MIGRATION OF CANADIAN AND SOUTH AFRICAN KNOWLEDGE WORKERS

by

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Abstract

As economies have become more global and knowledge-based, governments and businesses have endeavoured to locate and invest in high-skilled workers to increase productivity, growth and profit. There is a paucity of existing research about these effects related to Canada and South Africa. This study examined factors of influence of the migration patterns and the brain gain-brain drain phenomenon occurring within two countries: Canada and South Africa. Migration is often analysed in the context of the "push-pull" model and the network model. These models formed the theoretic conceptual framework for this study of migrating knowledge workers in Canada and South Africa. Push factors are those that drive people to leave home; pull factors attract migrants to a new location. Network theory explains how new migrants are connected to former migrants and non-migrants in origin and destination areas by interpersonal ties of kinship and friendship. In addition, the research attempts to draw a relationship between demographic factors (e.g. age, gender and income) and the migration of knowledge workers.

This research was primarily a descriptive, deductive study using a historical procedure approach, which collected secondary data and analysed the data in a critical review of related literature. However, interviews of nine knowledge workers were also used as case studies to provide inductive empirical illustrations of the role of push and pull, network and demographic factors in the migration of knowledge workers.

Evidence based on the analysis of relevant literature and interviews showed that for Canadians, the push factors are tangible (such as economics) while the pull factors are related to more intangible aspects of life (such as family ties). For South Africans, both push and pull factors appear to be tangibles that immigrants seek that are basic to a better quality of life. Some predominant themes related to push and pull factors and network factors for migration emerged from the interviews. These themes included the search for meaningful work, cultural differences, ambivalence about where “home” is, family ties, and apprehension about returning home. People also migrate based on demographic factors, which include age, gender, education, geographic proximity, regional inequality and socialisation differentials. It became clear from the study that more research is
needed on push and pull factors and network factors in the migration patterns of Canadian and South African knowledge workers. Additional research is also needed to more thoroughly examine the predominant themes related to push and pull factors and network factors for migration that emerged in this study.
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LIST OF ACRONYMS

BC - British Columbia
BEE - Black Economic Empowerment
DRC - Democratic Republic of the Congo
ECA - Economic Commission for Africa
ESAP - Economic Structural Adjustment Programme
FDI – Foreign Direct Investment
GATS - General Agreement on Trade in Services
GVRD - Greater Vancouver Regional District
GDP - Gross Domestic Product
HSRC - Human Sciences Research Council
IOM - International Organization for Migration
NAFTA - North American Free Trade Agreement
NAFTA-TN – NAFTA professional (TN) visa
OECD - Organisation for Economic Cooperation and Development
ROI - Return on Investment
SAMP - Southern African Migration Project
SANSA - South African Network of Skills Abroad
UNAIDS – Joint United Nations Programme on HIV/AIDS
UNESCO - United Nations Educational, Scientific, and Cultural Organization
WHO - World Health Organization
WTO - World Trade Organization
CHAPTER ONE
INTRODUCTION AND ORIENTATION

1.1 KEYWORDS
Brain Drain, Brain Gain, High-Skilled Workers, Knowledge Workers, Migration, Network Factors, Pull Factors, Push Factors

1.2 INTRODUCTION

The globalisation of economies and the emergence of a knowledge-based economy have attracted increasing attention to workforce mobility. Governments and businesses have endeavoured to locate and invest in high-skilled workers for the knowledge-based economy to increase productivity, growth and profit (Bauder, 2006). Gera et al. (2004) defined high-skilled workers as individuals in knowledge-intensive professions such as science and technology workers, engineers, information technology specialists, physicians, nurses, graduate and post-doctoral students, scholars and researchers and high-level administrators and managers. The Organisation for Economic Cooperation and Development (OECD) defined high-skilled workers as individuals with at least a college-level education (Dumont & Lemaître, 2004). Many of these workers come from other countries, resulting in a **brain gain**, or a large-scale immigration of highly skilled workers (Bauder, 2006).

For sending countries, this represents an emigration of highly skilled workers to other countries, or a **brain drain**. The loss of productivity resulting from brain drain is the most discussed negative effect of high-skill migration on sending countries (Martin et al., 2006). There is less discussion devoted to positive effects that may exist for countries whose highly skilled workers emigrate. This is due, in part, to measurement difficulties. Although the literature amply discusses brain drain, there is also evidence to indicate positive effects of brain gain (Ozden & Schiff, 2006). Seeing that Canada as well as South Africa are experiencing extensive brain drain and brain gain, these phenomena in the mentioned countries will in particular be the focus of this study (*also see 1.3 for more elaboration on the migration situation of these two countries*).
High-skill migration will become increasingly important to the world economy and will produce significant effects. However, there is a paucity of existing research about these effects related to Canada and South Africa. An analysis of the effects of the brain gain-brain drain for Canada and South Africa is thus necessary.

1.3 BACKGROUND AND PROBLEM STATEMENT

Migration of highly skilled persons or knowledge workers has increased significantly and has become a focus of policymaking efforts in many countries. In both the developed and less-developed countries, keeping or attracting highly skilled workers is an important part of national economic policy and drives not only immigration policies but also higher education, research funding, international investment and tax policies (Ozden & Schiff, 2006).

As already stated in the Introduction, there has been much debate about migration of high-skilled workers across national borders, with much of the debate centering on the effects of brain drain as a result of emigration of highly skilled workers whose loss might be particularly harmful to the source country. From the viewpoint of the receiving countries, these debates are often most contentious when they deal with highly skilled émigrés who are employed in the types of jobs that some would prefer go to natives or citizens (Martin et al., 2006). Researchers (e.g. Ferro et al., 2008; Freeman, 2006; Lowell et al., 2004) tend to agree with the traditional view of brain drain as harmful to developing countries, which invested in the education of the émigré but do not gain the social returns on that investment.

Kapur and McHale (2006) reported on the severity of the emigration of high-skilled workers from some of the world’s most vulnerable countries to numerous different destinations. In Africa, emigration rates are exceptionally high, with rates of 27 percent for Western Africa, 18 percent for Eastern Africa and 13 percent for Central Africa in 2000. Emigration of doctors, nurses and other highly educated medical and health specialists is of particular concern (Freeman, 2006). Health care workers and professionals from Africa have emigrated to wealthier countries such as Australia, Canada, the United Kingdom and the United States, which threatens the delivery of
health care services in Africa (Muula, 2005). Adepoju (2006:30) pointed out that there is also “brain circulation” occurring in the region, as highly skilled and knowledge workers also emigrate to Botswana, Gabon, Namibia and South Africa, where a robust economy makes emigration to these countries a more viable option than emigrating to Europe or the U.S. It is estimated that 23,000 African health professionals emigrate every year (Akokpari, 2006).

A number of researchers (e.g. Arah et al., 2008; Kline, 2003; Patel, 2003) have discussed the causes of brain drain of health workers in Africa in terms of push and pull factors. Internal economic factors such as stagnation or poverty push individuals to migrate; the attraction of relatively affluent countries has tended to pull them to migrate (push and pull factors, which will form the central theoretical argument for this study, is discussed later – see 1.5). Push factors of the sending country include poor prospects for further training or promotion, low remuneration and inadequate equipment and other supplies at health facilities. Pull factors of the receiving country include better prospects for further training or promotion, higher remuneration and better equipped health facilities. In addition to push and pull factors, the researcher also wants to investigate the role of network factors as complimenting impetus to the migration of knowledge workers. The network theory stresses the fact that once migration has begun, it may well take on its own nature and patterns. Migrants establish interpersonal ties that “… connect migrants, former migrants and non-migrants in origin and destination areas through ties of kinship, friendship, and shared community origin. They increase the likelihood of international movement because they lower the costs and risks of movement and increase the expected net returns to migration” (Massey et al. in Weeks, 2008:283).

The chief costs associated with the emigration of South African doctors are social costs in terms of the growing shortages of health workers and the country’s reliance on Cuban and expatriate African doctors and financial costs to the South African government in millions of rands annually (Akokpari, 2006). However, South Africa is in a better financial position to recruit doctors from Cuba than other Sub-Saharan African countries, such as Ghana, Nigeria or Zambia. Statistics confirmed this reality; in mid-2002, there were only 18 physicians for every 100,000 living in Sub-Saharan Africa. According to the World Health Organization (2006), in 2006 this number rose to 21
physicians for every 100,000 persons; this figure being pushed up by the fact that South Africa can recruit more doctors. Countries like Lesotho and Botswana also have considerable shortages of health workers and must depend on skilled immigrants (Akokpari, 2006). The South African Network of Skills Abroad (SANSA), a coordinating network that keeps in touch with skilled South Africans living in other countries, indicated that Canada is the leading destination for South African doctors; one in every five of the 1,530 medical doctors in Saskatchewan alone received their medical degrees from South Africa (Akokpari, 2006).

The healthcare sector is not the only sector affected by brain drain and brain gain. In Africa, brain drain has also occurred in other sectors. Zambian universities lost more than 200 lecturers between 1985 and 1995, creating a massive shortage of academic staff and subsequent closure of some academic departments. During the period of economic hardship in the 1970s and 1980s, Ghana and Nigeria also experienced significant losses of academics. While academic departments were not closed, under qualified academics were appointed as lecturers (Akokpari, 2006). Pillay and Kramers (2003) investigated brain drain in clinical psychology interns in a South African hospital during the 20-year period between 1981 and 2000. They found that by 2003, 25 percent of the interns were working outside of South Africa.

Brain gains were also studied by Florida (2004:124), who examined the relationship between the percentage of foreign-born workers and the increase in the number of the “creative class”. The creative class was defined as “workers whose economic function is to create new ideas, new technology, or new content”. These include scientists, engineers, architects, educators, artists and creative professions of business, finance and law. Florida (2004) compared the size of the creative class in 18 different countries by using employment data. Canada ranked seventh (25%) in terms of the size of its creative class.

Brain drain is not just an African problem; however, it stands out in sharper relief because of the fragility of developing countries (Muula, 2005). However, developed nations such as Canada have also been affected. The emigration of skilled Canadians to the U.S. and the social cost of losing high-skilled workers to the U.S. have received particular attention from Canadian public and policymakers (Card, 2005; Gera et al.,
Evidence suggests that there is an emerging trend towards brain drain of Canadians to the U.S. under NAFTA-TN and H-1B visas (Docquier & Marfouk cited in Ozden & Schiff, 2006: 202).

This places Canada in the position of seeking brain gains by becoming competitive in the international market for some segments of the high skilled population (Gera et al., 2004). Canada’s high demand for skilled workers, coupled with the demographic change of an aging population, necessitates Canada’s competing in the international arena for skilled workers to maintain success in innovation, economic growth and prosperity. Like other industrialised and developed countries, Canada aims to strategically attract high-skilled émigrés through adjustment of immigration controls (Ozden & Schiff, 2006). This adds credibility to the arguments of other researchers who chose to see brain drain as brain circulation, arguing that there is a two-way exchange of knowledge and wealth, benefiting both sides. For example, Kapur and McHale (2006) found that remittances that are sent by émigrés to their home countries make up the second largest form of capital flow to developing countries. In addition, it is believed that many of these educated and skilled emigrants can and will eventually return to their home country (Commander et al., 2003).

Ozden and Schiff (2006) pointed out that there is evidence in the literature (e.g. Mountford, 1997; Stark, Helmenstein & Prskawetz, 1997, 1998; Vidal, 1998; Beine, Docquier & Rapoport, 2001, 2003; Stark & Wang, 2002; Stark, 2004; Stark et al., 2004 cited in Ozden & Schiff, 2006:138) that brain drains actually induce brain gains by (a) raising the expected return on education, thereby stimulating additional investment in education (a brain gain); and (b) raising welfare and growth. Thus, the work of brain drain-brain gain researchers has resulted in a re-evaluation of the effect of the brain drain on the number of skilled individuals and on economic welfare and growth in the source country. However, Ozden & Schiff (2006) conclude that the positive effect of the brain drain on welfare and growth is likely to be significantly smaller, while the likelihood of a negative effect on welfare and growth is significantly greater. A number of factors may drive the rise in the international mobility of the highly skilled. Among these factors are included technological change, globalisation of production and integration of markets through trade in goods and services and foreign direct investment (FDI), access to leading
clusters of research and innovation, opportunities for high-technology entrepreneurship and technology transfer. Massey et al. (2005) argued that these factors are important for migration of the highly skilled among advanced countries and also play a role in the flow of immigrants from developing countries.

While there have been little or no detailed econometric studies done on high-skill migrations, basic statistics suggest that high-skill migration is most prevalent in fields that present relatively good employment opportunities. Among the possible explanations that have been offered are that workers may be more willing to bear the costs of migration if the opportunities are better, employers may be more willing to pay what are often considerable legal costs associated with obtaining work visas unless they face a tight domestic labour market and the influx of migrants may contribute to creating opportunities in a field (Parsons & Smeeding, 2006).

As high-skill migration takes on greater importance to the world economy, understandably its likely effects become all the more significant. In general, however, these effects have not been well studied or measured. Comparisons of the growth of countries with differing levels of emigration have provided some indication that some level of emigration can benefit the home country; however, the evidence is limited (Commander et al., 2004). There is a need to properly analyse the economic effects of the brain gain-brain drain.

It should also be noted that substantial immigration literature has been devoted to determining the effect of lower skilled immigrants on opportunities for lower skilled natives (Regets, 2007). However, little research has been conducted on the effects of the migration of more highly skilled workers or knowledge workers. Given the fact that definitions for descriptive studies (see 1.6) should be very clear, knowledge workers will - for the purpose of this study - be defined as individuals who carry out any of the tasks of planning, acquiring, searching, analysing, organising, storing, programming, distributing, marketing, or otherwise contributing to the transformation and commerce of information (also see 1.2). The term knowledge worker also includes individuals outside of information technology, such as lawyers, teachers, medical professionals, scientists and students (Davenport, 2005).
Against the above-mentioned background and contextualisation, the research problem that will be investigated in this study will be to identify and compare factors of influence that may impact and encourage the movement of Canadian and South African knowledge workers. From this problem statement the following research questions are derived that will guide the research:

• What push and pull factors are predominant influences for the migration of Canadian knowledge workers?
• What push and pull factors are predominant influences for the migration of South African knowledge workers?
• Do network factors influence Canadian migration (knowledge workers)?
• Do network factors influence South African migration (knowledge workers)?
• To what extent do demographics such as age, gender, income and level of education determine migration patterns of Canadian and South African knowledge workers?

1.4 RESEARCH OBJECTIVES

1.4.1 General objective

This study will aim at determining the factors of influence of the brain gain-brain drain phenomenon occurring within two countries: Canada and South Africa.

1.4.2 Specific objectives

The specific objectives of this study are six fold:

• To investigate push and pull factors that influence the migration pattern of Canadian knowledge workers.
• To investigate push and pull factors that influence the migration pattern of South African knowledge workers.
• To analyse whether network factors influence migration patterns of Canadian knowledge workers.
To analyse whether network factors influence migration patterns of South African knowledge workers.

To explore the extent to which demographics such as age, gender, income and level of education determine migration patterns (of knowledge workers) for Canadians and South Africans.

To recommend strategies for both Canada and South Africa to maintain a balance between brain drain and brain gain that will help maintain success in innovation, economic growth and prosperity.

**Theorems**, as basic proposition types, will further guide the research.

### 1.4.3 Theorems

Specifically, the theorems of this study are:

1. The predominant push-pull factors influencing migration of Canadian knowledge workers are economic factors.
2. The predominant push-pull factors influencing migration of South African knowledge workers are economic factors.
3. Network factors influence Canadian migration (of knowledge workers) to a lesser extent than South African migration (of knowledge workers).
4. Network factors influence South African migration (of knowledge workers) to a greater extent.
5. The influence of demographics such as age, gender, income and level of education on migration patterns differs for Canadians (knowledge workers) than for South Africans (knowledge workers).

### 1.5 CENTRAL THEORETICAL ARGUMENT

Migration is often analysed in the context of the *push-pull* model and this model will form the theoretic conceptual framework for this study of migrating knowledge workers in Canada and South Africa. Push factors are those that drive people...
to leave home; pull factors attract migrants to a new location. Push factors occur within sending countries; that is those that send migrants abroad, while pull factors occur within receiving countries; that is countries that receive immigrants from sending countries abroad (Olgivie et al., 2007).

Push factors come in many forms. The most predominant ones are:

- Economic factors
- Civil strife/war/political and religious persecution
- Environmental problems and
- Demographics.

Pull factors generally attract migrants to receiving countries and can be the following:

- Higher standards of living/higher wages
- Labour demand and
- Political and religious freedom.

Push-pull factors are really two sides of the same coin. In moving, migrants must not only see a lack of benefits at home (push factors) but also a surplus of benefits abroad (pull factors); otherwise the move would not be worthwhile (Ferro et al., 2008).

The push-pull factors that influence the movement of knowledge workers are often cited as being economy-based, such as higher wages or greater opportunities for career advancement (Pillay & Kramers, 2003). Estimates show that highly educated individuals are more likely to migrate (also see Point 1.3). Reasons for this may be the wage and quality of life differentials, immigration policies favouring those with higher education and opportunities in the educational field (Mattes & Mnicki, 2007). In a study, Bosch (2003) polled European graduate students studying in the U.S. Seventy-five percent who participated in the study claimed that they would prefer to stay in the U.S. after they have completed their doctoral work because they feel that there are more and better career and employment opportunities for scientists. Mattes and Mnicki’s (2007) survey of 4 784 postgraduate and final-year undergraduate students at South Africa’s tertiary educational institutions found that students’ intentions to emigrate were based on their expectations for a better life for themselves and their families in their target countries than they believed they could achieve in South Africa.
The pull factors bringing knowledge workers to a particular city have also been a focus of researchers. They have found that what causes knowledge workers to move to a city has to do with that city’s general economic activity, rather than a particular job or position in a specific company (Martin et al., 2006).

The migration literature often discusses network theory, which will complement the conceptual framework of this study. According to network theory, new migrants are linked to former migrants and non-migrants in origin and destination areas by interpersonal ties of kinship and friendship (Massey et al. in Weeks, 2008). These networks increase the likelihood that people will migrate because their relationships with other migrants in the network lower both costs and risks of migration. Over time the networks expand and include broader segments of the sending community (Gurak & Caces, 1992; Massey, 1990; Massey & Garcia Espana, 1987; Taylor, 1986). Factors such as the cost of travel, the ease of communication, and international business trends, which are known as network factors, either facilitate or inhibit migration (Greenwood, 1985).

Within social network theory, economists and social scientists have increasingly focused on role of social networks. In addition to their role in providing potential migrants with information about migration routes, employment opportunities, housing, and so on (Massey et al., 2005), social networks are important for trade and capital flows between the home country and the receiving country (IOM, 2009; Rauch & Trindade, 2002). Social networks can influence political decisions in host countries to provide economic assistance to migrants’ country of origin, thereby influencing the foreign policy of developed countries (Freeman, 2006).

Increasingly, demographic factors such as age, education, geographic proximity, regional inequality, and socialisation differentials are also factors that prompt people to migrate. The two most prevalent demographic factors appear to be age and education. The highest migration rates are among young people in the 20s (Crush, 2000). Education is also linked to age and is a better predictor of who will likely move within a certain age group. According to Crush (2000), the most skilled age group among South African migrants is between 35 and 49.

The push-pull and network theories explain the reasons why people move. Push-pull theory explain rates of migration and individual behaviour in terms of factors that
push people out of a country and factors that pull them into another country. Network theories, on the other hand, are more focused on the linkages and connections between migrants once a migratory flow begins and on how these connections relate to continued migratory flow.

1.6 RESEARCH METHODOLOGY

This research was primarily a **descriptive study** with its main aim to portray accurately the nature and characteristics of a certain situation (migration). More specifically, a description of the migration patterns and the frequency thereof was given, as well as determining certain associated variables (push/pull factors, network factors and demographic factors). Due to the nature of the study, the research approach was **mainly deductive** (see 1.6.1.1 & 1.6.2) by using secondary data. However, some **construction of narratives** and interviews (1.6.1.3) were also used to give an **inductive face** to the research.

1.6.1 Research procedures/methods

1.6.1.1 Historical procedure

Because of the challenge of locating Canadian and South African knowledge workers who have emigrated to other countries, collecting primary data - that is, data gathered and assembled specifically for the present study through quantitative research instruments (such as questionnaires), was very difficult and time consuming. Therefore, the researcher utilised the historical procedure approach and relied on secondary data that was collected and analysed in a critical review of related literature.

Historical research involves the systematic collection and evaluation of data to describe, explain, and understand actions or events that occurred at given points in time in the past. Historical research is used to develop an awareness of what has happened in the past and provide both successful and unsuccessful lessons from past experiences, to assist in prediction, to test assumptions, statements, and observations about relationships
and trends, and to better understand present policies and procedures to gain perspectives (McDowell, 2002).

Sources that were used are the following: The databases EBSCO and ProQuest were searched for reference to the topics of brain drain and brain gain. The keywords and search terms described in Point 1.1 were used. Article sources included (but were not limited to) scholarly papers and journals such as Ethics & International Affairs, Journal of Economic Perspectives, Journal of Human Resources, Lancet and South African Journal of Psychology. Articles were read for content and applicability to the present analysis. Of these, those found to be most relevant to the subject matter were included in the review. Relevant statistics were also used, for example statistics coming from the departments of Home Affairs (in Canada and South Africa), other research institutes/centres, etc.

1.6.1.2 Historic-comparative procedure

As indicated throughout the chapter, the main comparison was between Canadian and South African knowledge workers. Furthermore, data gathered from government sources and existing literature and statistics on potential factors of influence for migration (see 1.6.1.1), were compared and analysed and conclusions were drawn about which factors are most significant to each population. The final conclusions based on the literature review data were checked against the study’s theorems to determine whether they correspond.

1.6.1.3 Interviews (as instrument within the survey procedure)

As mentioned, interviews with key informants were also used as case studies to gather some information. The interviews were conducted with nine knowledge workers. Eight emigrated to Canada from South Africa (Martha M., Victor W., Alexandre O., Johnathan W., Abrahem T.S., Mothudi K.M., Kagiso M., Reesa V. – these are not their real names), and one wants to emigrate to the USA from Canada (Kathleen Z. – also not her real name) (see 5.2.3 and 5.3). These case studies reflected valuable information related to the objectives of the study, and actually served as “show cases” to illustrate
certain points and even helped with the processes of **pattern-matching** and **explanation-building** towards the conclusion of the study (*see* Babbie & Mouton, 1998:280-283).

### 1.6.2 Data analysis

The literature review provided the data base of the study. The data base was used to create a typology; that is, a summary listing of research studies and their respective findings that support the objectives of the research and the research questions. The findings were of course also mirrored against the theorems that serve as conceptual pointers for the study.

At the end, the study findings were summarised. From the study conclusions and summary, recommendations were made. Recommendations focused on suggestions for future investigative studies of a similar nature, as well as on areas of concern deemed important as a result of the findings of this research.

### 1.6.3 Ethical considerations

In studies where human subjects are used, there are a number of principles that describe ethical protections of the rights of research participants in contemporary social research. These principles include **voluntary participation** (Babbie, 2003; Berg, 2003), **informed consent** (Cozby, 2003), **protection from harm** (Glesne, 2005), **confidentiality** (Babbie, 2003) and **anonymity** (Babbie, 2003). To ensure the use of ethical procedures, the purpose of the interviews was explained to the nine interviewees. It was explained to potential interviewees that they did not have to consent to the interview, and that their participation was voluntary. Interviewees were assured that all information would be held in the strictest confidence, and that only summary information and quotations (that will not be attributed to any one participant by name) will be used in reporting the results.
1.7 CHAPTER DIVISION

Chapter 1 - Introduction and Orientation

Chapter 2 - Push and pull factors influencing the migration patterns of Canadian and South African knowledge workers

Chapter 3 - Network factors influencing migration patterns of Canadian and South African knowledge workers

Chapter 4 - Demographic factors influencing migration patterns of Canadian and South African knowledge workers

Chapter 5 - Conclusions and Recommendations
CHAPTER TWO
PUSH AND PULL FACTORS INFLUENCING MIGRATION PATTERNS OF CANADIAN AND SOUTH AFRICAN KNOWLEDGE WORKERS

2.1 INTRODUCTION

In Chapter One the problem of both brain drain and brain gain in Canada and South Africa were introduced. There is evidence that there is an emerging trend towards brain drain of Canadians to the US under TN-NAFTA and H-1B visas (Docquier & Marfouk cited in Ozden & Schiff, 2006:202). In 1994 the North American Free Trade Agreement created TN-NAFTA (Trade NAFTA) status, a special non-immigrant status in the US for citizens of Canada and Mexico. TN status allows US, Canadian and Mexican citizens to work in each other's countries in certain professional occupations. The H-1B visa is a non-immigrant visa in the US that allows US employers to temporarily employ foreign workers in specialty occupations. The occupations permitted under TN status are more limited than those for the H-1B visa (Gera et al., 2004). The UN Economic Commission for Africa (ECA) and the International Organization for Migration (IOM) estimated that at least 20 000 skilled Africans have left Africa each year since 1990 (Akokpari, 2006).

Traditional literature on migration tends to view the motivation for moving and the choice of destination country mostly in terms of traditional push and pull factors. In push-pull theory of migration, population movement is viewed as being pushed and/or pulled by a range of factors in the search of a better life (Oberoi & Lin, 2006). A review of relevant literature should thus tend to support or fail to support this basic assumption. Accordingly, the review in this chapter of the research deals with push and pull factors influencing migration patterns of Canadian and South African knowledge workers.

Although the push-pull model and the network theory (Chapter Three) will form the basic conceptual framework for the research (see 1.5), there are, however, other related theoretical models for the explanation of migration patterns which will briefly referenced throughout the dissertation. Therefore, before moving on to the push-pull
2.2 THEORETICAL OVERVIEW

Other theoretical perspectives on migration, in addition to push-pull and network theories, include human capital, neo-classical economic, segmented (dual) labour market, world system, institutional, new household economics of migration, and cumulative causation theories.

- **Human capital theory** predicts that migration will direct resources away from areas with relatively poorer earning possibilities and into regions affording superior employment opportunities – also see neo-classical theory below (Chiswick & Miller, 2009). When it comes to South-North type migration between regions with highly asymmetric developmental statuses, this prediction clearly finds support. However, North-North (among regions of comparable and superior opportunities) or South-South type mobility (between the poorer regions) should exhibit some peculiar patterns not readily accounted for by this theory (Chau & Stark, 1998). Permanent emigration of high-quality human capital is of special importance for any “receiving” economy, as it exercises a long-run impact on its productivity and standard of living (Chiswick & Miller, 2009). One should note, however, that brain drain does not capture the migratory flows of the relatively unskilled labour, or temporary migration of highly educated persons who seek better education opportunities abroad or somehow have no plans to enter the domestic active labour force anyway.

- **The neo-classical economic theory** suggests that international migration is related to the global supply and demand for labour. Nations with scarce labour supply and high demand will have high wages that pull immigrants in from nations with a surplus of labour (Li, 2003).

- **Segmented (dual) labour-market theory** argues that “First World” economies are structured so as to require a certain level of immigration. This theory suggests that developed economies are dualistic: they have a primary market
of secure, well-remunerated work and a secondary market of low-wage work. Immigrants are recruited to fill these jobs that are necessary for the overall economy to function but are avoided by the native-born population because of the poor working conditions associated with the secondary labour market. Such economies have four fundamental characteristics of advanced industrial societies: (a) Structural inflation whereby informal social expectations and formal institutional mechanisms ensure that wages are based more on hierarchies of prestige and status than on skill. Higher wages to the lower skilled is improbable because it causes inflation of wages up the hierarchy. (b) Motivational problems, since few natives want jobs with low pay and no financial or status rewards; therefore, migrants tend to just want income. (c) Economic dualism, where a bifurcation of the labour force occurs because of the way in which capitalists like to use permanent labour and reserve labour as the economy or the season fluctuates and (d) Demography of labour supply, which creates a permanent demand and supply of workers fitting the low-wage, low-skill criteria (see Massey et al., 2005).

- **World-systems theory** argues that international migration is a by-product of global capitalism. Contemporary patterns of international migration tend to be from the periphery (poor nations) to the core (rich nations) because factors associated with industrial development in the “First World” generated structural economic problems, and thus push factors, in the “Third World” (Massey et al., 1993).

- **Institutional theory** implies that migration, once started, also may be perpetuated by institutions and organisations that develop precisely to facilitate (and profit from) the continued flow of immigrants. These organisations may provide a range of services, from humanitarian protection of exploited persons to more illicit operations such as smuggling people across borders and providing counterfeit documents (Massey et al., 1994).

- **The new household economics of migration approach** argues that the decisions about migration are often made in the context of what is best for an entire family or household. This approach accepts the idea that people act
collectively not only to maximise their expected income, but also to minimise risk (Massey et al., 1993).

- **The cumulative causation perspective** recognises that each act of migration changes the livelihood of subsequent decisions about migration because migration has an impact on the social environments in both the sending and receiving regions. In the sending countries, the sending-back of remittances increases the income levels of migrants’ families relative to others in the community, and in this way may contribute to an increase in the motivation of other households to send migrants. Migrants themselves may become part of a culture of migration and be more likely to move again, increasing the overall volume of migration. In receiving countries, certain occupational sectors may also be labelled as “immigrant jobs” (Massey et al., 1993).

In the next section and subsections, an overview of the **push-pull model** will be given. Included in the discussion will be specific push and pull factors applicable to the focus of this study.

### 2.3 PUSH-PULL MODEL

The increase in the global movement of people can be attributed to several factors: increased interchange-ability of skills, more access to job information, more affordable travel, faster communication challenges, and aggressiveness in international recruitment efforts. Capital flows and multinational corporations transcend national borders and contribute to higher integration of global labour markets, particularly among high skilled and knowledge workers (World Bank, 2003).

Sociologists have long analysed migration in terms of the “push-pull” model (also see 1.5). This model differentiates between push factors that drive people to leave home from pull factors that attract migrants to a new location. Push factors occur within sending states, that is, those that send migrants abroad, while pull factors occur within receiving states, that is, states that receive immigrants from sending states abroad (Kline, 2003; Oberoi & Lin, 2006).
Ernest Ravenstein, an early scholar of migration and a widely regarded migration theorist, developed his Laws of Migration in 1889 and concluded that most migration is driven by choice, or, in his term, desire. He concluded:

“Bad or oppressive laws, heavy taxation, an unattractive climate, uncongenial social surroundings, and even compulsion (slave trade, transportation), all have provided and are still producing currents of migration, but none of these currents can compare in volume with that which arises from the desire inherent in most men to better themselves in material respects” (Ravenstein, 1889: 250).

Ravenstein characterised migration as a "push-pull" process whereby unfavourable conditions in one place "push" people out and favourable conditions in an external location "pull" them out (Ulla & Panday, 2008). In addition to the conditions described above, Ravenstein’s migration laws stated that the volume of migration decreases as distance increases, migration occurs in stages instead of one long move, population movements are bilateral and migration differentials (e.g. gender, social class and age – see Chapter 4) influence a person's mobility.

While many theorists have developed theories that are more or less variations of Ravenstein’s conclusions, subsequent theorists (e.g. Bommes & Morawska, 2005; Pajo, 2007; Ulla & Panday, 2008) have questioned Ravenstein’s observations. Increasingly sophisticated analyses have attempted to disaggregate the determinants of migrants' decisions. Some scholars (e.g. Bommes & Morawska, 2005; Pajo, 2007) place more emphasis on the opportunities and constraints of a country’s major institutions and structures than on the desires or capabilities of individuals.

2.3.1 Push Factors

While push factors come in many forms, the most predominant ones cited in research are:

(a) **Lack of jobs/poverty.** In this view, economics provides the main reason behind migration. In some countries jobs simply do not exist for a great deal of the population. In others, the gap between the rewards of labour in the sending and receiving country are great enough to warrant a move (Brettell & Hollifield, 2000). According to
one study, of the 5 million people who migrated to another country from 1975 to 1980, two thirds went to the US, Canada or Australia. That tendency could reveal the relative importance of economic factors (e.g. superior employment opportunities) among the forces underlying international migration (Card, 2003). According to US census data, immigrants constituted 7.9 percent of the population and 9.3 percent of the labour force over the period of 1991-1993. About 70 to 85 percent of movers cite economic over any other reasons for their decision to move (Mueller, 2006).

Basic economic migration models emphasise the role of wage differentials as reasons for migrating and for choosing a particular destination. Research (e.g. Arha et al., 2008; Kline, 2003; Mullan, 2005) also points to financial security and working conditions. While some commentators take wider factors into account, migration literature generally assumes some sort of cost-benefit analysis on the part of the potential mover. The underlying premise seems to be that migration starts with imaging the new destination, continues with balancing benefits and costs, and ends with an actual move (Oberoi & Lin, 2006). In the literature on highly-skilled migrants and on scientists in particular (e.g. Lindow, 2008), improved working conditions, pay and opportunities for scientific work are among the main drivers discussed, with only a few commentators highlighting the influence of more personal factors (e.g. Van Dalen et al., 2004).

(b) Civil strife/war/political and religious persecution. Throughout history numerous political and religious groups have faced persecution or discrimination in most parts of the world. Sometimes migrants are impelled to cross national borders by war or persecution at home. Some of these migrants end up in receiving countries as refugees or asylum seekers (Regets, 2007). The 1951 Geneva Convention Relating to the Status of Refugees defined the qualifications for such migrants and bound signatory countries not to return these newcomers to places where they could be persecuted (Feller et al., 2003). Recent (2011) African examples of people who fled across borders due to civil and political turmoil can be found in Egypt, Libya and Ivory Coast.

(c) Environmental problems. Environmental problems and natural disasters often cause the loss of money, homes and jobs (O’Lear, 1997; Smith & Edmonston, 1998). According to O’Lear (1997), the migration of people is becoming increasingly linked to environmental degradation as well as oppression and persecution.
the escalation of conflicts in the Niger Delta region has resulted in insecurity and human rights abuses in the Niger Delta and Nigeria as a whole. This has become particularly acute in light of environmental and energy issues that have become sources of threats and security matters (Watts & Kashi, 2008).

### 2.3.2 Pull Factors

Where push factors usually drive migrants out of their countries of origin, pull factors generally attract migrants to receiving countries. Economic factors such as higher standards of living and higher wages provide both the biggest push and pull factors for potential migrants. People moving to more developed countries will often find that the same work they were doing at home is rewarded abroad with higher wages. They will also find a greater safety net of welfare benefits should they be unable to work. Aware of this situation, migrants are drawn to those countries where they can maximise benefits. Labour demand is also an important factor in spurring migration. Almost all developed countries have found that they need migrants' labour. Rich economies create millions of jobs that domestic workers refuse to fill but migrant workers will cross borders to take them. The massive and often illegal movement of largely unskilled Mexican nationals to the US is a good case in point (Nevins, 2002; Regets, 2007).

Although most individuals who migrate to a country like the US primarily do so in the search to improve their well-being, the latter may not confine to better employment opportunities only. What sets the overall quality of life captures other options, such as the cultural and societal institutional framework, public goods, overall social security, and ethnic comfort, to name but a few (Li, 2007). When societal institutions start playing a major role in the individual’s choice, which might as well be function of one’s age, status, religious or political association for example, migration might shift away from its economic constituent and closer to the political component. Again, along these lines, the distance factor may be in play, with the choice aimed at reducing this distance at the lowest cost (Oberoi & Lin, 2006).

Political background in status terms alone might not be sufficient to force into switch of environments, however. What might likely drive such a choice is the political
uncertainty or volatility in the country of origin. Because return migration is not an option for political migrants, they will more likely invest in human capital whose parameters are specific to the host country, while the economic migrants will tend to have an incentive to preserve the parameters valued in their home region. Since their investment will primarily be focused and more concentrated in time on their human capital, political migrants labour forces from volatile and less developed regions might and do tend to outperform the natives in job search and earnings growth rate, as well as longer-term social status (Chiswick & Miller, 2009).

The pull factors bringing knowledge workers to a particular city have also been a focus of researchers. It was found that what causes knowledge workers to move to a city has to do with that city’s general economic activity, rather than a particular job or position in a specific company. This is largely because of the ease with which people can change jobs, which makes job variety an important quality for a city to possess. These include natural environments and vibrant neighbourhoods. Cultural diversity and social cohesion was also found to be important (Reitz, 2001).

Kapur and McHale (2006) identified three “pull” forces influencing the movement of knowledge workers:

(a) **Technological change**, which is increasing the relative demand for knowledge workers. This has not only resulted in knowledge-based businesses lobbying for increased access to global talents, but also has raised the wages of knowledge workers.

(b) **Longer life spans and looming retirement of the baby boom generation**, resulting in larger old-age populations in developed countries. This will affect labour markets and also create significant fiscal pressures. Immigration is not always the best way to deal with fiscal pressures, because immigrants will also retire at some point. In addition, health-care costs that fall heavily on the public sector in all industrialised economies adds to this fiscal pressure. However, immigrants provide tax revenues; therefore, tax increases and benefit cuts can be minimised.

(c) **Global integration of product and capital markets**. Theoretically the global integration of product and capital markets can substitute for the
integration of labour markets; in practice, however, all three forms of integration tend to evolve together. For example, labour mobility has been a central element of European integration, and skilled migration represents an important feature of the North American Free Trade Agreement (NAFTA). Transnational corporations also require the ability to move staff between countries and have been known to use the threat of shifting production out of a country to ease restrictions on access to foreign skills. Knowledge workers, because they tend to be more educated, tend to assimilate more easily; therefore, developed countries are more receptive to them.

Against the above-mentioned background, the focus of this study will be on the underlying reasons for the movement of knowledge workers from Canada and South Africa, two countries that reflect the impact of the so-called “brain drain” on developed, developing and under-developed nations. Canada is generally accepted to be a developed nation while South Africa is deemed by most observers to be a still developing – and “here and there” even under-developed - nation. Nevertheless, both appear to have experienced a “slow bleeding” of their most talented and best educated professionals into the black hole of international labour. The fact that this is happening in both countries appears to confuse the issue as to what is driving such workers to seek new horizons. One would think that skilled labour would stay in place in developed countries like Canada, where wages and lifestyles are generally considered to be attractive when compared with other developed nations. Apparently this is not the case, for Canada appears to be steadily losing its most skilled workers to the United States (Card, 2003). On the other hand, it appears to be a relatively easy assumption that South African knowledge workers are leaving for reasons that are more closely connected to traditional push-pull effects (Oberoi & Lin, 2006).

At the beginning of the 21st century, nearly all developed nations have become countries of immigration, absorbing growing numbers of immigrants not only from developed regions, but increasingly from developing nations of the “Third World”. Unfortunately, certain developed countries, such as the United States and some Western European countries, have been the only ones to strictly benefit from this practice since
they have tended to try to attract the most skilled and best educated workers. Others, like Canada, have simultaneously lost knowledge workers to these countries, and have had to make up for the losses by aggressive recruiting efforts of their own. Still other countries, such as South Africa, have been losing their skilled workers steadily, and have been unable to successfully replace them altogether (Card, 2003). In the sections that follow the push and pull factors that influence the migration of both Canadian and South African knowledge workers will be examined.

2.4 PUSH AND PULL FACTORS INFLUENCING THE MIGRATION OF CANADIAN KNOWLEDGE WORKERS

2.4.1 Push factors

According to Statistics Canada (2000), the rate of overall Canadian emigration to the US is lower than it has been in 40 years. During the 1990s, the average annual number of overall emigrants to the United States from Canada was somewhere in the range from 22 000 to 35 000. That represented only one percent of the Canadian population. There were three times as many Canadians moving to the US during the 1950s as during the 1990s. Still, for every three Canadians who head south, only one American moves to Canada. Some experts believe that this is largely due to the ability of America’s institutions to “woo” better the young talent from Canada - “taxation and salary are secondary to learning and development for young people choosing a place to work” (Sheppard, 2001:81). However, Piper (1996) wrote that people in the knowledge industries have been dissuaded from staying in Canada due to reasons varying from the Canadian social, tax and corporate environments. According to Spurgeon (1998), at one point the Canadian government was even being pressured to cut income taxes in order to dissuade scientists and technologists from emigrating. This is true even though, as Brooks (1999) asserted, there is very little difference in taxation between the US and Canada when the government spending on education and health care is taken into consideration.
Finally, statistics shows that Canadian emigrants to the United States have become increasingly young, highly skilled, well educated and well paid. In the 1990s, those with incomes over $100 000 were at least five times more likely to leave Canada for the US than the average Canadian; they were also mostly between 25 and 44 years old (Statistics Canada, 2000).

**Human capital models** of migration may explain these aspects of the brain drain phenomenon. Micro-economic models of migration represent widely accepted theoretical approaches to the study of both the geographic and job mobility of workers (Sjaastad, 1962; Todaro, 1969, 1989). From the neo-classical theoretical perspective (see 2.2), individual rational actors make decisions to migrate because cost-benefit calculations lead them to expect a positive net return, usually measured by earnings and job mobility. In theory, a potential migrant move to where the expected net objective and subjective returns to migration is greatest. The neo-classical micro-economic theory leads to several important generalisations on the impact of migration for individuals (Massey et al., 2005). Individual human capital characteristics (education, experience, occupational skills) increase both the likelihood of migration and the probability of employment in the destination area relative to the sending area. Furthermore, better human capital characteristics also lower the costs of migration, which in turn increase the returns to migration. As Todaro (1989) has pointed out, migrants typically do not represent a random sample of the overall population. On the contrary, they tend to be disproportionately young, better educated, less risk averse, and more achievement oriented and to have better personal contacts (see Network Theory in Chapter 3) in destination areas than the general population in the region of out-migration.

### 2.4.2 Pull Factors

Some researchers believe that the strong economic expansion of the US was a pull factor for Canadians, while push factors included cutbacks in several key areas in Canada and poor-performance in certain private sector areas in the late 1990s (Kesselman, 2001). In addition, NAFTA helped to ease the transition from Canada to US for knowledge workers (Hansen-Kuhn, 1998; Meckbach, 1999). However, there was an influx of
knowledge workers from the US to Canada between the years 1986 and 1999, making up for the numbers lost. The inflow of American knowledge workers into Canada during this period exceeded the outflow of American knowledge workers (back to the US) by more than 4 to 1 (Robertson, 1999). These immigrants were twice as likely as the Canadian-born population to be computer scientists and engineers, or working in the natural sciences (Statistics Canada, 2000). Crush (2002) reported that the process of bringing skilled workers into Canada has been streamlined to more rapidly make up for the losses to the US. This practice is called “replacement recruiting.” Key pull factors to make attract workers included the prospect of a higher standard of living and higher wages. Canada introduced a point system in order to admit the most employable immigrants into the country, based on education, occupational skills, and knowledge of one of the official languages. Furthermore, according to Meckbach (1999), only 10 percent of the 98 000 Canadians who work in the US leave Canada permanently. The author claimed that the high cost of health care and housing in the States may bring many Canadians back home.

Statistics Canada (2000) reported that about 1.5 percent of young persons who graduated from the higher education institutions in Canada in 1995 moved to the US. Although this proportion might not appear very high in absolute terms, the reference base constitutes the human resources of the highest quality. The percentage of Ph.D. migrants is higher than that of Master’s graduates, 12 percent as compared to 3 percent respectively. In a sense, that could second the maintained tendency for the upper-class (higher-income or professional) representatives to be more mobile. The Canadian statistics show a distribution of the migration pattern, whereby the weak stay ratio over a five-year stay period constituted about 7 out of 10, with only 3 of 10 intending to return to Canada at some point in the future. It is further reported that economic reasons (57 percent) and relocating for educational (23 percent) and marriage purposes (17 percent) were the strongest pull factors in this regard (Statistics Canada, 2000). One caveat that might undermine somewhat the 1995 migratory pattern is the profound changes occurring in Canada’s healthcare system at the time, and obviously affecting its labour market.

The pattern of the Canadian out-migration to the US labour market exhibits a particular geographic concentration, with California, Florida, New York and Texas
accounting for some 45 percent of the destination, particularly for Ph.D. graduates. Ontario (57 percent) and Quebec (11 percent) were the primary origins accounting for the most out-migration (Card, 2005). In light of these figures, and as a promising direction for further research, it could be profitable to construct and solve a transition (Markov) matrix with initial and directional probabilistic states. Identifying high-probability directions with highest propensities to stay could provide some useful insights into the geography and demography of concentration and its stability (Card, 2005).

On the whole, the structure of the US labour force with Ph.D. degrees consists of approximately 29 percent immigrants who conduct research and development (R&D) in industry, business and academia. About 22 percent of foreign science and engineering (S&E) doctoral recipients remain in the US for postdoctoral study, and 17 percent accept employment. The rate for those who planned on staying in the US was approximately 63 percent; those who actually stayed represented about 40 percent (Card, 2005).

However, to see whether those who originally planned on staying eventually did remain in US residence over a prolonged period of time, one would need to take a look at the original versus actual stay propensity gap, and its distribution over time. One can see, in particular, no significant evidence for high net return rates for scientists and engineers over a 10 to 20 years time span. However, for this particular group of specialists, possibilities for networking with colleagues in their home have shown to be particularly high. Another prospective dimension of research would be to arrive at duration of stay (stability of stay) that is optimal to the host economy in long-run productivity, possibly due to complementarities that may at some point become offset by the burden of additional social security cost (Card, 2005).

The global economic crisis has influenced emigration to the US. For instance, in a study, Bosch (2003) polled European graduate students studying in the US. Seventy-five percent who participated in the study claimed that they would prefer to stay in the US after they have completed their doctoral work because they feel that there are more and better career and employment opportunities for scientists than there are in their countries of origin. However, this may not be possible in the present economic environment. As a result of the recent economic downturn (since the end of 2008) the
US has made it more difficult for employers to obtain H1-B visas for highly skilled workers. Legislation requires that firms hire qualified US workers first (Fix et al., 2009).

2.5 PUSH AND PULL FACTORS INFLUENCING THE MIGRATION OF SOUTH AFRICAN KNOWLEDGE WORKERS

2.5.1 Push Factors

According to Nyikuli (1999), the brain drain phenomenon is one of the biggest problems facing Sub-Saharan Africa. About 23,000 qualified academic professionals emigrate per year (Pang et al., 2002). The brain drain in South Africa costs the country about $250 million per year; due to the over 20 percent of its skilled workforce that leaves as soon as they have finished studying.

A Southern African Migration Project (SAMP) survey of 200 South African public and private sector enterprises in 1999 asked them to assess the impact of the brain drain on their operations. One third rated the outflow and impact of post-apartheid migration as “significant.” Several studies on the subject showed attrition rates for research workers to be approximately 11 percent annually from South African universities. Of those who left, some 5 percent were government workers, and 22 percent academics (Crush, 2002). The brain drain in South Africa thus costs the country significantly due to the percentage of its skilled workforce that leaves as soon as they have finished studying.

Even though the number of skilled workers coming into South Africa has drastically declined, South Africa does not have a shortage of skilled personnel on the supply side (McDonald & Crush, 2002). Unfortunately, they are leaving at an accelerated pace (Nevin, 2003). Scientists, medical doctors, engineers, university lecturers, economists, information technologists and other knowledge workers are being targeted for emigration by largely Western European and North American countries (Mattes & Richmond, 2002; Mutume, 2003). Half of the graduates of South African medical schools emigrate to the developed world (Pang et al., 2002). More than 29,000 posts in South Africa’s health department are vacant (Nevin, 2003).
The migration of highly trained people out of Africa is not new to Africa. It began in the 1960s following independence and has continued ever since. The numbers of Africans leaving their country for better opportunities started out small and increased as political, economic and social conditions in Africa deteriorated. The UN Economic Commission for Africa estimates that 27 000 highly educated Africans migrated to the West between 1960 and 1975. In the following decade, nearly twice that number migrated to the West, peaking at about 80 000 in 1987. Since 1990 migration has levelled out to about 20 000 per year (United Nations Economic Commission for Africa, 2006).

The **push factors** motivating highly skilled Africans to leave include job scarcity, low wages, crime, armed conflicts, political repression and poor educational systems. The pull factors to other countries include higher salaries, greater mobility, less bureaucratic control, safety of environment and a higher standard of living (Gubert & Norman, 2008). Thus, African professional out-migration is strongly associated with disparities between the sending and receiving countries in two areas: **living conditions** and **employment opportunities**.

Mattes and Richmond (2002) surveyed a representative sample of South African skilled individuals to determine their main motives for emigration. More than two-thirds of the sample, evenly spread between black (68 per cent) and white (69 per cent), indicated that the predominant **push factors** for emigrating were cost of living, taxes, personal and family safety, and availability of jobs and job security. In South Africa, the abundance of crime is a main reason for the emigration of many of its knowledge workers. According to a study done by the University of South Africa (UNISA) (cited in Wales, 2002), 60 percent of the emigrants polled cited violent crime as a reason for leaving. **Structural Adjustment Programmes** are another push factor. In South Africa, numerous citizens (mostly white) emigrate because of Affirmative Action and/or Black Economic Empowerment (BEE). Another example of these kinds of counter productive programmes can be found in the neighbouring country, Zimbabwe, where the government adopted the Economic Structural Adjustment Programme (ESAP) in the early 1990s. The purpose of the ESAP was to increase balance of payments, thereby creating an era of modernised, competitive, export-led industrialisation for the country.
However, the programme failed and resulted in a decreasing standard of living for skilled professionals because salaries could not support the escalating cost of living. As a result, most professionals adopted a wide range of livelihood strategies, with some resorting to long-distance international migration (Brett, 2005).

2.5.2 Pull Factors

There are numerous reasons (pull factors) for and patterns of migration. Some Africans prefer to migrate to former colonial powers because of their familiarity with the language and culture. Geographical proximity and having support networks in the host country to help with adjustment to the new life and with finding temporary employment are other factors (see Network Factors – Chapter 3). Immigrants from Angola, Cape Verde and Guinea-Bissau are more commonly found in Portugal, while those from Algeria, Morocco and Tunisia usually settle in France. Belgium is a popular destination for some emigrants from the Democratic Republic of the Congo (DRC). Others migrate to the US because of its strong economy and the availability of employment. The US is the largest recipient of new immigrants and tends to attract talented and educated migrants. Africans are said to be the most educated ethnic group in the US, with more African scientists and engineers working in the US than in Africa. African immigration to the US doubled between the decades of the 1980s and 1990s. During that period the majority of immigrants to the US were from Egypt, Ethiopia, Ghana, Nigeria and South Africa (Gubert & Norman, 2008).

Stern and Szalontai (2006) cited several pull factors that draw South Africans to other countries, such as a growing demand for skilled employees as a result of the rise of the global services sector and increasingly aging populations that have opened new job opportunities for workers from developing countries, particularly teachers and nurses. Arah et al. (2008) analysed pull factors for migration of physicians from 26 African countries to four major destinations: Australia, Canada, the UK and the US. For each source country, physician migration density was defined as the number of migrant physicians per 1,000 population practicing in any of the four major destination countries. Higher emigration rates were correlated with higher physician densities in the receiving
countries. In other words, physicians migrating from developing to developed countries do so because the source countries' capacities and economic, social and health status are inadequate. Van Dalen et al. (2004) investigated who leaves Africa and why they leave in four African countries (Egypt, Ghana, Morocco and Senegal) and found that the typical potential migrant is young, male, optimistic about attaining a higher living standard and finding a job and having relatively modern values compared to those who do not migrate. This finding is notable, as it reveals that optimism surrounding the net benefits of migration drives intentions to emigrate out of Africa, especially in Ghana and Senegal. It seems as if the same motivation is found amongst South Africans. Thus, age and positive expectations of net financial gains play a prominent role in expressing intentions to emigrate.

Compounding the problem of emigration of scientists, engineers, information technologists and other knowledge workers from South Africa, is that these workers are recruited for emigration by largely Western European and North American countries due to global competition that has increased demand for highly skilled workers in Europe and North America. While Africa is making efforts to retain highly skilled workers, some industrialised nations and countries are offering lucrative packages to recruit Africans with specific skills and competencies to fill staff shortages in certain areas. African governments and businesses cannot compete with the high wages offered by Western recruiters (Britz et al., 2006).

According to Spurgeon (2001), Canada has well over 1 500 South African doctors. Some 17 percent of the physicians in the province of Saskatchewan took their first medical degree in South Africa (also see 1.3). Existing data suggest that the percentage of medical school graduates working abroad is the highest for sub-Saharan Africa (Kapur & McHale, 2005). Mullan (2005) reported that international medical graduates constitute between 23 and 28 percent of physicians in Australia, Canada, the UK and the US, and lower-income countries supply between 40 and 75 percent of these international medical graduates. Australia, Canada and the UK draw a substantial number of physicians from South Africa (Mullan, 2005). Australia, Britain, Canada, New Zealand and the US have been criticised for heavy recruiting of medical doctors,
and has since ended the process to give South Africa’s strained health care system and the country’s dire HIV/AIDS problem some support (Kumar, 2007).

**2.6 CRITICAL EVALUATION OF PUSH-PULL THEORY**

The push-pull theory framework is widely used to describe and explain migration movements. Push-pull theory posits that people move because of factors that both “push” and “pull” them to places where their human capital (i.e. skills, education, etc.) would be better used and for which they could receive better wages. As a result, people move from countries where wages are low to countries where wages are higher (Olgivie et al., 2007).

However, critics of push-pull theory point out that the international movements of people only partially support the theory. For instance, Arrango (2000) noted that the magnitude of the international migration flows is not strongly correlated with the scale of the international wage differences. In other words, not all countries with low wages experience large outflows of migrants nor do all countries with high wages receive the largest amounts of migrants. In addition, there are specific migration systems, involving two or more sending and destination countries where the migration lasts for a long period of time even when the wage differentials decrease over time. Massey et al. (1993, 1994, 2005) argued that push-pull theory fails to consider important political, historical and cultural factors. Politically, countries still have the power to regulate and manage migration flows. The history of particular nations or states is also important in international migration. Former colonies are still linked with established cities, and these political, economical and cultural ties (language, customs, traditions, etc.) influence migration flows.

Consequently, against the afore-mentioned theoretical background presented under Points 2.4 & 2.5, the relevant theorems will be put to the test (see 2.7).
2.7 TESTING OF THEOREMS

1. The predominant push-pull factors influencing migration of Canadian knowledge workers are economic factors
   - People in the knowledge industries have been dissuaded from staying in Canada due to reasons varying from the Canadian social, tax and corporate environments (Piper, 1996). However, Brooks (1999) did note that there is very little difference in taxation between the US and Canada when considering government spending on education and health care.
   - Some researchers believe that in the late 1990s the strong economic expansion of the US was a pull factor for Canadians, while push factors included cutbacks in several key areas in Canada and poor performance in certain private sector areas (Kesselman, 2001).
   - Another pull factor involved NAFTA, which helped to ease the transition from Canada to US for knowledge workers (Hansen-Kuhn, 1998; Meckbach, 1999).
   - According to Statistics Canada (2000), economic reasons account for about 57 percent of the incentive for Canadians to emigrate to the US.

Based on these factors, theorem 1 is supported; the predominant push-pull factors influencing migration of Canadian knowledge workers are economic factors (see also Table 3 in Chapter 5).

2. The predominant push-pull factors influencing migration of South African knowledge workers are economic factors
   - Geographical proximity and having support networks in the host country to help with adjustment to the new life and with finding temporary employment are other factors influencing migration patterns of South African knowledge workers (Gubert & Norman, 2008).
   - The push factors motivating highly skilled Africans to leave include job scarcity, low wages, crime, armed conflicts, political repression and poor
educational systems. The pull factors to other countries include higher salaries, greater mobility, less bureaucratic control, personal and family safety, a higher standard of living, lower cost of living, lower taxes, availability of jobs and job security (Gubert & Norman, 2008; Mattes & Richmond, 2002).

- High crime rates are a main reason for the emigration of many of South Africa’s knowledge workers (Mattes & Richmond, 2002).
- Structural Adjustment Programmes are another push factor. In South Africa, numerous citizens (mostly white) emigrate because of Affirmative Action and/or Black Economic Empowerment (BEE).

Based on these factors, theorem 2 is only partially supported. While economic factors may play a part in the migration patterns of South African knowledge workers, other factors that are unrelated to economic factors also act strongly as push-pull factors for migration (see also Table 4 in Chapter 5).
2.8 CONCLUSION

Most researchers appear to accept the premise that the push-pull factors that most likely are to influence the movement of knowledge workers are **economy-based**, such as higher wages or greater opportunities for career advancement. Estimates show that highly educated individuals are more likely to migrate. Reasons for this may be the wage and quality of life differentials, immigration policies favouring those with higher education, and opportunities in the educational field (Carrington & Detragiache, 1999).

Researchers (e.g. Gubert & Norman, 2008; Mattes & Richmond, 2002; Wales, 2002) observe that the push factors turn out to be stronger determinants as compared to the pull causes. In other words, while the labour force is definitely strongly attracted in directions of superior employment and earning opportunities (see Human Capital and Neo-classical theories), immigrants do not necessarily come from the poorer regions. One might thus expect that it is not only the absolute superiority of earning opportunities, but also their relative probabilistic qualities (likelihood of actually landing better employment) that affect relocation choice on the margin. One way of assessing such likelihoods would be to look at the unemployment rates in the specific locations. However, along the lines of the segmentation principle, specific professions should target specific niches and de-aggregated unemployment data are extremely rarely available. Due to this fact, and because the number of knowledge workers moving with a job offer at hand far exceeding that of people moving to look for a job, no significant relationship has been found between unemployment and in-migration. Furthermore, even though the poorest regions would impose the highest propensity to move on their populace, they also feature labour forces of the lowest class with lowest income and inferior education and skills, which provides for the lowest ability to move (lowest mobility).

“Brain drain” and “brain gain” have thus come to connote different meanings over time, as both the term itself and the focus of brain drain studies have gone through considerable modifications. Too many statistical gaps exist, making the process of drawing broad conclusions problematic. Currently, however, studies on brain drain have tended to focus on globalisation and the international mobilisation of human resources in the areas of science and technology. It seems that the flow of professional and technical
workers to developed countries has become an integral component of international migration and the global restructuring process. As international movement of population continues to rise and the global restructuring process accelerates, research on the “brain drain,” or migration of the highly trained, has become a subject of renewed interest among scholars and policy makers.

With respect to factors influencing brain drain for Canada and South Africa, it is clear that South Africans emigrate for differing reasons than Canadian émigrés. Lower standards of living, lack of security, and lack of professional recognition are reasons for the widespread emigration of South Africans. In addition, almost all of Africa is faced with the inability to manage its vast natural and human resources, political instability, socio-economic dislocations and brain drain (Akaninwor, 2002). Thus, it follows that migration behaviour in South Africa must be explained by a different theoretical framework than migration behaviour in Canada. Finally, it is interesting to note that push-pull factors are really two sides of the same coin. In moving, migrants must not only see a lack of benefits at home (push factors) but also a surplus of benefits abroad (pull factors); otherwise the move would not be worthwhile.
CHAPTER THREE
NETWORK FACTORS INFLUENCING MIGRATION PATTERNS OF CANADIAN AND SOUTH AFRICAN KNOWLEDGE WORKERS

3.1 INTRODUCTION

In Chapter Two the push-pull model relative to migration of Canadian and South African knowledge workers was discussed. Theoretical models for the explanation of migration patterns were briefly presented, and it was noted that the network theory will compliment the conceptual framework for this dissertation. Developing-country migration literature often discusses the applicability of network theory. According to network theory, networks link migrants with former migrants and non-migrants in origin and destination areas through various interpersonal ties of kinship and friendship. These ties increase the likelihood of migration by lowering costs and risks and increasing the expected net returns to migration. In theory, networks increase the probability of migration, which in turn expands the networks. Over time, the process spreads to include broader segments of the sending community (Gurak & Caces, 1992; Massey, 1990; Massey & Garcia Espana, 1987; Taylor, 1986).

More ambiguous factors, called network factors, can either facilitate or deter migration. Network factors include cost of travel, the ease of communication, and international business trends as they are associated with individual circumstances and preferences (Greenwood, 1985).

Two aspects of network theory are most applicable to the subjective consequences of migration. The first is the assumption that migrant networks provide information and auspices that enhance the job search process and thus increase subjective satisfactions (Yap, 1977). Developing-country research by Caces et al. (1985) and Pessino (1991) provided mixed evidence on whether internal migrant networks expand information about jobs in destination areas and stimulate migration based on this information. A second aspect of network theory potentially applicable to the subjective impact of migration is the role of families and friends in obtaining housing and providing social support in destination communities. Cultural role obligations for families and friends to provide
economic and psychological support would be expected to enhance the living experience and subjective well-being of migrants. Thus, as people in South Africa find out from their migrant networks that for example, the crime rate in the United States or another country is lower, health care training is better, and job opportunities are more abundant, and so on, they are more likely to emigrate (Clark et al., 2006; Gubert & Norman, 2008).

In this chapter network factors and aspects of network theory, as well as the influence thereof on migration patterns of Canadian and South African knowledge workers, will be discussed; at the end of the chapter, the two relevant theorems will be mirrored against the discussed theory.

3.2 THE ROLE OF SOCIAL NETWORKS IN MIGRATION

As seen in Chapter Two, the perspectives about why people migrate range from the macro level of analysis (push-pull theories), to the micro level of analysis (e.g. Ravenstein’s theory of choice or desire). For instance, Nyberg-Sorensen (2002) argued that in South Africa, negative or low economic growth, population growth and high unemployment rates, combined with unequal income distribution and environmental pressures are some of the factors that drive international labour migration. However, Mattes et al. (2000) counter argued that the majority of immigrants in South Africa had full-time employment at home before they left. Thus, while improved job opportunities and prospects may be a driving force (push-pull factors) for migration, unemployment is not the only reason for skilled immigrants to leave their home country. Other factors, such as political and civil strife, may have motivated migration (also see 2.3.1).

Perhaps the most notable attempt to create a comprehensive theory of international migration was that of Massey et al. (1993, 1994). Massey and his colleagues provided an overview and explanation of the various propositions and hypotheses of current migration theories of neo-classical economics, the new economics of labour migration, segmented labour market theory, world systems theory, network theory and the theory of cumulative causation (see 2.2). They also identified areas of where these theories complemented and conflicted with each other.
Although many factors influence an individual’s decision to migrate then, economists and social scientists have increasingly focused on the important role played by social networks. As Massey et al. (2005) discussed, these networks play a crucial role, as potential migrants rely on social networks for information regarding issues such as migration routes, employment opportunities, housing, and so forth. The most contemporary theoretical perspectives are those of Massey and colleagues (Massey et al., 1993, 1994, 2005), with emphasis on what has been termed social network theory (Boyd, 1989; Durand & Massey, 1992; Massey et al., 1993, 1994; Massey & Garcia; Espana, 1987).

3.2.1 Defining of Social Networks

Networks can be defined as interpersonal ties that connect migrants, former migrants and non-migrants in origin and destination areas through bonds of kinship, friendship and shared community origin (Boyd, 1989; Massey et al., 1993; Portes, 1995). Researchers on migration have also recognised that migrants maintain contact with people in their places of origin through correspondence and the sending of remittances. Since the early sociology of migration in the 1920s-30s, however, most migration research has focused upon the ways in which migrants adapt themselves to their place of immigration. The past decade has witnessed the ascendancy of a new approach to migration that accents the attachments migrants maintain to people, traditions and causes outside the boundaries of the nation-state to which they have moved (Smith & Guarnizo 1998; Vertovec & Cohen, 1999). Thomas and Znaniecki (1996) were concerned with the socio-psychological aspects of migration; that is, the extent to which individual and group psychology interfered with the process of migrants’ integration into their adopted countries. In their study of the adjustment of Polish peasants to their new lives in America, they examined the blending of old social values and new socio-economic conditions in immigrant communities and the role of ethnic identity in assimilation into the host country. Their study was an important contribution to modern migration studies because of its focus on the relationship of ethnicity and culture to migration, which was a departure from studies that focused on socio-economic factors. While noting the
similarities to long-standing forms of migrant connection to homelands, the new approach underscores the numerous ways how, and the reasons why, today’s linkages are different or more intense than earlier forms (Morawska, 1999).

Today people migrate because other people have migrated. Family members who have migrated pave the way for others to follow. The cost of migration is reduced because the family members who follow will have a place to stay when they get to their destination. Opportunities of securing a job are higher and there is a sense of belonging. In addition, in most of the receiving countries where immigration is high, such as the US and Canada, there are agencies that assist potential migrants. These agencies make migration easier by helping immigrants secure a job and accommodation in the country of destination and assisting them with all legal aspects associated with migration, in particular those related to contracts between the employers and the migrants (Regents, 2007).

Newer, cheaper, and more efficient modes of communication and transportation also allow migrants to maintain trans-nationally their home-based relationships and interests. Today, global patterns of activity affect a variety of migrants’ social relations, including friendship, kinship and status hierarchies, modes of economic exchange, processes of political mobilisation, practices of cultural reproduction, including religious practices, institutions like marriage, images and symbols affecting group identity, forms of information transfer, and the nature of professional association (Massey et al., 2005). These social bonds and the feeling of being part of a trans-national community also explain why migrants tend to remit substantial amounts of money to non-migrants. Many observers see remittances as the exemplary forms of migrant trans-nationalism (Ozden & Schiff, 2006; Vertovec, 2001).

Historically, the source countries differ among developed countries, and these differences influence social networks. Former territories and colonies are an important source of arrivals for England and France. Vietnamese migrate to Australia and the US as a result of ties formed during the Vietnam War. Turks tend to migrate to Germany (Freeman, 2006).

In addition, specific locales in developing countries experience high emigration activity. For example, some districts in Guangdong, Fugian and Zhejiang in China, or
Sylhet and Mirpur in Bangladesh and Pakistan have many emigrants, while other districts have few emigrants. As Freeman (2006) explained, individuals follow the lead of others from their area. Further, when a group enters a country, relatives join them to reunify families. About 70 percent of US immigrants enter as immediate relatives of citizens or are family-sponsored. The proportion of immigrants for family reunification is equally high in France (International Organization for Migration, 2005).

Present day national and local state policies, although broadly displacing conventional assimilation models with those of multiculturalism, still seem not to have caught up with the new approaches in migration theory that recognise ways in which contemporary migrants live in trans-national communities (De Haas, 2008). Such communities, according to Portes (1998), comprise dense social networks across political borders created by immigrants in their quest for economic advancement and social recognition. Through these networks, an increasing number of people are able to live dual lives. Participants are often bilingual, move easily between different cultures, frequently maintain homes in two countries, and pursue economic, political and cultural interests that require their presence in both.

A social connection to someone who has migrated to a particular destination is an important resource for another person who may be considering migration because movement of one person within a network provides a valuable connection that can be used by anybody within the network to facilitate migration (Portes, 1995). Boyd (1989) argued that recognising social relationships and their role in international migration shifts the theoretical emphasis on migration to migration as a social product, “…not as the sole result of individual decisions made by individual actors, not as the sole result of economic or political parameters, but rather as an outcome of all these factors in interaction” (Boyd, 1989:642).

Massey (1989) argued that once the number of network connections in an origin country reaches a certain level, migration becomes self-perpetuating, because it creates the social structure to continue the process, whether intended or not. The facilitating role of such “family and friends networks” makes migration difficult for governments to control (Lindstrom, 1996; Nevins, 2002). Thus, once begun, self-sustaining migration flows reflect the establishment of networks of information and assistance and obligations
which develop between migrants in the host society and friends and relatives in the sending area (Massey et al., 1993).

### 3.2.2 Social Networks and the Social Capital Model

The social capital model has been employed to explain how social networks operate. Portes (1995:12) defined social capital as:

“… the capacity of individuals to command scarce resources by virtue of their membership in networks or broader social structures. Such resources may include economic tangibles like price discounts and interest-free loans, or intangibles like information about business conditions, employment tips, and generalised ‘goodwill’ in market transactions. The resources themselves are not social capital; the concept refers instead to the individuals’ ability to mobilise them on demand. The key conceptual characteristic of such resources is that, from a market standpoint, they are free to recipients. They have the character of ‘gifts’ since they are not expected to be repaid by a certain amount of money or other valuables in a given period of time.”

The social capital model assumes that actors migrate to maximise returns on their investments (ROI) in human capital. By maximising ROI in human capital, individuals draw upon the social capital embedded in their interpersonal networks. Social capital reduces the costs and risks (i.e. safe transportation, housing, employment, etc.) associated with the act of migrating while increasing the probability of migrating. As Ozden and Schiff (2006) observed, the presence of a social network in the destination country plays a significant role in easing the costs of moving, especially in the transition stage. Family and community networks and networks based on ethnicity or nationality are likely to help migrants overcome legal obstacles, barriers, lower search costs for jobs and housing, provide additional support in case of unanticipated events and help with cultural alienation.

Similar to some economic models of migration, the social capital theorists assume that individuals will instrumentally use their networks as a means of gaining the highest
returns on their investments in human capital. Additionally, social capital theory assumes that access to social connections, in the form of migrant networks, reduces the cost of movement and favours the act of migration to places where there exists a social tie (Palloni et al., 2001).

Recent research has also pointed to the significance of social capital in the dynamics of international migration, from initiating the process of migration to the settlement and success of immigrants in host countries. Particularly, it has been argued that, due to their status, minority immigrants tend to rely more heavily on their communities and social networks, and that this compensates for other disadvantages in their new homes. Nevertheless, studies of social networks are not new, however, and there has been a recent rekindling of interest in the topic as a result of the rising popularity of the concept of social capital. While empirical research on this topic is somewhat sketchy, some empirical studies (e.g. Massey & Garcia Espana, 1987; Massey et al., 1993, 1994; Palloni et al., 2001) have confirmed that coming from a community which has a high rate of migration, or knowing someone who has migrated, is associated with international migration.

In any case, examination of social networks is at the heart of any study on social capital. Coleman (1998) argued that social capital, unlike physical capital, has no finite basis, nor does it have observable bases, as is the case with human capital. Instead, the essence of social capital is in the structure of relations between network actors. This means that any study of social capital that does not account for social networks will remain incomplete.

Existing studies on the consequences of social networks have covered a wide spectrum, ranging from affecting nation-wide trends to influencing individual life chances. Some, for instance, have considered the impact of social capital on the macro-economic developments of society. Putnam (2000) and Woolcock (1998) and other researchers have studied its implications for a society's political structure. Other research has focused on the consequences of social capital for an individual's chances of finding a job, the degree of success in establishing independent businesses, ability to improve the educational achievements of their children, and the extent to which they feel safe in their communities, not to mention their life satisfaction and even their health conditions.
Emigrant social networks are an important force for trade and capital flows between the home country and the receiving country. For example, Rauch and Trindade (2002) found that immigrants to Canada increased imports from their home country by 3 percent and exports by 1 percent. Networks of migrants can be a dominant force in enhancing mobility of people. They influence political decisions in host countries to provide economic assistance to their country of origin. They also influence economic and trade relations between the host and the home countries and require more creative and productive integration processes (IOM, 2009, paragraph 14). Thus, a significant immigrant population in developed countries may also affect the foreign policy of developed countries toward developing nations. For example, increased immigrant Muslim populations in Europe have influenced European views of Israeli–Arab disputes as well as internal laws and policies of respective countries (Freeman, 2006).

Moreover, although the overwhelming majority of the existing debate on social capital revolves around its positive effects, a number of scholars, including Portes (1998), have warned against the danger of overlooking some potentially negative effects of social capital. Through increasing the density and strength of relationships within a group, they argue, social capital can become an exclusionary force facilitating the suppression of the interests of the so-called "outsiders."

### 3.3 SOCIAL NETWORKS AND THE LABOUR MARKET

For migrants, social networks are crucial for finding jobs and accommodation, circulating goods and services, as well as psychological support and continuous social and economic information. Social networks often guide migrants into or through specific places and occupations. Local labour markets can become linked through specific networks of interpersonal and organisational ties surrounding migrants (Poros, 2001). For example, such patterns and processes of network-conditioned migration were extensively and comparatively examined in nineteen Mexican communities and confirmed by Massey et al. (1994). Portes and Bach (1995) proposed that migration itself can be conceptualised as a process of network building, which depends on and, in turn, reinforces social relationships across space.
In this respect, migration can be understood as a process that both depends on, and creates, social networks. Of course, dimensions of social position and power, such as the class profile of the network, have been shown to have considerable conditioning impact on migration processes. This has been demonstrated for instance by Salaff *et al.* (1999). Salaff and her colleagues demonstrate how middle class emigrants from Hong Kong, in contrast to working class ones, used different kind of networks for different kind of purposes in arranging their movement and resettlement abroad surrounding the period of the British hand-over of the colony to China. Such studies, among many, point out the varieties of relational and structural embeddedness in migrants’ networks (Portes & Bach, 1995). Social ties in pre-migration networks are seen as being related to factors affecting which people migrate, the means of migration, the destination, and future prospects for physical and occupational mobility. Connections with earlier migrants provide potential migrants with many resources that they use to diminish the risks and costs of migration: information about procedures (technical as well as legal), financial support, job prospects, administrative assistance, physical attendance and emotional solidarity (Meyer, 2001).

The networks utilised by migrants vary considerably depending on local histories of migration, national conditions and communal socio-cultural traits. There has been shown to be qualitative variation in types of networks used by different occupational classes (Shah & Menon 1999). Highly skilled occupational groups, for instance, rely more on networks of colleagues or organisations and less on kin-based networks than unskilled workers. In any case, the forms and characteristics of these networks may depend on their composition, friends, relatives, kin, acquaintances, professional colleagues, and so forth.

Just as various forms of trans-nationalism have existed in earlier periods of migration, such as chain migration, regular communications among split families, sending of remittances, trans-national labour markets have also existed historically. The movement of medical practitioners within the British Commonwealth in the 1960s is one example. Now General Agreement on Trade in Services (GATS), the World Trade Organization (WTO) and numerous professional associations have guidelines for the internationalisation of professions. Yet as Iredale (2001) pointed out, few professional labour markets can be described as truly international at this stage as training,
accreditation, ethics and standards continue to be managed mostly at the national level. However, there are distinct trends in this direction. For example, professional practice has become a trans-national matter. Poros (2001) detailed how migration networks that are based on personal ties, while being the most common forms, may lead the migrant into a limiting ethnic niche occupation or domain, and/or into a downward occupational trajectory as the migrant, moving through a specific network, gains a post-migration job incommensurate with his or her level of training. Migration networks based on organisational ties such as schools, professional associations, and other agencies, serve to better match skill levels and jobs, although they are open for competition and therefore less certain in conditioning migration outcomes. Poros (2001) also described the development of migration patterns involving mixed interpersonal and organisational ties, where who you know within an organisational framework may lead to successful migratory and occupational processes by way of channelling people into the most appropriate jobs abroad.

3.3.1 Networks and Skilled Workers

Skilled migrants, generally defined as those in possession of a tertiary degree or extensive specialised work experience, include architects, accountants and financial experts, engineers, technicians, researchers, scientists, chefs, teachers, health professionals, and specialists in information technology, including computing professionals and computing engineers. In regard to these more skilled positions, many researchers have pointed out that migration may now not be the most accurate term. Instead, movement or mobility may be more appropriate terms. This is because migration has connotations of permanency, whereas the movement of many highly skilled persons today tends to be intermittent and short-term (Koser & Salt, 1997). In this respect, it is likely that trans-national networks precondition, arise out of and perpetuate the intermittent and short-term patterns of movement typifying contemporary skilled workers.

Because of its status as the world's largest economy, the largest educator of foreign students and its tradition as a nation of immigration, the US plays an important
role as a receiving country for the international movement of highly skilled workers. The 2000 Census showed that a large proportion of highly skilled US workers are foreign born. This includes 25.7 percent of all employed doctorate holders and 37.6 percent of doctorate holders in science and engineering (S&E) occupations. Although US data on skilled migrants are only a small part of a much larger and complex picture, the data provide some general insights into the magnitude and direction of some of the possible effects of high-skill migration throughout the world (Regets, 2007).

With respect to South African emigrants, the top seven destination countries are Canada, France, Germany, Russia, Saudi Arabia, the UK and the US, although there have been some shifts in the relative popularity of these countries over the last few decades. The UK remains the most important emigrant destination; Australia and Canada have been steadily declining, while New Zealand and the United States have attracted an increasing share of South African emigrants (IOM, 2009).

While push and pull factors may influence the migration of the highly-skilled, mobility and choice of location among early career scientists is also linked to certain mobility triggers, which are neglected in most literature. Mobility triggers include impetuses, events, persons or contexts that make mobility a workable possibility and a reality for a particular scientist. Mobility triggers act in a way which is not necessarily planned or controllable by the scientists and which adds considerably to a chance element in scientific mobility (Regets, 2007). This is not to say that it is beyond the power of a state to influence the mobility of scientists; rather, states may need to look beyond issues such as working conditions, pay and legislation in seeking to increase the inflow of such highly-skilled people.

Networks may thus play a stronger role as mobility triggers than has been suggested. Scientific networks often emerge as the result of international collaboration. Project partners go to partner institutions for short visits or longer research stays. Established professors send younger colleagues to learn new techniques or ways of working; in turn, more senior scientists are invited to lend their expertise and share their knowledge. Thus scientific networks are formed and expanded every step of the way. These collaborations and international settings often lead to scientists being socialised to the idea of migration, and to the expectation of mobility being reinforced. Accordingly,
the role of networks in scientific mobility cannot be underestimated, and almost every scientist will make use of professional contacts or wider networks in order to advance their work or their career at some point. The earlier these networks can be established, the more scope there is for scientists to draw on them. Increased international science funding that fosters collaborations between countries and brings together multi-national research teams can be a powerful tool in establishing networks and thus in promoting mobility (Regets, 2007).

In any case, worker mobility has been observed to play a critical role in implementing goals as pursued by any economic system. If we were to view individuals from a human resources perspective, the labour market would then be expected to function so as to secure free movement and exchange of the labour force across regions, thereby matching resources to their best employment opportunities for the benefit of both the human capital owners and the employers (De Haas, 2008).

Mobility can come at cost, though. On the one hand, a given labour market might be far from homogeneous. Different vintages of human resources, depending on their education, experience, and other parameters, would enjoy potential access to some niches while being effectively segmented from the others. In that case, migration across the segments will clearly be determined by and delayed in time by the cost of these parameters transformation, which may involve re-education and otherwise qualitative augmenting. On the other hand, information as to employment opportunities can be imperfect or asymmetric, in which case search is costly and employment optimisation cannot be conducted indefinitely. Insider knowledge or networking possibilities may facilitate job search for some and slow it down for others. These circumstances effectively impose a gap on the employment opportunities for high-income/high-wealth categories as opposed to those belonging to the lower and mid class (Palloni et al., 2001).

Furthermore, depending on the ties with the former employer and familiar surrounding friends, family, infrastructure and culture, relocation may be more or less difficult to implement. A highly experienced employee who has dedicated a long time to a single job may well have developed assets, such as reputation or retirement benefits, that are of high value only in this particular location. Upon transfer, their value may deteriorate, which is one common feature of specific assets whose value is contingent
upon geography, position, project or timing (Regets, 2007). Therefore, one might group the factors that affect relocation decision, once a new status has been reached, into monetary versus psychic determinants.

### 3.3.2 Family Networks and the Labour Market

In addition to professional networks, family and partnering issues play a very significant role in inducing mobility or making it a viable option. Literature (e.g. Boyd, 1989; Herman, 2006; McKenzie & Rapoport, 2007; Palloni et al., 2001) on the migration of the highly-skilled has only recently turned its attention to the non-economic issues which shape mobility decisions and experiences. Even where family relationships are acknowledged as factors to be taken into account, they have mostly been talked about in terms of limiting mobility or tying scientists to a particular place. However, family can make significant contributions to the context that prompts a scientist to move. Families provide emotional support and encouragement in addition to needed assistance in day-to-day life.

Regets (2007) discussed family relationships with respect to migration of scientists and engineers. Another dimension is added when a scientist’s or engineer’s partner is also employed in the same field. Either partner in a dual science career couple can also act as a significant mobility trigger, as the couple tries to minimise the time spent apart. In the first instance one partner’s move can act as a strong incentive for the other partner to move in order to be in the same place. However, one partner’s move can also imbue the other partner with a sense of confidence in being able to live and work in a foreign country. Especially at the early stage of a scientific career, a partner already working abroad or going at the same time provides a safety net as the scientist does not have to go it alone. Even where dual science career couples do not secure positions in the same city, they can take advantage of the fact that they have someone within a manageable distance who is facing similar issues and on whose support they can count. Additionally, partners can facilitate access to important contacts and information about opportunities, application procedures and the way of life in the host country. Only in the rarest of cases do both partners move together to positions they have already secured.
Often one partner will secure a position and the other will move at the same time and then attempt to find something once in the host country. More often still, one partner is already in the host country, either a national of that country or through mobility, and the trailing partner joins them in the host country at a later stage. In the course of their careers, the partners may alternate in their roles as initial movers and followers when it comes to international mobility (Regets, 2007).

3.4. THE ROLE OF NETWORK FACTORS IN THE MIGRATION PATTERNS OF CANADIAN AND SOUTH AFRICAN KNOWLEDGE WORKERS

As has been shown, migration networks are a source of information and advice to migrants about opportunities in receiving nations. They also may provide funds, shelter, and jobs for new arrivals. To understand immigrant integration, it is critical to understand the role of latent social networks in determining labour market outcomes, as social ties are often an important means for immigrants to find employment in their host society. A common feature of the traditional countries of immigration such as Canada and the US is their recognition of the importance of family ties. Family reunification, thus, becomes a major network factor. In Canada, family reunification accounts for 60 percent of immigration (United Nations, 2004).

The role of social networks in facilitating economic integration is different for different classes of immigrants, as sponsored immigrants have sources of social support which other classes of immigrants may not have. Immigrants from South African are an under-studied, under-resourced, and high needs groups of recent immigrants and refugees (Creese, 2007; Masinda & Ngene-Kambere, 2008). Integration is difficult for this group because they are prone to significant family disruptions. Part of this disruption is attributable to the HIV/AIDS epidemic. According to the United Nations, South Africans are three times more likely to emigrate because of HIV/AIDS and fears for their health (UNAIDS, 2004). Thus, while family ties play a role to some extent in the migration patterns of South Africans, they do not represent as strong a network factor as in Canada.
It should be noted that this discussion represents the available research on the role of network factors in the migration patterns of Canadian and South African knowledge workers. Much more research needs to be done that focuses on these two countries in particular.

Consequently, the relevant theorems will be put to the test (see 3.5).

3.5 TESTING OF THEOREMS

3. Network factors influence Canadian migration (of knowledge workers) to a lesser extent than South African migration (of knowledge workers)

- About 70 to 85 percent of migrants from developed countries, including Canada, cite economic over any other reasons for their decision to move (Mueller, 2006).
- In Canada, family reunification is a major migration factor (United Nations, 2004).
- Some Africans prefer to migrate to former colonial powers because of their familiarity with the language and culture. Geographical proximity and having support networks in the host country to help with adjustment to the new life and with finding temporary employment are other factors.

Based on these factors, theorem 3 is partially supported. Canadians tend to migrate for economic and family reunification reasons whereas South Africans migrate also because they have support networks and are familiar with the culture of the receiving country. Thus, Canadians migrate for economic reasons, and family ties also play a role. It seems then that network factors are less of an influence for migration of Canadian knowledge workers than for South African knowledge workers, and the reasons for migration differ between Canadians and South Africans (see also Table 5 in Chapter 5).
4. Network factors influence South African migration (of knowledge workers) to a greater extent

- Clark et al. (2006) and Gubert & Norman (2008) noted that as people in South Africa find out from their migrant networks that for example, the crime rate in the United States or another country is lower, health care training is better, and job opportunities are more abundant, and so on, they are more likely to emigrate.
- As noted above, support networks in the host country to help with adjustment to the new life and with finding temporary employment are factors prompting migration of South African knowledge workers.
- Family ties are less of an impetus to emigrate because South Africans are more prone to family disruptions than other immigrant groups (UNAIDS, 2004).
- The HIV/AIDS epidemic and fears for their health have prompted South Africans to emigrate (UNAIDS, 2004).

Based on these factors, theorem 4 is partially supported. Network factors influence South African migration knowledge workers to a greater extent (see also Table 6 in Chapter 5). Although South African knowledge workers are being “pulled” abroad by family and network factors, the disruptive nature of South African families also reduce the network factor.

3.6 CONCLUSION

Many factors influence an individual’s decision to migrate, and these factors have been discussed in the literature from both the micro and macro levels. More contemporary theoretical perspectives such as those of Massey et al. (1993, 1994, 2005), Boyd (1989), and Massey and Garcia Espana (1987) focused on the important role of social networks and immigration.

Over the past two decades there has been a considerable amount of empirical work and some theoretical work exploring in greater detail the interrelationships among
networks, migration decisions, border deterrence, and other factors. However, these works are predicated on the assumption that network usage is increasing over time. Fussell and Massey (2004) presented evidence that suggests that the importance of networks has changed and that network usage may wax and wane. Consequently, the existing theoretical literature on networks is not well suited to account for changes in network importance over time. The narrative approach that motivates much of the current theoretical line of inquiry focuses chiefly on social networks. In this approach, the stock of migrants already in the new region is the social network.

In any event, it appears that social networks do play an important role in facilitating migration, whether across borders or across regions. However, recent empirical work suggests that the importance of networks to the migration process may vary over time. Previous theoretical work is unable to accommodate these recent findings as a result of the manner in which networks were modelled; namely, networks were equivalent to the stock of older migrants.

One area of great significance that has remained largely under-investigated is the study of how such social networks work for immigrants, given their distinct social status from the mainstream population. The relevance of social networks in the research on immigrants' lives stems from the fact that, owing to the limitations they face in the destination countries, they sometime have little choice but to develop stronger communal ties and to draw more heavily on their communal resources. References to this possibility can be found in works going as far back as the nineteenth century. The argument is further reinforced when it comes to recent immigrants to North America, who are coming mostly from non-European sources (IOM, 2009). More often than not, immediately after arrival, such immigrants experience a devaluation of the education and work skills earned in their home countries and face implicit, and sometimes explicit and systemic, discrimination. As a result, they will have little recourse, but to band together in search of moral support and economic survival. Despite this relevance, however, the research on social networks has paid little attention to the dynamics of social networks for immigrants and the ways in which their lives are influenced by those networks.

Networks provide the mechanisms for connecting an initial, highly selective group of immigrants, with a gradually growing base of followers back home. These
connections usually rely on social relationships developed prior to the migration decision and in which trust is taken for granted. Consequently, the networks provide durable, efficient conduits for the flow of information and support. Resource flows through the networks change in a two-fold process. On the one hand, the veterans consolidate their place in the host society, reducing the costs undergone in providing information and support, and thus widen the pool of candidates eligible for help. And on the other hand, a growing proportion of the home communities find themselves linked to settlers in a position to give assistance, lowering the costs and risks of movement, and thus increasing migration's net expected returns. Very quickly then, network consolidation and expansion make migration a self-feeding phenomenon, as ties to settlers diffuse so broadly that almost everyone in the home society enjoys access to a contact abroad.

Network theory also provides sociological explanations for how migrants, once established, get ahead. The same connections that span immigrant communities constitute a source of "social capital," providing social structures that facilitate action, in this case the search for jobs and the acquisition of skills and other resources needed to move up the economic ladder. Networks tying veterans to newcomers allow for rapid transmission of information about openings in workplaces or opportunities for new business start-ups. Furthermore, networks provide better information within workplaces, reducing the risks associated with initial hiring, and similarly connecting co-ethnic entrepreneurs, who take membership in the community as an index of trust (Bailey & Waldinger, 1991). Once in place, the networks are self-reproducing, since each incumbent recruits friends or relatives from his or her own group, and entrepreneurs gravitate to the cluster of business opportunities that their associates in the community have already identified. Relationships among co-ethnics are likely to be many-sided, rather than specialised, leading community effects to go beyond their informational value, and engendering both codes of conduct and the mechanisms for sanctioning those who violate norms.

Clearly, motivational issues regarding the migration of individuals for whatever reason is a very complex matter. However, there appears today to be intense competition among certain countries to obtain workers who can contribute directly to developing new information systems that will help them to maintain technological superiority in the
global marketplace. The nature of high-skill migration, in particular the role that the infrastructure for research and innovation play in attracting top talent to migrate, introduces a specific dimension to the role of governments, and that is the need to coordinate science and innovation policies with migration policies in order to persuade skilled personnel to migrate. The development of a high-tech and innovative industry is an important magnet for attracting skilled human capital. It therefore stands to reason that the governments of these countries will have passed laws and taken measures to make temporary or permanent immigration easier for the kind of people who will benefit them. After all, one of the primary aims of a target country’s government and its business entities is to maintain sustained economic activity that will enhance their interests. Bearing this in mind, it should be possible to sift through the varied approaches and data discussed above to find some common linkage that would help to explain more fully the recent phenomenon of brain drain and brain gain.

In addition to professional networks, family and partnering issues significantly influence migration. While family relationships have often been discussed in terms of limiting mobility, families make significant contributions to migration in the form of emotional support, encouragement, and assistance with daily life issues. In cases of migrant scientists and engineers whose partners are also employed in the same field, mobility can be triggered because the partners want to spend as little time apart as possible. In addition, the partners serve as moral support to one another in terms of their ability to live and work in a foreign country (Regets, 2007).

There is a scarcity of research that specifically addresses the role of network factors in the migration patterns of Canadian and South African knowledge workers in particular. What is known, however, is that the traditional countries of immigration such as Canada and the US recognise the importance of family ties. Family reunification, thus, becomes a major network factor. For South Africans, family ties are less of a network factor because of their predisposition to family disruptions. This is in part due to the HIV/AIDS epidemic which prompts health fears and subsequent migration (UNAIDS, 2004). Thus, while family ties play a role to some extent in the migration patterns of South Africans, they do not represent as strong a network factor as in Canada.
CHAPTER FOUR
DEMOGRAPHIC FACTORS INFLUENCING MIGRATION PATTERNS OF CANADIAN AND SOUTH AFRICAN KNOWLEDGE WORKERS

4.1 INTRODUCTION

In Chapter Three the network theory as part of the conceptual framework for this dissertation, and more ambiguous network factors, which include cost of travel, the ease of communication and how it relates to migration of Canadian and South African knowledge workers, were discussed. Globalisation has created many opportunities for millions of people around the world, but at the same time it has increased inequality between the haves and have-nots among nations. New technological tools such as the Internet, cellular telephones and multimedia have allowed people to be more connected and search for employment from long distances and beyond national boundaries. This is advantageous for those wishing for better mobility and higher wages.

The previous chapters have discussed why people move. The next question to answer is who moves. Demographics are playing an ever-increasing role in migration. In this chapter demographic factors (specifically age, gender, level of income, and level of education) and their influence on migration patterns of Canadian and South African knowledge workers will be discussed. At the end of the chapter, the relevant theorem will be tested based on the discussion in the chapter.

4.2 DEMOGRAPHICS AND MIGRATION

Research indicates that demographic factors including age, education, geographic proximity, regional inequality, and socialisation differentials prompt people to migrate. Thus, highly-skilled individuals may largely migrate for economic factors; however, other factors may be influential to an equal or greater degree (Ogena & DeJong, 1997).
Voth et al. (1996), who studied the 1980 census data in order to determine the patterns of migration in 653 US counties, found that there were variations according to population characteristics and key qualities of the counties of origin and destination. Age and education were significant factors. Educational attainment was the greatest factor influencing out-migration from rural areas since better educated individuals from these areas could not find jobs suited to their educational background. The presence of a university also influenced both in- and out-migration. Kuska and Gyarfasova (1997), in a survey of 932 Slovak scientists and researchers, found that external migration is motivated by the ability to successfully pursue a scientific career in the chosen country, with particular emphasis on infrastructure and access to current literature.

Consequently, different demographic variables will be put under the magnifying lens. There was a paucity of data regarding specific demographics of Canadian and South African knowledge workers; therefore some general data and literature are also presented and an effort has been made to derive and conclude from secondary data that was collected and analysed in a critical review of the literature.

4.2.1 Age

The tendency for young people in particular to migrate is an international phenomenon (Crush, 2000). Various empirical census data also suggest that age appears to be the single most prevalent factor in driving migratory patterns. Young adults in their 20s have shown, on average, a 12 percent regular migration rate within a country. By age 32, the rate of migration declines to about 8 percent, and sags to about 4 percent by age 47. Among the candidate explanations one can intuitively spot the fact that age is a major factor of human capital deterioration. Moreover, the second most important constraint on migration is the psychic costs that are also a direct function of age. The latter has to do not only with the alleged sentimentality of the elderly, but also with the aspect of specificity of assets, such as community and interpersonal ties as a function of time period in residence. Of course, the age dimension is intimately intertwined with,
and should properly be studied in isolation from, the marital and children statuses which both impose additional constraints on migratory propensity and ability.

South Africa has experienced significant migration across different age groups. The peak age group that has been observed is among young adults aged 18 to 30 years. Data on migration, however, is scarce, and specific reasons for migration intentions can only be speculated. According to results from Statistics SA (2003) Census 2001, it is estimated that there will be a large out-migration of the white population and a continued positive in-migration of the African population. Statistics SA (2003) reported that the number of out-migrants increased from 2002 to 2003 to 49 percent, of which 78 percent were South African citizens. The standard age of the migrants ranged between 25 to 34 years (Statistics SA, 2003).

Crush (2000) found the most skilled age group among South African migrants is between 35 and 49. According to a survey conducted by the Human Sciences Research Council (HSRC), this age group represented 45 percent of the sample. In this sample, the least skilled age group was between the ages of 18 and 24, or 6 percent (Crush, 2000). Older people have a lower emigration potential than younger people because of factors discouraging emigration, such as ownership of fixed property and long-established professional and social networks (Crush, 2000). Kok et al. (2003) pointed out that people between the ages of 15 and 44 years were the most likely to migrate.

The United States is the largest recipient of immigrants (United Nations, 2002). A factor contributing to the increase in migration to the US was the passage of the 1965 Immigration Act, which ended quotas based on national origin. In 1964–69, Canada, Australia and New Zealand admitted more immigrants than the US. However, by 2000–2002, the US admitted more than twice as many immigrants as these countries. In 2000, the 35 million immigrants to the US made up 12.4 percent of the population, an increase of 7.7 percent from 1970. Because most immigrants are of working age, the immigrant proportion of persons aged 25–39 was higher at 19.4 percent. Immigrants made up approximately 50 percent of job growth in the US in the 1990s and added 2.3 million new workers during the slower and more constant job growth of March 2000 to March 2004 (Camarota, 2004).
Russia is the second biggest recipient of immigrants (United Nations, 2002). A key contributing factor was the collapse of the Soviet empire. Afterward, persons of Russian ancestry emigrated to Russia, turning internal migration within the Soviet Union into international migration. Germany was the third largest recipient of immigrants (7.3 million), followed by Ukraine, Saudi Arabia, France, Australia, Canada, India and Pakistan. The number of immigrants to those countries ranged from 4 million to 7 million. The percentage of immigrants in Canada (18 percent) and Australia (23 percent) exceeds the percentage in the US (United Nations, 2002). In line with these figures, it can be noted – according to the HSBC Bank International Annual Expat Explorer Survey (2011) - that Canada is rated the “friendliest” country to emigrate to (interestingly South Africa is third on the list). Because the afore-mentioned type of immigrants is usually young working-age persons, immigration reduces the average age of the population in countries that receive immigrants. While some believe that immigration can solve problems of funding retirement and pensions in developed countries, others believe differently. Younger immigrants eventually grow old, and many have children who require social expenditures for health and education (Freeman, 2006). According to Freeman (2006), resolving the problem of aging populations would require immigration at much higher rates than current rates.

4.2.2 Gender

According to Sinclair (2000), the number of female migrants is actually larger than recorded and instances of female immigration have risen. Sinclair argued that the low rate of recorded immigrations for females is because of the tendency to emphasise the invisibility of female migrants in statistics on international migration and to ignore gender as a factor for immigration in recorded demographic information. Sinclair noted that females are often considered secondary migrants who accompany their spouses and are thus not often counted as migrants. Kok et al. (2003), however, disagreed, indicating that worldwide most migrants are men, and female migrants are far smaller in number.

because of their gender. Such discrimination may begin during the immigration process, when men are typically listed as heads of households (i.e. principal applicants), even though the household may be headed jointly or by the woman. Women’s designation as “dependents” ignores their role in the labour market. For example, Worsick’s (1999) study found that wives tended to work longer hours to support their families because immigrant families are unable to borrow money in the first years after arriving in Canada, even when their husbands are working full-time. Female immigrants may also experience employment discrimination if they seek occupations that are non-traditional for women in Canada but are typical for women in their country of origin (Weiner, 2008).

In Andres and Licker’s (2005) study of intra- and extra-provincial migration patterns in British Columbia of young adults over 10 years, gender was a key variable. The researchers found that urban regions experienced higher levels of immigration than emigration, resulting in population gains. For example, Vancouver had a 122 percent gain in the number of males and a 102 percent gain in females. Other parts of the Greater Vancouver Regional District (GVRD) and the Camosun region had gains or slight losses with few gender differences. Geographic mobility by region of origin varied widely by gender and showed several distinct trends. An index of mobility that tabulated the mean number of all moves that individuals took to arrive at their current location of residence was used. This index was broken down by region and gender. Moves were measured at the intercommunity level and not within the community. The number of moves ranged from 0 to 22. Males from the Northern Lights region were the most mobile group, moving an average of 8.7 times in 10 years while females from the same region moved an average of 4.4 times. For all but two regions (Malaspina and Douglas), men were equally or more mobile than women. By comparing the geographic mobility by gender, it was found that in the north, central, and south eastern portion of the province higher proportions of women than men have degrees. Along the coast, and in the north, higher proportions of men than women have degrees. Andres and Licker (2005) suggested that this could be interpreted as two kinds of geographic flows, with men with degrees migrating to Vancouver and the coast and women with degrees migrating to north, central, and the south-east part of the province. While this study is restricted to provinces
within Canada, it is illustrative of gender trends in migration and could be generalised to other regions in North America.

Andres and Licker’s (2005) study, however, would have little relevance to African and South African women, as their migration patterns are very different. Reynolds (2006) offered an explanation of the reasons why some African professional women make decisions to immigrate based on interviews with African professionals from Cameroon, Ghana, Kenya and Senegal. These women represented upper-echelon of women from highly educated wealthy and influential families who have found that cultural expectations for financial contributions and the financial management of their households are difficult to fulfil under changing economic systems in states like Nigeria. Specifically, these women were faced with the following cultural barriers to using their education to make financial contributions to their families: (a) inability to open bank accounts or have any personal privacy in managing their own money at the level of commerce despite the law allowing them to do so, (b) culturally proscribed roles in the household, which usually involve spending their income on daily consumable items like food and tuition but not managing the overall savings and investments, and (c) inability to earn enough in their home countries to meet financial obligations as a result of structural adjustments and ill-founded attempts to stabilise national currencies. As a result of these barriers adequately supporting a household is difficult. Thus, many women choose to gain control of their money and earnings to meet their household obligations by migrating to places like Canada, Great Britain, or the US, countries where there are legal and social systems in place for women to guarantee their rights of privacy, their right to financial privacy, control of their own earnings, and ability to use earnings to support children. Specific data on the extent to which female South African knowledge workers have more control of their finances and earnings is not readily available.

4.2.3 Income

According to Mayda (2005), economic conditions in recipient countries had a stronger influence on immigration flows in the 1980s and 1990s than conditions in source
countries; that is, a strong economy in recipient countries was more likely to attract immigrants than a weak economy in their home countries (also see Pull Factors – 2.3.2). Thus, economic factors also were underlying reasons for high levels of illegal immigration, which led to the growth of a multi-billion dollar underground industry that transports more than four million people across borders annually worldwide. Approximately seven million illegal immigrants worked in the US in 2005 (Ibarraran & Lubotsky, 2005).

Economic factors also accounted for legal immigration of Canadians to the US. In 1995 approximately 1.5 percent of young persons who graduated from the higher education institutions in Canada in 1995 moved to the US (Statistics Canada, 2000). In addition, Statistics Canada (2000) indicated that over a five-year stay period 7 out of 10 immigrants stayed in the US, with only 3 of 10 intending to return to Canada at some point in the future. Profound changes occurring in Canada’s healthcare system at that time affected the Canadian labour market.

In South Africa, negative or low economic growth, population growth and high unemployment rates, combined with unequal income distribution and environmental pressures are some of the factors that drive international labour migration (Nyberg-Sorensen (2002). However, Mattes et al. (2000) pointed out that the majority of immigrants from South Africa had full-time employment at home before they left. This suggests that while South Africans may immigrate out of their home countries for better job opportunities, other non-income-related factors such as political and a high crime rate may have motivated migration (also see Push Factors – 2.3.1).

Studies in migration can thus be viewed as an important part of what is called the modern economic geography of looking into the underlying principles of the allocation of productive resources, including the historical emergence of urban and rural centres. Migration from rural areas to urban locations and back, or the so-called circular migration, is another important and generally underestimated source of demographic information. Whereas the common approach has been to study permanent switch of residence from rural areas to urban centres (especially exhibited by the migratory flows originating from low-income locations) for a whole family, one profitable way of looking at the actual relocation patterns would be to study mixed strategies, whereby part of the
family shifts permanently to the city, with the remaining part residing in the rural locus of origin. While the migrant will tend to support the rural half upon finding a job, the rural dwellers would tend to help in the transition period while the migrant is unemployed (Bommes & Morawska, 2005).

**Distance** contributes to the cost of migration in two major ways. For one thing, it is easier and less costly acquiring information on employment opportunities closer to home or in adjacent regions. Networking ties also tend to deteriorate with geographic distance. For another, the transportation cost is also a function of distance, which thus affects the psychic costs of not meeting with family and friends for a long period of time. However, several important caveats are due here to highlight the important dimensions of migration oftentimes overlooked by literature and more importantly by the conventional census/survey practices (De Haas, 2008).

Higher quality of **transportation** could be studied, at least formally, as a proxy for lower distance. Better commuting possibilities are one realisation of such a solution to the distance problem, whereby the circular migration could be analysed as regularly occurring, oscillatory pattern on a lowest (marginal) level qualifying it as migration. More importantly, this dimension of transportation quality and/or distance now allow us to split the two dimensions of migration, whereby the employment or occupational mobility need no longer be viewed as complimentary to residential decision, and these two aspects of choice are thus not synchronous as they used to be. One tentative prediction could be inferred based on the above and would read as follows: The higher the distance and the lower the quality of transportation, the more likely migration would be permanent if at all. Otherwise, it might well be oscillatory or circular, thus affording better opportunities for both the factors and the recipient regions without actually affecting the latter demographic structures.

Another dimension of the distance factor amounts to measuring distance other than geographic. People have exhibited a tendency to migrate in directions where their **friends or relatives have previously moved**. That could be viewed as pertinent to the previously mentioned psychic costs, largely derivative of personal (micro-level) or cultural (higher-level) complementarities. Such complementarities do impose constraints on the maximum allowed distance in the broader, non-geographic sense, and may well
account for the role of interpersonal and cultural causes possibly affecting spatial mobility. On the other hand, it might also suggest some interesting implications concerning the clustering and concentration of human resources and factors of production at large, while at the same time rendering the purely geographic distance per se of secondary importance.

All of the determinants mentioned thus far are primarily related to domestic migration. Although they do carry over on an international level, global mobility has been subject to many additional and heterogeneous constraints, and moreover has exhibited highly specific dimensions of its own. Thus, the relative distribution of earnings between the sending and the recipient regions allow us to predict what skills will be most rewarded, likely employed, and thus reveal the most mobility expected. For instance, some countries with more sophisticated social safety nets will tend to exhibit more compressed earnings gap between the skilled and unskilled labour, unlike in the US where the educational differentials are more pronounced. The skilled and highly educated labour in these countries will therefore face higher incentives to migrate to the US where their differentiation actually provides them with a competitive edge. Moreover, since the US economy represents a full-blown scope of sectors, it also suggests better, in average or expected terms, employment to all parameters of human capital. However, while migrants from the economically advanced regions with more compressed social security will tend to be positively selected with respect to skill, as only their higher-skill labour will have a material incentive to emigrate, the less-developed regions will provide all of its labour stock with significant incentive to seek better employment, in relative terms, their labour will be adversely selected with respect to skill. Therefore, as a model example, the US economy will receive disproportionately unskilled labour from countries with less equal earnings distributions.

Bommes and Morawska (2005) suggested some findings on patterns and consequences of internal migration. Although these observations were originally proposed for the lower-income or less developed economies, they could, all else equal, apply as well to the less developed regions in the otherwise advanced countries and could be used in projecting the effect of social stratification on the patterns of mobility. Evidently, basic trends tend to second those in the advanced societies, in that the majority
of migrants are young adults in their 20s to 30s, and educated rural inhabitants have a higher probability of migrating even though, the proportion of rural dwellers with education is rather low. Although the wage differentials do matter the most when it comes to migrating decisions, we do not have enough evidence for the underdeveloped economies and their labour markets of actually offering high probabilities of employment in the first place. One alternate explanation, according to the Harris-Todaro model, would be to expect people to move from rural areas to urban centres in order to try to find a job. In contrast, tax incentives have not been found to significantly affect the migration decisions, which might imply that individuals are more sensitive to the employment probabilities than to residual ratios as applied to their disposable incomes. Sensitivity to infrastructural factors, such as availability of better schooling, clean water, or health security, has remained largely unobserved or overlooked for the less developed societies. Property rights issue has been found to be significant with respect to the basic rights affecting political freedoms and criminal situation.

Migration to better places to secure a superior economic or otherwise status has been historically viewed as a natural and ongoing activity for rational individuals. There are key determinants, however, which can account for greater mobility of certain groups of individuals. Higher quality (better-educated) human capital would be expected to exhibit a greater mobility, because of a broader range of employment alternatives. On the other hand, higher propensity to move will also be explained by greater differential in the initial employment quality and that expected at the destination. The latter will most profitably be judged based on the net rate of job creation, rather than by the conventional static unemployment rate benchmark. Therefore, other things being equal, the poorer and less educated labour force will exhibit a greater incentive to move, but that is not tantamount to actual ability to relocate. If mobility is associated with the cost of information and otherwise capability of coping with constraints, then it is the representatives of the upper strata for whom relocation will be most feasible. Among other key factors are age and distance. The older members tend to exhibit higher psychic costs and either stay put or migrate locally.

Another area which has received recent attention in attempting to more fully understand the brain-drain phenomenon is the impact that remittances have on the entire
spectrum of modern international labour mobility. Remittances are transfers of money by foreign workers back to their home countries (Ozden & Schiff, 2006). This transfer of funds between individuals represents an increasingly significant flow of capital in the developing global economy. The sending of remittances by migrants has been studied at length in the literature on migration, but one that recently has engendered renewed policy attention. As estimates of global remittances by migrants rise to a level that is on par with global development assistance and foreign direct investment in the developing world, it is not surprising that the phenomenon is of interest to policy-makers in all countries (Ozden & Schiff, 2006).

Money sent home by migrants makes up the second largest financial inflow to many developing countries, exceeding international aid. As one of the most important destinations of world immigration, the United States has emerged as the single largest source of reported remittances. Indeed, the opportunity to send remittances home is one of the important motivations for immigration. Remittances sent from the United States grew six fold from $4.1 billion in 1981 to $25.5 billion in 2003, when they accounted for about one-third of measured global remittances. Although remittances are very small relative to the US economy, about 0.2 percent of gross domestic product, they are now larger than the US official development assistance (Rapoport & Docquier, 2005).

There is now a substantial economic literature that considers the reasons why migrants send money home, and which seeks to model remittance behaviour in order to predict when remittances will increase. Evidence has been produced to support differing theoretical explanations of remittance behaviour, including "altruism," which suggests that remittances rise when the economic needs of families back home increase (Ozden & Schiff, 2006), the notion of "exchange," which suggests that migrants are effectively paying back family and relatives for investments in the education or travel of the migrant, and the idea of "co-insurance," where both migrant and family provide monetary and in-kind transfers to ensure the other against temporary "shocks" (Lucas & Stark, 1985). More broadly, it is possible to say with some confidence that remittances are likely to be higher in situations where the migrant leaves broadly for economic rather than political or social reasons, where they have temporary rather than permanent resident status, where they are young, but married with family left behind at home, and that remittances will
increase as emigrant wages increase although at a certain point, further increases in wage levels do not seem to translate into higher remittances (Ozden & Schiff, 2006). However, these understandings do not necessarily provide clear policy signals, particularly for governments of sending countries who are likely to have relatively little influence over who migrates.

Remittances have thus become a significant source of funds for some of the developing countries that receive them. Remittances from the US are sent largely by low income migrants to help finance their families’ living expenses at home, but remittances by better paid knowledge workers are also likely to play a prominent role in motivating their behaviour both before and after their decision to migrate abroad. Moreover, some recipients use remittances for investment purposes, contributing to development in at least some of the countries that send migrants to the US. Policies that affect migration to the US are thus also likely to affect remittance flows and the economies of recipient countries.

Kapur and McHale (2006: 311) described the Diaspora effect, which is the role that emigrants can continue to play in developing of their former home countries through connections among each other and with fellow nationals who remain in their home countries. Under the right conditions, Diaspora communities can be a source of trade, investment, remittances and knowledge. They can also play a critical role as “reputational intermediaries” to match potential trade partners in their present and former homes and using their reputations to connect these partners. For example, Rauch and Trindade (2002) found that immigrants to Canada increase imports from their home country by 3 percent and exports by 1 percent.

Like other categories of migrants, knowledge workers mostly move in response to economic opportunities abroad that are better than those available at home as well as in response to the migration policies in destination countries (Mayda, 2005). Other factors, however, also play a role in the decision of the highly skilled to migrate and in their choice of destination and include intellectual pursuits, be it education, research or language training. In the case of researchers and academics, the conditions in the host country regarding support for research and demand for R&D staff and academics can be an important determinant in the migration decision and destination. Among the
entrepreneurially-minded, the climate for innovation generally, and for business start-ups and self-employment in particular, may play an important role in the decision of the highly skilled to move abroad (Mayda, 2005).

4.2.4 Education

Education could also be regarded as by far the better predictor of who will likely move within a certain age group, other things being equal. Level of education might reveal or signal lower specificity of the individual as human capital, which opens up wider and better opportunities for employment across segments as well as geographically (Beine et al., 2006).

There is a wide range of educational levels and occupational attainment of immigrants among receiving countries and source countries when compared to natives. Many US immigrants (particularly those from Mexico) have less than a high school education; some have advanced degrees. In other countries immigrants are disproportionately highly skilled, as in Australia, where immigrants are twice as likely to have university degrees as natives. Sixty percent of immigrants to the UK are professionals (Freeman, 2006).

Once persons emigrate from their home country to another country, they often acquire more education. Data from the United Nations (2004) show that immigrants average 12.9 years of years of schooling compared to an average of 5.7 years of schooling in the countries from which they come. However, obtaining additional education in the receiving country may also depend on the educational composition and social conditions of particular immigrant flows. For instance, Ramos (1992) and Castillo-Freeman and Freeman (1992) found that migrants from Puerto Rico to the US consisted disproportionately of less-educated workers, who had greater chances of employment at higher earnings on the mainland than on the island. Because Puerto Rico is a US territory, migrants have easy access to the US. Ibarraran and Lubotsky’s (2005) analysis of the 2000 Mexican Census shows that recent migrants from Mexico to the US tend to be less educated than non-migrants. For these migrants shorter distances provide easier access to the US. Thus, they often do not desire to increase their educational level.
because they often go back and forth between their home countries and the US and are not permanent residents of the US.

Many immigrants with less than high school education are from Mexico and El Salvador, who often enter the US illegally. In 2000, about 8 percent of the Mexican-born population was living in the US and 30 percent of Mexicans with formal sector jobs worked in the US (International Organization for Migration, 2005:196). According to the International Labour Organization (2004), there are approximately 20 to 30 million illegal immigrants worldwide or about 10 to 15 percent of the number of immigrants worldwide.

Toronto leads Canada in terms of the level of education of immigrants. Seventy-three percent of working-age immigrants have university degrees, a percentage that is higher than in any other major metropolitan area except Ottawa-Gatineau, where the proportion is 74 percent. Montreal and Vancouver both have 67 percent (Statistics Canada 2006a:38). The educational level of recent immigrants throughout the country is higher than that of native Canadians. At least 90 percent of skilled applicants have a university degree (as to 68 percent of their female dependents), while only 43 percent of the Canadian-born population are as highly educated (Statistics Canada, 2006a). The more recent higher proportions of immigrants with higher levels of education can be attributed to changes in Canadian immigration policy in the 1970s (Weiner, 2008).

Crush (2002) found that recent immigrants, particularly those from South Africa, have higher expectations than their predecessors. Those with higher educational levels are less likely to believe that the purpose of immigration is to benefit their children. Thus, knowledge workers from South African come with human capital they do not want to waste.

Andres and Licker (2005) examined intra- and extra-provincial migration patterns in British Columbia (BC) of young adults over 10 years to determine the extent to which educational attainment is an influential factor. In their study educational attainment was operationally defined as non-university completion (i.e., non-participation in the post-secondary system, non-university completion, or non-completion of university studies) or completion of a bachelor’s degree or higher. Andres and Licker used longitudinal data from the Paths on Life’s Way Project of British Columbia young adults, the only
longitudinal study of its kind in British Columbia and one of the few longitudinal studies of young adults in Canada. The sample for this longitudinal study was 1,046 high school graduates of British Columbia schools in the class of 1998. The study details participants’ lives, choices, and post-secondary education and work experiences across different points in time since high school graduation in relation to changing economic, social and cultural conditions.

Andres and Licker (2005) focused on patterns relative to college region of origin, post-secondary educational completion patterns, and gender (see 4.2.2). The researchers found that the sample participants were highly educated; 99 percent had earned a bachelor’s degree. They also found that respondents lived in 35 different locations — within BC, in other parts of Canada, in the US, and other countries around the world.

As noted previously, Andres and Licker’s (2005) study was focused on migration within Canada. Other researchers have focused on migration from Africa to Canada and other countries. African governments and the African Union have attempted to reduce the high rate of trained professionals leaving Africa. This loss of human capital has created a crisis on a continent that already suffers from a lack of development. Since becoming independent, African governments have invested in education to produce skilled workers and professionals who can provide essential services and build the nation. However, limited access to higher education and lack of quality education in Africa have resulted in students seeking education in countries with the best universities, such as France, Germany, the UK and the US (Mattes et al., 2000). The African government anticipates that these students will return when they finish their degrees; however, many decide to stay permanently in the West because returning home may mean being unemployed, and they can easily find jobs with higher salaries and better working conditions. According to Adepoju (2006), 35 percent of African professionals sent abroad for training between 1982 and 1997 did not return to Africa. Furthermore, many graduates of African universities cannot find jobs in their countries because of low rates of economic growth. Africa’s aggregate gross domestic product (GDP) increase was 3.2 percent in 1998, down from 5.5 percent in 1996. There are not jobs created relative to the number of university graduates (African Development Bank Group, 1999). Adepoju (2006) noted that the high rates of unemployment and underemployment for university
graduates has resulted in a wave of migration of knowledge workers to Europe and North America. When asked their main reasons for leaving, Africans are likely to cite career development opportunities, developing professional qualifications, better working conditions, opportunities to use skills developed and better security and socio-economic conditions.

Attrition of teaching staff in African universities is high because funding of higher education in the form of faculty research and staff development does not support quality education. Physical plant conditions are not conducive to quality education. Facilities are deteriorating and laboratory equipment is outdated. The implementation of the International Monetary Fund structural adjustment programs in the 1980s resulted in reduced public expenditures. Devaluation of currency added to the problem. Educators could not obtain funds to buy new equipment and books or travel abroad to study or attend professional conferences for new learning and to exchange ideas with colleagues from other countries. Furthermore, low salaries have forced some professors to take second jobs to support their families or to go overseas for better wages and working conditions (Findlay & Lovell, 2001).

During the 1970s and 1980s, the emergence of repressive regimes and human rights abuses contributed to the exodus of knowledge workers such as academics from South Africa to Canada and the US. Many governments are autocratic; professors and others who speak out against the government are often harassed, dismissed from their jobs, jailed or executed. Violent power struggles and ethnic conflicts also have caused academics to leave. Between 1960 and 1990 it is estimated that 7 million people lost their lives in Africa due to political and ethnic violence. During the 1990s, the number of wars and political strife doubled in Africa and included countries such as Algeria, Burundi, Democratic Republic of the Congo (DRC), Egypt, Eritrea, Ethiopia, Guinea, Ivory Coast, Liberia, Nigeria, Rwanda, Sierra Leone, Somalia, Sudan and Uganda. Such strife resulted in large population displacements and forced migration. Refugees fled to neighbouring countries or left the region altogether. Africa has the largest number of refugees compared to other world regions. Another example is Sudan, which has had the longest civil war in Africa, and lost many of its highly educated knowledge workers over the decades. It is estimated that in the last two decades, 45 percent of surveyors, 30
percent of engineers, 20 percent of university professors, and 17 percent of doctors and dentists have left the country (Mattes & Mniki, 2007).

The situation is much the same in Zimbabwe. Lack of opportunity in the knowledge workers’ home country and better opportunities in other countries leads to a significant “brain drain” of key professionals (Beine et al., 2006; Saravia & Miranda, 2004) such as engineers and information technologists (Skeldon, 2008) and doctors and nurses (Bach, 2006). These professionals are sometimes replaced by high-cost expatriate professionals, who are prepared to work in a host country for only a limited time. Hiring these expensive professionals in place of scarce locally trained professionals makes sustainable economic development even more difficult to achieve. Estimates are that African countries spend nearly $4 billion annually on replacing the professionals lost through migration with expatriates from the West. In Zimbabwe, the increase in the scale of migration of skilled professionals can partly be linked to the adoption of the Economic Structural Adjustment Programme (ESAP) by the government in the early 1990s (Crush & Frayne, 2007). It was widely acknowledged that this programme was a failure. The standard of living of skilled professionals fell because salaries and benefits could not keep pace with the escalating cost of living. Thus, most professionals chose to migrate out of the country (Crush & Frayne, 2007).

Few would argue against the premise that the emigration of highly educated and technologically skilled people to knowledge-based economies has been on the increase for several years and has accelerated during the 21st century. This can be seen in recent migration statistics of source countries, such as Canada and South Africa, and target countries like the United States and Britain. Today, more than ever before, there appears to be intense competition among the target countries to obtain workers who can contribute directly to developing new information systems that will help them to maintain technological superiority in the global market place (Britz et al., 2006). It is logical, therefore, that the governments of these countries will have passed laws and taken measures to make temporary or permanent immigration easier for the kind of people who will benefit them, as one of the primary aims of a target country’s government and its business entities is to maintain sustained economic activity that will enhance their interests (Gera et al., 2004).
4.2.4.1 Education and Immigration Policies

The policy objectives regarding immigration of highly skilled workers in most developed countries are threefold: (a) to respond to market shortages, (b) to increase the stock of human capital and (c) to encourage the circulation of the knowledge embodied in highly skilled workers and promote innovation. Regarding the first two objectives, migration policies in receiving countries increasingly focus on the development of temporary migration schemes based on skills and competence criteria combined with greater selectivity in general migration policy. This is the case in traditional immigration countries such as Australia, Canada and the US which have developed specific policies to promote the permanent residence of highly qualified individuals and the temporary migration of specialists and business personnel. Most European countries, moreover, are focusing on fostering the temporary residence of both skilled workers and students (Gera et al., 2004).

The nature of high-skill migration, in particular the role that the infra-structure for research and innovation play in attracting top talent to migrate, introduces another dimension to the role of governments. Receiving countries need to co-ordinate science and innovation policies with migration policies in order to enhance the attractiveness of receiving countries. Sending countries need to develop an adequate scientific, technological and business environment that will provide rewarding opportunities for the return of individuals who have upgraded their skills abroad or which will serve to persuade such skilled personnel to stay in their home countries (Britz et al., 2006).

The development of a high-tech and innovative industry is also an important magnet for attracting skilled human capital. More specifically, developing centres of excellence for scientific research and framing the conditions under which technological innovation and entrepreneurship may expand are important for making a country attractive to highly skilled workers, both native-born and from abroad. Therefore, the entire range of policies aimed at encouraging innovation has an indirect but powerful effect on the incentives for these workers to come to the labour market of the concerned country. Such policies include fostering entrepreneurship, mechanisms influencing the
allocation of capital, training and education, public research and its links with business (Chiswick & Miller, 2009).

Recruiting countries also appear to be increasingly seeking to attract specialised foreign students, particularly in the field of science and technology, and to facilitate their access to the labour market. Foreign students are being recruited not only because the tuition fees paid generate a direct financial benefit to the universities concerned, but also because they provide a potential reserve of highly qualified labour that is familiar with the prevailing labour rules and living conditions in the host country. Upon graduation, many of these students remain in their host country. Data from the United States show, on average, 47 percent of foreign-born Ph.D. graduates remain in the United States. In addition, nearly 25 per cent of immigrants on H1B temporary visas in 1999 were initially students enrolled at US universities (IOM, 2005).

This discussion on the role of demographics (specifically age, gender, level of income and level of education) in migration patterns of Canadian and South African knowledge workers will now put to the test regarding the relevant theorem (see 4.3).

4.3 TESTING OF THEOREM

5. The influence of demographics such as age, gender, income and level of education on migration patterns differs for Canadians (knowledge workers) than for South Africans (knowledge workers)

- Immigrants to countries such as the US and Canada tend to be between the ages of 25-39 (Camarota, 2004). The peak age group that has been observed for South African migrants is among young adults aged 18 to 30 years (Statistics SA, 2003).
- The reasons men migrate have not been studied in terms of gender in particular; those reasons (i.e. lack of jobs in the country of origin, better salaries, benefits, and opportunities for economic mobility in the receiving country) can be inferred in the available research. African professional women migrate because of cultural expectations for financial contributions and the financial management of their households are difficult to fulfil under changing economic systems. In addition,
women in Africa are prohibited from opening bank accounts, are not expected to manage overall savings and investments, and often cannot earn enough to meet financial obligations. Canadian women’s reasons for migrating are not based on cultural expectations; rather, according to Andres and Licker (2005), they migrate to the north, central, and south eastern portion of British Columbia because they find more opportunities to find employment where they can utilise their degrees. Men with degrees tend to migrate to Vancouver.

- The literature about differences in migration patterns of Canadian knowledge workers compared to South African knowledge workers in terms of income is scarce. What has been found is that, in general, people migrate because of economic conditions in their home countries (Mayda, 2005), they migrate either to urban or rural centres for employment (Andres & Licker, 2005; Bommes & Morawska, 2005; Crush, 2002), or to where their friends or relatives have previously moved (IOM, 2005).

- South Africans migrate because of lack of access to high quality education in Africa. Migrants seek education in countries with the best universities, such as France, Germany, the UK and the US (Britz et al., 2006; Chiswick & Miller, 2009). African governments anticipate that these students will return when they finish their degrees; however, many decide to stay permanently in the West because returning home may mean being unemployed. Canadians, who are generally better educated than South Africans, migrate because they see more opportunity to obtain better education specifically in technology and information systems (Adepoju, 2006).

Based on these factors, theorem 5 is supported; migration patterns by age, gender, and education differ for Canadians than for South Africans. Migration patterns by income are inconclusive (see also Table 7 in Chapter 5).
4.4 CONCLUSION

Quantitative evidence of the migration of knowledge workers across countries, particularly knowledge workers in Canada and South Africa, is scarce. National authorities have maintained very limited databases on migration. The databases that are in existence have inconsistent skill or education categories. Furthermore, there is a lack of data on the attributes of the individual migrants and the changing nature of migration. The relationship between education and migration has changed over time. For example, students who migrate to complete degrees and remain in the receiving country make up a significant component of skilled migration (Adepoju, 2006; Commander et al., 2004).

Another factor of mobility is associated with the growth and spread of multinationals. For example, in the mid-1990s, intra-company transferees accounted for 5 to 10 percent of the total flows of skilled workers from Canada to the United States (Statistics Canada, 2006b). Not all skilled migrants move in response to demand or in pursuit of educational, economic or intellectual opportunities. Often, especially in developing countries, the most skilled individuals leave their homeland involuntarily, as a result of war, economic collapse, or political and religious persecution (Morawska, 1999). Indeed, skilled migrants are often found among refugees and asylum seekers. The wars in former Yugoslavia, civil strife in Southern Africa, and two-decades of conflict in Afghanistan, have led to an exodus of the youngest and brightest, with few opportunities for those who have remained at home (Skeldon, 2008).

Comparisons of the growth of countries with differing levels of migration (Beine et al., 2003) partially support the view that some level of emigration can benefit the home country, but the evidence is limited (Commander et al., 2004). Furthermore, research on specific demographic factors for migration and reasons for benefits of migration for both the home and receiving countries is extremely limited. The impact of the brain drain in terms of demographics needs further analysis from a more global perspective.

In Chapter 5, conclusive remarks will be made and recommendations, originated from the main findings, will be put to the fore.
CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter One the problem of both brain drain and brain gain in Canada and South Africa was introduced. Evidence that there is an emerging trend towards brain drain of Canadians to the US under TN-NAFTA and H-1B visas (Docquier & Marfouk cited in Ozden & Schiff, 2006:202) and the departure of over 20 000 skilled Africans from Africa each year since 1990 (Akokpari, 2006) was presented. The literature on migration attributed the motivation for moving and the choice of destination country primarily in terms of traditional push and pull factors. The essence of the general objective of the research was to determine the factors of influence regarding the brain gain-brain drain phenomenon occurring within two countries: Canada and South Africa. The specific objectives of the study were also stated as follows:

- To investigate push and pull factors that influence the migration pattern of Canadian knowledge workers
- To investigate push and pull factors that influence the migration pattern of South African knowledge workers
- To analyse whether network factors influence migration patterns of Canadian knowledge workers
- To analyse whether network factors influence migration patterns of South African knowledge workers
- To explore the extent to which demographics such as age, gender, income and level of education determine migration patterns (of knowledge workers) for Canadians and South Africans
- To recommend strategies for both Canada and South Africa to maintain a balance between brain drain and brain gain that will help maintain success in innovation, economic growth and prosperity
In accordance with the specific objectives of the study, the following theorems were formulated:

1. The predominant push-pull factors influencing migration of Canadian knowledge workers are economic factors.
2. The predominant push-pull factors influencing migration of South African knowledge workers are economic factors.
3. Network factors influence Canadian migration (of knowledge workers) to a lesser extent than South African migration (of knowledge workers).
4. Network factors influence South African migration (of knowledge workers) to a greater extent.
5. The influence of demographics such as age, gender, income and level of education on migration patterns differs for Canadians (knowledge workers) than for South Africans (knowledge workers).

In Chapter Two the push-pull model relative to migration of Canadian and South African knowledge workers was discussed. Theoretical models for the explanation of migration patterns were briefly presented, and it was noted that the network theory will compliment the conceptual framework for this dissertation. In Chapter Three the network theory as part of the conceptual framework for this dissertation, and more ambiguous network factors, which include cost of travel, the ease of communication and how it relates to migration of Canadian and South African knowledge workers, were discussed. Chapter Four discussed demographic factors and their influence on migration patterns of Canadian and South African knowledge workers. Research indicates that in addition to economic factors, demographic factors, including age, education, geographic proximity, regional inequality and socialisation differentials prompt people to migrate.

This chapter combines the prior chapters into a unified whole, summarising the research and discussing the data that have been presented, drawing conclusions from the data analysis and literature review, identifying issues, and providing recommendations from the findings. This chapter will also present nine case studies as an inductive empirical illustration and to verify the secondary data (literature review) to some extent.
Recommendations focus on suggestions for future investigative studies of a similar nature and on areas of concern brought to light from the findings of this study.

5.2 PUSH-PULL FACTORS

Researchers have analysed motivations to migration in terms of push and pull factors. The push-pull theory of migration posits that people migrate due to push factors that drive people to leave home and pull factors that attract them to a new location (Oberoi & Lin, 2006). Ravenstein (1889), an early scholar of migration and a widely regarded migration theorist, concluded that most migration is driven by choice, or, in his term, desire. He also characterised the push-pull process as one whereby unfavourable conditions in one place "push" people out and favourable conditions in an external location "pull" them out (Ulla & Panday, 2008). Ravenstein also concluded that the volume of migration decreases as distance increases, migration occurs in stages instead of one long move, population movements are bilateral and migration differentials (e.g. gender, social class and age) influence a person's mobility.

Other theories on migration that have been proposed include human capital, neo-classical economic, segmented (dual) labour market, world system, institutional, new household economics of migration and cumulative causation. Human capital theory predicts that migration will direct resources away from areas with relatively poorer earning possibilities (in the case of this study, South Africa) and into regions affording superior employment opportunities (i.e. Canada) (Chiswick & Miller, 2009). Neoclassical economic theory suggests that international migration is related to the global supply and demand for labour. Nations with scarce labour supply and high demand (in this case, Canada) will have high wages that pull immigrants in from nations with a surplus of labour (i.e. South Africa) (Li, 2003). According to segmented (dual) labour-market theory, developed economies are dualistic: they have a primary market of secure, well-remunerated work and a secondary market of low-wage work. As such, they require a certain level of immigration. As a result, immigrants (i.e. South African) are recruited to fill these jobs that are necessary for the overall economy to function but are avoided by the native-born population (i.e. Canadians) because of the poor working
conditions associated with the secondary labour market (Massey et al., 2005). The premise of the world-systems theory is that international migration is a by-product of global capitalism, with individuals migrating from poorer nations (South Africa) to core, or richer, nations (Canada) (Massey et al., 1993). According to the institutional theory, once migration begins it may be encouraged by institutions and organisations that develop precisely to facilitate (and profit from) the continued flow of immigrants (Massey et al., 1994). New household economics of migration theory posits that decisions about migration are often made in the context of what is best for an entire family or household (Massey et al., 1993). Cumulative causation theory recognises that migration has an economic impact on the social environments in both the sending and receiving regions. In the sending countries, remittances increase the income levels of migrants’ families relative to others in the community and may motivate other households to emigrate. In addition, a culture of migration may develop, as certain occupational sectors in receiving countries may be perceived as “immigrant jobs” (Massey et al., 1993).

These theories reflect the reality that there are a variety of reasons why labour migration may occur. While economic forces often are an impetus for migration and people tend to move to places where the standards of living are better, economics is but one factor (Docquier & Rapoport, 2007). There are other factors that influence migration patterns, such as the role of nation states, geographical proximity, institutions, social networks, and cultural and historical factors (Docquier & Rapoport, 2007). The choices made by first-time migrants or labour-recruiting employers tend to influence on subsequent migration patterns. Ozden and Schiff (2006) argued that migration facilitates the flow of information back from the place of destination to the home country, which, in turn, eases migration for later migrants. Waldorf (1998) indicated that settled migrants function as advance persons who become familiar with their new environment and obtain and convey information to others in their home country, thereby reducing the risks and material and psychological costs of subsequent migration. With assistance of friends and relatives who are settled into the new location, new migrants may be more easily able to find employment, a place to live, or a marriage partner. Therefore, the establishment of a
migrant community at a particular destination increases the likelihood of subsequent migration to that destination.

5.2.1 Push and Pull Factors and Migration of Canadian Knowledge Workers

Some researchers (Hansen-Kuhn, 1998; Kesselman, 2001; Meckbach, 1999) believe that in the late 1990s the strong economic expansion of the US was a pull factor for Canadians, while push factors included cutbacks in several key areas in Canada and poor-performance in certain private sector areas and the enactment of NAFTA. Statistics Canada (2000) reported that about 1.5 percent of young persons who graduated from the higher education institutions in Canada in 1995 moved to the US; Ph.D. migrants represented the highest percentage (12 percent). Economic reasons (57 percent) and relocating for educational (23 percent) and marriage purposes (17 percent) were the strongest pull factors (Statistics Canada, 2000).

In spite of these statistics, Statistics Canada (2000) reported that the rate of overall Canadian emigration to the US was lower than it had been in 40 years. During the 1990s, the average annual number of overall emigrants to the United States from Canada was somewhere in the range from 22,000 to 35,000, which represented only one percent of the Canadian population. In addition, for every three Canadians who migrate to the US, only one American moves to Canada. Experts have a number of explanations for these push factors accounting for this three-to-one ratio, such as the US’s ability to entice talent from Canada (Sheppard, 2001), people in the knowledge industries are discouraged from staying in Canada because of the Canadian social, tax and corporate environments (Piper, 1996), and knowledge industry workers are better paid in the US (Statistics Canada, 2000).

5.2.2. Push and Pull Factors and Migration of South African Knowledge Workers

The push factors motivating highly skilled Africans to leave include job scarcity, low wages, crime, armed conflicts, political repression and poor educational systems. The pull factors to other countries include higher salaries, greater mobility, less
bureaucratic control, safety of environment and a higher standard of living (Gubert & Norman, 2008). Thus, South African (and African) professional out-migration is strongly associated with disparities between the sending and receiving countries in two areas: living conditions and employment opportunities. Mattes and Richmond (2002) found that the predominant push factors for emigration of South African skilled individuals were cost of living, taxes, personal and family safety, and availability of jobs and job security. In South Africa, the abundance of crime is a main reason for the emigration of many of its knowledge workers. Structural Adjustment Programmes are another push factor. In South Africa, numerous citizens (mostly white) emigrate because of Affirmative Action and/or Black Economic Empowerment (BEE). In Zimbabwe, the government adopted the Economic Structural Adjustment Programme (ESAP) in the early 1990s for the purpose of increasing balance of payments and creating an era of modernised, competitive, export-based industry. However, the programme failed and resulted in a decreasing standard of living for skilled professionals because salaries could not support the escalating cost of living. For some skilled professionals, the result was international migration (Brett, 2005).

Stern and Szalontai (2006) cited several pull factors that draw South Africans to other countries, such as a growing demand for skilled employees as a result of the rise of the global services sector and increasingly aging populations that have opened new job opportunities for workers from developing countries, particularly teachers and nurses. Arah et al. (2008) found that physicians who migrate from developing to developed countries do so because the source country’s capacities to provide health services are inadequate. According to Spurgeon (2001), Canada has well over 1 500 South African doctors, with approximately 17 percent of the physicians in the province of Saskatchewan earning their first medical degree in South Africa. A substantial number of physicians from South Africa emigrate to Australia, Canada and the UK (Mullan, 2005). As a result of criticism for over-recruiting medical doctors, Australia, Britain, Canada, New Zealand and the US ended the process to allow South Africa to give attention to its strained health care system and the HIV/AIDS problem (Kumar, 2007).

Table 1 summarises the push and pull factors for migration of Canadian and South African workers. A close look at the factors outlined in the table suggests that for
Canadians, the push factors are tangible while the pull factors are related to more intangible aspects of life. For South Africans, both push and pull factors appear to be tangibles that immigrants seek that are basic to a better quality of life.

**Table 1: Push and Pull Factors for Migration of Canadian and South African Workers**

<table>
<thead>
<tr>
<th>Push Factors (in order of priority)</th>
<th>Canadian</th>
<th>South African</th>
</tr>
</thead>
<tbody>
<tr>
<td>• social, tax and corporate environments • better pay</td>
<td>• job scarcity • low wages • crime • armed conflicts • political repression • poor educational systems</td>
<td></td>
</tr>
<tr>
<td>Pull factors (in order of priority)</td>
<td>• family ties • economic • educational • marriage</td>
<td>• higher salaries • greater career mobility • less bureaucratic control • safe environment • higher standard of living</td>
</tr>
</tbody>
</table>
5.2.3 Push-Pull Factors and Related Migration Issues

The underemployment of skilled knowledge workers in receiving countries has become problematic in recent years. A 2002 study conducted in Ontario, Canada, found that only 53 percent of skilled immigrants reported being employed in their exact or in a related profession. The remaining 47 percent reported being employed in another profession or underemployed in non-professional work to earn income (Ministry of Training, Colleges and Universities, 2002). Other researchers (e.g. Baker & Benjamin, 1994; Kossoudji, 1989; Li, 2001; Reitz, 2001) found that immigrants obtain less desirable job outcomes than comparable non-immigrants. Less-than-desirable job outcomes pose a number of problems for the host country. Some host countries incur costs associated with attracting immigrants, processing immigration applications, and offering settlement services and language training. If skilled immigrants leave, the return on the investment made in attracting them, processing their immigration applications, and government expenditures is not realised and skill gaps remain unfilled.

There is also an issue identified by McNeil-Walsh (2007) as deskilling. McNeil-Walsh wrote about the migration of South African nurses for the purposes of furthering their careers, earn higher salaries and work under better conditions. Once they arrive in the host country, the nurses endeavour to use the skills that they have acquired; however, once they arrive in the host country, they find they are unable to use their skills optimally, resulting in deskilling. McNeil-Walsh attributed the deskilling of South African nurses to three forces: concepts of the definition and hierarchical order of skills, the social construction of skills (i.e. how skills are shaped in the social, economic and cultural context in which the work takes place), and politics and the agendas of governments and regulatory bodies.

This is especially problematic in Canada, where the tax structure is highly progressive and government benefits are available to all immigrants regardless of their date of immigration, resulting in substantial net transfers to recent immigrants (Grubel, 2005). According to Grubel (2005), net transfers related to immigrants admitted between 1990 and 2002 were estimated at $18.3 billion. Grubel’s (2005) estimate included the difference between the tax revenue generated by immigrants and expenditures such as
language training programs, government-funded healthcare, welfare payments, and the cost of public education of the children of immigrants.

Unlike Grubel (2005), some economists (e.g. Akbari, 1989; Simon, 1989) only include the public services used by immigrants. Contrary to the belief that immigrants incur more expenses than what they contribute, Akbari (1989) and Simon (1989) argued that over time the ratio of benefits and contributions evens out. For example, children and the elderly are likely to have more benefits than contributions while adults of working age are more likely to have greater contributions than benefits.

The benefits versus contributions of immigrants argument remains unresolved. Nonetheless, the argument continues to merit consideration in terms of whether immigration affects the host country negatively or positively. Canada welcomes skilled immigrants who can fill job vacancies and contribute positively to economic growth. However, if immigrants are employed in another profession other than the one for which they were trained or underemployed in non-professional work, they do not fill the skill gaps and contribute less than expected to economic growth and tax revenues, and the host country does not meet those goals.

In addition, to the effect of less desirable job outcomes on the host country, (specifically Canada), immigrants and their families are also negatively affected. Some immigrants may be grateful for the opportunity to come to Canada and may be willing to work in jobs with low status and low pay to provide a better future for their children. Other immigrants may be resentful if they perceive that information given to them about the benefits and rewards of emigrating to Canada were misleading. Immigrants are likely to evaluate the benefits they received from immigration based on their reasons for emigrating. Those coming to Canada for greater personal freedom, security, and better social conditions (Grubel, 2005), may not be as disappointed with negative job outcomes as those who emigrated for higher wages and better career opportunities. Aydemir and Robinson (2006) estimated that nearly one-third of male skilled immigrants leave within 20 years of immigrating to Canada, and approximately 60 percent of those who leave do so in the first year after arriving in the host country.

Although immigrants may expect that the cost of emigrating will be high financially, that they will need to learn another language, that they will give up the
proximity of family and friends, and that they may lose familiarity with social customs and culture (Grubel, 2005), they may not expect long terms of unemployment, underemployment that does not fully utilise their skills and education, and lost income and status. The combination of loss of status and culture shock can result in depression, anxiety, alcohol abuse and family tensions (Caplan et al., 1997; Hanisch, 1999; Leana & Feldman, 1995).

As an inductive empirical illustration (also see 1.6.1.3) of push and pull factors for knowledge workers, interviews were conducted with Martha M., Victor W., Alexandre O., Johnathan W., and Abrahem T.S. Table 2 below indicates the themes of the interview questions and the information gathered from the interviews.
### Table 2: Outline of Interviews

<table>
<thead>
<tr>
<th>Theme</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic</td>
<td>Age, country of birth, first/second language, level of English fluency, date of arrival in Canada, length of time in Canada, country in which undergraduate/graduate degree(s) received, prior job background, family status</td>
</tr>
<tr>
<td>Reasons for emigrating to Canada</td>
<td>Why did you decide to emigrate to Canada?</td>
</tr>
<tr>
<td>Job description</td>
<td>Describe your job/occupation</td>
</tr>
<tr>
<td>Employment in Canada (receiving country)</td>
<td>Describe your experience obtaining employment</td>
</tr>
<tr>
<td>General professional challenges</td>
<td>What do you perceive to be the most challenging job issues related to your job? How do you manage these issues? Have there been any challenging or upsetting instances in your work that have arisen that you believe are related to your international background? How do you manage these issues?</td>
</tr>
<tr>
<td>Support from superiors</td>
<td>How supportive is your direct superior? How supportive are your colleagues? Do you consider your direct superior knowledgeable? Do you consider your colleagues knowledgeable?</td>
</tr>
<tr>
<td>Personal challenges</td>
<td>Have there been any challenging or upsetting instances outside of your work that have arisen that you believe are related to your international background?</td>
</tr>
</tbody>
</table>

**Martha M.** is 35 years old. She was born in Cape Town and speaks Afrikaans, Tswana and English. Because English is the language of business, politics and the media, she speaks English well. She arrived in Canada in 2005 and has lived in Toronto for 5 years. She holds a bachelor’s degree in social sciences and a master’s degree in social work and counselling from the former University of Port Elizabeth (currently the Nelson Mandela Metropolitan University) in South Africa. In Zimbabwe Martha was a
social worker for 15 years. Her responsibilities involves intake evaluations, court attendance for children coming from the court system, investigations of child abuse, and acting as a liaison with the government for welfare issues of orphaned children. Martha is single and emigrated to Canada to improve her professional prospects and to find a better means to support her mother and two siblings in Zimbabwe. Martha chose Canada based on information she obtained from brochures, websites, and some former classmates that also emigrated to Canada.

Soon after arriving, Martha began sending out numerous resumes; she estimated that she sent out nearly 1 000 resumes over a six-month period. She also registered with employment agencies and attended conferences in her field in an attempt to locate possible job openings. She also took a minimum-wage unskilled job to obtain work experience in her newly-adopted country. Also during this time Martha began the visa application process, which took three years to obtain at a cost of over $5 000. Approximately eight months after arriving in Canada, Martha found employment as a social worker in a facility for children orphaned by HIV/AIDS, where she is the only South African. Her responsibilities involve conducting individual therapy sessions with all age groups, conducting group therapy sessions, and assisting the training coordinator during staff training.

As expected, Martha’s most challenging job issues are related to cultural differences. Martha perceives that in Canada, the orphanages focus not on housing orphans but on providing time-limited social treatment, mainly for adolescents, and function as family units with community ties. This differs from the traditional kin system in African culture that meant that there were no orphans, as children without parents were cared for within extended families. Martha explained that although much AIDS policy in Southern Africa stresses the role of communities, the burden of care falls upon extended family households. However, the death of so many adults from HIV/AIDS means that few can afford to support extra children; therefore, there are initiatives on the part of the South African government, at least in theory, to establish orphanages in South Africa that strive to create an extended family and community for children orphaned because of HIV/AIDS. The underlying rationale is that creating such a community for these children can increase the quality of their individual lives by saving them from a tragic cycle of
poverty, ignorance, risky behaviour, infection, and death, which, in turn, reduces the short and long-term economic and social costs to society at large.

*Martha* also perceives a different worldview between herself and her non-South African colleagues with respect to familial relationships, religious beliefs, and social and cultural expectations and conventions. For instance, in social or professional relationships, *Martha* perceives Canadian culture as less formal than her culture. Sometimes differences in religious and political views are raised in the workplace, which *Martha* tries to avoid. These differences sometimes cause *Martha* to perceive that her colleagues are not supportive, although she believes, based on conversations that she has had with her direct superior, that her direct superior is open-minded, understands her cultural perspectives, and is supportive. While she may have differences with her colleagues based on cultural perspectives, she believes they are knowledgeable and competent. *Martha* attempts to cope with professional challenges by maintaining open dialogue with her colleagues and taking advantage of appropriate opportunities to socialise with them (i.e. holiday celebrations, impromptu gatherings, etc.) and get to know them at a different level. Personally, *Martha* expressed difficulty coping with loneliness. Even after 5 years of living away from South Africa, she sometimes feels isolated, misses her friends, family, and former ways of life. But she is pleased that she can help support her family when she sends a portion of her earnings back home.

Many South African émigrés were pleased to see the end of apartheid, but later became disillusioned at the country’s continuing problems. *Victor W.*, a 46-year-old Caucasian male, is an example. *Victor* was born in Port Elizabeth and holds a LLM (Law) from the University of the Free State. He and his wife left South Africa in 1995 and current reside in Hamilton, Ontario. *Victor* is employed as a civil servant for the City of Hamilton. He recently earned an MBA at McMaster University in Hamilton. Victor and his wife felt that the political and economic climate in Canada was much better than in South Africa. With the abolition of apartheid, they believed that the country was no longer stable. The United States was their first choice but their application for residency in New York was rejected. They then decided to move to Ontario. At first they lived in Toronto. For the first few months finding work was difficult. Compounding the difficulty of the search for work was the disruption of *Victor’s* life and the sense of loss.
that he felt leaving a relatively successful career and losing contact with his friends and the cohesive community in which he lived. Then an opportunity opened with the City of Hamilton. Victor’s superiors and co-workers are supportive, which helped to lessen his sense of loss. He and his wife have lived in Hamilton since 1996 but have some ambivalence about where home is. South Africa is their home but so is Canada. As a result, they hold dual citizenship in Canada and South Africa. Victor stated: “Our lives are safe and stable, and we can enjoy what life has to offer here in Canada”.

Alexandre O., a 39-year-old male Caucasian, was born in Johannesburg. He holds a Ph.D. in humanities from the University of the Witwatersrand (Johannesburg). He left South Africa in 2006 and is currently working for Sheridan Institute of Technology (Oakville) as a social science professor. He left South Africa because he offered a couple of teaching contracts with the Baptist Theological College of Southern Africa and the University of Witwatersrand but decided to look for a more permanent teaching opportunity elsewhere. He wanted to teach in England but the immigration department wanted additional information about his background, and he was unable to provide them with the documents they requested. After one year he attempted to migrate to Canada. He received a work visa to teach under contract at Mohawk College in Hamilton. He later received an opportunity to teach full time at Sheridan and has remained at Sheridan. Alexandre is looking forward to publishing his first book and recently received Canadian citizenship. He described his department head and colleagues as supportive.

Johnathan W. is a 51-year-old male Caucasian. He was born in Pretoria and holds an M.A. in History of Ancient Culture and an L.L.B in Law from the University of Pretoria. He left South Africa for Canada in 1988 and is currently working as a civil servant for the Province of Ontario. He left South Africa because his first wife became terminally ill during his law studies at the University of Pretoria. After she passed away he was unsure about what to do with his life. He was distraught and was uninterested in practicing law. He stated: “In fact, I wasn’t even sure why I attended law school”. When he turned 30, he decided to travel to North America. He applied for a work visa from the Canadian government. He was hired as a temporary employee by the Province of
Ontario and eventually that job became full time. He transferred to another department within two years and became a section manager. He remarried and has three children.

Abraham T.S. is a 41-year-old male Indian who was born in Calcutta, India, and moved to South Africa at age 2. His parents made the decision to migrate because they desired for him to have a better education and a safe future. He holds a Ph.D. from the University of Cape Town in structural engineering, mechanics and materials - Faculty of Engineering & the Built Environment. He left South Africa shortly after graduation. He currently resides in Toronto, Ontario, and is employed by an engineering consulting firm in downtown Toronto. He left South Africa because he received an offer to work in Toronto shortly after receiving his doctorate. He had several contacts within the firm offering him the job. Although his initial salary was lower than that of his colleagues, it was much higher than what he would have received working as a mechanical engineer in South Africa. His parents eventually retired and moved back to India to run a small apparel store. He is married to a woman who works in the accounting department of his firm.

5.3 NETWORK FACTORS

Migration networks serve several functions, including providing information and advice to migrants about opportunities in receiving nations, as well as funds, shelter, and jobs for new arrivals. Social networks can also provide social resources and information about aspects of migration not revealed by employers, such as what constitutes a reasonable wage is, mistakes been made by previous immigrants, and so on (Livingston, 2006). The study of migration networks has become popular in the past two decades; however, a number of arguments about network theories often are not viewed as critically as they should be. For instance, network theories do not explain the mechanisms that eventually lead to the weakening and crumbling of networks and migration systems, which, according to Bommes and Morawska (2005), do occur. If one follows what can only be termed as the circular logic of these theories, it would seem that migration seems to go without end.
Network models, like with push-pull models, attempt to explain the important facilitating role of migrant networks without specifying their relationship to other facilitating and constraining factors affecting migration. Brettell and Holliefield (2000) noted that much empirical research on migrant networks consists of case studies that tend to focus on the network variable and do not consider situations where such networks play no role in migration, thereby biasing the study. Freeman (2006) argued that over the long term labour migration movements often tend to decrease or cease when the fundamental causes of migration disappear. In addition, legal and physical barriers to migration can have an important influence on the magnitude and nature of migration.

There may also be internal forces that may weaken networks over time. Herman (2006) described settled migrants as advance persons facilitating subsequent migration; however, De Haas (2008) noted that these individuals may become gatekeepers and may be unwilling to assist prospective migrants. Over time, however, according to network theory, this gate keeping function may decrease as migrant communities become strong. However, De Haas (2008) pointed out that selectivity may increase again when migrant networks weaken. Furthermore, although kinship networks facilitate migration, they also tend to exclude people who do not belong to a particular social or kinship group, especially people who fall outside of the description of an immigrant in the context of immigration policies.

The above-mentioned illustrates the downside of social capital. According to Coleman (1998), the same ties that help members of a group often serve to exclude others. Social capital is a key migration resource that enables and inspires people to migrate. For the receiving country, social capital in the form of migrated kin often acts against legal, political and financial obstacles to immigration. At the sending end, the implication of falling costs and risks is that an increasing share of the population can afford to migrate.

Social networks are an important means for immigrants to find employment in the receiving country. For instance, in the traditional countries of immigration such as Canada and the US, an underlying aspect of social networks is the importance of family ties and, thus, family reunification is a major network factor. In Canada, family reunification accounts for 60 percent of immigration (United Nations, 2004). The role of
social networks in terms of economic integration differs for different classes of immigrants, as sponsored immigrants have sources of social support which other classes of immigrants may not. For immigrants from South Africa, integration is more difficult because of significant family disruptions, in part because of the HIV/AIDS epidemic. According to the United Nations, South African immigrants are three times more likely to emigrate because of HIV/AIDS and health fears (UNAIDS, 2004). Thus, family ties are not as strong a network factor for South Africans as it is for Canadians. This is consistent with the previous observation (see 5.2.2) that South Africans seek the more tangible aspects of life to have a better quality of life. Once they have obtained the basics needed to improve their quality of life, it logically follows that they would shift their focus to less tangible aspects.

As an inductive empirical illustration of network factors for knowledge workers, interviews were conducted with Kathleen Z. and Mothudi K.M. Kathleen’s reasons for wanting to emigrate to the US illustrate the importance of family ties for Canadians and for emigrating for marriage reasons (see 3.4). Kathleen is a 40-year-old Canadian citizen with a 7-year-old daughter who has been dating a US citizen for two years. Kathleen holds bachelor’s and master’s degrees in business and works as a project manager for a medium sized retail firm. She wanted to move to San Francisco where he lives to start a life together. She researched different visas and considered the fiancé visa, but she did not want to get married just for the purpose of emigrating to the US. However, regulations require that they must get married within 90 days or she would have to leave the US and could not reapply for another visa for another six months. She then thought she would apply for jobs long distance from Canada and perhaps obtain a worker's visa. She was also told by friends that she could just come to the US and stay and apply for a permanent resident status. However, she did not want to get to the US/Canadian border with her household goods and be subject to questioning. Upon further investigation, Kathleen found that unless she was in a profession in which there were shortages of skilled professionals (i.e. nursing) or a member of another profession included in NAFTA, she could not simple just come to the US and apply for permanent resident status. She also found that obtaining a green card that authorises her to live in the US takes about three years. She would only be allowed to stay in the US for six
months and not the entire time while her green card application was being processed. Thus, for now, Kathleen will remain in Canada.

**Mothudi K.M.** is a Black male 39 years of age. He was born in Mpumalanga in South Africa. He has a doctorate in communication from the University of Fort Hare and currently resides in Vancouver, BC, where he is employed as a brand specialist for a large food corporation at its corporate headquarters. He left South Africa in 1989 because he was single and wanted a change of lifestyle. As an educated Black man, he found it difficult to find professional occupations in predominantly White corporations. His mother felt it would be best for him to try another country. He lived in Australia for two years but felt uncomfortable there. His contracts never lasted and he was always searching for a new job. He eventually left for Canada and met his future wife in Vancouver. He described his work as demanding and stated that he works extremely long hours daily. He stated that his friends in Canada are caring people. He has sent money back to South Africa to his mother ever since he arrived in Canada. He is content with his lifestyle and “loves Canada.” He stated: “I’ll always go back to visit my home in South Africa but not to live”. He is concerned about finding employment, high crime, political uncertainty, weakening currency, and the impact on his career if he were to return. He also noted that with lessened communication over time with friends, he became less interested in what is happening in South Africa. He stated: “My children are now Canadian and that will not change”. This case study confirms in fact that network factors only play partially a role in the migration of South African knowledge workers (also see – 3.4 & 3.5).

Some individuals immigrate for both push-pull and network factors, as in the case of Kagiso M. and Reesa V. **Kagiso M.** is 38 years old. She is Black and was born in Johannesburg. She received her specialised M.D. degree in radiology from the University of the Witwatersrand in Johannesburg. **Kagiso** left South Africa with her husband and daughter in 2005 and resides in Edmonton, Alberta. She left South Africa because she and her husband were not comfortable with the economic climate in Johannesburg. Her husband was unemployed and the hospitals had a hiring freeze. At first they wanted to relocate to London, England, but then decided that Canada was a much better place for raising their daughter. Her husband, an engineer, also received an offer to work as a
manager for a large petroleum corporation headquartered in Edmonton. Kagiso described the financial and emotional stress experienced by her husband and her as a result of the move. She stated: “While the economy in South Africa was not very stable, I at least was employed. When we came to Canada we took a few steps backward”. She described the difficulty of her search for meaningful work and her feeling about her supervisor in the first job she obtained in Canada: “She was horrible to me, and drove me to the point of tears because at that time I was so afraid and vulnerable”. Kagiso is now employed by a medical clinic in downtown Edmonton as a medical assistant. She is not licensed to practice in Canada but is currently attending the Faculty of Medicine and Dentistry at the University of Alberta to complete her courses in radiology (bridging program) to practice medicine in Canada. Kagiso’s sister also lives in Alberta. Her sister migrated to Canada back in 1993 to marry her fiancé. Their parents still live in Johannesburg and she and her sister travel once or twice a year to visit them.

Reesa V. is a Caucasian female aged 44. She was born in Augrabies (in South Africa) and holds a doctorate in educational psychology from Stellenbosch University. She left South Africa in 2000 and is currently employed as a junior and senior kindergarten teacher in a Catholic elementary school in Montreal, Quebec. She left South Africa because she believed her prospects for employment were better in North America. She wanted to teach at a community college but later changed her mind when she received an offer to attend teachers’ college at McGill University. She found a teaching position quickly because, unlike many of her colleagues, none of them held a doctorate or had teaching experience. During her undergraduate and graduate years in South Africa, she taught as a part time in an elementary school in Simonswyk (Stellenbosch). While it was difficult for her to leave her parents behind, her brother emigrated to Canada in 1999; thus, she had a link. Reesa described her inner struggle with the linkage to both Canada and South Africa. On the one hand, she felt she had “something to go back to” should she choose and on the other Canada represented hope for the future.
5.4 DEMOGRAPHIC FACTORS

Research indicates that in addition to economic factors, people migrate based on demographic factors, which include age, gender, education, geographic proximity, regional inequality and socialisation differentials (Ogena & DeJong, 1997). While South Africa has experienced significant migration across different age groups, the usual range was 18 to 30 years (Statistics SA, 2003). Kok et al. (2003) pointed out that people between the ages of 15 and 44 years were the most likely to migrate. According to Crush (2000), the most skilled age group for South African migrants was between 35 and 49, and the least skilled age group was between the ages of 18 and 24, or 6 percent (Crush, 2000). Older people are less likely to migrate than younger people because they have deeper ties to their home countries, such as property ownership and professional and social networks (Crush, 2000). Canadian emigrants to the US are predominantly between the ages of 25 and 44, are highly skilled, well-educated and well-paid (Statistics Canada, 2000).

Gender is another demographic factor for migration, although viewpoints of researchers regarding the extent to which gender plays a role in migration vary. Sinclair (2000) argued that the number of female migrants is actually larger than recorded because statistical counts tend to ignore female migrants invisible and consider them adjuncts to their male spouses, who are counted as migrants. Weiner (2008), Reitz (2006), and Kok et al. (2003) disagreed with Sinclair (2000), indicating that worldwide most migrants are men, and female migrants are far smaller in number, although Weiner (2008) pointed out that women endure more discrimination in the immigration process, as men are typically listed as heads of households (i.e. principal applicants), even though the household may be headed jointly or by the woman. Andres and Licker’s (2005) study of intra- and extra-provincial migration patterns in British Columbia of young adults over 10 years found that geographic mobility by region of origin varied widely by gender. Immigration patterns of African and South African women are different, as Reynolds (2006) discovered in a study of reasons why some African professional women from
Cameroon, Ghana, Kenya and Senegal emigrated. Generally these women chose to emigrate to places like Canada, Great Britain, or the US for the purposes of gaining control of their money and earnings to meet their household obligations and having the protections of legal and social systems in place to guarantee their rights of privacy, their right to financial privacy, control of their own earnings, and ability to use earnings to support children.

Geographic proximity is a logical demographic factor, as it is easier and less costly for migrants to obtain information on employment opportunities closer to home or in adjacent regions. The cost associated with geographic proximity is both tangible and intangible. Closer geographic proximity often results in closer networks; the opposite is true as distance increases. The tangible costs of transportation also are associated with distance, which exacts an intangible cost in the form of the inability to see family and friends for long periods of time (De Haas, 2008).

Migration to better places as a result of regional inequality and socialisation differentials for economic or other reasons (see 5.2.2 – Table 1) is not unusual; however, some groups are more mobile that others. More highly educated individuals are likely to be more mobile because they have a wider range of employment options. Conversely, the potential for migration will depend on the type and level of employment expected in the destination country (see 5.2.3). It is also important to distinguish between incentive to move and actual movement. More highly educated individuals have both incentive and ability to move, whereas poorer and less educated individuals may have incentive but not the actual ability to move.

Consequently, in light of the conclusions of this chapter, the theorems of the study will be tested and presented in table format (Table 3 – Table 7).

5.5 TESTING OF THEOREMS

In Tables 3-7, the theorems of the study and indications of support, non-support or partial support of the theorems are presented.
Table 3: Theorem 1

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| 1. The predominant push-pull factors influencing migration of Canadian knowledge workers are economic factors | -People in knowledge industries dissuaded from staying in Canada for reasons varying from Canadian social, tax and corporate environments (Piper, 1996)  
-NAFTA helped to ease transition from Canada to US for knowledge workers (Hansen-Kuhn, 1998; Meckbach, 1999)  
-Economic reasons make up 57 percent of incentive for Canadians to emigrate to the US (Statistics Canada, 2000) | X         |              |                    |
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| 2. The predominant push-pull factors influencing migration of South African knowledge workers are economic factors | -Geographical proximity and support networks in host country to help with adjustment to new life and with finding temporary employment (Gubert & Norman, 2008)  
-Push factors include job scarcity, low wages, crime, armed conflicts, political repression and poor educational systems  
-Pull factors to other countries include higher salaries, greater mobility, less bureaucratic control, personal and family safety, a higher standard of living, lower cost of living, lower taxes, availability of jobs and job security (Gubert & Norman, 2008; Mattes & Richmond, 2002)  
-High crime rates a main reason for the emigration of many of South Africa’s knowledge workers (Mattes & Richmond, 2002) | | | X |
Table 5: Theorem 3

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| 3. Network factors influence Canadian migration (of knowledge workers)   | - About 70 to 85 percent of migrants from developed countries, including Canada, cite economic over any other reasons for their decision to move (Mueller, 2006)  
  - Some Africans prefer to migrate to former colonial powers because of their familiarity with the language and culture; geographical proximity and having support networks in the host country to help with adjustment to the new life and with finding temporary employment are other factors  
  - In Canada, family reunification is a major migration factor (United Nations, 2004)                                                                                                                                   |           |               | X                   |
Table 6: Theorem 4

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<td>4. Network factors influence South African migration (of knowledge workers) to a greater extent</td>
<td>- As people in South Africa find out from their migrant networks that for example, the crime rate in the United States or another country is lower, health care training is better, and job opportunities are more abundant, and so on, they are more likely to emigrate (Clark et al., 2006; Gubert &amp; Norman, 2008)</td>
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<td>- Family ties less of an impetus to emigrate because South Africans are more prone to family disruptions than other immigrant groups (UNAIDS, 2004);</td>
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<td></td>
<td>- The HIV/AIDS epidemic and fears for their health have prompted South Africans to emigrate (UNAIDS, 2004)</td>
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**Table 7: Theorem 5**

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| 5. The influence of demographics such as age, gender, income and level of education on migration patterns differs for Canadians (knowledge workers) than for South Africans (knowledge workers). | Immigrants to countries such as the US and Canada tend to be between the ages of 25-39 (Camarota, 2004); peak age group for South African immigrants is 18 to 30 years (Statistics SA (2003))  

-Reasons men migrate (i.e. lack of jobs in the country of origin; better salaries, benefits, and opportunities for economic mobility in the receiving country) have not been studied in terms of gender  

-African professional women migrate because of cultural expectations prohibiting them from opening bank accounts, managing overall savings and investments, and inability to earn enough to meet financial obligations  

-Canadian women migrate because they find more opportunities to find employment where they can utilise their degrees  

-People migrate because of economic conditions in their home countries (Mayda, 2005), they migrate either to urban or rural centres for employment (Andres & Licker, 2005; Bommes & Morawska, 2005; Crush, 2002), or to where their friends or relatives have previously moved (IOM, 2005) | X                      |                    |               |
- South Africans migrate because of lack of access to high quality education in Africa

- Migrants seek education in countries with the best universities, such as France, Germany, the UK and the US (Britz et al., 2006; Chiswick & Miller, 2009); African governments anticipate that these students will return when they finish their degrees, however, many decide to stay permanently in the West because returning home may mean being unemployed

- Canadians migrate because they see more opportunity to obtain better education specifically in technology and information systems (Adepoju, 2006)

5.6 THE FUTURE OF MIGRATION

The immigrant population has increased in the past decade in most countries that are members of the Organisation for Economic Cooperation and Development (OECD). Australia, Canada, Luxembourg, New Zealand, and Switzerland have had an especially high proportion of immigrants (OECD, 2009). However, according to a report by the Migration Policy Institute (Fix et al., 2009), this picture is changing.

Fix et al. (2009) examined the effect of recent global economic downturn on migration flows, remittances, and on migrants and found that the downturn was triggered by the collapse of the investment house Lehman Brothers in the US in September 2008. The effect on migration has been more significant than any other economic downturn since the end of World War II, particularly in less developed parts of the world. For example, most African countries are export-driven and will be affected by the downturn, with an anticipated 4 percent drop in gross domestic product (GDP). A 5 to 8 percent drop in global remittance flows was anticipated. Mine and smelter closures have led to 100 000 job losses in the Democratic Republic of the Congo, 40 000 (or nearly 10
percent of the workforce) in South Africa, and 3 000 in Zambia. In the garment industry in Cambodia, 30 000 workers (or 10 percent of the workforce) were laid off (Revenga, 2009).

According to Fix et al. (2009), the global recession has resulted in less movement of economic migrants to the major immigrant-receiving countries, and, contrary to popular public perception, immigrants are choosing to remain in their newly adopted countries rather than return home despite high unemployment and lack of jobs. Remittances have also sharply declined, although some regions are seeing increases or no changes in remittances. Though remittances have decreased globally, they remained an important stable source of income for immigrant-sending countries compared to financial sources, including lending.

Governments have responded to the economic crisis by adopting policies to decrease the inflow of migrants, encourage their departure, and protect labour markets for native-born workers. Countries such as Australia, Malaysia, Russia, South Korea and Taiwan have attempted to restrict access to their labour markets by ceasing or decreasing the issuance of work permits for foreigners. Others, such as the United Kingdom, tightened admission requirements. The United States placed restrictions on some companies on bringing in low-skilled workers, attempting to bring in more highly skilled labour.

Canada, however, was the exception. In early 2009, Canada briefly considered reducing permanent legal immigration rates. However, after a study of the demand for immigration in regional labour markets, Canada left its permanent levels unchanged, maintaining a target of approximately 250 000 new permanent residents. In addition, there was an increase in employer demand for temporary workers. Canada therefore did not restrict the number of temporary workers, which grew by 22 percent from 125 367 in 2004 to 251 235 in 2008 (Citizenship and Immigration Canada, 2009). Alberta experienced a 340 percent rise in the number of temporary workers, from 13 000 in 2004 to 58 000 in 2008 and is now third after Ontario (91 276) and British Columbia (58 307). During the same time, New Brunswick, Saskatchewan and Yukon experienced more than 150 percent growth in the number of temporary foreign workers (Statistics Canada, 2009).
The number of economic or skill-based permanent immigrants to Canada also increased 14 percent between 2007 and 2008 from 131,244 to 149,072. Recent increased policy emphasis on employer sponsorship resulted in an increase of employer-sponsored immigrants from 7.4 to 9.7 percent of the total economic principal applicants, while self-sponsored immigrants decreased slightly from 31.4 to 29.1 percent (Citizenship and Immigration Canada, 2008). Legal immigration to Canada was fairly stable, falling slightly to 50,800 new immigrants (skill, family and humanitarian) in the first quarter of 2009, from 53,147 during the first quarter of 2008 and 53,549 in the fourth quarter of 2008 (Statistics Canada, 2009).

Like Canada, the US has experienced increases and decreases in immigration based on employment conditions. The United States Census Bureau (2003) reported several immigration tendencies, including those that countered previous tendencies:

1. During the 1990s, the combined minority population grew at about 13 times the rate of the non-Hispanic whites, which some view as a shift toward a true cultural diversity. At the same time, the immigrants who over that period arrived at an average rate of 1 million annually tended to concentrate in just 10 of the nation’s metropolitan areas. While immigrant magnets were represented predominantly by urban centres, the tendency for natives was to shift increasingly to suburbs and otherwise non-metropolitan areas.

2. In the beginning of the last century the tendency of African Americans to move out of the Southern states because of unfavourable employment prospects was reversed, thus reinforcing the geography of racial concentration.

3. Besides the lower propensity for the Baby Boomers (individuals born between 1945-1960) to move as compared with Generation X (individuals born between 1961-1981), the more mobile Baby Boomers tend to concentrate around a few retirement magnets.

4. The more educated (those in or anticipating being in the upper strata) tend to move longer distances, while the less well-educated, poorer families tend to stay put or move locally.
5. In general, the long-held stereotypical perception of the US as comprised of people always on the move is inaccurate except when applied locally. While historically the US demography has been affected by an influx of immigrants of predominantly European origin, by the late 1990s there was a dramatic shift, with the Latin territories accounting for the most contribution to the growth in the US foreign-born population. Latinos tend to cluster around the eight states: Arizona, California, Florida, Illinois, Massachusetts, New Jersey, New York and Texas. In Canada regional labour markets for immigrants were Alberta, Ontario, British Columbia, New Brunswick, Saskatchewan and Yukon (Statistics Canada, 2009). This fact could be of a self-reinforcing nature and primarily be explained by economies of concentration and psychic costs, with newly arriving immigrants in both the U. S. and Canada benefiting the most within the already established immigrant communities either culturally or in terms of opportunities.

5.7 RECOMMENDATIONS

In an effort to apply the findings of the study, the following specific recommendations are made:

1. Researchers attempting to analyse the brain drain and brain gain phenomena cite the lack of existing data on the subject. Too many statistical gaps exist, making the process of drawing any broad conclusions problematic. The fact that three out of the five (60%) of the theorems are only “partially supported”, serve as confirmation for the afore-mentioned. Gaillard (2001) noted that it is hard to say who the migrants are, there are no statistical tools and the flow of people is little understood. The only overall figures available are those of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) for students, along with a few country-of-origin studies which do not include any country-comparative figures. Thus, attempts at developing consistent terminology and identifying appropriate statistical tools and sources for accurate and reliable statistics should be undertaken.
2. This study represented an analysis and discussion of the available research on push and pull factors and network factors in the migration patterns of Canadian and South African knowledge workers. Much more research needs to be done that focuses on these two countries in particular, as there is a paucity of research that addresses these factors specifically to any significant extent.

3. Migration patterns from South Africa to Canada, from Canada to the US, and within Canada showed a particular geographic concentration. This suggests a direction for possible additional research by constructing and using a Markov matrix with initial and directional probabilistic states. Identifying high-probability directions with highest propensities to stay could provide some useful insights into the geography and demography of concentration, its stability, and the implications for social and economic policies of receiving countries regarding immigration (Card, 2005).

4. The results of this study show that social networks play an important role in facilitating migration, whether across borders or across regions. However, recent empirical work suggests that the importance of networks to the migration process may vary over time. Previous theoretical work does not adequately explain these recent findings because networks were modelled as equivalent to the stock of older migrants. More research and theory building is necessary to confirm findings of variances in networks.

5. Based on the results of the interviews, it is evident that immigrants form a reciprocal relationship with the cultural environment of the destination country in which they interact, work and live. The physical environment and the role that it plays in acculturation should be further studied. This research would not only contribute to the existing knowledge of adaptation processes, but also would provide greater insight into the relationship between human beings and their environment. Such research may also provide a foundation for interdisciplinary research collaboration. The results of such research could inform programmes of state departments and migration agencies to help
prepare migrants for the legal, political, social, economic and physical aspects of the destination country.

6. A closer examination of the interviews of the nine knowledge workers (see 5.2.3 and 5.3) shows some predominant themes related to push and pull factors and network factors for migration. These themes included the search for meaningful work, cultural differences, ambivalence about where “home” is, family ties, and apprehension about returning home. Further and more in-depth research on these themes is necessary (see further discussion in item 7 below).

7. There were two major limitations of this study. The first is that it was focused on brain drain and brain gain of skilled and knowledge workers from a broad perspective. Specific challenges faced by immigrants arriving in a new country as they attempt to find jobs and assimilate into the culture of their adopted countries has received little attention in the literature and points to the second limitation, which relates to the study methodology. In this study primarily a critical review of the literature (i.e., data gathered from government sources and existing literature and statistics on potential factors of influence for migration) and some interviews of Canadian and South African knowledge workers were employed. While the results from the literature review and the interviews contributed to the continued development of migration theory and migration of Canadian and South African knowledge workers in particular, the experiences of émigrés were not examined in great detail. This suggests a direction for further study. The experiences of Canadian and South African knowledge workers could be examined in depth from either a phenomenological or biographical perspective. Phenomenology is described as the study of the shared meaning of experience of a phenomenon for several individuals (Moustakas, 1994:59). In a phenomenological study, the primary goal is to identify and understand all of the phenomena, or lived experiences, taking place within the lives of the participants. The researcher investigates participants’ processes of intuition, reflection, and description. Phenomena are not manipulated but rather are
permitted to unfold as the participants tell their stories (Babbie, 2003:281). The biographical approach considers the influence of social structure in providing opportunities or restraints for the individual and the individual’s ability to perceive these opportunities or restraints and react to them productively (Miller, 2000:6). In this approach subjective and cultural formations are explored and the interconnections between the social and the personal are identified (Stroobants, 2005:52). Either of these approaches would be appropriate for a more in-depth examination of the experiences of not only skilled immigrants but also those as refugees or family class immigrants.

5.8 CONCLUSION

Current and historic social, political and economic developments within Canada and South Africa appear most applicable to the “brain-drain” and “brain gain” of highly skilled and educated technical workers as it is manifested in these countries today. In Gelderblom’s (2005) view, there are three sets of outcomes associated with such movement. These include: (a) whether or not migration will actually occur, given certain circumstances; (b) who will migrate under specific circumstances, and; (c) whether or not this migration is permanent, reciprocal and/or temporary. All of these outcomes may be depicted as variables in the general causation of the migration of labour. Gelderblom (2005) suggested that the relationships between them is logical and may be ascertained through applied research. In this regard, a relationship between these variables is based on the following assumptions:

1. Migration takes place if two places become different with regard to their ability to satisfy human needs. Migration, therefore, responds to a spatial disequilibrium of some sort.

2. An existing reward/penalty structure within a given society interacts with individual characteristics such as sex, income, age education and occupation to produce rewards and penalties that spur migration.
3. The rewards and penalties attached to living in a particular place are distributed differentially.

There are certain factors that may determine the degree to which an individual can make an independent migration decision. These appear to be largely subjective matters that form the stages of the decision-making process. In any case, an individual’s perception of the rewards and penalties involved with migration needs to be interpreted in terms of the migrant’s biography, socio-cultural context and motivational structures before they can inform migration intentions (Freeman, 2006). Once these variables and associated factors are clearly identified and applied to a given population migration, then it may be possible to ascertain the relative impact of new factors, such as various government policies, which may contribute to such movement (IOM, 2009).

In general, then, existing literature suggests that the factors leading to population movements are many and complex, including supply or push factors in countries of origin, demand or pull factors in countries of destination, and formal and informal networks that link supply with demand. This seems very clear in the case of pull factors generated in countries of destination. In this regard, on a world-wide scale, brainpower has become a marketable commodity.

Governments and businesses are finding that investing in highly educated and highly skilled people has become the best investment they can make in the new knowledge-based economy (Piper, 1996). These workers are thought to be able to boost productivity, growth and profit. Globalisation has helped to make possible the aggressive recruitment, by federal governments and the private sector alike, of highly skilled workers from other countries. International migration is thus emerging as a basic structural feature in nearly all industrialised countries. And nearly all developed nations have become countries of immigration, absorbing growing numbers of immigrants not only from developed regions, but increasingly from developing nations of the “Third World” (Fix et al., 2009).

Unfortunately, certain developed countries, such as the US and some Western European countries, have been the only ones to strictly benefit from this practice. Others, like Canada, have simultaneously lost knowledge workers to these countries and have had to make up for the losses by aggressive recruiting efforts of their own. Still other
countries, such as South Africa, have been losing their skilled workers steadily and have been unable to successfully replace them (Adepoju, 2006).

In terms of explaining why such anomalies occur, efforts at theoretical explanation have been fragmented by disciplinary, geographic and methodological boundaries. Massey et al. (2005) hold that neo-classical macro-economic theory suggests migration is caused by the supply and demand of labour and the resulting wage differentiation based on a country’s economic condition. Neo-classical micro-economic theory also posits that individual actors migrate after making cost-benefit analyses; thus, migration is a form of investment in human capital. In the theory of the new economics of labour migration, decisions are not made by isolated actors but by families or households acting collectively to maximise expected income and minimise risks from home market failures and pressures. Another factor is the increase in institutions, both private and voluntary, who seek to perpetuate migration for the profit it yields. These factors are not necessarily related to a specific country, but still have a profound effect on international migration (Martin & Widgren, 2002).

Brain drain and brain gain have thus come to connote different meanings over time, as both the terms themselves and the focus of brain drain and brain gain studies have gone through considerable modifications. The term first began to take on significance in the 1960s (Commander et al., 2003). According to Brandi (2001), while the brain drain concept was first used to refer to skilled-workers from Europe emigrating to the US, the focus then shifted to the movement of migrants from the “third world” to developed, industrialised countries, and the distinction and relationship between the north-south countries. However, now, studies on brain drain and brain gain focus on globalisation and the international mobilisation of human resources in the areas of science and technology. Indeed, the issue of the movement of knowledge workers is tied with the new global economy, free trade and technological advancement (Freeman, 2006). Brandi (2001), while admitting that the terms brain drain and brain gain have been denounced as meaningless by some, argued that the recent literature on the topic indicates that brain drain continues to occur and have various adverse affects on the development of several countries.
Drucker (1999) noted that the most valuable asset of a 21st-century institution (whether business or non-business) is its knowledge workers and their productivity. It is thus inevitable that the most qualified people from the “third world” will be attracted to countries where their salaries and working conditions would be better. However, this leaves a large burden on those very same countries supplying the industrialised world with some of their best minds. While these countries struggle to produce professionals that are worthy of the first world by not providing sub-standard training, these same professionals’ expectations can not be met by their home country due to limited financial resources (Levy, 2003). This means that what these countries invest in domestic educational systems is not eventually repaid because they are often geared towards meeting the employment needs of other societies and not their own. This can lead to lowering the allocation of government funds towards education, and the eventual lowering of educational standards (Crush, 2002).

In addition to losing their skilled-workers, poorer countries are also losing tax payers, putting a further economic strain on the system (Meyer, 2001). Also, brain drain can be internal within countries that have two-tiered systems (health care distributed by government and corporate organisations). This only worsens the shortage and the uneven distribution of the country’s health care resources (Chanda, 2002). Many researchers also appear to agree that brain drain is ultimately harmful for the countries unable to hold on to their skilled personnel (Adepoju, 2006; Beine et al., 2006; Lowell & Findlay, 2002; McNeil-Walsh, 2007; Mullan, 2005). However, other researchers (e.g. Commander et al., 2003; Meyer, 2001) chose to see brain drain as brain circulation, arguing that there is a two-way exchange of knowledge and wealth, benefiting both sides.

In a world that has become increasingly global, people will continue to migrate to other countries seeking economic benefits and a better quality of life. Greater mobility across borders can increase the economic and social well being of workers in developing countries. Receiving countries would also benefit from the talents and contributions of immigrations, which are often unable to realise their full potential in their home countries. A key issue today is getting citizens of more advanced receiving countries to understand the contributions that immigrants make to their adopted countries and to look
more favourably on immigration and manage the contentious social phenomenon as a benefit rather than a drawback to the growth and progress of their nations.
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