 80).

Alternatively, it is also important to note that although accumulated immigrant human capital leads to economic growth, an increased number of skilled emigrants (outward migration) can adversely affect the economic growth rate. A resultant reduction in the number of skilled workers would lower the level of accumulated human capital in the source country. Hague and Kim's 1995 study confirms this possibility.

Furthermore, immigrants' accumulated human capital promotes economic growth by affecting innovation. They are expected to affect the productivity of the labour force by sharing their knowledge and skills (Woody, 2006, p. 75). In other words, positive human capital spillovers provide incentives for specialisation and long-term growth. Poot and Cochrane (2005, p. 30) investigated the impact of immigrant human capital on

economic growth and indicate that the accumulated immigrant human capital promotes production innovation, which leads to significant long-run benefits.

In addition, immigrant human capital has a positive impact on economic growth in the host country if immigrants have higher labour force participation and lower unemployment rates than domestic labour (Woody, 2006, p. 60). That means immigrants are likely to make a significant contribution to economic growth when they can be employed in a job that makes the most of their skills. More generally, there are two ways of utilizing accumulated immigrant human capital in the host country: first, existing companies utilize the immigrant's knowledge and skills to promote further productivity growth; second, skilled immigrants set up new independent businesses through utilizing their innovative ideas. That means immigrants accumulated human capital promotes economic growth by positively affecting levels of entrepreneurship.

On the other hand, if skilled and educated immigrants make little use of their skills and knowledge in the host country, this may increase the unemployment rate and may have a negative impact on economic growth. Therefore, effective labour utilization makes the greatest contribution to converting accumulated immigrant human capital into economic growth.

Local companies may also utilize the immigrants' knowledge and skills to promote further productivity growth in the host country. More specifically, accumulated immigrant human capital can add value to labour productivity in an existing company due to the fact that the new knowledge they introduce positively spurs on a change in production technology (Mare, 2003, p. 30). On the other hand, of potential concern to New Zealand, a continuous outflow of highly skilled labour will diminish the level of human capital and thus generate a reduction in technological progress (Hague and Kim, 1995, p. 28).

Skilled immigrants setting up a new independent business through utilizing their innovative ideas also have the potential to make a significant contribution to economic growth. Self-employed immigrants not only bring with them a high level of skills and knowledge but may also bring capital investment. Positive human capital spillover from one industry to another industry provides incentives for increased specialisation and positive links to productivity growth. For instance, local companies may be able to improve their productivity by assimilating the knowledge introduced by self-employed immigrants' companies and hired workers trained by self-employed immigrants.

Alternatively, self-employed immigrants investment may be viewed as a source of foreign direct investment. This kind of FDI contributes to economic growth through increasing accumulated immigrant human capital linked with physical and financial capital. This contributes significantly to productivity growth if self-employed immigrants are encouraged to invest in capital equipment and research and development activities, thereby generating technological change.

Some empirical work has looked at entrepreneurial activity by immigrants. For example, Borjas (1986, p. 501) looks at the self-employment of US migrants. In subsequent work, Borjas (1999, p. 9) argues that immigrants are self-selected from sending countries and there is a process of self-selection in which the skilled workers choose to be entrepreneurial. Saxenian (2000, p. 29) points out that immigrant entrepreneur encourages economic growth by creating new jobs, as well as indirectly, by providing know-how that promote bilateral trade and FDI with their home countries. Also, Saxenian also demonstrates that skilled immigrants have contributed a progressively more significant role to the economic development of Silicon Valley: currently over 30% of scientists and engineers in Silicon Valley's high-technology workforce are foreign-born Asians. In 1998 there were 2001 companies led by Chinese CEOs and 774 with

Indian CEOs, together accounting for 24 percent of the total number of companies. The sustained success of Silicon Valley is thus increasingly developed by highly skilled migrants particularly from Taiwan, India and China, who contribute to economic growth as engineers and entrepreneurs and indirectly as traders, linking California to the technologically advanced areas of Asia (Saxenian, 2000, p. 28).

2.1 Determinants of Immigrant Entrepreneurship

Immigrants exhibit higher rates of self-employment in many OECD countries (OECD 2010, p. 5). The 2010 OECD working paper on entrepreneurship and migrants cautions that the high rates of self-employment found may reflect various situations, as immigrant entrepreneurship can be from various backgrounds and skills. For example, some lower skilled migrants start a business because they do not have other employment alternatives. Such investment may not provide much contribution to the host country's economic growth except for a small amount of job creation. Another important type of immigrant entrepreneurship relates to skilled immigrants whose businesses grow rapidly. It is undoubted that at least in the United States, high-skilled immigrants have achieved great success in engineering and technology startups, which have in turn promoted economic growth in the United States over time (Wadhwa, Saxenian, Rissing and Gereffi, 2008). Research being undertaken by Wadhwa et al. (2008, p. 3) points that of the 2,054 companies they interviewed in the United States, 25.3 percent of high technology companies from 1995 to 2005 were founded by one key founder who was foreign-born and they estimate that collectively companies founded by immigrants contributed \$52 billion dollars in sales and employed 450,000 workers in 2005.

In the research field of immigrant entrepreneurship there have been a variety of theories explaining why immigrants are likely to become entrepreneurs. Two of the more common theories used for the explanation are ‘the middleman minority theory’ and ‘the ethnic enclave economies theory’.

2.1.1 Middleman Theory

The idea of the middleman minority theory is identified as “sojourner orientation” (Bonacich 1973). Based on the sojourning orientation experience of immigrants, many are treated as temporary residents in a host country as they often plan to return to their home country in the future. McEvoy and Hafeez (2007, p. 5) argue that the middleman theory looks at particular ethnic groups as service providers to the general population. Small scale entrepreneurial activities with the middleman position are trying to make some money quickly in the host country (Zhou, 2004, p. 1041). Therefore, immigrants who are temporary residents are inclined to seek self-employment in industries where competition is low and where capital can be liquidated in a short term (Zhou, 2004). In addition, immigrants in a middleman position concentrate to within ethnic neighbourhoods and cluster in a common cultural region (Bonacich, 1973). Within this common ethnic market, immigrant entrepreneurs can open markets for the provision of ethnic goods. McEvoy and Hafeez (2007, p. 5) point out that one of the important characteristics of middleman theory focuses on the geographical distribution of its market population.

2.1.2 Enclave Economies Theory

The ethnic enclave economies theory is built on a market perspective in explaining why immigrants seek self-employment within immigrant communities. In many stances, because of their immigrant status together with a lack of host country language skills,

lower educational attainment, lack of job related experience and other employment barriers, immigrants are willing to work for low wages with few opportunities. Such a low wage market offers limited economic opportunities for immigrants; as a result, many immigrants are more willing to take entrepreneurial risks in starting a business on their own.

According to Zhou (2004, p. 1042), an ethnic enclave is regarded as a geographic concentration of ethnic businesses providing diverse economic activities. Individuals located in an ethnic enclave share a common culture. As was discussed earlier with the middleman theory, immigrants tend to tenant in an ethnic region. Immigrant entrepreneurs can establish an ethnic enclave providing a variety of economic activities. Le (2000, p. 198) argues that the propensity to seek self-employment in Australia is shown to be enhanced by the existence of enclave markets. He argues that immigrants who are part of the ethnic enclave would have information on the tastes of the enclave members and therefore an advantage over non-enclave members. This advantage should be connected to a higher possibility of self-employment (Le, 2000, p. 198). In other words, business opportunities are emergent in an ethnic market to satisfy the demands of their own community for ethnic goods and services by the shift of business activities among the majority community to more successful areas of business. Zhou (2004, p. 1058) suggests that as immigrant entrepreneurs become successful, business expansion often develops not only among their competitors, but also in the broader community.

Meanwhile, a large ethnic minority population supports self-employment activities. McEvoy and Hafeez (2007, p. 12) conclude that the larger the ethnic minority population share in the population as a whole, the more self-employment will operate. These self-employment activities may cater to group preferences where members of an ethnic group may find it easier to communicate with, and to trust as well as sharing a

common culture. For example, specialized activities may be of a general type of self-employment activities, such as accountancy and estate agency, where minorities are easy to deal with and communicate with each other.

Moreover, other factors may impact on the tendency to be self-employed among similar ethnic immigrants, such as educational attainment, host country language skill, social network, culture and regulations in the host country.

2.1.3 Educational attainment:

In 1996, around 1000 European PhD graduates started their own businesses in the United States after completing their training program (Mahroum, 1998). Postgraduate students are most influenced by the quality of the organisations they choose to enrol with and by the post-training opportunities that exist in the receiving country (Mahroum, 1999). This indicates that educational attainment may be an indicator of an individual's ability and have a positive impact on self-employment (Le, 2000, p. 208). On the other hand, Kidd (1993, p. 106) found that educational attainment does not have a significant influence on the propensity to be self-employed because higher educational attainment may facilitate entry into high wage industries that depress the likelihood of self-employment. Similarly, Evan (1989, p. 958) shows that education has a significant negative impact on the propensity to be self-employed among immigrants in Australia. Evan found that education improves the likelihood of joining the mainstream workforce.

2.1.4 Host country language skill

The level of host country language skill may be important as it determines the extent of integration into the general community. There are two conflicting views regarding the host country language level and the propensity to be self-employed. In one view, a lack of English proficiency will hamper interaction with business suppliers and so have a

negative impact on the decision to be self-employed in the United States. An alternative view is that immigrants who are lacking in English proficiency can become self-employed by catering to the needs of individuals with whom they share an ethnic background (Evans, 1989), complementing the ethnic enclave economic theory.

2.1.5 Social networks:

According to the OECD (2010, p. 9) report, migrants tend to form a social network with fellow nationals. These networks can facilitate access to tight resources, capital, customer base, knowledge and support for immigrant entrepreneurs, because immigrants tend to locate in areas where they have relatives (Aldrich and Waldinger, 1990, p. 114). Sequeira and Rasheed (2006, p. 370) make note of the importance of networks and show that their resulting social capital can be significant determinants of successful business start-up for immigrant entrepreneurs. They (2006, p. 371) argue that individuals in an ethnic enclave tend to have connections with each other, which can benefit the immigrant who is ready to build a business as well as providing specific advantages that are actively utilized by immigrant entrepreneurs.

2.1.6 Cultural influence:

A different cultural background plays an important role in determining whether someone chooses to become an entrepreneur. Culture can be identified as the form of a family tradition in business and attitudes toward risk, having an impact on embarking on entrepreneurial activity. The influence of culture on entrepreneurship is due to the importance of values like close family, religious, social ties and trust which enable some immigrant groups to compete successfully in business.

Basu and Altinay (2002) compare the cultural attributes of different ethnic groups and conclude that family tradition influences on immigrant entrepreneurship and their

ability to build a business. If a migrant comes from a more entrepreneurial culture, he may be more likely to start a business than natives in his host country. Hout and Rosen (2000, p. 3) point out that the human capital to become a successful entrepreneur is inherited from parents. They found having a father who is self-employed significantly increases the likelihood of someone being self-employed. To that extent families are crucial to immigrant self-employment. The family is an institution that stands for an important variety of human capital that immigrants draw on in their pursuit of economic advancement (Nee and Sanders, 1996, p. 233).

2.1.7 Regulation in the host country:

The host country regulatory and legal environment can impact on the economic contribution including employment of new immigrant businesses created. Regulation can also influence an immigrant's decision to become an entrepreneur. In the study by Klapper, Laeven and Rajan (2006), they used international data to identify the impact of the business environment on entrepreneurship across European countries. They (2006, p. 622) find that entry regulations can hamper business creation and the imposition of regulations can increase the costs of starting a business. For example, Italy has experienced a lower new company creation rate than France, the United Kingdom or Germany due to prohibitive institutional barriers (OECD, 2010, p. 9). These costs may be even higher for immigrants because they are more likely to be unfamiliar with the laws and regulations in their host country. Regulations that determine ease of access to capital, entering a market and contract enforcement can have a significant effect on the decision to be an entrepreneur (Ardagna and Lusardi, 2008, p. 23). In a related paper, Desai, Gompers and Lerner (2003) use an international approach by exploiting comprehensive entrepreneurial activity throughout Europe and also find that entry

regulations have a negative influence on company start-up in European countries (Desai et al., 2003, p. 31).

2.2 Immigrant Human Capital and Innovation

The literature on immigration has suggested that experienced immigrants may provide human capital that is especially appropriate for innovation. Bodavarsson and Berg (2009, p. 241) show how the Schumpeterian model of innovation² explains how immigration stimulates technological progress, thus promoting continuous improvement in GDP per capita income. They conclude that business immigration may influence technological progress by facilitating the transfer of technology, changing the size of economies, promoting innovation as entrepreneurs and increasing innovation competition (Bodavasson and Berg 2009, p. 241). They argue that business immigrants creating an innovative business have the potential to destroy the market power and profits that their competitors had gained as a result of their earlier technologies, based on the Schumpeterian theory of innovation. More specifically, a new innovative business prevents monopolies from permanently reaping gains and encourages continual technological progress.

The new theories of economic growth identified in the literature of Romer (1990, 1994) and Lucas (1993, 2002) suggests that human capital, learning by doing and local and cross-border spillovers from innovation are important to the growth process. A sufficient level of human capital is vital to imitation and technology transfer (Caselli and Coleman, 2001, p. 332) as well as producing the new ideas that sustain growth. Also, the process of finding new technologies requires a deliberate investment of resources by entrepreneurs. Research and development (R&D) contributes to the stock

² Schumpeter (1934, p. 84) described the capitalist economy as a “perennial gale of creative destruction”. Every time an innovator creates a new business opportunity, it destroys the market power and profits that its competitors had gained as a result of their earlier innovations.

of knowledge, which enhances the productivity of an economy, that stimulates its growth and, importantly, it may create spillover within industries. If technological progress is highly dependent on new knowledge capital, such as in the research sector, a migration policy, which favours skilled immigrants with this capital, favours economic growth.

2.3 Skilled Immigrants promote Innovation

The human capital of skilled immigrants can promote economic growth by affecting innovation. Poot and Cochrane (2005, p. 22) investigate the impact of immigrant human capital on economic growth and indicate that the accumulated immigrant human capital promotes production innovation, which leads to significant long-run benefits. Of particular interest is how immigration contributes to innovation, either through generating new products and services, or through introducing new methods for doing things.

2.3.1 Labour Market Effect

A highly educated immigrant has not only been recognized as a key input into R&D but they can boost innovation indirectly through positive spillovers in management and entrepreneurship (Hunt and Gauthier-Loiselle, 2009, p. 10).

New human capital from a skilled immigrant arises as a benefit in deciding how the production process can be reorganized, and how the existing goods need to be redesigned. Rose and Steven (2004, p. 22) point out that more interaction between local people and overseas ideas workers could benefit domestic productivity. Interaction between migrants and local residents brings access to technological developments and the latest thinking (Rose and Steven, 2004, p. 23). This raises the possibility that more

interactions between host countries and overseas labour could benefit knowledge spillover. This reinforces that Positive human capital spillover from one industry to another industry provides incentives for specialisation and links to productivity growth.

Similarly, interaction between a given amount of human capital in a host country and the international highly skilled immigrants leads to technology spillover and economic growth. Building this interaction involves activities that create face to face contact in acquiring a new skill. Hippel (1994, p. 433) explains that knowledge is best transmitted via face-to-face interaction. Companies are able to benefit from knowledge spillover by cultivating relationships with universities and research institutes. Cockburn and Henderson (2002, p. 163) suggest that companies connected to the public sector research are able to absorb knowledge spillover via their investment in R&D. For example, New Zealand research institutes and research laboratories in a university can perform as the hub that facilitates interaction between skilled immigrants and companies. However, the competitive advantages of large countries such as the G7 members with robust R&D infrastructures are too strong to overcome for small countries such as New Zealand in a short-term.

2.3.2 Expanding the scale of the Economy

The growth of immigration not only results in population growth but also boosts local demand, reinforcing knowledge clustering with benefits for innovation growth (Kerr, 2010). Such demand is partially met through imports but mainly through greater variety and levels of local production (Mazzolari and Neumark, 2009, p. 3). While an increased demand may be met by additional labour supply in the short term, in the long term new investment will be needed. Such new investment will encourage product and process innovation, leading to company growth and boosting innovation (Freeman, 1982, p. 6).

Specialization arrives in terms of a greater variety of products and improvement in existing products.

2.3.3 Self-selection and Innovation

An important source of knowledge spillover is labour mobility. Skilled migrants often make multiple moves over their lifespan. This behaviour benefits host countries through better allocation of resources in terms of transfers of new ideas and work practices. A study of patent data of the United States by Ameida, Song and Wu (2001, p. 12) finds that engineers who migrate from the USA to Taiwan or Korea developed further innovation based on knowledge from their previous companies in the USA.

Immigrants are attracted to a location where they have more opportunities and their self-selection in terms of ability, skills and entrepreneurship may have positive correlation with innovation (Poot, 2008, P. 135). Borjas (1999, P. 4) argues that immigrants are self-selected from sending countries and there is a process of self-selection in which skilled workers chooses to be entrepreneurial. For example, the biotechnological industry is based almost exclusively on new scientific discoveries; companies tend to cluster in a closed region. Clustering is often due to the location like talent, such as those individuals who embodied exclusive new knowledge and high amounts of human capital. New invention arises when the relationship involves the transfer of new economic knowledge from highly skilled workers (Rose and Steven, 2004, p. 22). According to Freeman and Engel (2007, p. 114), clusters of innovation are characterised as mobile resources, such as money, people, and information, including know-how and intellectual property, which are necessary to facilitate innovation. Engel and del-Palacio (2009) argue that a highly specialised cluster is an important prerequisite for knowledge sharing and is expected to attract talented people from all over the world.

Zucker and Darby (2006) look at the geographic movement of “star scientists” in the US. They (2006, p. 10) find that there is a link between their movements and patenting activity. They (2006, pp. 19-20) find that Star scientists tend to cluster in particular places that have more opportunities and incentives to commercialise innovations.

On the other hand, Borjas and Bratsberg (1994) argue that migration decisions are reversible. They present a conceptual and empirical analysis of the return migration behaviour of foreign-born people in the United States by investigating the 1980 Public Use Sample of the U.S. Census and administrative micro-data from the Immigration and Naturalization Service. They argue (p. 165) that “out-migration can arise for two reasons: first, the return migration may have been planned as part of an optimal life-cycle residential location sequence, wherein some immigrants migrate to the United States for a few years, accumulate financial resources and human capital, and then return to the source country. Alternatively, return migration occurs because immigrants based their initial migration decision on erroneous information about economic opportunities in the United States”. The optimal life-cycle behaviour indicates that return-migrants benefits source countries’ economic development as they bring their innovation back home.

2.3.4 Greater Cultural Diversity and Innovation

Immigration can boost innovation through generating greater cultural diversity in the host country. Immigrants increase the ethnic and cultural diversity of the host country, which develops knowledge clusters and offer a competitive advantage to companies in a variety of industries (Poot et al., 2010, pp. 19-20).

The effective utilization of immigrant talent can boost innovation and improve an organization’s overall performance through generating greater cultural diversity in the

host countries. Most companies in industrialised economies consist of a multicultural labour force that is different and shares different attitudes, values, personal characteristics and work behaviour (Bhadury, Mighty and Damar, 2000). People from different backgrounds, cultures and experiences can bring new ideas and skills to the workplace (Brian and Amrik, 1999).

Diversity is interpreted as a feature of dynamic and creative power from various cultures that envisage knowledge creation and transfer from migrants (Williams, 2007, P. 33). Williams (2007) shows that immigrants do bring their personality and their attitude into the workplace. Engel and del-Palacio (2009, P. 5) argue that a multicultural workforce can provide competitive advantage to companies: first, cultural diversity conveys energy and creativity, which have the potential for being transformed into consistent innovation; second, professional immigrant entrepreneurs, and employees from various countries, can interact with each other in terms of sharing cultures and common values that improve collaboration as well as understanding global opportunities and market access.

2.3.5 New Zealand Evidence

In New Zealand, research undertaken by Mare, Fabling and Stillman (2010) combines company-level data on innovation with area-level workforce characteristics to test whether measures of innovation by companies are statistically correlated with the presence of immigrants and local skills. The data set they used is obtained from three business surveys: the 2001 Business Practices Survey and the 2005 and 2007 Business Operations Surveys.

The descriptive analysis of Mare et al (2010) shows that Auckland and South Auckland have the highest percentage of migrants, and companies in these areas were found to have a higher than average probability of introducing new goods and services.

Furthermore, Mare et al (2010) use a maximum likelihood logit regression model to test the strength of the relationship between local workforce characteristics and innovation outcome. Initially, three workforce characteristics are included: the percentage of degree holders, the percentage of people new to the area, and immigrant composition in the population. The migrant share was classified as recent and earlier migrants and New Zealand returning residents were also included.

The regression results show that there is lack of evidence of a link between innovation and local workforce composition. This suggests that spillovers from immigration to innovation may not be as strong in New Zealand as it is in other countries. They find that the share of New Zealand immigrants is not significantly linked to any of the innovation outcomes. Their findings confirm the positive relationships between company size and innovation outcome and between expenditure on R&D and innovation outcome.

2.4 Innovation and Economic Growth in New Zealand

New Zealand's relatively small size and low population density may limit the scope for innovation diffusion and the potential for dense networks clusters of innovators to which immigrants could contribute. Interestingly, the Mare et al. (2010, p. 14) study suggests that it is not the immigrant share that matters for innovation, but the presence of highly skilled immigrants. Although the findings of Mare et al. (2010, pp. 12-18) are surprising in the light of recent international evidence showing that innovative companies tend to cluster in regions with greater ethnic diversity and with larger

migrant shares, we still believe that New Zealand needs more high-skilled immigrants to help create new products, new and improved processes and technologies, and ideas that drive economic growth. The reason is that innovation is profoundly important for New Zealand's economic performance and growth, and that to gain greater economic growth from innovation and research, we need to get develop greater synergy and fusion between highly skilled workers and companies.

Prior to the global financial crisis, the lack of skilled staff was reported as a barrier to innovation by almost one out of five NZ companies (Statistics NZ, 2002). To sustain long-term growth, immigration and returned migrants are important in filling such gaps and immigrants are valued for bringing a multicultural working place that encourages innovation and global links to wider international networks that facilitate knowledge transmit (Nana, Sanderson, and Hodgeson 2009, p. 27). Unfortunately, Mare et al (2010) did not have a test of the impact of the interaction between skilled immigrants and existing staff.

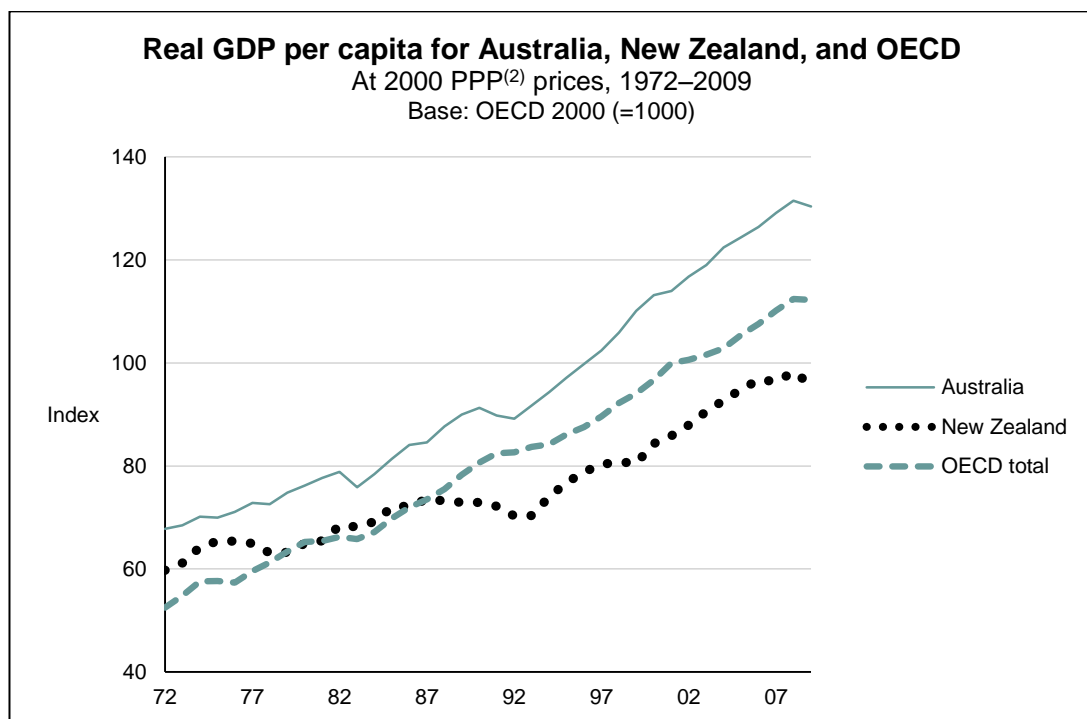
This section highlights how innovation is crucial to New Zealand's long-term economic growth. It investigated what drives innovation and how good New Zealand is at innovation. We will also examine what New Zealand can learn from the international literature about the impact of skilled immigrants on innovation.

2.4.1 Gross Domestic Product per Capita Growth in New Zealand

Figure 1 shows that New Zealand's GDP per capita, compared with Australia's fluctuated between 1972 and 1989, New Zealand averaging 13 percent below Australia's GDP per capita over that period (Statistics New Zealand, 2010). Between 1985 and 1990, New Zealand's relative income dropped sharply below that of Australia; to be 22 percent behind Australia's GDP per capita. It stayed around that level for about

ten years from 1989 to 1998, but has subsequently dropped further behind since then to be 28 percent below Australia in 2006. In 2009, New Zealand's GDP per capita was 26 percent below that of Australia. New Zealand's data shows New Zealand's GDP for the year ended June 2010 was up 0.7 percent compared with the year ended June 2009. In addition, New Zealand's gross domestic product per capita has remained below the OECD average GDP per capita level for the last two decades.

Figure 1: Real GDP per Capita for Australia, New Zealand, and the OECD



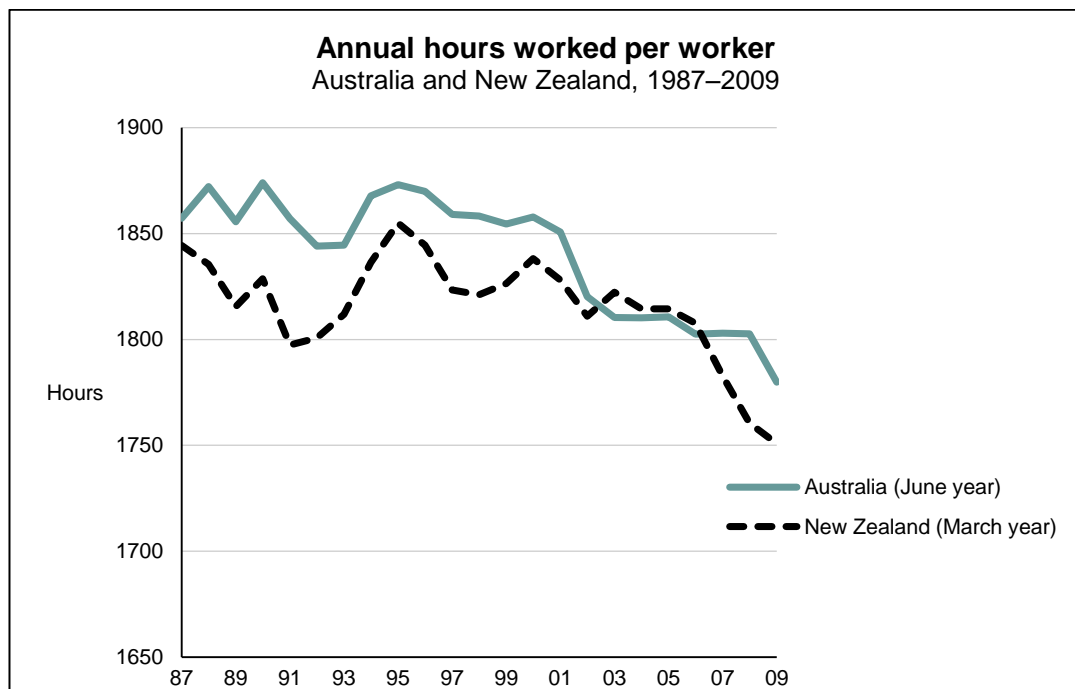
Source: Statistics New Zealand, Australian Bureau of Statistics, and OECD Factbook 2010.

Many factors influence New Zealand's GDP falling so far behind Australia. One important factor referred to is the population change. New Zealand's population has risen more slowly than that of Australia. In 2009, it was 4.3 million, an increase from 2.9 million in 1972, which is an increase of 47 percent. Over the same time period, Australia's population rose to 22 million up from 13.3 million in 1972, an increase of 65 percent (OECD 2010). The greater growth of population in Australia provided potential

to increase economies of scale, grow its domestic market, and harness more resources, thus stimulating GDP per capita.

Another important factor that influenced New Zealand's GDP refers to annual hours worked per worker. Historically Australia's worker worked longer than New Zealand as measure by annual hours worked per worker; this was the case until 2002 (see Figure 2). The gap was at its widest in 1991, when Australians worked approximately 60 hours more on average in that year. New Zealand then was slightly ahead of Australia until 2006, but tailed off very significantly from 2007 onwards. In 2009, Australian workers averaged 1,780 hours per annum, while New Zealanders averaged 1,750 hours per annum. The greater annual hours worked per worker in Australia provide a potential effect to increase output and exploit the economies of scale, thus expanding GDP per capita.

Figure 2: Annual Hours Worked per Worker (Australia and New Zealand, 1987-2009)



Source: Statistics New Zealand 2010 and Australian Bureau of Statistics 2010

2.4.2 Sources of Ideas and Innovation

Science is one important source of innovation, but how innovations arise is not easy to measure. Innovation is all about getting new ideas flowing into the creation of new products, new and improved management and technologies and ideas like new business models, marketing and distribution methods.

In New Zealand, Survey results show that ‘existing staff’ and ‘customers’ were the most common sources of information that businesses used for the purposes of innovation (see Table 1). It is surprising that less than ten percent of businesses rated either ‘Crown Research Institutes (CRIs) or ‘universities or polytechnics’, other research institutes, or research associations’ as important sources of information.

Table 1: Sources of Ideas or Information for Innovation

Source	Percentage of innovating business	
	2007	2009
Existing staff	73	74
Customers	60	61
New staff (those appointed in the last two years)	51	54
Professional advisors, consultants, banks, or accountants	47	46
Suppliers	50	46
Competitors and other businesses from the same industry	46	45
Conferences, trade shows, or exhibitions	49	44
Books, journals, patent disclosures, or Internet	43	44
Other businesses within the business group	31	32
Industry or employer organisations	32	28
Businesses from other industries	22	21
Government agencies	12	11
Universities or polytechnics	9	8
Crown research institutes (CRIs), other research institutes, or research associations	6	6

Source: Statistics New Zealand 2010: Business Operation Survey

2.4.3 The Contribution of Innovation to GDP

The findings of the Business Operations Survey 2009 (see Table 2) show that the media and telecommunications industry had the highest innovation rate, but they only contribute three percent to gross domestic product. This low level of contribution is due to the relatively small number of businesses in this industry compared with other sectors.

Table 2: Innovation Rate compared with GDP

Industry	Total Number of business	Innovation Rate (%)	Percentage Contribution to GDP
Agriculture, forestry, and fishing	3132	32	5
Mining and quarrying	108	36	1
Manufacturing	5292	57	14
Electricity, gas, water, and waste services	120	53	3
Construction	3801	45	5
Wholesale trade	2958	56	7
Retail trade	4296	36	6
Accommodation and food services	4260	47	2
Transport, postal, and warehousing	1425	41	4
Information media and telecommunications	345	60	3
Financial and insurance services	504	51	6
Rental, hiring, and real estate services	927	48	6
Professional, scientific, and technical services	3504	50	9
Administrative and support services	1365	51	
Education and training	699	47	4
Health care and social assistance	2103	44	6
Arts and recreation services	483	47	2
Other services	1032	32	1
Overall ³	36348	46	100

Source: Statistic New Zealand 2010: Business Operation Survey

Table 2 shows that the manufacturing industry, with the second-highest innovation rate of 57 percent, contributed the most to gross domestic product with 14 percent, and in

³ Contribution to GDP will not add to exactly 100 percent as the Business Operations Survey does not include the Administrative and support services.

contrast, the primary agricultural sector with an innovation rate of 32 percent, contributed five percent to gross domestic product.

These few results show that innovation rates differ according to the characteristics of business activities in different industries. However, the industries with the highest rates of innovation are not necessarily the industries that are most imperative to the economy.

2.4.4 Factors that Hamper Innovation

Many factors have the potential to hamper innovative activity, or depress innovative activities, such as the cost of developing innovation and lack of appropriate personnel.

The New Zealand Business Operations Survey, 2009, also investigated the overall factors cited by businesses as hampering innovation in terms of the differences in factors by business size and industry. The results show that (1) the cost of developing or introducing an innovation was rated as the most significant factor that hampered innovation to a high and medium degree (19 percent reported that it hampered them to a high degree and 21 percent to a medium degree), followed by lack of management resources (15 percent to a high degree and 20 percent to a medium degree), (2) lack of appropriate personnel was rated as the most significant factor that hampered innovation to a low degree, and (3) lack of appropriate personnel was the factor that showed the greatest variation in results across industries (see Table 3).

On the other hand, Table 3 also shows that the factors that rated as not hampering their ability to innovate in 2009 were: access to intellectual property (82 percent), lack of cooperation with other businesses (72 percent), government regulation (66 percent) and lack of information (63 percent).

It is important that there are obvious reductions in hampering a high degree of innovation between 2009 and 2007; those citing: (1) the lack of management resources factor reduced from 18 percent in 2007 to 15 percent in 2009; (2) the lack of appropriate personnel factor reduced from 12 percent in 2007 to 8 percent in 2009; (3) the government regulation factor reduced from 13 percent in 2007 to 9 percent in 2009. These changes may be due to the improvement of business conditions and perceived improvements in policy.

Table 3: Factors Hampering Innovation Activity

Factors hampering innovation activity								
Last two financial years at August 2007 and 2009								
<i>Factor</i>	<i>Hampering degree</i>						<i>Did not hamper</i>	
	High		Medium		Low			
	2007	2009	2007	2009	2007	2009	2007	2009
	Percentage							
Costs to develop or introduce	17	19	20	21	14	13	49	46
Lack of management resources (e.g. time)	18	15	23	20	18	18	41	48
Government regulation	13	9	13	10	16	15	58	66
Lack of appropriate personnel	12	8	21	17	20	21	47	54
Lack of marketing expertise	5	5	13	14	23	20	60	61
Lack of information	3	3	11	10	23	24	62	63
Lack of cooperation with other businesses	2	3	7	6	20	19	71	72
Access to intellectual property rights	2	1	4	3	15	13	80	82

Source: Statistics New Zealand 2010: Business Operation Survey

2.4.5 Research and Development and Innovation Activity

Research and development is one of the key factors, drives innovation and product development. While R&D is a vital part of business growth, not all companies invest in R&D in New Zealand. Only eight percent of all businesses in New Zealand invest

directly in R&D compared with much higher rates of wider innovation, at 46 per cent, and this disparity exists in all companies (see Table 4 and Statistics New Zealand, 2010).

Table 4: Innovation in New Zealand

Business Activities	Percentage of businesses				
	2005	2006	2007	2008	2009
Activity					
Export Sales	17	16	17	15	18
Investment in expansion	24	23	21	22	26
Research and Development	8	7	7	7	8
Tourism sales	18	18	18	18	19

Source: Statistics New Zealand 2010: Business Operation Survey

R&D and innovation activity vs. business size is shown in Table 5. There are about 64 percent of companies of greater than 100 employees performing innovation activities and 20 percent performing R&D activities. For both types of activity, higher rates are found among larger businesses.

Table 5: Businesses with Research and Development and Innovation Activities

Business Size	Total number of businesses		Businesses with R&D activity		Businesses with innovation activity	
			2007	2009	2007	2009
	2007	2009	Percentage			
6–19 employees	26,316	26,817	5	6	42	43
20–49 employees	6,339	6,243	9	10	53	51
50–99 employees	1,758	1,749	12	14	60	59
100+ employees	1,467	1,539	17	20	67	64

Source: Statistics New Zealand 2010: Business Operation Survey

2.5 Discussion

Investment in R&D has a positive impact on a country's productivity performance. Mare et al (2010) suggest that company size and company R&D expenditure have a strong explanatory power in explaining the variation across companies in New Zealand. The New Zealand Business Operations Survey (2009) examines that only eight percent of all businesses in New Zealand investing in directly in R&D activities. The small number of companies investing in R&D activity may is likely to negatively impact on New Zealand's innovation rate

International evidence suggests that one thing New Zealand can do to increase R&D activities is to attract more high-skilled immigrants. The abilities of the highly skilled immigrants can promote the productivity of existing workers. Rose and Steven (2004) point out that more interactions between migrant worker's idea and local workers could benefit domestic productivity. Moreover, interactions between immigrants and local residents can bring access to technological developments and the latest thinking (Rose and Steven 2004, p. 22). The New Zealand Business Operations Survey (2009) shows that existing staff were the most significant sources of information businesses used for the purposes of innovation (refer Table 1), thus New Zealand companies can encourage interaction innovation through that involves activities that create face-to-face contact between highly skilled immigrants and existing staff to facilitate the acquiring of new skills. This interaction between a given stock of human capital in New Zealand companies and international highly skilled immigrants can produce technology transfers as well as raising the capacity of existing staff to digest global leading-edge knowledge and make efficient use of it, thus promoting economic growth.

One of the key concerns for New Zealand is that New Zealand's gross domestic products per capita is currently around 15 percent less than the average for developed societies in OECD (see Figure 1). This is partially because New Zealand produces fewer innovative products than the faster growing developed countries in the OECD.

One of the striking results from the New Zealand Business Operations Survey (2009) is that less than ten percent of businesses rated either 'universities or polytechnics' or 'Crown research institutes (CRIs), other research institutes, or research associations' as important sources of information. That means that not many New Zealand companies obtain synergies from research association. It is important that greater research association be encouraged has the potential for a much greater flow of information that could help technology development. To achieve this result, we believe that encouraging a supply of highly skilled immigrants in the form of researchers, scientist and engineers to work in research institutes or to set up their own R&D subsidiaries in New Zealand. Clearly, this would help to build a collaboration and knowledge transfer between the research sector and companies.

In addition, attracting highly skilled immigrants can reduce the cost of developing or introducing an innovation, which was rated as the most significant factor that hampered innovation to a high or medium degree in New Zealand Business Operations Survey (2009). The accumulated human capital of highly skilled immigrants can add value to the innovation activities in an existing company due to the fact that the new knowledge they introduce positively spurs change in production technology, thus leading to a company's growth and boosting innovation.

In summary, New Zealand is a multicultural society and skilled immigrants increase the ethnic and cultural diversity of a working place. People from different backgrounds, cultures and experiences can bring new ideas and skills to the workplace (Brian and

Amrik, 1999). Skilled immigrants and existing staff from various countries can interact with each other in terms of sharing cultures and common values that improve collaboration as well as understanding global opportunities and market access. To conclude, we believe that New Zealand's future economic performance will depend on innovation, and highly skilled immigration is a significant factor that boosts innovation.

3. The Impact of Immigration on International Trade

3.1 International Trade and Economic Growth

Openness is critical to technology transfer because barriers to trade in capital equipment and intermediate products curb productivity in technology-importing countries. A country that is linked to world markets is likely to have access to a larger knowledge support base than those in isolation (Rose and Steven, 2004, p. 4). International trade has the potential to promote productivity gains through the inflows of products and knowledge across countries (Helpman, 1997, p. 9).

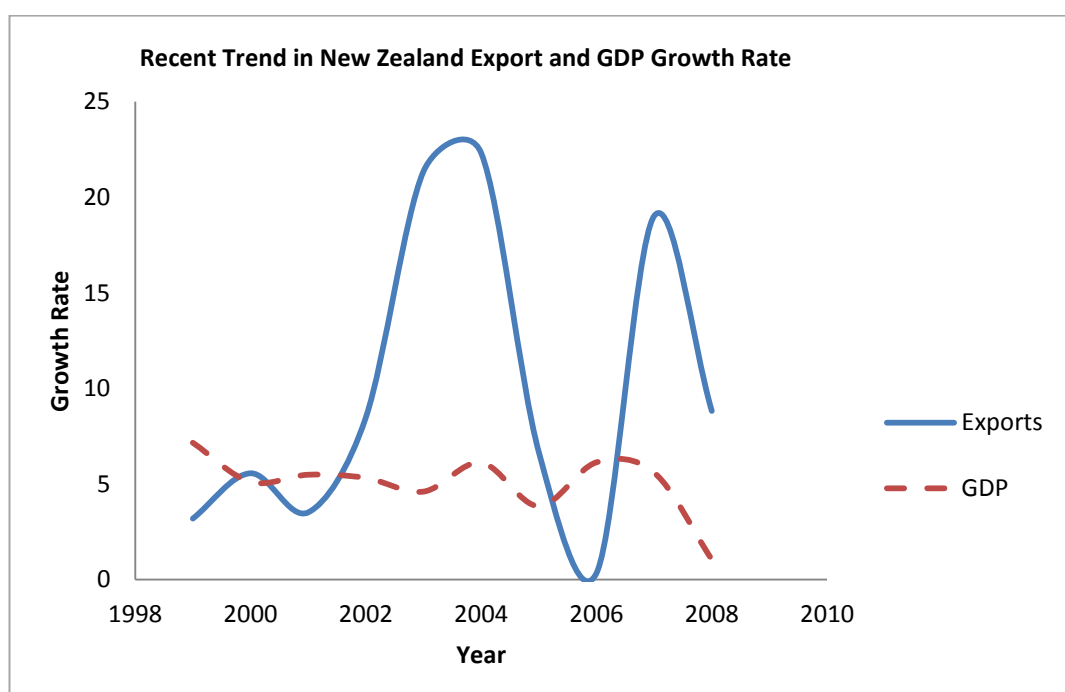
The idea of openness benefiting productivity is explained by Helpman (1997, pp. 4-5). First, international trade enables a country to import products and to use inputs which it cannot produce on its own. Keller (2000) emphasized that technology transfer is achieved via employing specialized and advanced intermediate products invented abroad; new technology is embodied in the intermediate product that is being used. Second, international trade provides opportunities for cross-border learning that applies to manufacturing techniques and management methods. The cross-border flow of knowledge is essential to those engaging in R&D. Third, international trade facilitates channels of communication that stimulate the building of deeper relationships with other countries including forming a free trade partnership, free movement of skilled labour and expansion of market access. While it is very costly to acquire new technology in the short term; international economic relations provide learning opportunities that reduce innovation and imitation cost, benefitting business in raising productivity in the long term. New Zealand's links with Australia and other main trading partners are an example, including the free movement of skilled labour, and expansion of market access. Fourth, international trade provides opportunities to imitate

foreign products and methods. This is a critical channel for technology transfer to take place.

3.1.1 International Trade in GDP: New Zealand evidence

International trade is of significant importance for New Zealand's economic growth. Empirical data from the OECD (2010) illustrates a close link between trade and GDP growth rate (see Figure 3).

Figure 3: Recent Trends in New Zealand exports and GDP growth rate

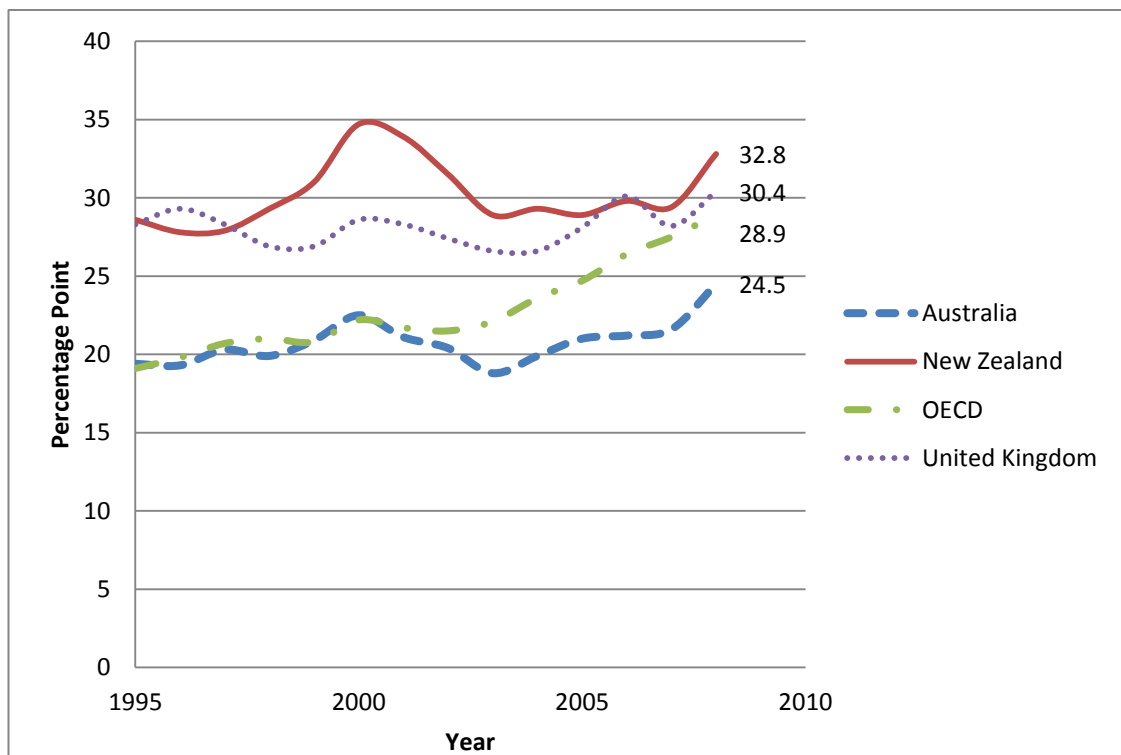


Source: OECD Factbook Statistics 2010

International trade is a fundamental channel to facilitate economic integration. The trade-to-GDP ratio is one indicator of significance of international trade to the economy. The trade-to-GDP ratio corresponds to the weight of imports and exports of both goods and services as a percentage of GDP (OECD, 2010). Goods comprise merchandise imports and exports and services comprise construction, transport, travel, IT, financial, personal, communications and other business, and government services, as well as license fees and royalties.

New Zealand is a trading nation. Historically, New Zealand had an extraordinary trading connection with the UK and it had a long period as New Zealand's most significant trading partner. New Zealand and the U.K. signed a trade agreement in 1932 that enabled New Zealand's products to gain access to the British markets at a relatively low tariff. The same agreement enabled British business to export capital goods to New Zealand at lower tariff rates. This heavy reliance on the UK markets ended after the UK decided to join the EEC in 1973 (Abbott 2007). Consequently, New Zealand was forced to diversify its export destinations and gain entry into new markets. An important development of trade liberalisation was signing the Closer Economic Relations (CER) agreement with Australia in 1983. The most important objective of the CER was to promote free trade between New Zealand and Australia by eliminating barriers to trade and promoting free competition. Total free trade in manufactured goods and service was achieved by 1990 (Ministry of Foreign Affairs and Trade 2005, p. 9). Subsequently, Australia has become New Zealand's most important-trading partner in the post CER period; this is discussed in more detail below.

In the year 2008 trade accounted for 32.8 percent of New Zealand's GDP, which is significantly higher than some of its major trading partners for example in the case of Australia this ratio was 24.5 percent and for the United Kingdom it was 30.4 percent (see Figure 4).

Figure 4: The Share of Trade in GDP between 1995 and 2008

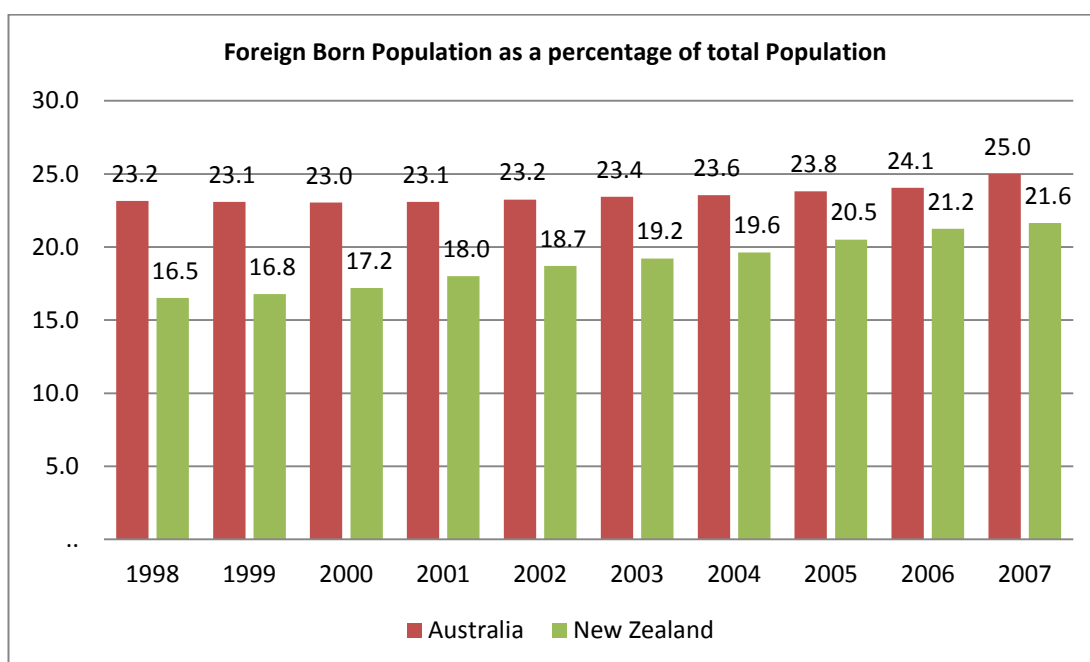
Source: OECD Factbook Statistics 2010

Figure 4 suggests large countries do not depend on the external sector as much as small countries. In order to achieve higher economic growth and maintain a higher standard of productivity, small countries tend to depend on the external sector (Baldauf, Cravens and Wagner, 2000, p. 62). 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. Foster (2008, p. 555) suggests that trade liberalisation enables small countries to improve the benefits of trade through facilitating importation of capital goods not available domestically, with technology transfer benefits contributing to growth. New Zealand is no exception. Being a small country with a small in terms of economy market size, New Zealand is dependent on the export sector to achieve long-term prosperity and growth and to improve competitive advantage by providing goods and services it cannot produce competitively in the domestic market (NZIER, 2005, p. 6). Over 10 years New Zealand's share of trade in terms of GDP has been increased, from 28.6% to 32.8% between 1995 and 2005 (see Figure 4).

3.1.2 Comparison of International trade in New Zealand and Australia

New Zealand and Australia are referred to as “Trans- Tasman” countries due to their geographic location on either side of the Tasman Sea and sharing British heritage. Both countries have a significant proportion of foreign-born residents in their population (see Figure 5). They are open to trade with developed countries. They have been building on the success of Trans-Tasman trade and partnership since the introduction of CER in 1983. It is worth comparing international trade between New Zealand and Australia.

Figure 5: Foreign-Born Population as a Percentage of total Population in New Zealand and Australia



Source: OECD Factbook Statistics 2010

The CER agreement between New Zealand and Australia remains one of the most open and significant free trade agreement in the world. They have agreed to accelerate economic integration and foster closer collaboration on trade with global markets. Over the past two decades, merchandise trade between Australia and New Zealand has grown at an annual average of 7.0 percent (Statistics NZ, 2010).

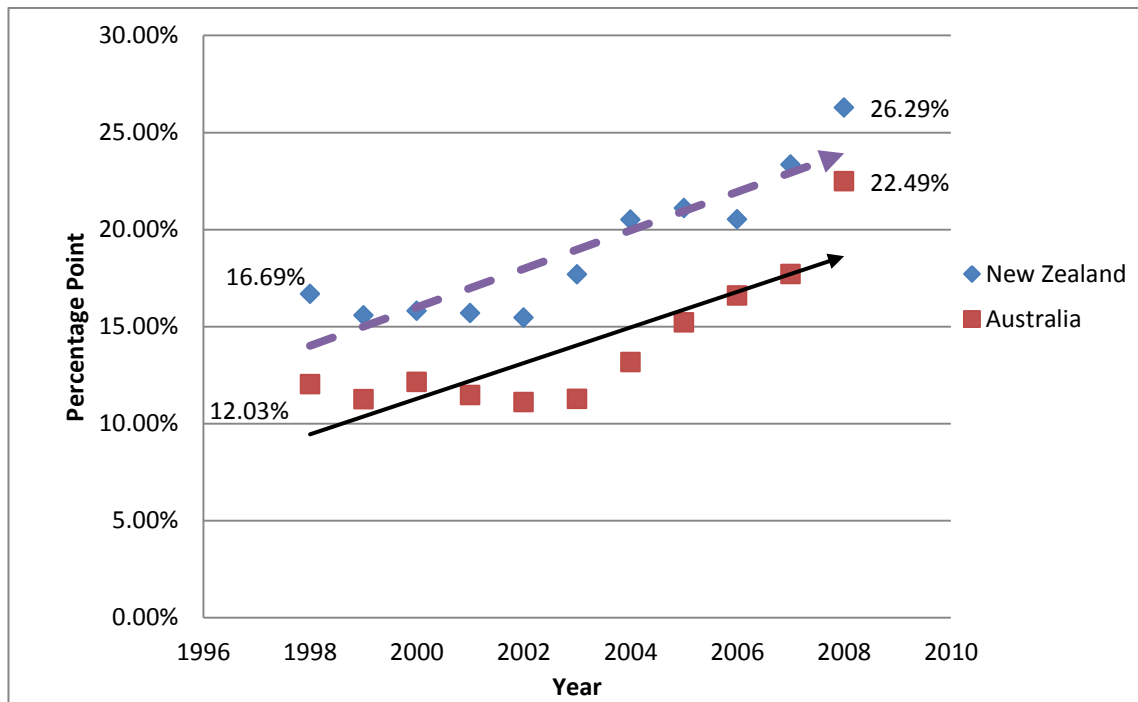
The OECD Factbook Statistics 2010⁴ illustrates that the exports of goods and services in New Zealand was relatively behind Australia's between 1989 and 2010. Australia's export of goods has increased significantly faster than New Zealand's since 2003. The reason for the significant growth of exports in Australia is due to the boom of natural resources exports over the last 5 years. Australia exports more coal and iron, the key raw materials for the industrial society, which makes Australia the big winner in the resources boom. However, to establish a more relevant comparison, we need to look at the percentage of export of goods and services in terms of GDP; using this measure New Zealand's export activity is actually relatively higher than in over the period 1998 and 2008.

Figure 6 shows that : (1) the percentage of exports of goods in terms of GDP in Australia has increased from 12.3 percent to 22.49 percent between 1998 and 2008; (2) the export of goods in terms of GDP in New Zealand over the same time period increased from 16.69 percent to 26.29 percent.

By comparing the slope of the trend lines in Figure 6, it shows that the slope of New Zealand's trend line is relatively steeper than Australia and the slopes of both trend lines are positive. This means New Zealand and Australia have experienced a gradual increase in exports of goods in terms of GDP between 1998 and 2008, and New Zealand's exports of goods in terms of GDP has increased slightly faster than that of Australia's over the same period.

⁴ The *OECD Factbook 2010* database includes more than 100 indicators on population, economic production, foreign trade and investment, energy, labour force, information and communications, public finances, innovation, the environment, foreign aid, agriculture, taxation, education, health and quality of life.

Figure 6: Exports of goods in terms of GDP in Australia and New Zealand

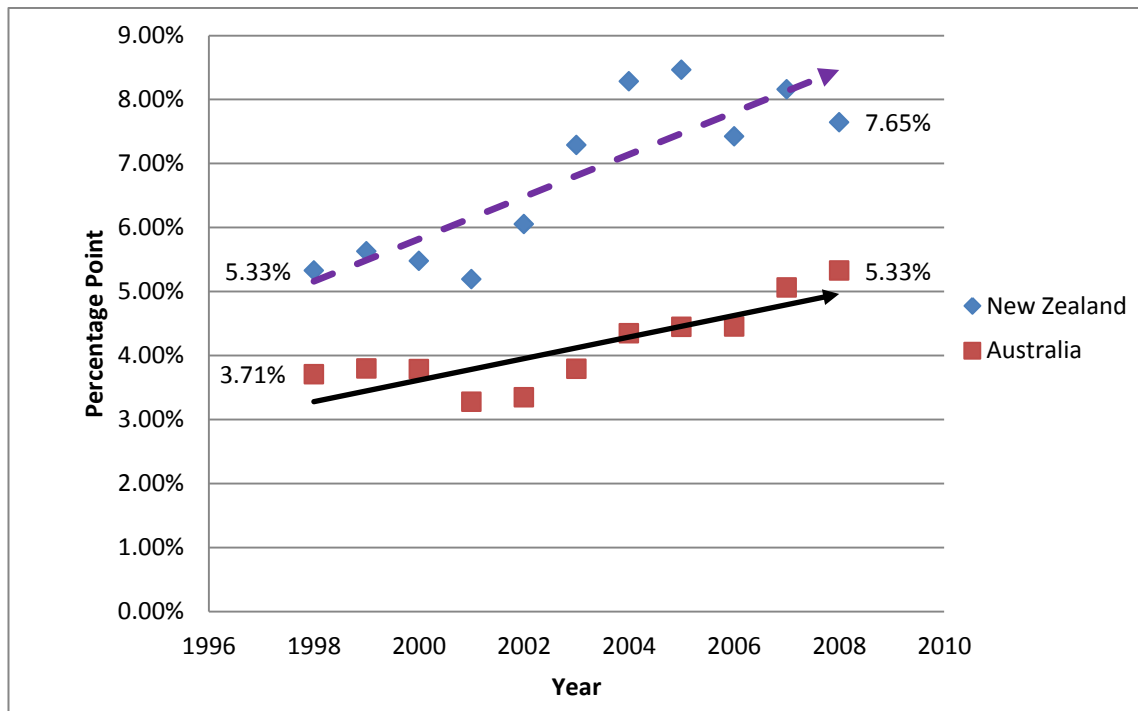


Source: OECD Factbook Statistics 2010

Regarding the exports of services in terms of GDP in New Zealand and Australia, Figure 7 shows that: (1) the percentage of exports of service in terms of GDP in Australia have increased from 3.71 percent to 7.65 percent between 1998 and 2008; (2) the export of services in terms of GDP in New Zealand have increased from 5.33% to 7.65% dollars over the same period time.

By comparing the slope of the trend line in Figure 7 between Australia and New Zealand, it shows that the slope of New Zealand's trend line is relatively steeper than Australia and the slopes of both trend lines are positive. That means both New Zealand and Australia's have experienced a gradual increase in the export of services in terms of GDP between 1998 and 2008 and New Zealand's export of services in terms of GDP have increased slightly faster than that of Australia over the same period.

Figure 7: Exports of service in terms of GDP in Australia and New Zealand



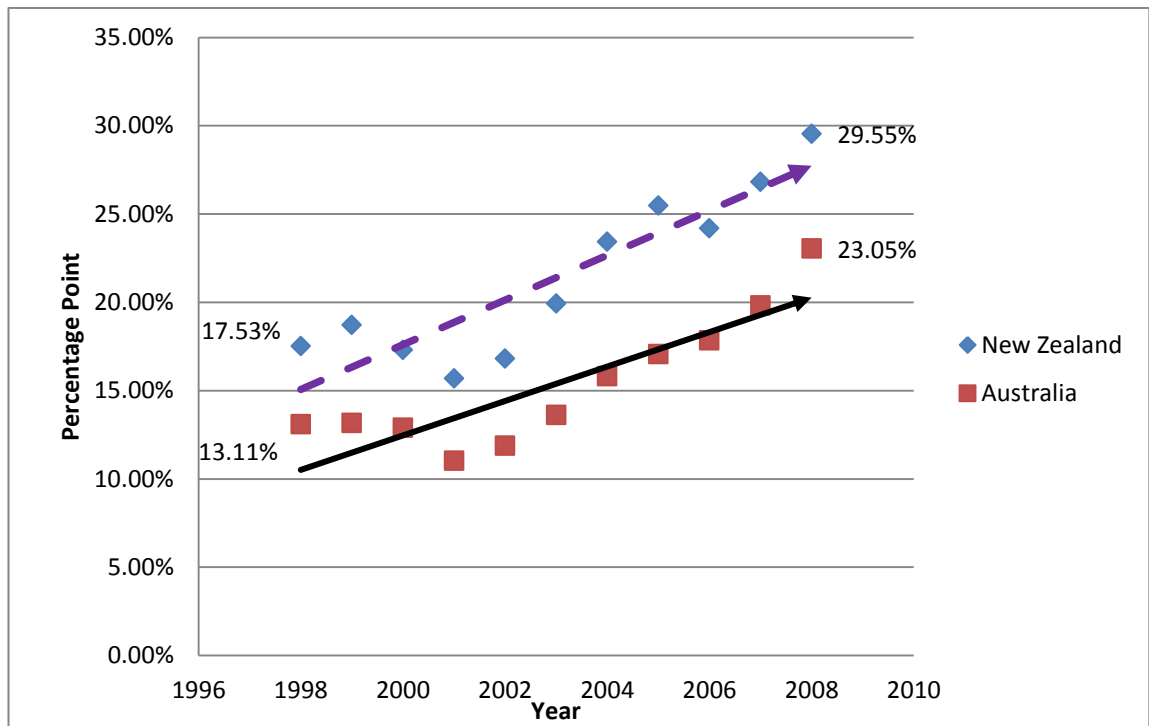
Source: OECD Factbook Statistic 2010

The OECD Factbook Statistics 2010 also provides data on the international imports of goods and services for New Zealand and Australia.

Regarding the imports of goods in terms of GDP in New Zealand and Australia, Figure 8 shows that: (1) the percentage of imports of goods in terms of GDP in Australia increased from 13.11 percent to 23.05 percent between 1988 and 2008; (2) the import of goods in terms of GDP in New Zealand increased from 17.53 percent to 29.55 percent over the same time period.

By comparing the slope of the trend line in Figure 8 between Australia and New Zealand, it shows that the slope of New Zealand's trend line is relatively steeper than Australia's and the slopes of both trend lines are positive. That means New Zealand and Australia have experienced a gradual increase in import of goods in terms of GDP between 1998 to 2008 and New Zealand's import of goods in terms of GDP has increased slightly faster than that of Australia over the same time period .

Figure 8: Imports of goods in terms of GDP in New Zealand and Australia

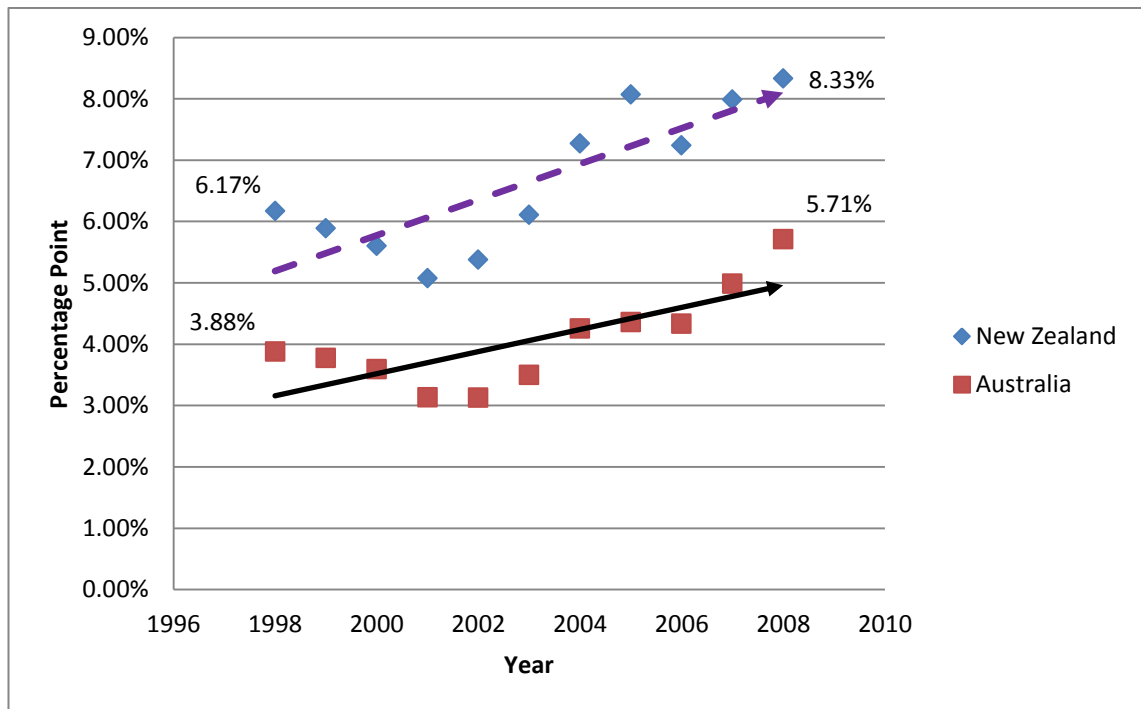


Source: OECD Factbook Statistics 2010

Regarding the import of services in terms of GDP in New Zealand and Australia (see Figure 9), we see that (1) the percentage of import of services in terms of GDP in Australia increased from 3.88 percent to 5.71 percent between 1988 and 2008; (2) the import of services in terms of GDP in New Zealand increased from 6.17 percent to 8.33 percent over the same time period.

By comparing the slope of the trend line in Figure 9 between Australia and New Zealand, it shows that again the slope of New Zealand's trend line is relatively steeper than that of Australia and the slopes of both trend lines are positive. That means New Zealand and Australia have experienced a gradually increase in imports of services in terms of GDP between 1998 and 2008 and New Zealand's import of services in terms of GDP have increased slightly faster than that of Australia.

Figure 9: Imports of services in terms of GDP in New Zealand and Australia



Source: OECD Factbook Statistics 2010

Overall, the OECD Factbook Statistics 2010 shows that Australia has larger volumes of trade compared to New Zealand; however, looking at the value of the export of goods and service in terms of GDP shows a different pattern. The percentage of the export of goods and service in terms of GDP in New Zealand is relatively higher than Australia's between 1998 and 2008. The popular explanation is that New Zealand's export volume can never catch Australia's because of Australia's huge abundance of mineral wealth. But New Zealand also has an abundance of natural resources, such as fertile land, forestry, natural gas, fresh water and a considerable geothermal resource. Moreover, global trends in population growth suggest that demand for agricultural products is likely to increase. Thus exports of agricultural products from New Zealand are likely to increase in the future, which could help New Zealand close the income Australia.

On the other hand, immigrants are expected to assist New Zealand to develop export market opportunities as well as an increased market share for imports. That means an

increase in immigration in New Zealand will be accompanied by expanded world markets for New Zealand exports as well as increasing openness to importing activities.

3.1.3 New Zealand's Comparative Advantage

Trade allows countries to specialise in areas of comparative advantage. A country can raise its standard of living by exporting where its companies are comparatively more efficient or more productive than another country's companies, and importing where its companies are comparatively less efficient. Obviously, the ability to access a larger market provides economies of scale.

According to Statistics New Zealand 2010, New Zealand's largest trading partners are Australia, China, United States and Japan. Top destinations for merchandise exports for the year ended December, 2010, were Australia (23 percent), China (10 percent), Japan (8 percent), and the USA (8 percent); these are detailed in Table 6. Top sources of merchandise imports for the year ended December 2010 Australia (18 percent), China (16 percent), the USA (10 percent), and Japan (7 percent); these are detailed in Table 7. Obviously, New Zealand relies on trade with large markets benefiting from economies of scale and demand driven by growth in those markets.

Table 6: Exports by Destination

Export By Destination	2010 (Million NZ dollar)	Percentage of Export
Australia	10,019	23%
P.R. China	4,825	10%
United States of America	3,759	8%
Japan	3,376	8%
Total	43,500	

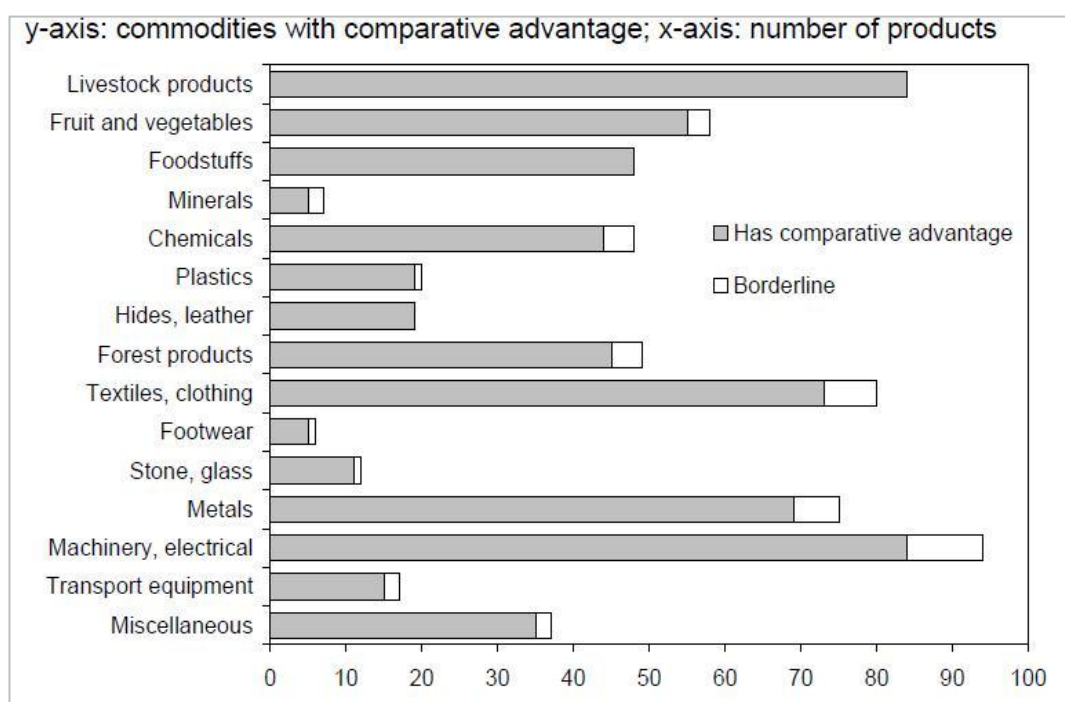
Source: Statistics New Zealand 2010

Table 7: Imports by Destination

Import By Destination	2010 (Million NZ dollar)	Percentage of Import
Australia	7,704	18%
P.R. China	6,763	16%
United States of America	4,394	10%
Japan	3,108	7%
Total	42,369	

Source: Statistics New Zealand 2010

New Zealand has a small domestic market with a comparative advantage mostly in land-based products; therefore its economic prosperity depends on external trade. According to the report of the NZIER (2009, p. 3), New Zealand had comparative advantage in 611 products, with food and agricultural products having higher levels of comparative advantage. These are summarised by sector in Figure 10.

Figure 10: New Zealand's Comparative advantage by sector

Source: NZIER 2009 (<http://www.2025taskforce.govt.nz/pdfs/tfr-nze-20oct09.pdf>)

Global trends in population growth suggest that demand for agricultural production is likely to increase in the medium term. It is expected that agriculture in New Zealand is likely to be an ongoing area of comparative advantage. Table 8 illustrates that exports from the agriculture sector in New Zealand have increased gradually between 2007 and 2010. Goods exports are dominated by food and raw materials. Meat, dairy, and other food exports account for about half New Zealand's exports. The proportion of products that are processed has been gradually increasing in recent years. The implication is that domestic policy that ensures continued growth prospects in the agricultural sector is important for New Zealand's future competitive advantage.

Table 8: Exports by top ten Categories

Products (Million NZ dollar)	2007	2008	2009	2010
Milk powder, butter, and cheese	7,383	9,169	8,025	10,388
Meat and edible offal	4,356	5,224	5,062	5,030
Logs, wood, and wood articles	2,093	2,179	2,314	2,946
Crude oil	1,365	2,769	1,726	1,938
Mechanical machinery and equipment	1,889	1,880	1,668	1,721
Fruit	1,347	1,445	1,586	1,485
Fish, crustaceans, and molluscs	1,104	1,217	1,265	1,304
Aluminium and aluminium articles(5)	1,517	1,428	883	1,213
Wine	760	896	1,014	1,087
Electrical machinery and equipment	1,052	1,073	985	1,028
Total merchandise exports	36,608	42,978	39,631	43,473

Source: Statistics New Zealand 2010

The evidence presented in this section highlights the importance of trade to the New Zealand economy. Our focus now shifts to examining the role of immigrants in trading relationships.

3.2 Immigrant Links and International Trade

Debates about the economic contribution of immigrants typically focus on immigrants' skill scarcities, however, they often ignore important aspects of international labour movement or links that immigrants have to their source country (Gould, 1994, p. 303). The benefits of immigrant links include immigrant's knowledge of source country markets, preferences, language, and business contacts. Gould argues that immigrant links can enhance trading opportunities between host and source countries.

Immigrants can reduce barriers and play a key role in fostering international trade through their ability to speak relevant languages and build interpersonal links between former migrants (Gould, 1994). The interpersonal connections are viewed as a migrant network which links migrants, former migrants, and natives in host and source countries by ties of shared community origin, understanding and friendship (Gould, 1994, p. 303).

A number of recent studies have found that business immigration has a positive effect on trade due to migrant networks between host and source countries. Evidence for the immigrant network effect on international trade is provided by Rauch and Trindade (2002). They investigate the impact of ethnic Chinese networks on trade and find that the network effect, which leads to an increase in trade, is strong in Southeast Asia.

Theoretical work by Gould (1994) argued that immigration links affect trade through two channels: first, immigrants tend to bring with them a preference for source country products; second, immigrants bring with them foreign market information and connections that lower the transaction costs of international trade. The first channel suggests that immigrants' demand for their home products will result in a direct growth of imports of these goods. The second channel indicates a direct increase in bilateral

trade between host and source countries through a decrease in transaction costs due to foreign market information and establishing trade connections.

The evidence that immigration lowers the cost of transactions is explained by Gould (1994, p. 303). His studies suggest that immigrant links can lower transaction costs in three ways. First, the mother language of the immigrants can be widespread or used more often by residents in the host country. Therefore, there would be a larger group of people in the host country who can speak the languages of the host and source countries. This reduces trading costs due to lower communication barriers. Second, immigrants bring information about their home products and preferences, which in turn reduces the cost of obtaining foreign market information in the host country. Third, immigrants bring with them foreign contacts that help the development of trust between buyer and seller. This decreases the costs associated with negotiating trade contracts and ensuring their commitment. The magnitude of these immigrant information effects depends on the ability of immigrants to transmit relevant information (Gould, 1994, p. 303). The ability to transmit information depends on the educational level of the immigrants and the length of their stay in the host country (Gould, 1994, pp. 303-312).

To test whether immigrant links have the potential to enhance international trade, Gould investigated the bilateral trade between the United States and 47 U.S. trading partners. Gould's study indicates that immigrant information has a significant role in determining U.S. bilateral trade and the immigrant information effects are relatively stronger in the export sector than the import sector. On the other hand, immigrant preference tends to play a greater role in the import sector rather as opposed to export sector (1994, p. 314).

Girma and Yu (2002) also explain how immigration lowers the cost of transactions. They believe that immigrants can reduce the transaction cost of bilateral trade in two ways: first, transaction costs of bilateral trade are reduced due to individual business

connections with his/her source country; second, the costs of bilateral trade are reduced due to the additional knowledge brought by immigrants about foreign markets. In the first mechanism, they find that no matter which country immigrants come from, the effect of immigrant link always lowers the transaction cost of bilateral trade. The second mechanism, whether immigration links would decrease the transaction costs of bilateral trade depends on which country immigrants come from. Girma and Yu (2002, p. 116) argued that the impact of immigration information effect on reduction of transaction costs would be less if immigrants are from a country in which social and political institutions are similar to those in the host country.

To test the second mechanism, Girma and Yu investigated bilateral trade between the United Kingdom and 48 trading partners. The 48 trading partners include 26 Commonwealth (including former colonies, such as Hong Kong and New Zealand) and 22 non-Commonwealth members. The study has a hypothesis that the political and social institutions in Commonwealth members are much more similar to the United Kingdom (UK) than the non-Commonwealth members due to the colonial links and the UK's status as a former colonial power. Hence, information brought by immigrants from non-Commonwealth members are of potentially higher value than from Commonwealth members. The results of this study support the second mechanism and show that the effect of immigration from Commonwealth countries on the UK exports is insignificant while immigration from non-Commonwealth countries has a significant effect on trade. In addition, Girma and Yu (2002, pp. 123-129) find that the effect of immigrants on the UK imports is found to be positive for the non-Commonwealth countries but negative for the Commonwealth countries. The evidence suggests that immigration enhances bilateral trade through the information brought by immigrants about foreign markets rather than their business connections with their source countries.

3.2.1 The Issue of Remittances in the Context of Immigrant-trade

Parsons (2005, p. 21) argues that the immigrant preference effect and network effect may not adequately explain the link between immigrants and trade. He argues that remittances are a significant factor in explaining trade with developing countries because these countries are the main recipients of remittances from abroad. Recent World Bank estimates suggest that remittances sent to developing countries may have been close to US\$300 billion in 2008 (OECD, 2009). The remittances sent to a source country can help to promote products produced in the host country, which in turn, creates more exports. For example, immigrants who migrate to New Zealand from low-income developing countries⁵ may earn more income than they would have earned in their source countries. The addition of remittances sent by an emigrant would raise the income of that person's family. The increase in the family's income can help to develop a preference for New Zealand products, which in turn, increases New Zealand exports to the source countries.

On the other hand, remittances also refer to goods that migrants send back to their home countries. Such remittances sent to a source country can help to promote the product produced in the host country, thus, creating more exports. For example, emigrants who migrate to New Zealand from China may send some New Zealand-made products back home as a gift. The remittances gift sent by a migrant may help to promote the goods produced in New Zealand, thereby, increasing New Zealand exports to China.

⁵ The report of trends in remittance fees and charges prepared by Australia and New Zealand government and presented to the recent Forum Economic Ministers' Meeting in Niue, it was noted that around US\$470 million was formally remitted to Pacific island countries in 2008. The primary sources of remittances to the Pacific countries are Australia, New Zealand and the United States of America.

3.3 Migration and Trade: Empirical Evidence

There have been many econometric studies of the effect immigration has on trade. Bryant, Genc and Law (2009) summarise twelve results from empirical studies of migration and trade. The studies cover six host countries: the United States, Canada, Spain, Malaysia, Denmark and Australia, with various trading partners. Also, all the studies summarised in Table 9 explore trade in goods rather than services (Bryant, et al., 2009, p. 14). The results show the estimated magnitude of the elasticity of trade with respect to immigration. For example, the elasticity found by White and Tadesse (2007), implies that a one percent increase in the number of immigrants resident in Australia would increase exports from that country by 0.18 percent and increase imports by 0.47 percent. It is also interesting that the effect of migrants on trade is not consistently higher for imports than for export. For instance, the elasticity detected by Blanes-Cristobal (2003), implies that a one percent increase in the number of immigrants resident Spain would increase exports from that country by 0.23 percent and increase imports by 0.03 percent.

As is apparent from Table 9, the degrees of the estimated effects vary greatly. We observe that the immigrant elasticity of exports varies from 0.02 (Gould, 1994) to 0.53 (Hong and Santhapparaj, 2006). On the other hand, import elasticity varies from 0.01 (Gould, 1994) to 0.88 (Hong and Santhapparaj, 2006). The large variation is most likely due to the estimation technique, differences in samples, and specification (Bryant, et al., 2009, p. 8). Variable choice and country composition is also likely to influence the size of the estimate.

Table 9: The Effect of Immigration on Exports and Imports in Previous Empirical Papers

Study	Sample	Import Elasticity	Export Elasticity
Gould (1994)	US and 47 trade partners; 1970-1986	0.01	0.02
Dunlevy and Hutchinson (1999,2001)	US and 17 trade partners; 1870-1910	0.08	0.29
Head and Ries (1998)	Canada and 136 partners (1980-1992)	0.31	0.1
Wagner, Head, and Ries (2002)	5 Canadian regions and 160 foreign countries; 1992-1995	0.092	0.013
Blanes-Cristobal (2003)	Spain and 40 trade partners, 1991-1998	0.03	0.23
Hong and Santhapparaj (2006)	Malaysia and 16 trade partners, 1998-2004	0.88	0.53
White(2007a)	Denmark and 170 trade partners	0.19-0.33	0.23-0.57
White(2007b)	US and 73 trade partners, 1980-2000	0.13	0.11
White ad Tadesse(2007)	Australia and 101 trade partners 1989-2000	0.47	0.18
Bandyopadhyay et al. (2008)	US state exports, 29 countries,1990, 2000		0.14
Tadesse and White(2008a)	US state exports, 75 countries, 2000		0.11
Tadesse and White (2008b)	US state exports, 75 countries, 2000		0.05
White and Tadesse(2008)	US state exports, 75 countries, 1998-2001		0.12

Source: Bryant, Genc and Law (2009)

White (2007a, p. 62) points out that as the share of the Danish population comprising immigrants increased from 2.6 percent to 5.6 percent between 1980 and 2000, this, presents an opportunity to consider immigrant trade links. The econometric model of the effect of immigration on trade includes dependent variables, aggregate import and export values and allows for variation in links across product types, import and export values for differentiated, reference-priced, and organized exchange goods (White, 2007a, pp. 64-65). Also, the number of immigrants is included to capture any effects of immigration on trade flows by allowing variation in immigrant trade links across source

country income classification (upper middle, lower middle or low income) (White, 2007a, p. 64). Other dependent variables are included, such as distance (a proxy for transport costs), remoteness (a measure of quasi-distance that controls for lack of non-Danish trading opportunities), GDP (measure of economic value), trade agreement (a proxy for openness to trade), Europe (identifies members of the European Union, captures potential trade effects), Military (measures a country's involvement in a military conflict), Seaport (indicates whether a country has coastal access), a vector of time as a dummies variable, and the net FDI stock to GDP ratio represents global financial integration.

The main results of White's study show that: (1) the immigrant-trade links appear to increase with average source country average income; (2) higher transport costs reduce trade; (3) a country with military involvement appears to reduce Danish exports; (4) greater international financial integrated countries appear to have a higher trade level; (5) trade increases with nations that are relatively open to trade; (6) there are positive immigrant-trade links for all source country income classifications regardless of product classification. The elasticity of all imports vary from 0.19 (low income country) to 0.33 (high income country). The elasticity of all exports varies from 0.23 (low income country) to 0.57 (high income country).

White (2007b) investigates the impact of United States immigration on bilateral trade with respect to 73 trading partners for the period between 1980 and 2001. This study indicates that the United States immigrant-trade link is significantly determined by immigrants from low-income countries. By assuming low-income countries have less complete markets and high-income countries have developed markets and contracting procedures, White (2007b, p. 843) shows that a one percent increase in immigrants from high-income countries leads to 0.18 percent decrease in the volume of trade, compared

with a 0.22 percent increase from medium-income countries and 0.69 percent increase from low-income countries.

Dunlevy and Hutchinson (1999) show evidence of the pro-trade impact of immigration on United States imports in the late nineteenth and early twentieth century (during the period from 1870 to 1910). Dunlevy and Hutchinson estimate a gravity model⁶ using data at the individual commodity level on the imports into the United States of 78 commodities from 17 countries, every fifth year between 1870 and 1910. The key explanatory variables of a basic gravity model include ‘migrant stock’ by country of birth and the ‘number of foreign-born people’ residing in the United States.

The main results of the study points out that: (1) the migrant stock appears to have played a significant role in determining the volume of U.S. imports when the study is aggregated over all countries, years and goods; (2) migrant stock is estimated to have played a key role in imports of U.S. from old European and non-European countries; (3) the effect of migrant stock on trade is positive every year from 1870 through 1900; (4) distance appeared to have been a significant determinate of imports from countries from the United States over the entire period of observation; (5) the elasticity of imports varied from a low of 0.17 in 1870 to a high of 2.66 in 1880.

Bacarreza and Ehrlich (2006) aimed to test the impact of migration on foreign trade in a small closed, developing economy, Bolivia. Bacarreza and Ehrlich point out that Bolivia is one of the poorest countries in Latin American but it has witnessed an increase in its exports and imports during the last ten years. They test the impact of immigration and emigration on exports and imports by investigating the impact of

⁶ Lewer and Van den Berg (2008, p. 165) explain that “immigration is driven by the attractive force between source and destination countries and impeded by the costs of moving from one country to another. The gravity model of immigration suggests that the attractive force between source and destination countries depends on the difference of labour incomes between two countries, population size and physical distance”

emigration on thirty trading partners from 1990 to 2003. The results show that a ten percent increase in immigration in Bolivia leads to 0.8 percent increase in exports and a 0.9 percent increase in imports, while a ten percent increase in emigration leads to about a 0.3 percent increase in exports and 0.3 percent increase in imports (2006, p. 14). The conclusion they reached indicates that the effect of immigration and emigration promotes trade flows for a developing country. However, in comparison to developed countries, migration can have a weaker effect on the trade of developing countries (Bacarreza and Ehrlich, 2006, p. 16).

3.4 Migration and Trade: New Zealand Evidence

Qian (2008) followed the studies done by Bryant, et al. (2004) and used a standard gravity model of trade. The model was applied to New Zealand immigrants from 190 countries between 1980 and 2005. The result of Qian's study finds very similar coefficients as Bryant et al: a one percent increase in the numbers of migrant increases exports by 0.056 percent and imports by 0.135 percent. Furthermore, Qian (2008, pp. 13-16) have undertaken a sensitivity test to verify whether the elasticity estimates (trade, exports and imports) are sensitive changes to the dependent variables (immigration source, distance, foreign trade agreement (FTA), population, per capita GDP and exchange rate volatility). Qian also checks whether there is a different impact of three different types of New Zealand visa-holders (international students, international workers and international visitors) on trade between 1997 and 2005. Qian (2008, pp. 29-30) found that a one percent increase in international students is expected to increase trade by 0.026 percent and one percent increase in international workers increases trade by 0.023 percent; international visitors show a significant negative influence on total trade.

Research by Bryant, Genc and Law (2009) updated the research, using New Zealand data between 1981 and 2006 and points out there is a relationship between the number of migrants in New Zealand and New Zealand's trade. They estimate a gravity model of trade between New Zealand and its trading partners. The most important hypothesis of the gravity model suggests that trade is related to migrants (the number of migrants in New Zealand from a given country) and the New Zealand diaspora living in foreign countries. Other variables in the model are mass (a variable capturing economic mass), population (a foreign country's population, distance (the distance between the foreign country's capital and Wellington), non-English (a dummy variable taking a value of one if English is not widely spoken), World Trade Organisation (WTO) member (a dummy variable taking a value of one if the country is a member of the WTO), the real exchange rate, zero migrants (a dummy variable taking a value of one if there are no known migrants from the country), zero diaspora (a dummy variable taking a value of one if there are no known New Zealand-born in the country, average migrants, average mass, average population and average real exchange rate.

The results of Bryant et al. (2009, p. 22) illustrate that the estimated coefficient on migrants is positive and significant on New Zealand's exports and imports. They found that on average a one percent increase in the stock of migrants from a given country would result in an increase 0.06 percent in exports to that country and a 0.19 percent increase in imports from that country. The diaspora are also important for New Zealand's imports but not statistically significant for exports. The results for immigration and New Zealand trade are greater for countries where English is not the dominant language, and developing countries (Bryant et al. 2009, p. 29).

Table 10: New Zealand's Diaspora, Migrants, Exports and Imports, by Region, from 1981 to 2006

	<i>New Zealand-born living outside the countries</i> (thousands)	<i>Foreign-born population in NZ</i> (thousands)	<i>Foreign-born population in NZ</i> (thousands)		<i>Exports by region</i> (NZ\$ 2006 millions)			<i>Imports by region</i> (NZ\$ 2006 millions)		
Year	2001	1981	2006	Var	1981	2006	Var	1981	2006	Var
Australia	356	44	63	43%	1856	6784	266%	1982	8171	312%
East Asia	5	6	135	2150%	2333	7318	214%	2183	10065	361%
Pacific	6	58	136	134%	594	1166	96%	132	132	0%
United Kingdom	58	249	244	-2%	1612	1694	5%	1001	1112	11%
Europe	26	49	75	53%	1843	3975	116%	1313	5913	350%
SE Asia	5	11	58	427%	832	2954	255%	1012	5476	441%
Middle East	3	1	14	1300%	895	1121	25%	714	2132	199%
Africa	6	14	108	671%	305	1308	329%	129	682	429%
North America	36	12	27	125%	1841	5101	177%	2238	5620	151%
South America	1	3	8	167%	305	1212	297%	86	415	383%
South Asia	3	1	10	900%	43	311	623%	17	93	447%
Other & Unspecified	0	16	191	1094%	560	1360	143%	193	872	352%
New Zealand	/	2679	2960	10%	/	/	/	/	/	/
Total	506	3143	4028	28%	1318	34304	164%	11001	40685	270%

Source: Bryant, Genc and Law (2009)

Table⁷ 10 from Bryant et al. (2009) demonstrates that (1) there were 506,000 New Zealand-born living outside New Zealand in 2001, of which 80 percent were living in Australia; (2) there has been relatively small variation in migrant numbers from traditional sources, such as the UK, Australia and Europe; (3) however, there have been relatively large variations in migrants from other sources such as East Asia, South Asia, South East Asia, the Pacific and the Middle East; (4) international trade with the United Kingdom has increased relatively little, while trade with Australia and Asian countries have increased significantly.

Finding that migration encourages trade has implications for the design of international strategy. There are a large number of New Zealand citizens currently overseas and some

⁷ Table 10 presents estimates based on data originally from the United Nations Commodity Trade Database; Bryant et al. (2009, p.5) have converted this data into 2006 NZ dollars.

of them may return to New Zealand in future. When they do so, they will bring new ideas, higher human capital and international networks, which are positive for New Zealand growth (Woody⁸, 2006, p. 26).

On the other hand, Bryant et al. (2009, p. 29) indicate that results for immigration and New Zealand trade are greater in countries where English is not the dominant language, and in developing countries. This is consistent with Girma and Yu (2002) study using U.K. data. Having migrants from a wide variety of developing countries would be seen as a good feature, because it brings New Zealand into a larger number of foreign markets. According to Table 10, the number of South East Asia-born people in New Zealand increased from 11 thousand to 58 thousand between 1981 and 2006; while the value of exports to South East Asia has increased from \$832 million dollars to \$2,954 million dollars and imports from South East Asia has increased from \$1,012 million dollars to \$5,476 million dollars between 1981 and 2006. The instigation of the New Zealand-China Free Trade Agreement is a good example that New Zealand has large foreign market access.

3.4.1 New Zealand and China, Close Relationship Partners

New Zealand started a negotiation process with China on a free trade agreement (FTA) in 2005. Over fifteen rounds of negotiation, the FTA between New Zealand and China came into force on 1st October 2008. This FTA between New Zealand and China is expected to strengthen economic development and growth through the development of a closer economic partnership between New Zealand and China by (1) improving access to a wider range of products and services for consumers in New Zealand and China, (2) facilitating trade in goods and services and investment, (3) improving market access

⁸ Woody's arguments were detailed earlier in the introduction of Chapter 2.

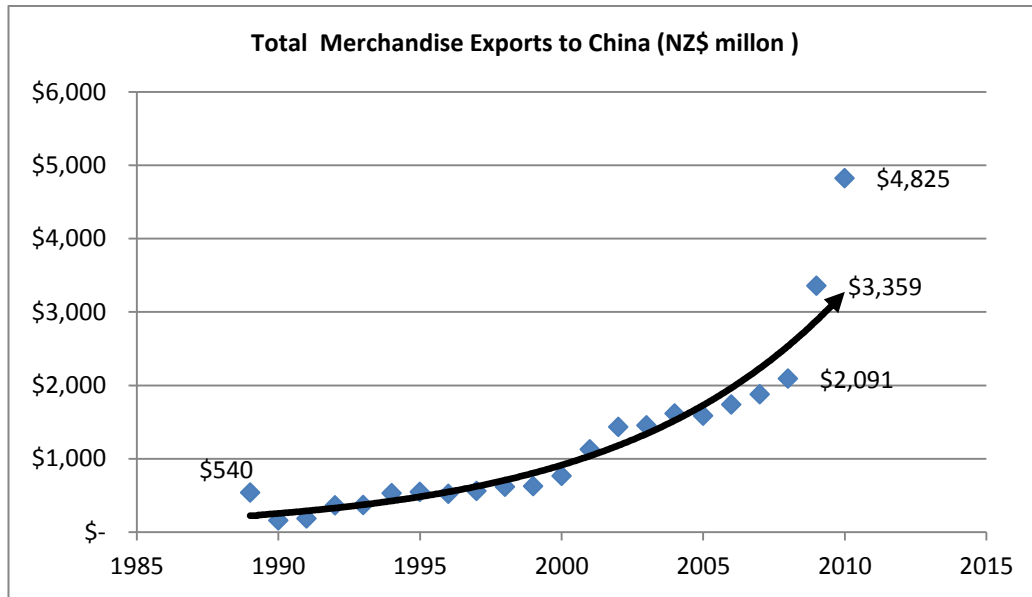
opportunities for New Zealand and Chinese exporters, (4) reducing compliance costs for New Zealand exporters (NZMFT 2011).

The strength of the trading relationship between the two countries is illustrated in Figure 11 and 12.

Figure 11 indicates that the total merchandise exports of New Zealand to China have steadily increased from 1989 to 2010. After the initiation of the New Zealand-China FTA, the value of merchandise exports increased significantly from \$2,091 dollars to \$4,825 million dollars between 2008 and 2010. It is likely that merchandise exports from New Zealand to China will continue to increase in the future. A larger amount of exports reflects that the New Zealand-China FTA has improved market access opportunities for New Zealand exporters.

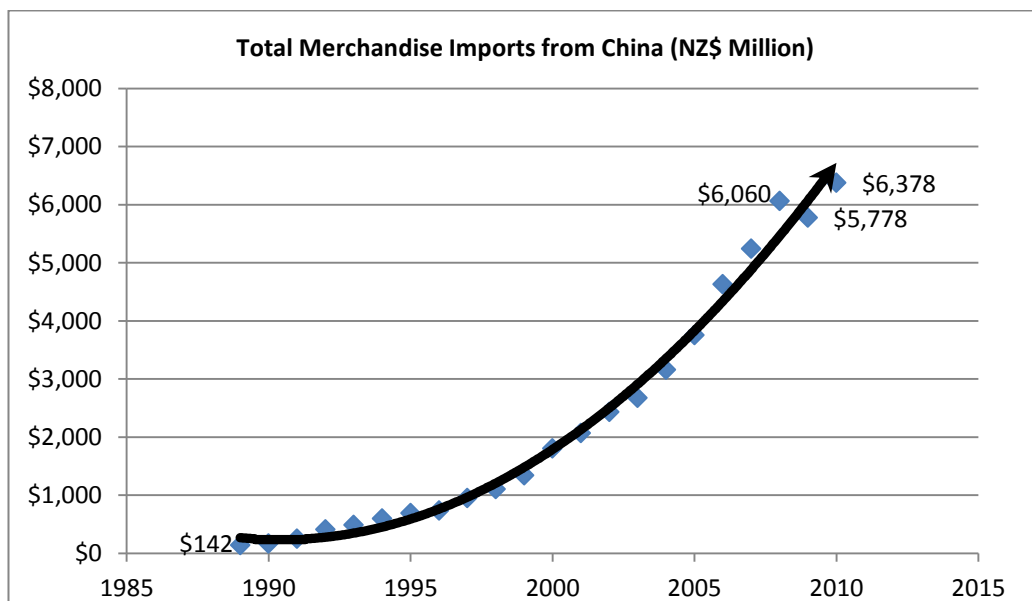
On the other hand, the total merchandise imports to New Zealand from China grew sharply from \$142 million to six thousand and \$6,060 million dollars between 1989 and 2008 (see Figure 12). After the signing of the New Zealand-China FTA, the value of merchandise exports has increased steadily from \$6,060 million dollars to \$6,378 million dollars between 2008 and 2010 (see Figure 12).

Figure 11: Total Merchandise Exports to China between 1985 and 2010



Source: New Zealand Trade and Enterprise 2010

Figure 12: Total Merchandise Imports from China between 1985 and 2010



Source: Statistics New Zealand 2010

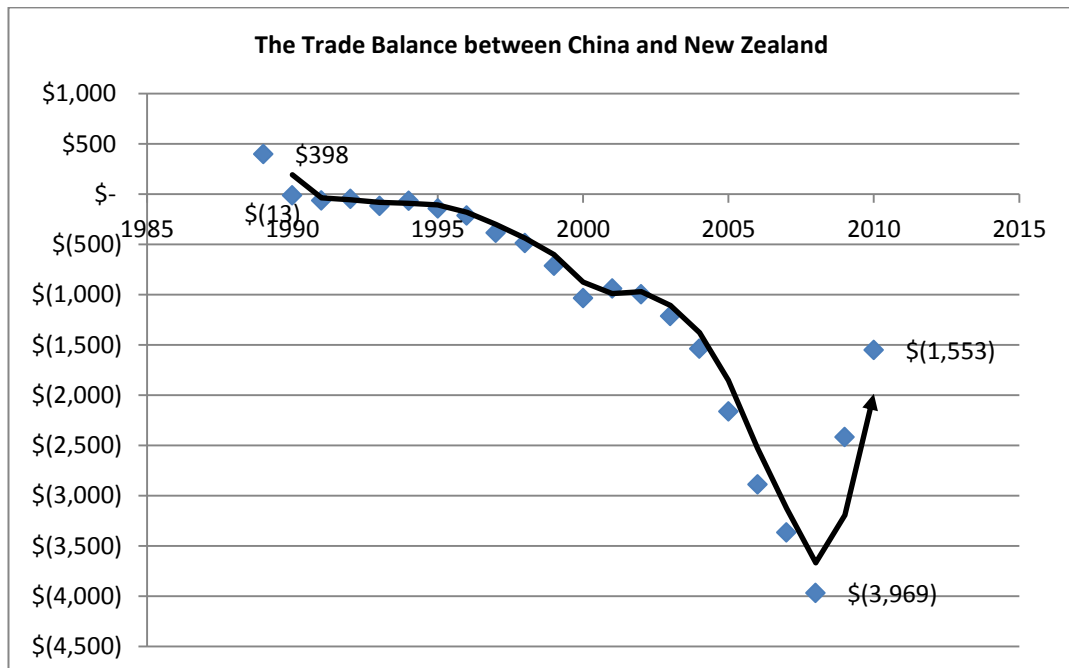
Furthermore, by observing both trend lines of Figure 11 and 12, we can see that the slope of the trend line in Figure 12 is steeper than the Figure 11. It is seen that the growth of total merchandise imports has increased faster than total merchandise exports.

When we investigate the merchandise trade balance between New Zealand and China, it is worth pointing out that New Zealand had a negative trade balance with China for

most of the last 20 years (see Figure 13). However, the trade deficit starts to narrow after the introduction of the New Zealand-China FTA in 2008. If this trend continues, it is likely that New Zealand is going to achieve a positive trade balance in merchandise trade with China in the next couple of years, because of increased exports of milk powder, cheese and butter (Statistics New Zealand, 2010).

On the other hand, Chinese migrants are an important part of New Zealand's ethnic and economic landscape, representing the fastest growing source of migrants in the last ten years. Meares et al. (p. 16) found that the number of migrants from China doubled to 53,694 between 2001 and 2006. Rauch and Trindade (2002, pp. 116-130) confirms that the sizeable Chinese business networks could have a considerable impact on international trade by helping match buyers and sellers in addition to their effect through sharing foreign market information. This indicates that the sizeable Chinese community has a positive effect on New Zealand's international trade.

Figure 13: The Trade Balance between China and New Zealand



Source: Statistics New Zealand 2010

3.5 Discussion

A country linked to the world market is likely to have access to a larger knowledge support than those in isolation (Rose and Steven, 2004, p. 4). As a small country, New Zealand needs to largely rely on off-shore leading-edge technology and ideas to improve productivity performance. International trade allows New Zealand business to take advantage of the flows of products and knowledge between countries and also allows New Zealand to import leading-edge technology, and capital, equipment and intermediate product under low tariff and liberal conditions.

A central part of New Zealand's economic development is to specialise in areas of comparative advantage, by exporting in those comparatively efficient sectors and importing in inefficient sectors. New Zealand has a comparative advantage mostly in land-based products⁹. Building a close economic relationship with larger markets is crucial for the development of comparative advantage of New Zealand as it allows New Zealand producers to exploit economies of scale.

For example, a New Zealand company that invents a new product will have access to a larger market through the bilateral liberalisation of trade barriers, increasing the feasibility of bringing that product to market and utilising increased economies of scale.

It is important that the greater international links with large countries allow New Zealand to participate in the larger international market and have more contact with leading-edge technology and ideas. Rose and Stevens (2004) point out that as a small country, New Zealand needs to rely on off-shore leading technology and ideas to improve productivity performance. The New Zealand government needs to focus on identifying which countries we need to build deeper economic linkages with. Rose and

⁹ 611 products with food and agricultural products having higher levels of comparative advantage (see Figure 10).

Stevens also identified a core of countries along the Asia-Pacific Rim, such as the United States, Japan, Australia and China, with which New Zealand should build closer relations in the next ten to twenty years.

Clearly, attracting migrants is a useful way to foster international trade and establish CER type agreement. A number of international studies have been found in support of the idea that immigration has positive effects on international trade between the host and source countries. Bryant et al. (2009), using New Zealand data, point out that there is a relationship between the source of migrants and New Zealand's trade. Immigration patterns have tended to follow New Zealand's international trade focus, which has been increasingly come from Asia, Europe, the United States and Australia. (New Zealand's largest trading partners are Australia, China, United States and Japan. Top destinations for merchandise exports for the year ended December 2010 were Australia (23 percent), China (10 percent), Japan (8 percent), and USA (8 percent), see Table 6. Top sources of merchandise imports were the year ended December 2010 Australia (18 percent), China (16 percent), USA (10 percent), and Japan (7 percent)). Building a close economic relationship with their key trading partners is crucial for New Zealand's economic development.

It is expected that New Zealand will continue to gain migrants from a wider range of countries that link New Zealand into a larger number of overseas markets. Also, during a recession, when international demand falls, countries may increase barriers to trade; the ability of migrants to operate in foreign markets could be seen as crucial in mitigating such barriers to trade. Attracting New Zealand-born people to return home would be seen as significantly valuable, as helping to sustain international networks. However, of equal importance is how well New Zealand retains the migrants it attracts. This will be discussed in detail in the Chapter 6.

4. Immigration and Foreign Direct Investment

While the literature on the effect of immigration on trade is well accepted, this dissertation intends to explore the link between immigration and international investment. According to the classical two factors of production model in two countries¹⁰, capital moves from the place where the marginal product of capital is low to the place where the marginal product of capital is high. On the other hand, labour moves from a country where the marginal product of labour is high to a country where the marginal product of labour is low. If both capital and labour are mobile, as a result, the movement of labour and capital will cause the capital-labour ratio to be equalized. In other words, if the capital-labour ratio is not equalized between countries, and there are no barriers to movement, labour and capital should move in different directions at the same time Salvatore (2001, p. 129).

In addition to the classical theory of trade and growth, recent literature on immigrant networks and human capital has been widely used to discuss the correlation between immigration and foreign direct investment (FDI).

4.1 Human Capital and FDI

The skill composition of migration is also a key determinant of FDI inflow. Host countries need to have highly skilled labour to absorb the economic growth effects from FDI (Borensztein, De Gregorio and Lee, 1998). This is because a depth of human capital is vital to absorb the spillover effects from FDI. Borensztein, et al. (1998, p. 121) argue that the productivity of FDI is positively correlated with the stock of human

¹⁰ Salvatore (2001, p.129) explains that the two factors of the production model (H-S-O theorem) are as follows: "International trade will bring about equalization in the relative and absolute returns to homogeneous factors across nations".

capital that diffuses the advanced technology accompanying FDI. According to Dolado, Alessandra and Andrea (1993), immigrants bring an accumulated human capital when entering the host country. If human capital is recognized as a prerequisite for reaping the benefits of FDI, attracting more skilled immigrants could undoubtedly provide a country with greater opportunity to facilitate this development and economic growth. For example, the U.S. has much more human capital than other countries, and this level of human capital makes its economy more productive than other countries. Thus, it is likely that capital will move into the U.S. where productivity is high.

4.2 Immigrant Networks and FDI

Kugler and Rapoport (2005, p. 13) argue that skilled immigrants contribute to the capacity of a country to take advantage of new technologies. This effect, often referred to as a technology spillover, arises from increasing the stock of human capital. A more skilled immigrant will raise the number of skilled people in the host country and hence serve as a generator for FDI.

From a business perspective, social networks can strengthen business links. When people migrate from one country to another, immigrants bring not only human capital but also social networks, serving as a link through which capital can flow between their source and host countries (Foad, 2009, p. 3). For example, suppose that there is a flow of immigration from China to New Zealand. A Chinese company intending to invest in New Zealand might employ a migrant to discover more information about the New Zealand market, utilizing the immigrant's linguistic skills, knowledge of the New Zealand economy, local contacts, etc. Additional evidence for the immigrant network effect on FDI is given by Foad (2009), who looks at the regional distribution of both FDI and immigration from ten source countries to the fifty United States and compare a

state with an immigrant network to one with a network twice as large. Foad demonstrates that not only will the state with stronger networks get more new FDI per year, but also more skilled immigrants tend to attract more inward FDI (Ford, 2009, p. 16). His result strongly supports the past findings of a complementary relationship between flows of labour and capital.

Research undertaken by Groznik (2003) examines migration flows and aggregate FDI to the U.S. between 1950 and 1997. Groznik (2003, pp. 13-22) finds evidence that labour and capital move in the same direction by investigating aggregate data on U.S. annual net FDI flows and net migration flows between 1950 and 1997. Labour movement can be a forecasting indicator of FDI flows (Groznik, 2003, p. 23). Groznik explains that when a company decides to invest in a foreign country, it typically sends some of its staff to operate that foreign project, and these people always arrive before the investment arrives. Also, immigrants act as an information channel that promotes inward FDI from their source countries (Groznik, 2003, p. 23).

Kugler and Rapoport (2005) examine the theory linking migrant networks and FDI, focusing on skilled versus unskilled migration across OECD countries. They argue that skilled migrants tend to participate in business networks, while unskilled migrants convey information on the characteristics of the home country labour force (Kugler and Rapoport 2005, p. 23). Both skilled and unskilled migrants help overcome informational barriers to FDI and therefore contribute to increasing the attractiveness of the country to potential investors. On the other hand, Kugler and Rapoport (2005, p. 27) argue that immigration of both skilled and unskilled workers can facilitate the outflow of FDI from the host country to the source country. While immigrants eventually integrate into the business community, a business network can emerge whereby immigrants interact between potential investors and partners (Kugler and Rapoport, 2005, p. 28). The

formation of business networks lead FDI project deployment to migrants' source country.

4.3 Foreign Direct Investment and Economic growth in New Zealand

The effect of FDI is generally positive on economic growth through increasing the total amount of investment which promotes economic growth with respect to GDP.

The increasing importance of FDI in New Zealand's economy in recent years can be illustrated by the ratio of FDI to GDP. The FDI to GDP ratio does not provide a direct measure of the role of FDI in the domestic economy, but it can be useful as a comparative tool in trying to understand how FDI flows into the domestic economy.

Table 11 illustrates the FDI to GDP ratio in New Zealand in the last five years. We see that foreign direct investment in New Zealand as a percentage of GDP rose to 49 percent, an increase of more than two percent from \$72,003 million in 2005 to \$92,487 million in 2010. However, New Zealand direct investment abroad as a percentage of GDP decreased to 11 percent in 2010 from 2005.

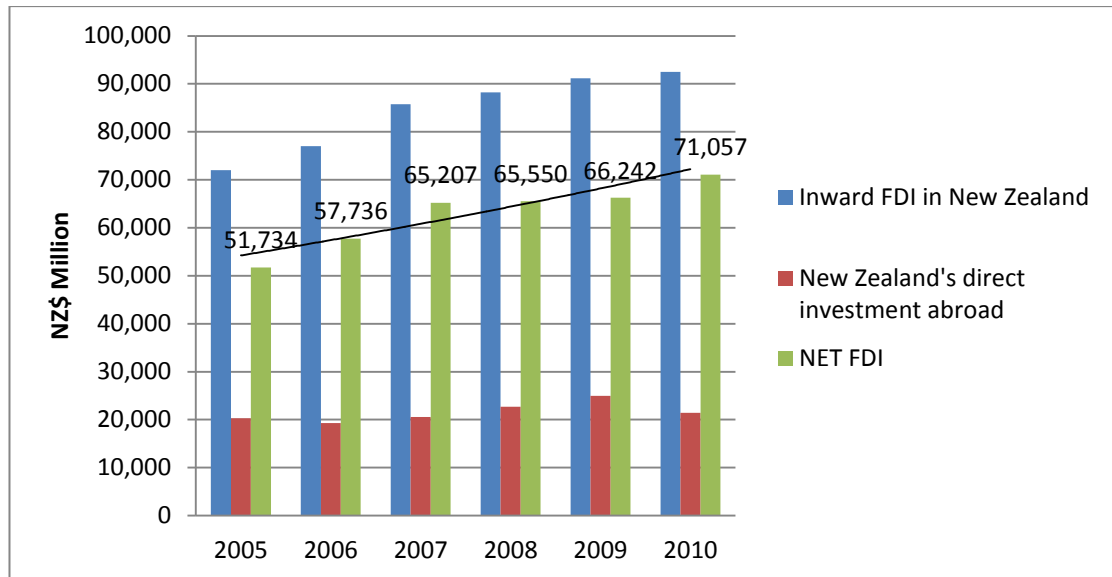
Table 11: The share of Foreign Direct Investment and New Zealand Direct Investment in GDP

(\$ Millions)					
Year	New Zealand Direct investment abroad	Foreign Direct investment in New Zealand	GDP	The Share of FDI in GDP	The Share of NZDI in GDP
2005	20,269	72,003	151700	47.46%	13.36%
2006	19,311	77,047	160273	48.07%	12.05%
2007	20,552	85,759	168328	50.95%	12.21%
2008	22,699	88,249	181020	48.75%	12.54%
2009	24,949	91,191	184168	49.52%	13.55%
2010	21,430	92,487	187362	49.36%	11.44%

Source: Statistics New Zealand 2010: Balance of Payments and International Investment

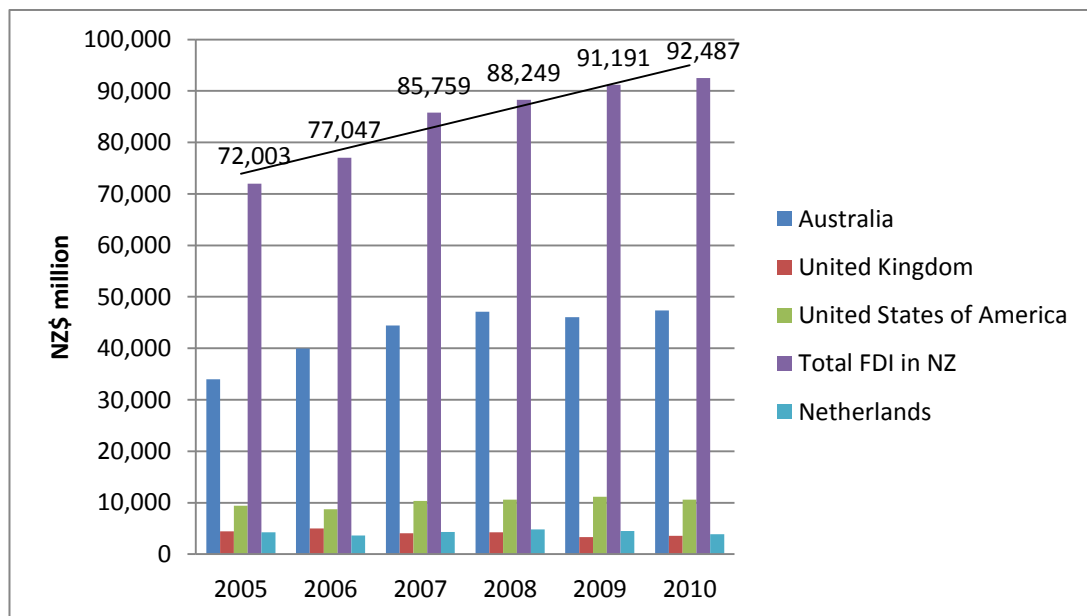
Figure 14 shows that the outflow of FDI from New Zealand has been relatively stable, while the growth of FDI inflow is greater than the outflow of FDI between 2005 and 2010. The net stock of FDI has increased from \$51,734 million to \$71,057 million over this same period.

Figure 14: Inward FDI versus Outward FDI from 2005 to 2010



Source: Statistics New Zealand 2010: Balance of Payments and International Investment

As shown in Figure 15, the growth of inward FDI into New Zealand increased gradually from \$72,003 million in 2005 to \$92,487 million in 2010. The largest FDI inflows are from developed countries, mainly Australia, the Netherlands, the United Kingdom and the United States of America, while outward stocks are more concentrated (see appendix 1). The most important source of investors in New Zealand in terms of FDI stock is from Australia, averaging 50 percent of FDI each year between 2005 and 2010, followed by the United States, averaging 12 percent of FDI, the United Kingdom (5 percent) and the Netherlands (5 percent).

Figure 15: FDI in New Zealand from 2005 to 2010

Source: Statistics New Zealand 2010: Balance of Payments and International Investment

Another important development is the substantial increase in direct investment from Asian countries (Hong Kong, Japan, Singapore) in the last five years (see appendix 1). This would seem to reflect that New Zealand is developing further ties with the region.

4.4 Migration and Foreign Direct Investment: Empirical Evidence

Buch, Kleinert and Toubal (2003) analyse the links between migration and German FDI. They use interstate-level German data to investigate whether and how migration and FDI decisions, and thus integration of labour and capital markets, are linked.

Buch, et al. (2003) review the theoretical and empirical literature on different factors that influenced the interaction between migration and FDI. They conclude that there are two important strands the literature focuses on (Buch et al. 2003, p. 2020): (1) technological differences and differences in factor endowments, and cultural and network effects in explaining migration flows. Combining the implications of the literature, Buch, et al. (2003, p. 2020) suggest that “cultural proximity and network

effects are likely to create clusters of factor migration”. They also use a gravity model¹¹ to test the interaction between capital and migration. Buch et al. (2003, pp. 2020-2021) use FDI stocks and migration as their dependent variables and control for the variable factors: (1) market size and development, (2) cultural and geographic distance, (3) stability and regulations. Furthermore, they use cross-section regressions to explore the interaction between different factors, focusing on whether there is evidence for a clustering of migrants and FDI in specific source and destination regions.

Overall, the findings of Buch et al. (2003, pp. 2031-2034) suggest that (1) cultural factors and regulations have an impact on the integration of markets; (2) barriers to integration tend to have similar effects on FDI and migration, suggesting a complementary effect between migration and FDI; (3) a relatively strong link between the number of German migrants and the number of German FDI abroad, but the relationship between immigration and inward FDI is weak; (4) Clustering seems to be important, and they find that a German community abroad has an impact on the emigration decisions of foreigners who live in Germany.

Murat and Pisoresi (2006) investigated the relationship between immigration and bilateral FDI between Italy and fifty-one foreign countries between 1990 and 2005. They estimated a gravity model of FDI and migration between Italy and its fifty-one partner countries. This means that Murat and Pisoresi expected inward FDI between Italy and another country to be positively related to the country’s emigration and inversely related to immigration. They expected the social and business networks of Italians residing abroad to have a significant impact on the countries bilateral FDI. The results of their study show that the networks of Italian migrants abroad promoted

¹¹ Buch et al. (2003) used the gravity model explained by Gross and Schmitt (2003).

bilateral FDI: a ten percent increase in the stock of emigration increased inward FDI by 2.5 percent and increased FDI outflows by 3.5 percent.

Kim (2006) considers the simultaneous interaction of aggregate immigration, inbound FDI, and imports by using U.S. annual data from 1969 to 2000. To examine all three variables, Kim used a vector error correction model (VECM)¹² to include all three variables in a model. To test the VECM, Kim showed the variance decomposition which identifies the causal relationship between three variables and an impulse response function that showed the response of three variables with respect to each variable. In the case of inbound FDI, the empirical results of Kim's study show that immigrants have a substantial explanatory effect for inbound FDI, however, imports have a negligible explanatory effect for inbound FDI (Kim, 2006, pp. 16-18). Kim's study also finds that immigration leads both imports and inbound FDI, while imports and inbound FDI appear to be substitutes. The results also argue that immigrants and inbound FDI are complements. In short, labour and capital move in the same direction and labour leads capital movement in the United States.

4.5 Discussion

Having business immigrants, particularly those with business background from a wider range of countries is vital to New Zealand's long-term economic growth. In the long term, immigrants integrate into the business community and a business network can emerge whereby immigrants interact between potential investors and partners. The idea of the formation of business networks may help New Zealand to deepen their FDI link with global markets. However, being globally connected is not only about international flows of capital and services, it is also about the exchange of information, ideas,

¹²Brailsford, Penm and Terrell (2006, p. 153) explain that VEC model is a special case of the VAR model for variable that are stationary. The vector autoregressive model (VAR) is a general framework used to capture dynamic relationship between financial variables.

technology and culture. It is well known that domestic companies are likely to have better knowledge and access to domestic markets. A multinational company that is trading to the New Zealand market must have some advantage derived from superior management skills and technology, better access to international markets and economies of scale. This greater specialisation increases the chances that multinational companies can transfer a bundle of resources including management skills, entrepreneurial abilities and R&D to their New Zealand affiliates. Those foreign affiliates not only obtain resources and competences in the same way as other domestic companies, but also draw from parent company and global affiliates. Similar gains are plausible through immigration links.

The evidence reviewed in this chapter strongly suggests that developing a strong FDI link with the rest of the world is necessary for New Zealand's economic development. FDI in New Zealand is expected to have many benefits: FDI-related capital flows, employment creation, technology transfer, and more competitive markets. Developing a strong FDI links opens up larger markets and bigger opportunities for New Zealand companies.

As can be seen from Figure 15, the most important source of FDI to New Zealand to date is Australia. Although Australia has many areas of R&D, we believe that New Zealand should focus on deepening its FDI contact with other source countries that can provide leading global technology. In terms of prioritising a more developed FDI link, the USA has many advantages. The USA is the most important of the global technological frontiers and is the largest trading country. Another target for a deeper FDI link is the UK. The UK is a major trading and FDI partner of New Zealand and along with Australia. The relationships need to be consolidated. Similarly, Japan is a significant trading partner of New Zealand as well as source of inward FDI in the past

10 years. Japan represents a large source country for outbound FDI and is at the leading edge of the global R&D frontier. However, language is a barrier to technology diffusion from Japan through FDI. This may be mitigated through temporary migration such as exchange programme etc. Although China is a developing country and does not rate as highly as the Japan as a source of technology, China is now the second largest trading partner of New Zealand and rates as the second largest market. China is also our fastest growing source of migrants, this suggest an opportunity for trade and FDI. Again links should be consolidated. It is important to attract more Chinese affiliates to New Zealand who can help New Zealand companies to develop business networks with Chinese companies. This would help promote New Zealand products to Chinese consumers. However, national security concerns¹³ may become a barrier to Chinese FDI.

¹³ Kiwis do not want productive agricultural and horticultural land sold overseas, particularly now that farmers' incomes are recovering. For example, Shanghai Pengxin, Natural Dairy had an agreement with Crafar farms receiver KordaMentha to buy the farms, conditional on getting New Zealand Overseas Investment Office approval. (see <http://www.nzx.com/news/4892568/Govt-must-be-clear-on-foreign-buyers-Labour>)

5. New Zealand's Migration Patterns

Migration is a vibrant process. Economic cycles have impacts on inflows and outflows of migration. Any immigration policy needs to focus on the current circumstances. Therefore the following discussion focuses on the current migration story. There is evidence that in the last ten years (2000-2010) New Zealand has consistently lost citizens from across the skill spectrum to Australia, and there has been a fundamental shift in the type of migration received by New Zealand.

This section outlines the current pattern of immigration in New Zealand. A general overview of the current trends is a helpful starting point for understanding the contributions that immigration can make to economic growth and also for understanding the key policy for migration flows as well as a more accurate conception of what the continuing trend will be.

5.1 Immigration Streams

5.1.1 Residence Stream

New Zealand's immigration system consists of two streams: residence and temporary. In 2008/2009 there were 43,573 people approved for residence and more recently, 52,300 migrants were approved with temporary permits between July 2009 and August 2010 (Statistics New Zealand, 2010).

The current objective of New Zealand's immigration policy is to contribute to economic growth through enhancing the overall level of human ability in New Zealand, encouraging enterprise and innovation, and fostering international links, while maintaining a high level of social cohesion (New Zealand Immigration Service, 2010). This objective is achieved through selecting various migrants on the basis of either their

experience and/or skill associated to New Zealand requirements (New Zealand Immigration Service, 2010).

Residence policy includes the following Skilled Migrant's categories: Business Migrants, Families, the International Humanitarian and Residence for work.

The objective of the skilled migrant category is to increase New Zealand's levels of human ability and attract people who demonstrate that they have abilities to contribute to New Zealand both economically and socially and link with local needs and opportunities. The aim of the skilled migrant category is to maximise and accelerate the contribution of immigration to New Zealand's capacity building, innovation and global connectedness (New Zealand Immigration Service, 2010). This objective is achieved through the use of a residence policy that is consistent with maintaining a high level of social cohesion.

The business category¹⁴ is also part of the residence programme. The objective of business immigration is to promote economic growth through increasing New Zealand's level of human capital, encouraging enterprise and innovation and fostering external links (New Zealand Immigration Service, 2010). This objective is achieved through the use of a migrant investment policy to attract financial capital to local companies or government.

It is important to note that not all immigration streams have an economic objective. The Family Sponsored category and International Humanitarian category do not have an economic objective but contribute to social development.

¹⁴ Investor Plus (investor 1 category) requires minimum investment NZ\$10 million for at least three years. Investor (investor 2 Category) requires minimum investment NZ \$1.5 million for at least four years. More information are detailed in <http://www.immigration.govt.nz/migrant/stream/invest/investment/default.htm>

The Family Sponsored stream is mainly comprised of the Partnership policy, Dependent Child policy, Inter-country Adoption and Parent Retirement Category. Before July 2007, all applications for family sponsorship were processed under the family sponsored streams. Since July 2007, partners and dependent children have been approved through the Uncapped Family Sponsored Stream. Other family applicants are to be approved through the Parent Sibling Adult Child Stream. Although migrants approved under this stream are gradually less educated and often have poorer employment and settlement outcomes, it aims to contribute to nation building (New Zealand Immigration Service, 2010). While it does not contribute specifically to economic growth, this stream is important as it strengthens communities and families to allow New Zealand citizens and residents who do contribute to New Zealand's economic transformation and social development to sponsor family members to live in New Zealand (New Zealand Immigration Service, 2010).

The International/Humanitarian category is mainly linked to people who qualify under Refugee Quotas and asylum seekers. The objective of the refugee policy reflects the government's commitment to fulfilling its international humanitarian obligations and contributes to the global community's efforts to assist refugees (New Zealand Immigration Service, 2010). In addition, the objective of humanitarian policy is to allow the entry of asylum seekers to New Zealand in situations where serious humanitarian circumstances exist and there is a close family connection with New Zealand (New Zealand Immigration Service, 2010). The International Stream made up only about eight percent of the residence approvals in the last ten years. In 2008/2009 there were 43,573 people approved for residence and more recently, 2,515 migrants were approved from the international stream in July 2009 to August 2010 (Statistics New Zealand, 2010).

5.1.2 Temporary Stream

The temporary entry policy is mainly comprised of the Generic Temporary policy, Exchange Scheme, Student Visa and Permit and Work Visa and Permit. The policies are aimed at assisting the entry of students, temporary workers and genuine visitors.

In considering the economic impact of temporary migration, the Student Visa and Permit policy has the most significant impact on the development of international connectedness. The purpose of New Zealand's student policy is to support the sustainable growth of export education capacity, infrastructure and earn foreign exchange as well as strengthening New Zealand's domestic education (New Zealand Immigration Service, 2010).

The objective of the work visa and permit policy is to develop New Zealand's human resource base through connecting New Zealand employers and New Zealand industry to globally competitive skills and knowledge, while adding value into the education, training, employment and economic development policies without undermining the wages and conditions of New Zealand workers (New Zealand Immigration Service, 2010).

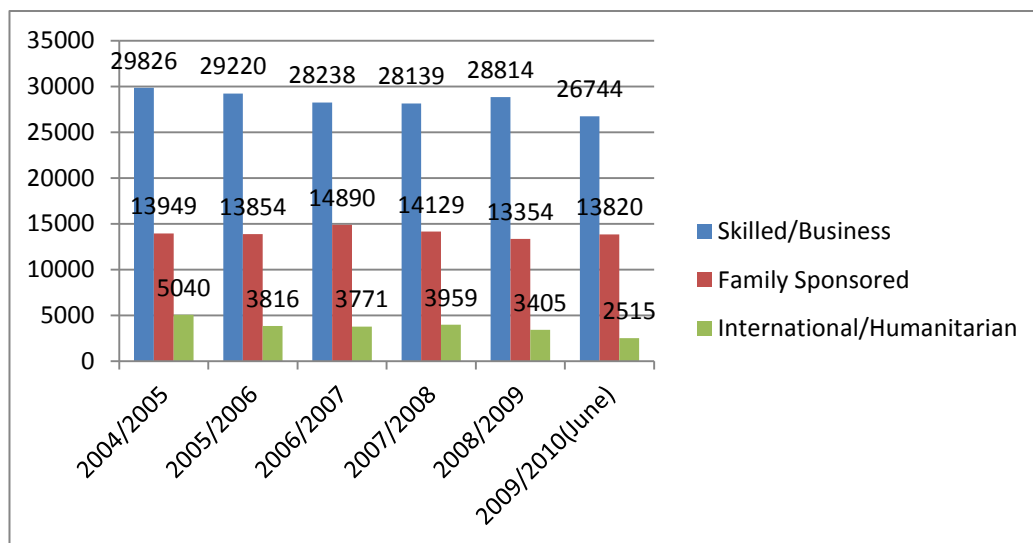
The objective of the visitor visa and permit is to maintain the movement of visitors to New Zealand and minimise the risks to New Zealand. It aims to foster tourism, understanding various cultures, creating potential trade and commerce, international understanding on educational activities and scientific activities without undermining the health, safety and good order of New Zealand society.

5.1.3 Recent Demand for Residence from the year 2005 to September of the year 2010

On the basis of the data available, the numbers of immigrants appears to increase from 2005 to September of 2010. Under the current immigration policy, sixty percent of immigrants are allocated to a skilled/business stream, thirty percent to a family sponsored stream and ten percent to an international/humanitarian stream (New Zealand Immigration Service, 2010).

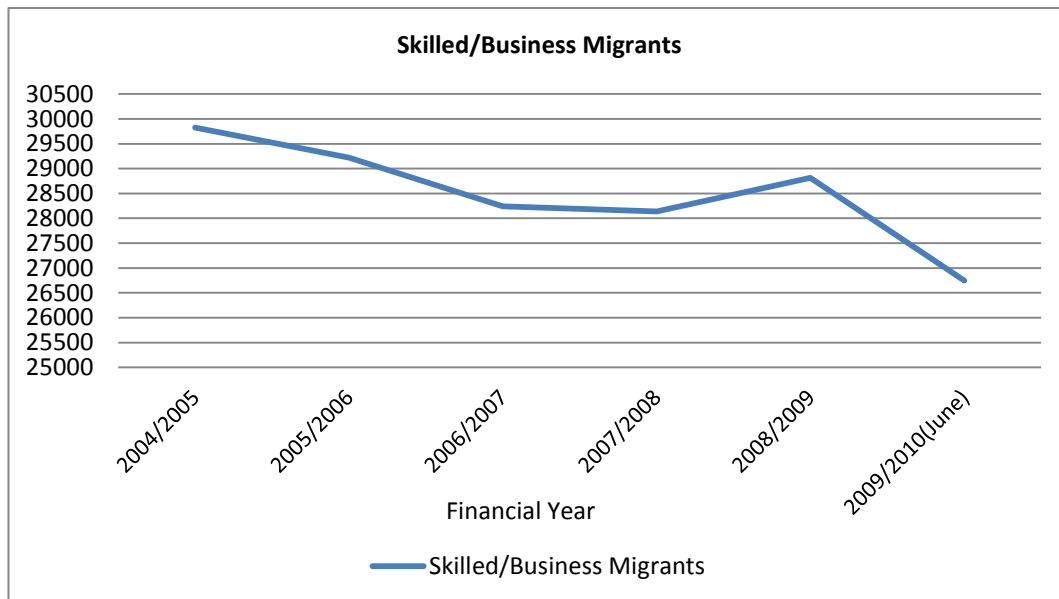
The final total residence approvals for the last five years, immigration programme are set out in Figure 16 below.

Figure 16: Total Residency approval between 2005 and 2010



Source: Statistics New Zealand (2010)

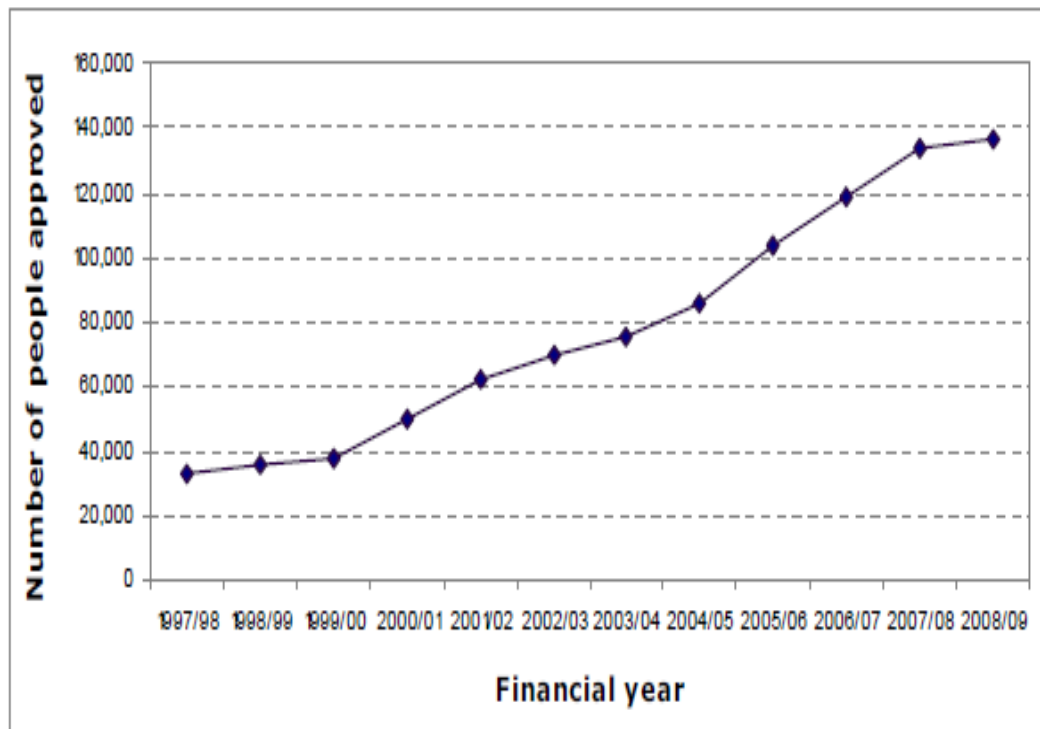
Since the year 2002, the immigration programme was set at 45,000 (+/-5000 places) as an appropriate numerical constraint on residence migration. Demand in the skilled/business categories has been high compared with other categories. However, observation shows that the number of skilled/business migrants approved has declined slightly in the last five years as shown in Figure 17.

Figure 17: The number of Skilled/Business Migrants approved from 2005 to 2010

Source: Statistics New Zealand (2010)

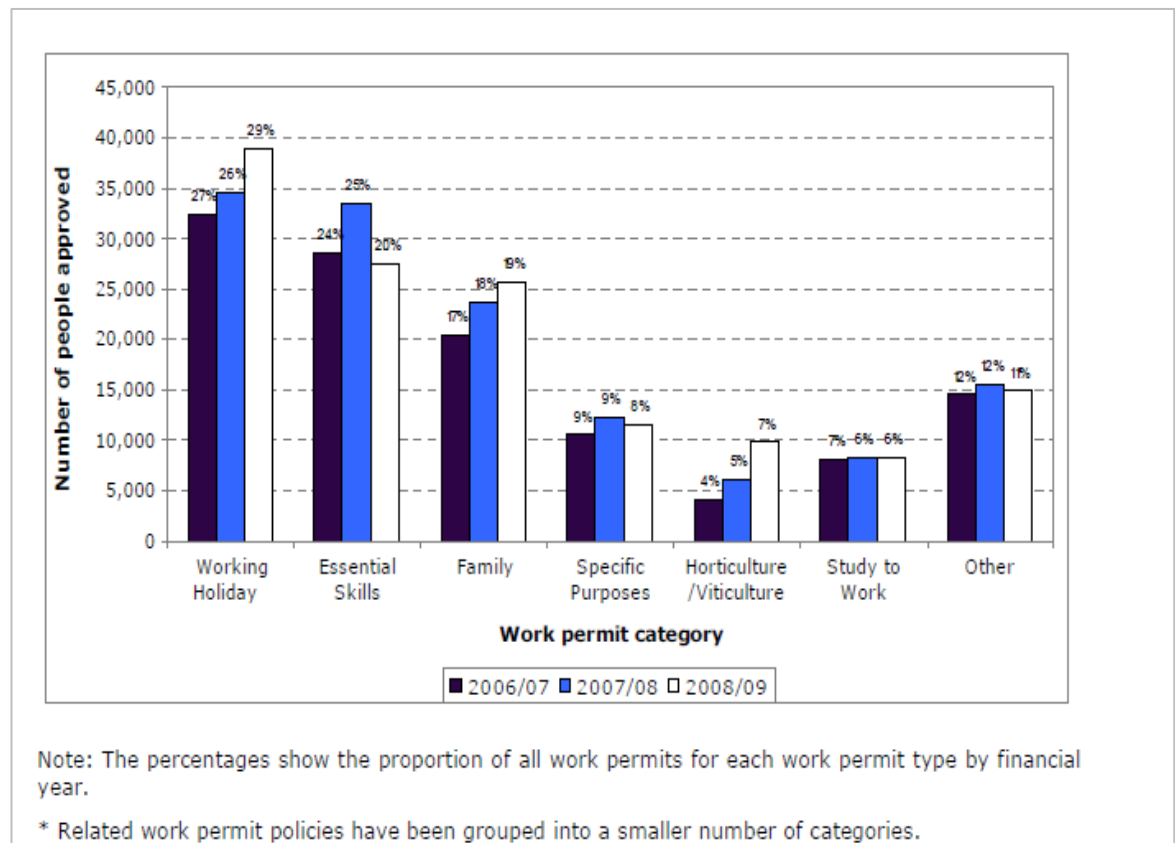
Demand for work permits has increased substantially since 1997/1998 growing from 26,336 to 136,481 in 2008/2009. The majority of this increase can be attributed to more skilled permits being issued and an increase in working-holiday scheme permits. People issued work permits are an important source of labour, offering skills and experience that New Zealand employer's need. The majority of those applying for work permits are highly skilled people. For example, Recognised Seasonal Employer Work category is for temporary workers from overseas to work in the horticulture and viticulture industries.

Work permit policies facilitate a transition for people who may become permanent residents. It is important to note that one third of work permit holders will eventually become permanent residents, therefore, the impact of migration on the labour market are significantly affected by work permits. Figure 18 summarises recent patterns of work permits (New Zealand Statistics, 2010).

Figure 18: The number of people Issued Work Permits from 1997 to 2009

Source: Statistics New Zealand (2010)

The growth rate in work permits has averaged fifteen percent over the past decade, however, the growth in the number of people approved for work permits slowed to two percent between 2007/2008 and 2008/2009, coinciding with the recession induced by the global financial crisis. This was however offset by the strong growth in other categories. Figure 19 summaries the comparison of work permit categories from 2006/07 to 2008/09.

Figure 19: The Work Permit Categories from 2006/07 to 2008/2009

Source: Department of Labour (2009)

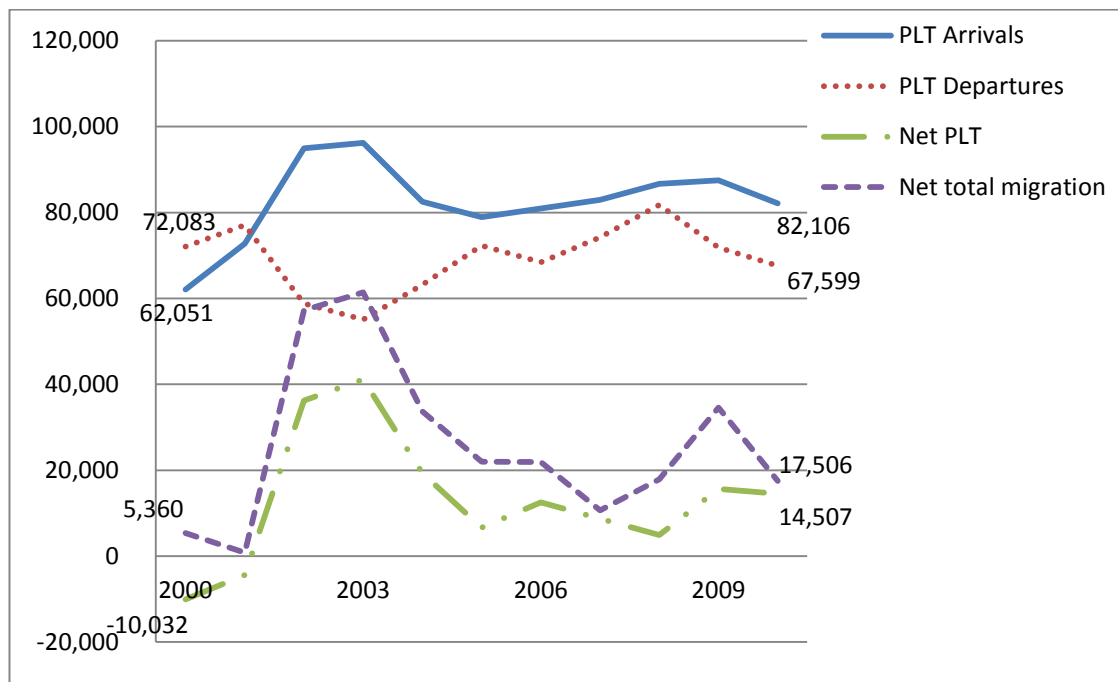
5.2 New Zealand Migration Trends

Recent migration trends are illustrated in Figure 20¹⁵ which shows that (1) there was a net PLT outflow in the year August 2000 to 2001; PLT departures exceeded PLT arrivals by 10,032 and 4,391 respectively; (2) The net outflow is relatively small and comes after a positive net PLT inflow from the year August 2002 to 2010. (3) The last ten years was a period of strong net PLT migration averaging 13,196 per annum. PLT migration in the last ten years has added a total of 145,153 people to New Zealand's population. (4) The greatest net PLT inflow of the last ten years (41,154) was in the year 2003 and the largest net PLT outflow of the last ten years (10,032) was in year 2000. (5) PLT arrivals and departures are both growing gradually over time. The

¹⁵ All details of this are shown in Appendix 2

number of PLT departures in the year 2008 is relatively bigger than other years. That may link to a relatively high unemployment rate associated with the impact of global financial crisis on the New Zealand economy.

Figure 20: Permanent Long-Term (PLT) arrivals, Departures, net PLT and net Total Migration from 2000 to 2010



Source: Statistics New Zealand (2010)

5.2.1 The Outflow of New Zealand citizens and gaining citizens from other countries

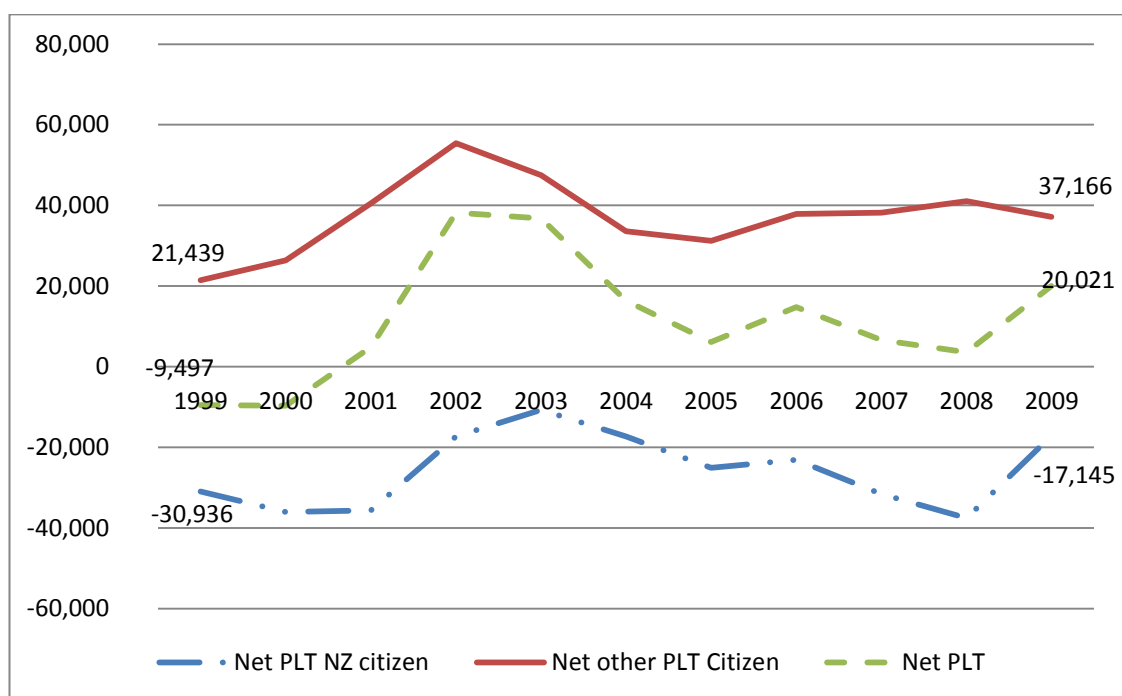
Figure 21 summaries recent net migration flows, it illustrates the dynamic aspects of New Zealand migration with high levels of inward and outward migration.

There is a long-term trend for net outflows of New Zealanders with an average of just over 10,000 every year while PLT arrivals of New Zealand citizens have been relatively static for the last twenty years (Choy and Glass, 2002).

Growing departures by New Zealand citizens over the last ten years have caused net losses recently totalling 547,474 over the last ten years. Departures peaked at almost

43,515 in 2008. On the other hand, 265,167 New Zealand citizens returned. Therefore, we have a net loss of 282,307 New Zealanders over the last ten years averaging 25,664 departures each year. Meanwhile, we gained almost 410,438 citizens from other countries over the last ten years, with a net gain of 128,131 citizens. The arrivals over the last ten years from other countries have grown at significantly high levels, averaging 56,736 each year, which is greater than the average for 1990s, 26,166.

Figure 21: Total net Migration by Citizenship from 1999 to 2009



Source: Statistics New Zealand (2009)

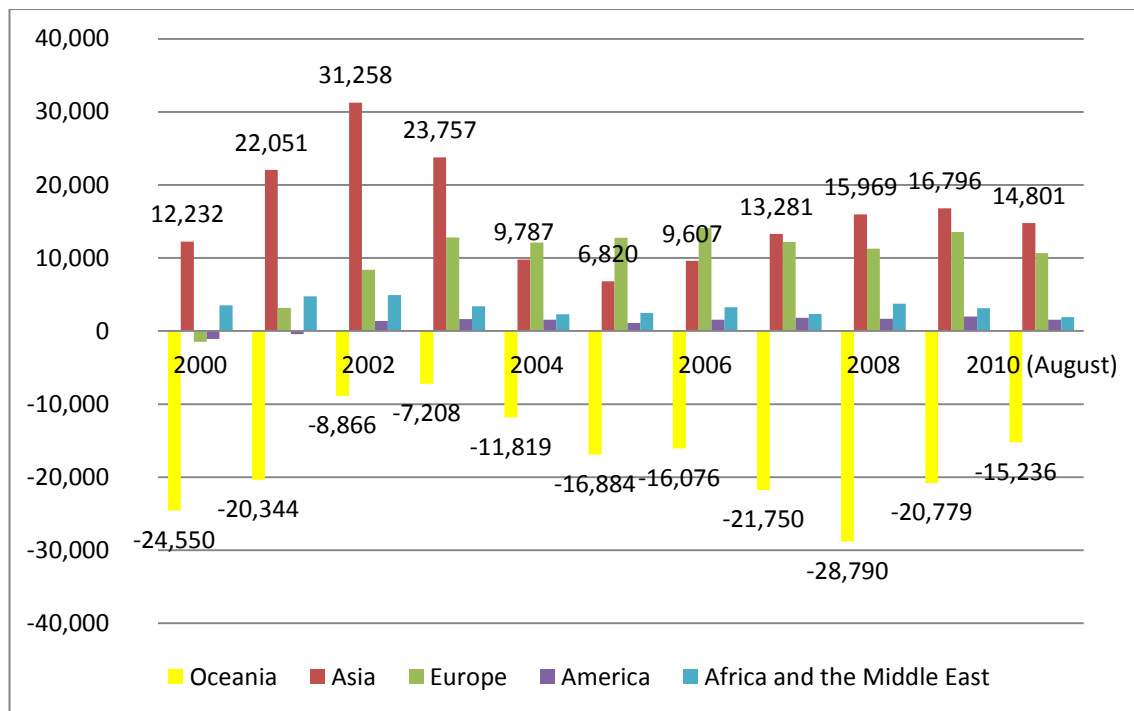
Figure 21¹⁶ shows that a large number of New Zealand citizens have left over the last ten years. The next question relates to where New Zealanders go for their next permanent residence.

Figure 22 summarise the net migration position by different source and destination countries between 2000 and August 2010. The data in Figure 22 suggests that New Zealand is starting to develop migrant communities from various countries. It is shown that every year New Zealand has lost more people to Oceania countries than it got back,

¹⁶Details for Figure 25 are presented in table format in Appendix 3.

while we gained most people from Asian countries and European countries. Choy and Glass (2002) point out that about half of all people leaving between 1947 and 2001 have moved to Australia, with the United Kingdom accounting for another twenty percent. It should not be surprising that many departing New Zealand citizens go to Australia because of increasing economic integration, open labour markets and the small distance between them. However, Australia has also been the main source country of arrivals to NZ (Choy and Glass, 2002, p. 24).

Figure 22: Net Permanent Long-Term (PLT) migration by country of last or next permanent residence from 2000 to 2010

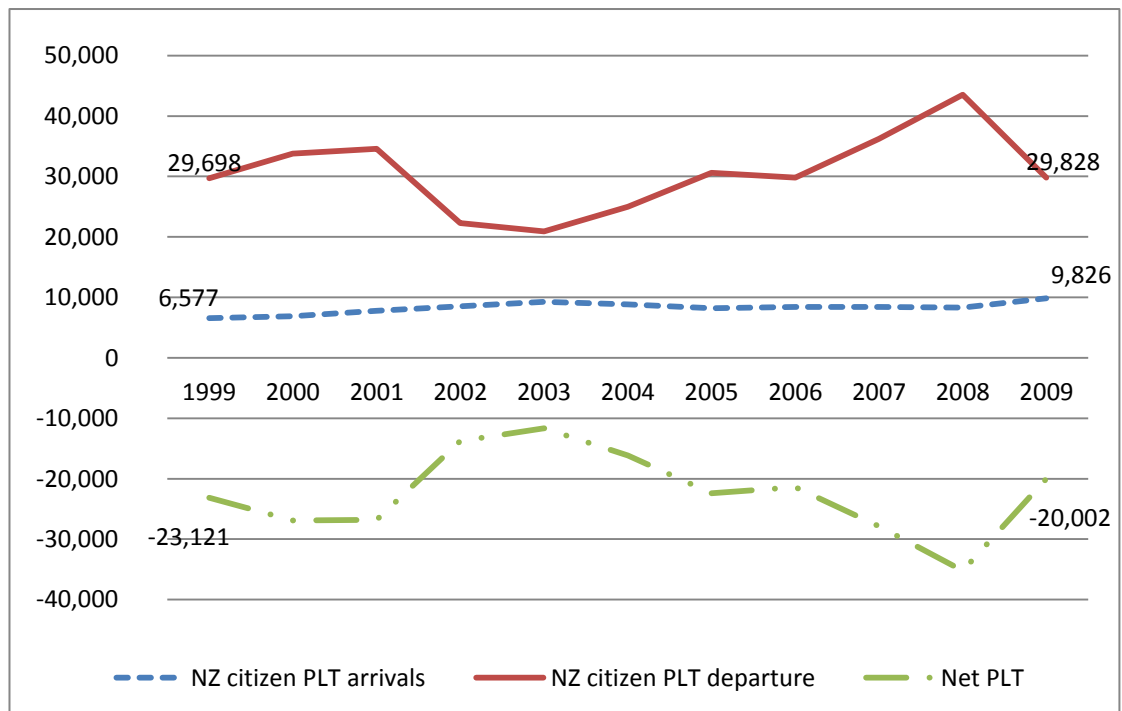


Source: Statistics New Zealand (2009)

5.2.2 Migrant flows between New Zealand and Australia

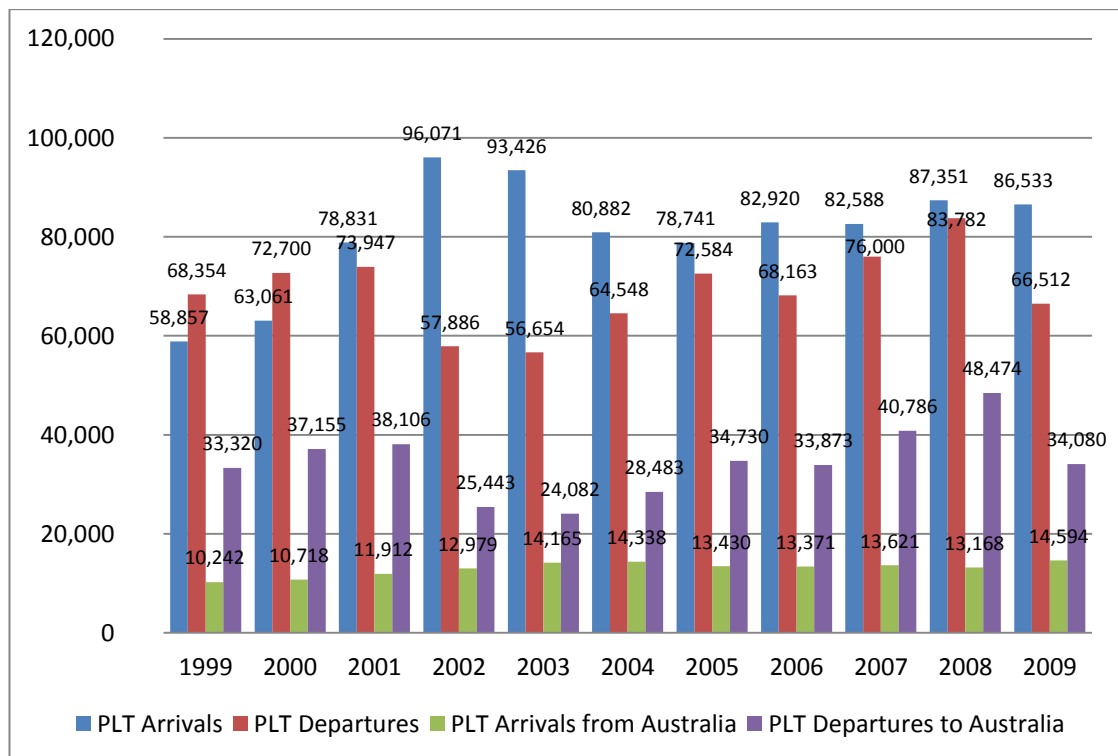
The following Figures 23 and 24 set out the permanent and long-term New Zealand citizen migration between New Zealand and Australia over the last ten years. It confirms a well-known trend that New Zealand has lost over 25,000 people to Australia in almost every year (see Appendix 4, Figures 23 and 24).

Figure 23: NZ Citizens Permanent Long-Term (PLT) to/from Australia from 1999 to 2009



Source: New Zealand Statistics (2009)

Figure 24: Permanent Long-Term (PLT) migration by country of citizen from/to Australia from 1999 to 2009



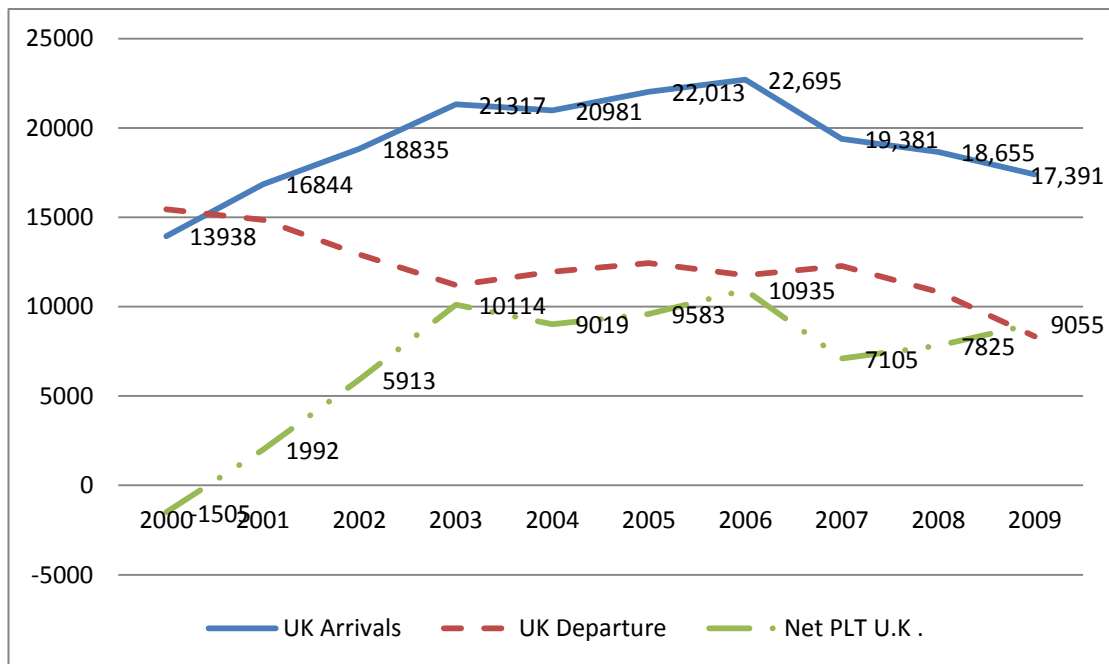
Source: Statistics New Zealand (2009)

It is significant that about sixty-one percent of all New Zealand citizen departures have moved to Australia while about thirty-four percent of returning New Zealand citizens arriving from Australia. Arrivals from Australia to New Zealand are relatively steady and departures from New Zealand to Australia have been volatile but still significant over the last ten years. New Zealanders are more likely to move to Australia permanently than any other countries and clearly are less likely to return home. On the other hand, the number of New Zealand citizens coming back from Australia has been growing at the rate of four percent over the last ten years.

5.2.3 Migrant flows between New Zealand and the United Kingdom

The other main destination country for New Zealand citizens is the United Kingdom (see Appendix 5, Figure 25 and Table 7). The recent trends are different from Australia with arrivals from the United Kingdom have growing sharply since 2000. The number of New Zealanders coming home from the United Kingdom was more variable over the last ten years. At the same time, the number of New Zealanders moving to the United Kingdom permanently has been falling slightly, averaging five percent per year. That means net permanent long term migration has been increasing considerably.

Figure 25: Permanent Long-Term (PLT) Arrivals, Departures and Net PLT Migration to the U.K. from 2000 to 2009



Source: Statistics New Zealand (2009)

5.3 The Economic Implications of New Zealand's Migration Trends

Gamlen (2005) has reviewed the debates regarding the implication of a 'brain drain' versus 'brain gain' often associated with New Zealand migration. While Haque and Kim (1995) saw brain drain coming from net migration losses of New Zealanders as a major concern, Bushnell and Choy, (2001, p. 11) point out that the growth of net total immigration from Asia can be viewed as a source of brain exchange.

Although New Zealand has relatively high net losses of young skilled emigrants, this is balanced by the total immigration of older migrants with similar skill levels as the emigrants (Winkleman and Winkemann, 1998, pp. 58-59). For example, fifty-three percent of PLT departing migrants were rated as highly skilled compared with fifty-seven percent of PLT arrivals rated as highly skilled (Glass and Choy, 2002, p. 29). As a result, New Zealand migration enhanced the level of human capital in the economy.

A further argument centres on the view that international immigration in New Zealand can be viewed as a type of 'brain training' for other countries. For example, migrants with the highest qualifications are generally more likely to leave New Zealand (Bryant and Henderson, 2010, p. 6), which indirectly provides trained brains to work overseas. As the data above shows, sixty-one percent of all New Zealand citizen departures have been to Australia, while about thirty-four percent of returning New Zealand citizens is from Australia. Higher education and training in New Zealand has been preparing local students as potential emigrants to work overseas. This implies that the New Zealand government needs to retain the highly skilled emigrants.

We have seen that Kiwis are leaving to experience living in many different countries. It is expected that New Zealand could make a significant impact in terms of access to the global economic network by identifying New Zealand-born people who have business affiliations (Larner, 2007); such as harnessing the skills of our diaspora. More specifically, linking expatriates with local capital and expertise could allow New Zealand and New Zealanders to better meet competitive challenges from all over the world.

6. Attraction and Retention of New Zealand Immigrants

The importance of immigration to New Zealand well established in earlier Chapters, with research consistently highlighting the enormous benefits migrants bring to the New Zealand economy. For example, research from the Department of Labour has pointed out that the net inflow of around 20,000 migrants annually in recent years contributed around \$1.9 billion per year to GDP (Nana et al., 2009, p. 9). Emphasis has been placed on supporting the inflow of migration in order to enhance economic development. This research has shown that immigration is expected to play a vital role in allowing access to skills and talent to support New Zealand's economy in two ways (2009, p. 27): (1) skilled immigrants help employers overcome barriers in global competition by encouraging research and development, innovation and entrepreneurship; (2) assisting companies to connect to global markets by providing a labour force with the ability to build up an international network which, in turn, increases New Zealand's international trade and FDI. However, of growing importance to policy makers is how well New Zealand retains the migrants it attracts. This chapter investigates how New Zealand can attract and retain skilled immigrants that make contributions to economic growth.

Increased international competition for skilled migrants has the potential to increase the movement of skilled migrants. Receiving countries and source countries can affect the relative economic opportunities and benefits associated with return migration and emigration. The growing competition between countries for skilled labour increases the mobility of skilled immigrants. It is believed that diminishing economic disparities between countries increases the mobility of skilled migrants (Salt, 1997, p. 27).

This chapter explores the issues of immigration and emigration then investigates the ‘push and pull’ factors that help to reveal how we can attract and retain New Zealand immigrants, to help sustain long run economic growth.

Statistics support the idea that not all immigrants stay permanently in New Zealand. In fact, many migrants are likely to migrate again, either back to their home country or forward to other countries, such as Australia. Nana and Sanderson (2008, p. 25) found that “outmigration migrants (migrants who subsequently left New Zealand) numbered at least 50,000 between 2001 and 2006. While relatively high, this implies a rate of outmigration of only 24 per 100 arrivals over the 2001–2006 period”. They also observe that “this is less than the 42 per 100 arrivals outmigration experienced over the 1996–2001 period”. Better retention of migrants has the potential to sustain and enhance more of the short-term economic contribution of immigrants’ human capital. These benefits were detailed in Chapter Two, however, Chiswick (1978) effectively summarises the positive relationship between immigrant earnings and their duration of study using the U.S. data. He identified two key features: first, immigrants encounter an initial entry weakness, having poorer outcomes when they first arrive than comparable native-born workers. Second, relative outcomes for immigrants improve the longer they remain in the receiving country. This is reinforced by the New Zealand research of Stillman and Maré (2009) that shows employment rates of migrants take ten to fifteen years to catch up to those of New Zealand-born residents. Notably, it takes a long time for immigrants in New Zealand to succeed in the labour market, thus Nana and Sanderson (2008, p. 8) argue that “focus should be on qualifications of migrants and their retention (such as ensuring they stay in New Zealand)”.

6.1 Factors associated with Immigration and Retention of Migrants

A study of how migrants integrate into the New Zealand economy is being undertaken by the Integration of Immigrants Programme, which is funded by the Foundation for Research, Science and Technology. Much of this research¹⁷ is still in progress. An important feature of the research is that it combines quantitative and qualitative modes of investigation to better understand the economic integration of immigrants into New Zealand society. Five immigrant groups are the focus of the study; Chinese, Koreans, Indians, South Africans, and British migrants. Surveys of employers and employees from these five groups have been undertaken in Auckland and Hamilton.

Meares et al. (2010) interviewed twenty employers and twenty employees from the People's Republic of China, selected from the accommodation, food and retail industries in Auckland. Meares et al. (p. 16) found that the number of migrants from China doubled to 53,694 between 2001 and 2006, and immigrants from the People's Republic of China made up about fifty-five percent of the ethnic Chinese population in New Zealand. Participants were asked about the hopes and dreams they had for their migration to New Zealand (p. 31). Their interviews found that the most common responses were: lifestyle, a green environment and a better future for their children, a safe environment, a new start, and educational and employment opportunities which were also the most frequent reasons given by migrants. While New Zealand immigration policy aims to attract immigrants for its economic development, the research of Meares et al., suggests that Chinese immigrants largely come for other reasons. While they make an important economic contribution, their motivations are concerned with lifestyle: the quality of the environment, children's education, and safety.

¹⁷ See <http://newsettlers.massey.ac.nz/index.php>

Bryant, Henderson and McLeod (2010) present findings from an analysis of data from administrative sources and the Longitudinal Immigration Survey¹⁸. They explore five factors that are associated with the retention of skilled migrants in their first year after taking up residence in New Zealand: Lifestyle, Opportunities, Family, Security and Study. Bryant, et al. (p. 6) suggest that the results show a possible relationship between being motivated to migrate for lifestyle, opportunities or safety, and staying, but none of these variables is statistically significant as a determinant of staying. Nor is there anything more than a weak relationship between coming for family reasons and staying, though family is commonly identified as a positive factor for settlement.

Furthermore, there are business-oriented migrants who bring capital and ideas to set up certain businesses in the receiving countries. This desire to migrate and invest is stimulated by a variety of factors, including governmental regulation. Regulation can influence an immigrant's decision to become an entrepreneur in their host countries. These were detailed in Chapter 2.

International students are one of the main sources of workforce supply to the local labour market. The graduate training opportunities that exist for international students as a major pull factor for those seeking education abroad. These also were detailed in Chapter 2. However, in New Zealand, Bryant, Henderson and McLeod (2010, p. 5) found that, "Years of education is a significant factor in the likelihood of skilled migrants leaving New Zealand", and "the results indicate that there is a positive relationship between years of education and the likelihood of leaving New Zealand". However, immigration to New Zealand is regulated, with the largest percentage of new residents coming in under the Skilled Migrant Category. New Zealand's inward flow of

¹⁸ Bryant, Henderson and McLeod (2010, p.6) note that the Longitudinal Immigration Survey: New Zealand, a joint Department of Labour and Statistics New Zealand survey, was designed to trace the settlement patterns of migrants approved for permanent residence between November 2004 and October 2005. Migrants were interviewed at around six months (wave 1), 18 months (wave 2) and 36 months (wave 3) after taking up permanent residence in New Zealand. For more information on the sampling frame and survey, see the technical notes accompanying Statistics New Zealand's LisNZ Hot Off The Presses at www.stats.govt.nz.

immigrants is more like a ‘brain gain’ as established in Chapter 5; highly skilled people issued work permits are an important source of labour, offering skills and experience that New Zealand employer’s need.

Migrants are much more likely to hold a degree than the New Zealand-born residents (see Table 12). This is particularly accurate for recent migrants (less than 5 years). Migrants are also less likely to have no school qualifications, and slightly less likely to hold vocational qualifications.

Table 12: Qualifications of Migrants and New Zealand-born Residents

	New Zealand-Born	All Migrants	Recent Migrants¹⁹
Bachelor Degree or Higher	14%	25%	29%
School Qualification	34%	36%	38%
Post-school (Vocational)	24%	21%	20%
No Qualification	23%	12%	7%
Not Elsewhere Included	5%	5%	6%

Source: Statistics New Zealand, 2006 Census of population and dwellings

Additionally, global competition for scientists and engineers migrants is rising as their role in economic development is increasingly recognised. The movement of scientists is most affected by the nature of the work they are required to do and the working conditions, as well as higher wages and incentives. For example, Deeds and McMillan (1998, p. 301) argue that “a reputation for openness with scientific information may be an important asset to recruit the best scientific talent”.

¹⁹ Those who had been in New Zealand less than 5 years

6.2 Emigration

As established in Chapter 2, 3 and 4, to sustain long-term growth, immigration and returned migrants are important valued for encouraging innovation, global links to wider international networks that facilitate knowledge transmit, and promoting FDI. However, Chapter 6 shows that net migration losses of New Zealanders as a major ‘brain drain’ concern.

To put the New Zealand debate on ‘brain drain’ into a global perspective, Bedford and Ho (2006) noted the outflow of migration from New Zealand and the growing competition for skilled labour between China and New Zealand. They (p. 51) observed that “skilled labour is in demand in the labour markets of most economies including China, not just those in the more developed countries”, and suggest that, “If we think the current competition is stiff then we have a major surprise awaiting us in the future.” Furthermore, migrants with the highest qualifications are more likely to leave New Zealand (Bryant et al., 2010, p. 6), such as re-migration. This highlights the fact that New Zealand faces a sizeable challenge in retention of its most highly skilled immigrants. The primary reasons²⁰ cited for New Zealanders remaining overseas are economic and work-related factors including salary, career and business opportunities.

With respect to New Zealand emigration, Lidgard and Gilson (2002) have investigated the migration of New Zealanders by analysing the data from arrival and departure cards supplied by Statistics New Zealand as well as from surveys of returning migrants to New Zealand. They not only investigate the reasons given for returning to New Zealand, but also the reasons given for leaving New Zealand in the first place. Lidgard and Gilson (2002, p. 117) show that “(1) the desire to travel was given as the most important

²⁰ Cited in J-G Dumont and G Lemaitre, (2005), *Counting immigrants and expatriates in OECD countries: a new perspective*, OECD

reason for leaving (seventy-nine percent of respondents); (2) a general desire for change was also rated as important to extremely important (seventy-three percent of respondents); (3) the poor economy in New Zealand was rated as not applicable or not at all important in the decision to leave by two-thirds of the group (sixty-seven percent of respondents); (4) the loss of a job or student loan debt also both rated mainly as not as important in the decision to leave”.

6.3 Return Migration

The optimal life-cycle behaviour among skilled migrants has been discussed in Chapter 2, indicates that skilled migrants often make multiple moves over their lifespan and return-migrants benefits source countries’ economic development as they bring their innovation back home.

With respect to the return migration of New Zealanders, Lidgard and Gilson²¹ (2002, p. 117-118) found that economic considerations are not the main reason to return. The majority came back for family (eighty-three percent), friends (sixty-eight percent) and New Zealand’s physical environment (sixty-nine percent) and seventy-three percent of respondents felt that New Zealand could provide a better future for their children. They also found that the desire for children to grow up in New Zealand was twenty-one percent more important for returnees from the United Kingdom (eighty percent) than for those from Australia.

Another important finding of Lidgard and Gilson (2002, p. 118) is that sixty-one percent of the respondents felt their time overseas had been beneficial to very beneficial for their financial resources while for nine percent it had been harmful. Over eighty percent

²¹ Lidgard and Gilson (2002) have investigated the migration of New Zealanders by analysing the data from arrival and departure cards supplied by Statistics New Zealand as well as from surveys of return migrants to New Zealand. They not only investigate the reasons for returning to New Zealand, but also the reasons given for leaving New Zealand in the first place.

felt that they had benefitted socially from their overseas experience, while the rating in terms of personal development was valuable to very beneficial for almost ninety percent. In summary, Lidgard and Gilson identify family or lifestyle reasons are the major reason for returning to New Zealand. They returned to where they could be close to their families. The return migration involved the emotional significance of their home country, New Zealand. These people had lived away, gained life experience, working experience and qualifications, and returned home in order to use these valuable experiences to enhance their future life in New Zealand.

Today, the Kiwi Expat Association (Kea)²² is working on connecting New Zealand with the rest of the world by building a network of global citizens who take an active interest in the future of New Zealand. Kea explain that the global network built by Kea has helped grow the New Zealand economy through (1) supporting the international success of New Zealand and its people; (2) promoting international investment into New Zealand's productive and export sectors; (3) encouraging the attraction of highly skilled/returning migrants, and helping match their skills with appropriate opportunities; (4) providing access to insight and relationships through the global research and education. Larner (2007, p. 340) noted, "Kea is one of the initiatives designed to generate entrepreneurialism and innovation, and allow New Zealand and New Zealanders to better meet the challenges of a globalising world"; and "the expertise of expatriates can be imagined through a series of interlinked ideas relating to globalisation, knowledge and leadership."

Table 13 summarise the relevant push factors for the various types of skilled. The earlier discussion on attraction and retention of migration implies that (1) Lack of

²² Kea was founded as the Kiwi Expat Association in 2001; Kea's activities are relevant to more than just "Kiwi expats". They are building a truly global network for New Zealand, which is equally important to New Zealand based-organisations and individuals who are pursuing global opportunities, as well as citizens of other countries who have an affinity and interest in connecting with New Zealand. For more information, see www.keanewzealand.com

business benefit and financial support, highly bureaucratic and unstable political environment could encourage business immigrants to leave New Zealand; (2) Relative low wages, less employment opportunity and relative unsafe environment for children could prevent return-migrants to New Zealand; (3) Bad conditions of working environment and low base of developments in science could encourage engineers and scientists to leave to other developed countries, such as U.S. and Australia. (4) Insufficient programs that help students develop job search and interview skills encourage the outflow the students.

Table 13: Push factors for New Zealand migrants

Group	Type of Push Factors
Business Immigrants/Entrepreneurs	Lack of business benefit and financial resources support Highly Bureaucratic Unstable political environment
Return-migrants	Relatively low wages, Less employment opportunity Relative unsafe environment for children
Engineers and Scientists	Bad conditions of work environment Low base of developments in Science
Students	Insufficient of training program

Today, countries, cities and companies from all around the world are competing to maintain their ability to attract highly skilled migrants. The fear of ‘brain drain’ is a potential limiting factor for New Zealand economic growth. Now our focus shift to pull factors for New Zealand migrants. Table 14 summarise the relevant pull factors for the various types of skilled. Among business immigrants such as entrepreneurs, the expansion of business and industrial activities is a significant motivator for the global talent. Benefits and remuneration, tax allowances, Governmental policies and bureaucratic efficiency represent a major attraction for them to stay in New Zealand. For returning migrants, the New Zealand lifestyle (better environment for their children

and a safe environment) is the major source of repatriation in almost all areas. For Engineers and scientists, the nature and conditions of work, developments in science and Government Tax Credits in R&D sectors are the main attractions for the global talent. Finally, providing more recognition of training programs and attracting more international enterprises to settle in New Zealand can help to attract more talented students from all over the world.

Table 14: Pull factors for New Zealand migrants

Group	Type of Pull Factors
Business Immigrants/Entrepreneurs	Benefits and Remuneration Governmental (Visa, Taxation, Protection, etc.) policies Financial Resources Support Bureaucratic efficiency
Return-migrants	New Zealand Lifestyle, Better Environment for their children and a safe Environment
Engineers and Scientists	Nature and conditions of work Base of Developments in Science Tax Credits
Students	Recognition of training program

For many migrants these pull factors are built on perceptions. If these perceptions are not realised, then it is likely that the migrants will re-migrate. The corresponding policies need to be adapted to suit the various pull factors (see Table 14). The following section investigates the current policies that adapted to suit the various pull factors in New Zealand.

Table 15: Corresponding Policies that Correlate with Pull Factors

Type of Pull Factors	Type of Policies
Benefits and Remuneration Governmental (Visa, Taxation, Protection, etc.) policies Financial Resources Support	Income Tax Allowance/Investment capital tax relief Immigration Legislation Corporate Tax Financial Support
New Zealand Lifestyle, Better Environment for their children and a safe Environment	Environmental Protection National Security
Nature and conditions of work Base of Developments in Science Tax Credits	Protection of labour Venture Capital Tax Credit
Recognition of training program	Immigration legislation

New Zealand Income Tax, Corporate Tax and Financial Support

In New Zealand, income tax is levied under the Income Tax Act 2004. Income tax for individual and corporate taxpayers is levied on annual gross income from all sources, less annual total deductions and any losses carried forward²³. This net amount is the taxable income. A New Zealand resident company is taxable on its worldwide income at the rate of 30 percent (from the 2008/2009 income year). An overseas company is taxable at the same rate but only in respect of its income that has a New Zealand source. There is no capital gains tax in New Zealand. However, some classes of transaction will be subject to tax. These include particular sales of land and personal property. For example, Goods and services tax (GST)²⁴ is tax on most goods and services.

A foreign investor tax credit regime allows a resident company's profit to be distributed to foreign investors without the economic cost of non-resident withholding tax in certain circumstances. The Tax relief provisions provide tax relief for foreign investors making equity investments in a foreign company via a New Zealand company

²³ Detail of current tax regulations can be found on the IRD website: <http://www.ird.govt.nz/>

²⁴ GST is added to the price of taxable goods and services at a rate of 15%.

(PricewaterhouseCoopers 2008). Tax reliefs may help to attract the inward flows of business migrants.

Additionally, the Foundation for Research Science and Technology's business investment programme in innovation for business growth helps business to operate with cutting edge technology and innovation. The programme is designed to support companies and people undertaking research and development (R&D) projects that result in new products, processes or services. They consider proposals for grants of between \$30,000 and \$100,000. These kinds of programs support the inward flows of skills and expertise. However, unless you are pursuing R&D, or have an established business and are seeking to expand into international markets, there is not much grant funding available for business in New Zealand. Other sources of finance for business include self-finance, getting money from a bank and financing from friends or family.

New Zealand Environmental Protection

New Zealand has a reputation of being remarkably beautiful and accessible. Most New Zealand citizens have a personal relationship with nature: a river, a valley, a mountain, or a place. People feel close to the natural environment. New Zealand established the Resource Management Act in 1991 to deliver superior environmental protection with greater economic efficiency and public accountability. It advanced New Zealand's reputation of being clean and green, and recognised the intrinsic value of the environment. More recently, the Environmental Protection Authority²⁵ (EPA) Bill was introduced into the House on 16 November 2010. The Environmental Protection Authority explains that the EPA Bill has the potential to: (1) provide for greater central government direction on the regulation of the environment; (2) consolidate regulatory and technical skills; (3) build on collaborations between similar functions and powers;

²⁵ More detail are available at <http://www.mfe.govt.nz/cabinet-papers/ris-options-for-creating-an-epa-.pdf>

(4) reduce the perception of ministerial influence over decisions on major proposals or projects with significant environmental implications (MFE 2010). The current policies are a step in the right direction to help protect New Zealand's reputation for a clean environment, which in turn helps attract potential inflows of like-minded migrants.

New Zealand's National Security

New Zealand has three defence policy objectives²⁶. These include defending New Zealand against low level threats, contributing to regional security and contributing a part in global security efforts.

The primary legislation concerning the raising and maintaining of New Zealand's armed forces is the Defence Act 1990. This Act confirms the purpose of the armed forces, constitutes the New Zealand Defence Force (NZDF), affirms that the armed forces are under ministerial authority, defines the roles and relationships of senior officials, and makes provisions, generally, in respect of the establishment, control and activities of the NZDF, and related matters. On 2 November, 2010, the Prime Minister and the Minister of Defence launched the Defence White Paper 2010. The White Paper²⁷ is a comprehensive statement of the Government's defence policy for the next twenty-five years. According to the White Paper on defence, New Zealand's security interest and objectives are to: (1) defend New Zealand and protect its people, critical infrastructure, land, natural resources and territorial waters; (2) meet our alliance commitments to Australia by maintaining a close defence partnership in pursuit of common security interests; (3) contribute to the maintenance of security in the Pacific Islands and to provide assistance to their Pacific neighbours; (4) play an appropriate role in the maintenance of security in the Asia Pacific region if requested or authorized by the

²⁶ More detail are available at <http://www.defence.govt.nz/about-us/divisions/policy.html>

²⁷ More detail are available at <http://www.defence.govt.nz/reports-publications/defence-white-paper-2010/contents.html>

United Nations, especially in support of peace and security in the Asia-Pacific region. The current policies are significant in protecting New Zealand's reputation as a relative safe environment, which in turn is attractive to potential migrants.

New Zealand Employment Protection

The New Zealand employment relations system was based on the principle of collective bargaining, with trade unions and employer representatives negotiating minimum employment terms and conditions on an annual basis. There are number pieces of legislation regarding employment protection in New Zealand. For example, the Employment Relations 2000 (ERA) recognised unions and focuses on the relationship of employment rather than on the employment agreement itself. The ERA includes a key principle that parties to employment must contract with each other in good faith. This applies to all communication and particularly in relation to bargaining between employer and employee or employer and union. The ERA also provides remedies for unjustified dismissal and unjustified actions during employment such as warnings, discrimination and harassment.

Furthermore, a number of related pieces of legislation also help to protect employment (Department of Labour²⁸ 2010): “(1) the Equal Pay Act 1972 prohibits unequal payment for work of substantially the same type for men and women; (2) the Minimum Wage Act 1983 establishes minimum wages for workers, including youth rates and an adult wage; (3) the Human Rights Act 1993 prohibits discrimination on a wide range of grounds, including sex, race and disability. It also prohibits sexual harassment; (4) the Privacy Act 1993 governs how personal information is collected, stored, used and disclosed, rather than a general right to privacy”; (5) the Holidays Act 2003 provides

²⁸ More detail are available at <http://dol.govt.nz/index.asp>

sick leave and annual holidays of 4 weeks from an employee's first anniversary and recognises public holidays such as Christmas and Easter.

While New Zealand employment protection can be recognised as a way to increase job security, migrants may be sensitive to the level of employment protection. Comprehensive employment protection in New Zealand is clearly a pull factor for migration but may not be well understood by many potential migrants.

New Zealand Immigration legislation

Chapter 5 of this dissertation detailed immigration policy in New Zealand. Current immigration policy is designed to ensure we have enough people, with the right skills, to fill the jobs available in New Zealand so we can compete in the international marketplace. A focus on skills has been the foundation of immigration policy in New Zealand, and New Zealand introduced a points system in 1991 which reflects this focus. In 1995 the immigration policy included the General Skills Category, focusing on the transfer of skills into New Zealand, and in February 2002 a modification gave extra points to applicants with job offers related to previous qualifications and experience (NZIS, 1995, 2002). More changes were added to increase the level of English required for immigration approval for General Skills Category and Business applicants in 2002. As a result, the higher requirement of level of English for business applicants reduces the incentive for some potential overseas business migrants contemplating coming to New Zealand.

New Zealand Venture Capital

Venture capital was established to address the very challenging funding issues faced by early stage, high potential risk and technology intensive companies (Lerner, Moore, Shepherd and LECG, 2005, p. 25). According to Lerner et al., the New Zealand Government has intervened in the venture capital markets as follows: (1) the New

Zealand Government established the Development Finance Corporation (DFC) in 1964 to support the Applied Technology Program and the Small Business Venture Capital Fund (DFC). In 1988, the government sold the DFC to the National Provident Fund and Salomon Brothers. In 1989, subsequent to severe deterioration in asset prices, DFC became insolvent; (2) the establishment of the New Zealand Venture Investment Fund (NZVIF) in 2002 is the most recent example of government intervention in venture capital markets. The NZVIF is to help build a vibrant capital market in New Zealand through investing New Zealand-originated, high-growth potential companies. Lerner et al. (2005, p. 32) noted that “venture capital plays an important role in boosting innovation. Their assistance has two dimensions: accelerating growth and assuring long-run success” and “Venture capitalists speed the development of companies because they help companies pursue effective strategies and ensure access to capital.” Clearly, venture capital has the potential to impact on the fate of individual companies. Also it influences the overall economy of a country as well. Lerner et al. (2005, p. 35) argued that venture capital impacts on investing in wealth creation, jobs, and other financial measures across a variety of industries. In addition, venture funding has a positive relationship with innovation. Lerner et al. (2005, p. 36) argued that, “there could be more innovation at times when there was more venture capital, not because the venture capital caused the innovation, but rather because the venture capitalists reacted to some fundamental technological shock which was sure to lead to more innovation”. While the New Zealand market is still small and at a very early stage in its overall development, venture capital fund can support significantly the ability of New Zealand’s innovation system to commercialise local innovation and adapt those innovations into economic growth (Lerner et al., 2005, p. 117). Also, the venture capital fund has contributed positively to the improvement of a greater pool of high skilled people with the

necessary skills and expertise in seed and start-up investment (Lerner et al., 2005, p. 117).

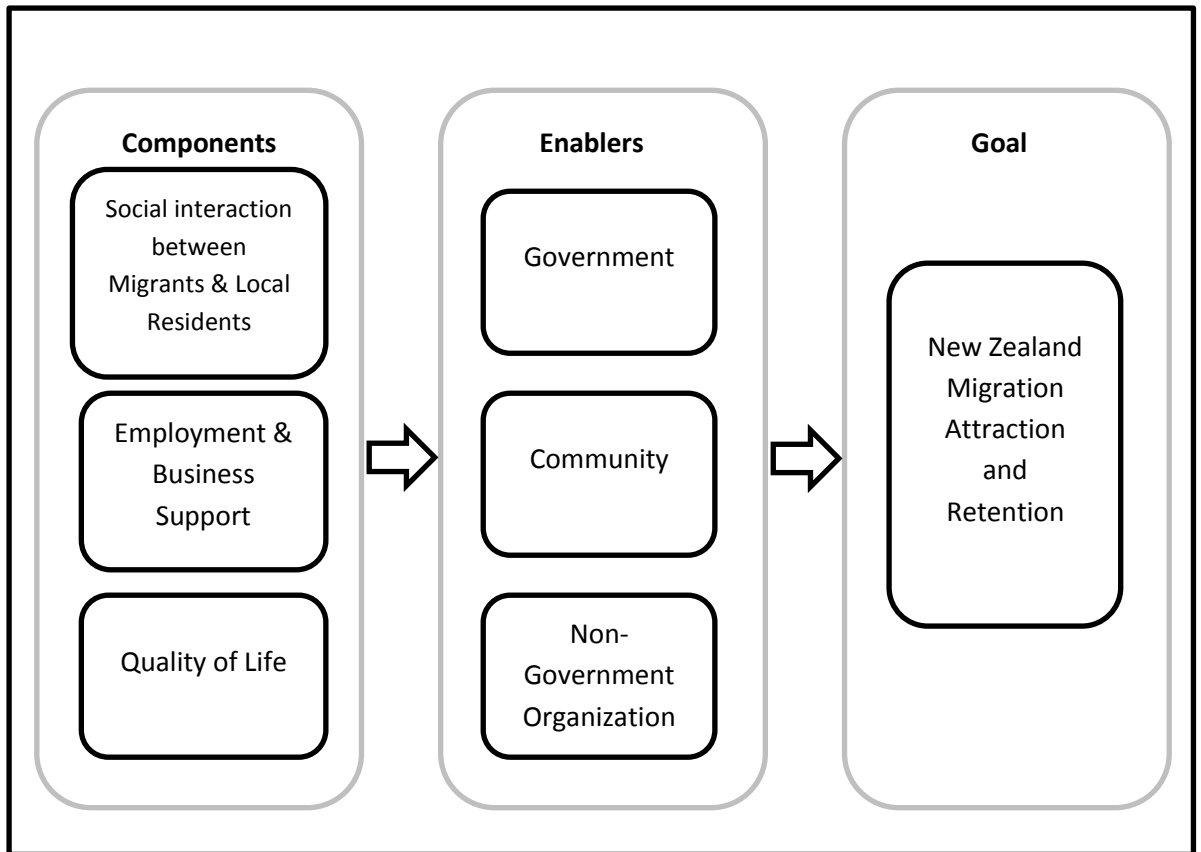
In addition, Lerner et al. (2005, pp. 55-56) outlined the policy implications for New Zealand after reviewing the venture policies from Israel, Singapore, Canada, Australia and Finland. The venture capital policy recommendations are (1) any direct interventions need to design with the market for private investors and tax or regulatory instruments need to be considered carefully, as they may lead to the instrument becoming unattractive to investors; (2) New Zealand governments need to have an range of support mechanisms to stimulate R&D, such as venture capital and related business development financing; these programmes are broadly associated with the commercialisation process.

According to Lerner et al.'s study of New Zealand's venture capital market, we see that the New Zealand market is still small and at a very early stage in its overall development of venture capital compared with other OECD countries. The New Zealand Government and private sectors have contributed to the venture capital markets; however, their contribution to the development of venture capital is not sufficient thus it has a negative effect in attracting R&D orientated business, which may in turn push highly skilled migrants out of New Zealand.

6.4 A conceptual framework for attraction and retention of New Zealand migration

In earlier Chapters we investigated the effect of the contribution of immigrants on economic growth in New Zealand. Indeed, many discussions in this dissertation concern the relationship between immigrants and the key critical factors of economic growth: human capital, innovation, international trade and foreign direct investment. Although we do not currently have sufficient data to directly test the impact of immigration on New Zealand economic growth, this Chapter shows that the New Zealand government has expended substantial effort in attracting migrants that drive New Zealand economic growth. But now New Zealand faces a sizeable challenge in the retention of its most skilled immigrants as well as attracting skilled return migration. Hence recent policy focus has shifted not only from attracting immigrants but also on their retention.

To achieve this objective, programs, initiatives and service infrastructure need to be put in place by governments, communities and non-government organizations (NGOs) to help New Zealand retain migration. Figure 26 illustrates a conceptual framework for migration attraction and retention. It includes three components and three enablers. The three components are identified as: the social interaction between migrants and local residents, employment and business support and quality of life. The three enablers are Government, Communities and NGOs. This framework provides a useful foundation upon which to build future empirical study, examining migration retention issues.

Figure 26: A framework for Attraction & Retention of New Zealand Immigration

The framework also could be usefully employed as a guide to policy development. Each of the components is discussed in further detail below.

6.4.1 Social interaction between migrants and local residents

Social interaction between migrants and local residents ties migrants within their community, which can encourage migrants to stay in an area (Wulff and Dharmalingan, 2008, p. 149). Community factors are becoming increasingly important for social interaction between migrants and local residents. Clearly, the longer migrants live in an area, the more friends they are likely to have. Duration of residence indicates the level of individual's local knowledge and ties in a particular community (Hanson 2005). The stronger the social ties migrants have with their community, the stronger the interaction between migrants and local residents, and the less likely they are to move.

Getting involved in local community indicates an increased commitment to an area. The main reason is that local community resources, such as local businesses, churches, and social associations, operate to help new residents involve in their communities. Social interaction between migrants and local residents can also be developed through participation in community activities, including political activities, volunteering, sports, service clubs and associations. For example, the popularity of Auckland dragon boat racing provides a sense of belonging, promote multiculturalism as crews with cultural differences must work together to achieve maximum speed by combining power and rhythm.

Forming strong social interaction between migrants and local residents requires that immigrants find suitable housing, employment, access to higher education to learning for themselves and strong English language skills. These necessities help migrants and local residents become socially connected by joining local organisations, developing trust with their neighbours and socialising with friends and family (Stone and Hulse, 2007). To achieve this objective, New Zealand Government, Communities and NGOs need to develop support infrastructure including religious activities, meeting places, sporting facilities, language education centres and so forth, all of which give immigrants an opportunity to develop links with their community and establish a sense of belonging.

6.4.2 Employment and Business Support

Employment and business support aim to help migrants overcome barriers to finding a job and integrate into a new working environment. For example, a lack of good information on the nature of labour demands in a small city increases the difficulties of matching labour supply and demand. Government, communities and NGOs have the ability to offer a range of labour market support with employment counselling, coaching,

interview orientation, job search skills, access to job information and resources. New Zealand Work and Income has a variety of projects that help migrants find work and settle in New Zealand. For example, Migrant employment Assistance ²⁹ (MEA) is funding for programs that help migrants obtain the skills they need to work as well as working with recognised migrant communities that provides migrants assistance.

Moreover, New Zealand Business Associations represented as beneficial business immigration programs and services, such as business counselling, business orientation and business management skills training for new business migrants; provide immigrants with networking opportunities to establish contacts with employers and professionals in various sectors, such as engineering, information technology, tourism, and hospitality. These programs and services enable migrants to gain valuable information in setting up a business and also to better prepare themselves to be fully adapted to the New Zealand workforce and society in later stages. In addition, the Kiwi Expat Association (KEA) has helped encourage the attraction of highly skilled/returning migrants, and helping match their skills with appropriate opportunities as well as providing access to insight and relationships through the global research and education.

However, in New Zealand's small economic market it is still difficult to retain highly skilled migrants or they may be employed in jobs that do not match their skills. New Zealand needs to attract more international investment, allowing them to retain highly skilled migrants in New Zealand. To ensure that international and domestic investors find the New Zealand market attractive, New Zealand needs to create an attractive investment environment. International connectedness fostered by the New Zealand government and its agencies can assist international investors to link with New Zealand opportunities, which support migration retention. In addition, tax policy is likely to

²⁹ More detail about MEA can be found from <http://www.workandincome.govt.nz/index.html>.

influence the attractiveness of entrepreneurial activity as international investment is very sensitive to the differential between the effective tax rates on capital gains and income (Lerner et al., 2005).

Last but not least, the New Zealand government can encourage entrepreneurship through driving the flow of innovation from universities to the market place. Highly skilled migrants are likely to be retained in universities to pursue the commercialisation of research. Hooper and Narayan (2010) provide a comprehensive review on the development of academic research commercialisation in New Zealand universities. They concludes that lack of recognition and endorsement of research activities with insufficient funding has negative impact on the commercialisation of academic research in New Zealand universities (2009, pp. 26-29). More recently, forum focuses on collaboration to boost research commercialisation has been held in Wellington on 10 May, 2011. The forum organised by the Kiwi Innovative Network (KiwiNet), a group of six Universities and four Crown Research Institutes, aims to generating and exploiting innovation across public research organisation. KiwiNet include AUT Enterprises Limited, Industrial Research Limited, Otago Innovation Limited, Plant & Food Research, Lincoln University, University of Canterbury, AgResearch, Viclink, WaikatoLink, and Scion. These networks ensure transferring science and technology into New Zealand economy through building links between potential investors and highly skilled researchers. If these networks are realised as a vital, then it is likely that the highly skilled migrants will retain in universities to help pursue the commercialisation of research.

6.4.3 Quality of Life

Quality of life³⁰ has been recognised as a decisive factor in business location decisions and expansion (Crompton and Love, 1999) as well as a major factor for new and returning migrants (Lidgard and Gilson, 2002). Business location decisions have an important potential impact on migration retention as the economic success of a business is dependent on its workforce. It is evident that quality of life is attractive to migrants as migrants are very concerned about the cost of living, taxes, relative competitive wages and benefits, community security and quality of environment. Communities and governments must be proactive and help address the concerns of quality of life factors; public sector investment decisions have the potential to influence environmental quality including quality of the education system, transportation systems and the spirit of a community. Different people have various views on the factors of quality of life. Crompton and Love (1999, p. 66) noted that “(1) CEOs of manufacturing businesses see the public school system and community security as the most important quality of life attribute; (2) people working in insurance, finance and real estate may place government services as the key quality of life attribute; (3) people working in mining and construction businesses place community image and spirit as the only important factor of quality of life factor; (4) CEOs in retail wholesaling see transportation, utilities and communications technology as the most important component of the business community; (5) people working in the service industry, including low paying jobs, value entertainment as the most important factor of quality of life factor. In this respect,

³⁰ Bargo and Glaser (1991, p.58) address a definition of quality of life as public education, local government services, climate, cost of living, entertainment, higher education/technology and community spirit.

we see that different types of immigrants probably have different quality of life priorities.

The ability to attract and retain highly skilled workers becomes one of the most important concerns when companies consider locations. New Zealand government, communities and NGOs can contribute to the development of quality of life, which in turn, will attract and retain highly skilled migrants. For example, Auckland's CBD waterfront development (tank farm³¹) has the potential to attract and retain innovative immigrants to support business successful. This requires a good working partnership between government, communities and NGOs to participate in Auckland waterfront planning as most of the quality of life factors can be substantially influenced by a government's investment decisions and community development.

In summary, New Zealand migration attraction and retention requires a good working partnership between government, communities and NGOs. Success is clearly based on an integrated programme and policy that meets the needs of migrants, communities and government. To be successful, policies needed to offer long-term benefits to migration attraction and retention rather than short-term policies. Hopefully, the integration of immigration policy with support from other policy sectors (such as financial support, education, transportation and environment) can provide a significantly improved approach to the attraction and retention of immigrants to New Zealand.

³¹ More detail of Auckland waterfront development can be found on the website:
<http://www.waterfrontauckland.co.nz/Areas/Wynyard-Quarter.aspx>

7. Conclusion

7.1 Summary of Research

This dissertation investigated the contribution of immigrants to the New Zealand economic growth. Much of the discussion in this dissertation focused on relationship between immigrants and the critical factors for economic growth: human capital, innovation, international trade and foreign direct investment. It also examines the ‘push and pull’ factors underlying New Zealand migration flows, helping us to understand how we can attract and retain immigrants to New Zealand, which in turn, will promote economic growth.

Immigrants entering New Zealand are expected to have an effect on the efficiency of the labour force by sharing their knowledge and skills. During a recession, attracting more star foreign talent to New Zealand is vital. This dissertation, Chapter 2 highlighted the importance of immigrants’ human capital on New Zealand’s economic growth. Strategies that seek to increase R&D collaboration with global technological leaders have potential to increase New Zealand’s economic performance. Moreover, the descriptive statistics in Chapter 5 indicate that New Zealand has a strong relationship with Australia, the United States, Japan and the United Kingdom and these four countries, which have substantial R&D establishments can be regarded as priority bilateral partners to help improve R&D links and promote technological diffusion.

For New Zealand to become truly connected with the leading-edge technology frontier policies and initiatives, such as those discussed in Chapter 6, are needed to help New Zealand attract more highly skilled immigrants, then raise the capacity to digest global leading knowledge and make efficient use of it. For example, R&D tax credit policies complemented by favourable immigration policies can be a good instrument to

encourage a supply of skilled immigrants as researchers, scientist and engineers working in the private sector or setting up their own R&D subsidiaries in New Zealand, in return contributing to innovation spillover.

Immigrants are expected to reduce barriers to international trade and influence the investment decisions abroad through their connection within the source countries, which in turn increases New Zealand's link with global markets. Immigration patterns have tended to follow New Zealand's international trade focus, which has been increasingly come from Asia, Europe, the United States and Australia. The correlation between New Zealand's immigrants and international trade is illustrated in Chapter 3, which suggests that building a closed economic relationship with the main trading countries is crucial for New Zealand economic development.

Furthermore, immigrants are expected to facilitate business links and lead in attracting FDI in New Zealand, thus contributing to economic growth. Chapter 4 demonstrated that a business network can emerge whereby immigrants interact between potential investors and partners. The idea of the formation of business network indicates that New Zealand needs to deepen the FDI link with global technological leaders.

However, there is a long history that many departing New Zealand citizens move to Australia, a pattern which has worsened in recent years; this is possible due to close economic integration and relatively better economic opportunities in Australia, including higher wages, open labour market and the small distance between them.

This dissertation concerns two key policy issues raised by the increasing trend of trans-Tasman outflows. First, the government must focus on developing New Zealand as a better place to stay, not just relying on a good clean-green image for retirement but also ensuring that our young people can get better jobs and improved quality of life. Second,

a long-term strategy ensuring that New Zealand deepens relationships with the leading-edge countries, such as USA, Japan and Germany, may help ensure that highly skilled immigrants choose to live in New Zealand and promote technology diffusion. Alternatively, a more passive way to attract highly skilled immigrants and return migrants need to build on a better marketing scheme that promotes the desirable aspect of New Zealand for example, lots of friendly people, beautiful natural scenery, clean, non-pollution landscape and security.

Finally, this dissertation has shown that New Zealand faces a sizeable challenge in the retention of its most highly skilled immigrants as well as attracting skilled return migration. Although economic considerations are not the most important factor for leaving New Zealand (Lidgard and Gilson 2002 p117), there are still a significant proportion of skilled residence leaving for better job prospects. Companies all around the world are competing to maintain their capability by the attraction of high skilled migrants. This dissertation develops a conceptual framework for migration attraction and retention, which suggests that programs, initiatives and service infrastructure need to be put in place by governments, communities and non-government organizations (NGOs) to help New Zealand attract and retain migration.

Questions do remain such as how to best transfer the accumulated human capital of immigrants into economic growth, or the extent to which benefits would accrue in balancing social cohesion. This dissertation is believed to be able to provide a useful basis for the evaluation of immigration systems while balancing economic development and social cohesion concerns.

7.2 Contributions

This dissertation makes contributions in two directions. One is in presenting a critical review of current literature on the contribution of immigrants to the New Zealand economy. It first provides a summary of the contribution of immigrant human capital to economic growth. This is then followed by the impact of immigration on international trade, immigration and foreign direct investment, and places these in the New Zealand's context. Finally, it then discusses the attraction and retention of New Zealand immigrants; emphasising the need to focus on developing immigrants retention policies. This study provides a comprehensive overview of the impact of the contribution of immigrants to New Zealand's economy.

This dissertation is also develops a conceptual framework which describes how community, government and NGOs can attract and, perhaps even more importantly, retain New Zealand migrants through three policy important components – social interaction between migrants and local residents, employment and business support, and quality of life. This conceptual framework provides a useful construct which will guide both policy makers and researchers with respect to the issues of migration attraction and retention.

7.3 Limitations and Future Research

The dissertation has mainly centred on the results of international studies. The conceptual framework constructed in this dissertation demonstrates the components and enablers that facilitate the attraction and retention of New Zealand migration. One should recognize, however, that the conceptual framework is built upon current literature, which requires a thorough evaluation on its validity. Future research could be built on this study by assessing and improving validity and applicability of the Attraction and Retention of New Zealand Migration framework. The key statistical relationships between each component could to be evaluated from the future results of New Zealand Longitudinal Immigration Survey and the studies of integration of immigration programme³².

This dissertation primarily focuses on relationships between immigrants and four factors that influence economic growth in New Zealand – human capital, innovation, international trade and foreign direct investment. It does not however cover all factors that possibly affect economic growth over the long term. For example, the productivity of immigrants is considered as a critical factor that can influence economic growth; especially once immigrants settle into their new community. We encourage future research to investigate the relationships between immigrants and other key factors that may affect economic growth in New Zealand.

³² Integration of Immigrants Programme is led by researchers from Massey University and the University of Waikato, funded by Foundation for Research Science and Technology (FRST). Earlier results from this study were discussed in Chapter 6.

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Appendices

Appendix 1: Inward FDI versus Outward FDI from 2005 to 2010

Year ended at 31 March (NZ \$million)						
Economic group/country	2005	2006	2007	2008	2009	2010
New Zealand's direct investment abroad						
APEC	\$ 16,863	\$ 14,799	\$ 16,973	\$ 17,513	\$ 20,456	\$ 17,055
ASEAN	\$ 594	\$ 493	\$ 316	\$ 696	\$ 1,551	\$ 1,521
EU	\$ 3,886	\$ 6,039	\$ 5,263	\$ 6,025	\$ 4,945	\$ 4,835
OECD	\$ 16,745	\$ 16,897	\$ 18,212	\$ 22,249	\$ 22,948	\$ 19,492
Australia	\$ 11,321	\$ 9,519	\$ 10,967	\$ 11,528	\$ 12,053	\$ 10,953
Bermuda	\$ 758	\$ 98	C	C	C	C
Canada	\$ 38	\$ 72	\$ 73	\$ 73	\$ 88	\$ 45
Germany	C	C	C	C	C	C
Hong Kong (SAR)	C	\$ 102	\$ 392	\$ 506	\$ 631	\$ 634
Japan	C	C	C	C	C	C
Netherlands	C	C	C	C	C	C
Singapore	C	C	C	C	C	C
United Kingdom (not further defined)	C	\$ 918	\$ 897	\$ 1,210	\$ 1,101	\$ 939
United States of America	\$ 1,348	\$ 1,174	\$ 1,778	\$ 4,464	\$ 5,709	\$ 3,564
Direct investment abroad	\$ 20,269	\$ 19,311	\$ 20,552	\$ 22,699	\$ 24,949	\$ 21,430
Foreign direct investment in New Zealand						
APEC	\$ 51,357	\$ 56,925	\$ 63,838	\$ 64,120	\$ 64,477	\$ 64,476
ASEAN	\$ 1,094	\$ 1,521	\$ 2,083	\$ 2,565	\$ 2,504	\$ 1,902
EU	\$ 8,019	\$ 6,538	\$ 7,265	\$ 7,899	\$ 8,038	\$ 7,771
OECD	\$ 55,061	\$ 58,290	\$ 65,862	\$ 69,877	\$ 69,588	\$ 69,801
Australia	\$ 34,007	\$ 39,953	\$ 44,452	\$ 47,121	\$ 46,072	\$ 47,373
Bermuda	C	C	C	C	C	C
Canada	\$ 1,100	\$ 1,016	\$ 1,331	\$ 1,651	\$ 1,458	\$ 1,163
Germany	C	\$ 605	\$ 440	\$ 479	\$ 603	\$ 782
Hong Kong (SAR)	\$ 673	\$ 611	\$ 735	\$ 728	\$ 981	\$ 1,146
Japan	\$ 1,700	\$ 1,652	\$ 1,819	\$ 1,949	\$ 2,152	\$ 2,153
Netherlands	\$ 4,230	\$ 3,641	\$ 4,300	\$ 4,783	\$ 4,529	\$ 3,876
Singapore	\$ 1,184	\$ 1,215	\$ 1,770	\$ 2,256	\$ 2,162	\$ 1,581
Switzerland	\$ 114	\$ 52	\$ 75	\$ 142	\$ 148	\$ 197
United Kingdom (not further defined)	\$ 4,439	\$ 4,988	\$ 4,075	\$ 4,277	\$ 3,341	\$ 3,589
United States of America	\$ 9,397	\$ 8,727	\$ 10,373	\$ 10,579	\$ 11,182	\$ 10,622
Direct investment in New Zealand	\$ 72,003	\$ 77,047	\$ 85,759	\$ 88,249	\$ 91,191	\$ 92,487

Source: Statistics New Zealand (2010)

Appendix 2: Permanent Long-Term (PLT) arrivals, Departures, net PLT and net Total Migration from 2000 to 2010

Period	Arrivals				Departures				Net permanent & long-term migration
	Short-term overseas visitors	Short-term NZ-resident travellers	Permanent & long-term migrants	Total	Short-term overseas visitors	Short-term NZ-resident travellers	Permanent & long-term migrants	Total	
2000	1,725,305	1,255,545	62,051	3,042,901	1,728,910	1,240,153	72,083	3,041,146	-10,032
2001	1,917,784	1,309,780	72,699	3,300,263	1,904,490	1,304,568	77,090	3,286,148	-4,391
2002	1,959,886	1,286,800	94,980	3,341,666	1,948,992	1,265,786	58,777	3,273,555	36,203
2003	2,045,781	1,324,808	96,245	3,466,834	2,054,846	1,304,541	55,091	3,414,478	41,154
2004	2,294,708	1,644,722	82,499	4,021,929	2,320,228	1,630,357	63,205	4,013,790	19,294
2005	2,397,414	1,856,088	78,931	4,332,433	2,410,007	1,840,736	72,313	4,323,056	6,618
2006	2,381,194	1,870,540	80,932	4,332,666	2,388,617	1,861,159	68,442	4,318,218	12,490
2007	2,472,946	1,938,774	82,968	4,494,688	2,471,163	1,936,865	74,238	4,482,266	8,730
2008	2,480,198	2,005,349	86,706	4,572,253	2,481,744	1,992,437	81,768	4,555,949	4,938
2009	2,410,471	1,934,954	87,496	4,432,921	2,420,219	1,916,018	71,854	4,408,091	15,642
2010	2,514,951	1,984,634	82,106	4,581,691	2,532,614	1,981,635	67,599	4,581,848	14,507

Source: Statistics New Zealand (2010)

Appendix 3: Permanent and Long-term Migration by country of citizenship from 1999 to 2009

Period	Permanent and Long-term Migration by Country of Citizenship								
	New Zealand			Non-New Zealand			Total		
	Arrivals	Departures	Net	Arrivals	Departures	Net	Arrivals	Departures	Net
To/From All Countries									
1999	21,818	52,754	-30,936	37,039	15,600	21,439	58,857	68,354	-9,497
2000	21,188	57,203	-36,015	41,873	15,497	26,376	63,061	72,700	-9,639
2001	22,867	58,463	-35,596	55,964	15,484	40,480	78,831	73,947	4,884
2002	25,292	42,544	-17,252	70,779	15,342	55,437	96,071	57,886	38,185
2003	27,695	38,428	-10,733	65,731	18,226	47,505	93,426	56,654	36,772
2004	25,429	42,728	-17,299	55,453	21,820	33,633	80,882	64,548	16,334
2005	24,211	49,301	-25,090	54,530	23,283	31,247	78,741	72,584	6,157
2006	24,347	47,472	-23,125	58,573	20,691	37,882	82,920	68,163	14,757
2007	23,108	54,722	-31,614	59,480	21,278	38,202	82,588	76,000	6,588
2008	23,369	60,871	-37,502	63,982	22,911	41,071	87,351	83,782	3,569
2009	25,843	42,988	-17,145	60,690	23,524	37,166	86,533	66,512	20,021

Source: Statistics New Zealand (2010)

Appendix 4: Permanent and Long-term Migration from/to Australia

Period	Permanent and Long-term Migration from/to Australia by Country of Citizenship Year ended November								
	New Zealand			Non-New Zealand			Total		
	Arrivals	Departures	Net	Arrivals	Departures	Net	Arrivals	Departures	Net
To/From All Countries									
1999	6,577	29,698	-23,121	3,665	3,622	43	10,242	33,320	-23,078
2000	6,880	33,802	-26,922	3,838	3,353	485	10,718	37,155	-26,437
2001	7,807	34,600	-26,793	4,105	3,506	599	11,912	38,106	-26,194
2002	8,529	22,272	-13,743	4,450	3,171	1,279	12,979	25,443	-12,464
2003	9,286	20,934	-11,648	4,879	3,148	1,731	14,165	24,082	-9,917
2004	8,844	25,010	-16,166	5,494	3,473	2,021	14,338	28,483	-14,145
2005	8,204	30,590	-22,386	5,226	4,140	1,086	13,430	34,730	-21,300
2006	8,418	29,816	-21,398	4,953	4,057	896	13,371	33,873	-20,502
2007	8,407	36,243	-27,836	5,214	4,543	671	13,621	40,786	-27,165
2008	8,294	43,515	-35,221	4,874	4,959	-85	13,168	48,474	-35,306
2009	9,826	29,828	-20,002	4,768	4,252	516	14,594	34,080	-19,486

Source: Statistics New Zealand (2010)

Appendix5: Permanent and Long-term Migration from/to the U.K.

Period	Permanent and Long-term Migration from/to the U.K. by Country of Citizenship Year ended December								
	New Zealand			Non-New Zealand			Total		
	Arrivals	Departures	Net	Arrivals	Departures	Net	Arrivals	Departures	Net
To/From All Countries									
1986	5,784	8,217	-2,433	4,886	2,150	2,736	10,670	10,367	303
1987	6,504	8,564	-2,060	5,588	2,394	3,194	12,092	10,958	1,134
1988	6,486	8,726	-2,240	4,799	2,925	1,874	11,285	11,651	-366
1989	6,541	10,295	-3,754	3,792	3,117	675	10,333	13,412	-3,079
1990	8,018	10,139	-2,121	3,995	2,739	1,256	12,013	12,878	-865
1991	8,496	8,748	-252	3,283	2,618	665	11,779	11,366	413
1992	7,733	8,162	-429	3,125	2,329	796	10,858	10,491	367
1993	7,207	6,998	209	4,303	1,686	2,617	11,510	8,684	2,826
1994	7,433	8,012	-579	5,583	1,748	3,835	13,016	9,760	3,256
1995	7,541	8,783	-1,242	6,841	2,033	4,808	14,382	10,816	3,566
1996	7,826	9,710	-1,884	7,138	2,125	5,013	14,964	11,835	3,129
1997	7,175	11,207	-4,032	5,827	2,701	3,126	13,002	13,908	-906
1998	7,221	12,840	-5,619	5,138	3,302	1,836	12,359	16,142	-3,783
1999	8,833	13,189	-4,356	5,679	3,022	2,657	14,512	16,211	-1,699
2000	7,755	12,416	-4,661	6,183	3,027	3,156	13,938	15,443	-1,505
2001	8,571	11,774	-3,203	8,273	3,078	5,195	16,844	14,852	1,992
2002	8,788	9,885	-1,097	10,047	3,037	7,010	18,835	12,922	5,913
2003	9,862	8,140	1,722	11,455	3,063	8,392	21,317	11,203	10,114
2004	8,488	8,576	-88	12,493	3,386	9,107	20,981	11,962	9,019
2005	8,219	8,660	-441	13,794	3,770	10,024	22,013	12,430	9,583
2006	7,970	8,131	-161	14,725	3,629	11,096	22,695	11,760	10,935

Source: Statistics New Zealand (2010)