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Human Capital and Brain Drain in the Regional Development: A Case Study of Incentives

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Abstract: This paper investigates the incentives of Latin American masters students to remain abroad or to return home after completing their education at Lund University in 2010. These students can be regarded as valuable resources for the economic development of their home countries. However, under the presence of market imperfections and the increasing migration of professionals from less to more developed nations, it is valuable to consider the motives behind their decision to remain abroad or to return home. By analysing the motivations it is possible to draw conclusions regarding the influential forces behind the decision to migrate and thereby minimise the threat of brain drain by increasing the return migration.

Keywords: Human Capital, Brain Drain, International Migration, Incentives.

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TABLE OF CONTENTS

1. Introduction.....	4
1.1. Background.....	4
1.2. Problem Discussion	6
1.3. Purpose of the study.....	6
1.4. Population of the study	7
1.5. Limitations of the study	8
1.6. Overview of the study.....	8
2. Methodology.....	9
2.1. The Research Approach and Strategy.....	9
2.2. The Research Type	10
2.3. The Data Collection	10
2.3.1. The Primary and Secondary Data	10
2.3.2. Semi-structured Interviews	11
2.4. Reliability and Validity threats	11
2.5. The Data Analysis.....	12
2.6. Generalization.....	13
2.7. The Ethical Aspect.....	14
3. Theoretical Frame	15
3.1. The Importance of Human Capital	15
3.1.1. The Human Capital Theory	15
3.1.2. Investment in Human Capital	17
3.1.3. Return on Human Capital	19
3.2. The Threat of Brain Drain.....	21
3.2.1. Definition of Brain Drain.....	21
3.2.2. The effects of the Brain Drain	23
3.2.3. From a brain drain to a brain gain.....	24
3.3. International Migration	26
3.3.1. Push-Pull Approach	27
3.3.2. Human Capital Theory.....	28
3.3.3. Return Migration.....	29
3.4. Conclusion	31
4. Empirical Findings and Analysis	32
4.1. First Migration: The decision to study abroad.....	32

4.1.1. Why Lund University?.....	32
4.1.2. The first incentive of a permanent migration.....	34
4.2. The trade-off: Stay abroad or return home after completing a masters program at Lund University	35
4.2.1. The willingness to stay abroad or to return home.....	36
4.2.2. Reasons behind the decision to return home.....	39
4.2.3. Reasons behind the decision to stay abroad.....	41
4.2.4. The preferred regions	43
4.2.5. Pull forces from the home country.....	45
4.3. Reducing the brain drain: Factors influencing international migration	46
4.3.1. Attracting professionals back home.....	47
4.3.2. The income gap factor	50
4.3.3. Potential for economic growth.....	52
4.4. Conclusion	54
5. Concluding Discussion	54
5.1. The importance of education and the barriers to economic growth.....	55
5.2. The importance of international experience	56
5.3. From a brain drain to brain waste	57
5.4. Working on the foundations.....	59
Acknowledgment	61
Appendices.....	62
Appendix 1 – Sample of the Interview	62
Appendix 2 – Definitions of Human Capital Theory.....	65
Appendix 3 – Returns to investment in education by level, full method, latest year, regional averages (%)	67
Appendix 4 – International migrant stock by major area	68
Appendix 5 – Countries with the largest number of international migrant, 2010 (millions).....	69
Appendix 6 – Share of a country's nationals with a university degree living in an(other) OECD country.....	70
References.....	71

LIST OF FIGURES

Figure 1: Reasons for choosing Lund University as destination for the study abroad.....	33
Figure 2: Willingness to stay abroad at the moment of applying to Lund University	35
Figure 3: Current plan to stay abroad after finishing their education at Lund University	37
Figure 4: Changes between first and second decision to remain abroad.....	38
Figure 5: Factors behind the decision to return home	39
Figure 6: Reasons for staying abroad directly after completing their masters program	41
Figure 7: Preferences across regions	44
Figure 8: Reasons that pull students back home	45
Figure 9: Factors that should be improved in order to attract professionals back home.....	47
Figure 10: Incentives to migrate when ' <i>no differences in job opportunities and relative wages across countries</i> '	51
Figure 11: The research subjects' view of the economic growth potential of their home country .	53

1. INTRODUCTION

This chapter gives an introduction to the chosen topic of investigation. The reader obtains a general overview of human capital as a source of economic growth and the potential threat of brain drain on the development of nations. This chapter also illustrates the problem to be analysed and the purpose of the study.

1.1. Background

For a long time the effects of human capital on the process of economic growth have been disregarded. Over centuries, productivity has largely been explained by the increasing efficiency and accumulation of (mainly) physical capital. However, physical capital *per se* could not explain this productivity growth in a completely convincing way. The time came where not only traditional factors of production, such as physical capital, labour, and land, could explain economic growth. New inventions gave birth to new technologies, demanding new ways of doing things. In order to accomplish these new innovations and to make productive use of them, a further factor of production became important, namely, the human capital.

In the late 1950s, thanks to the work of Theodore W. Schultz and Jacob Mincer, human capital started being considered an independent capital category with productive characteristics that contribute to economic growth.¹ Nonetheless, previous scholars had also considered human abilities and skills as a cause for the unexplained gain in productivity. In his work *‘Wealth of Nations’*, Adam Smith emphasised the role of knowledge and skills on the production process. For Smith, these factors contribute to higher productivity and output quality, and thus the acquisitions of these factors constitute an ‘investments in human beings’.² Similar to Smith, Alfred Marshall recognised the importance of investment in human beings when mentioning that “[t]he most valuable of all capital is that invested in human beings”³.

Nowadays, the importance of human capital as a source of economic growth is undeniable. Countries are aware of the positive effects of human capital and are investing in this sector in expectation to contribute to the development of nations.⁴

¹ See Nerdrum and Erikson, 2001 pp. 127 ff.

² See Smith, 1976.

³ Marshall, 1920, p. 469.

⁴ See Wolff, 2000, for the role of education on economic growth; and Lucas, 1998, for the analysis of human capital accumulation and growth.

However, with the understanding of the value of human capital and the increasing movement of people, a modern threat to the economic development arises, namely, the 'human capital flight' or 'brain drain'. Beine et al. (2008) define brain drain as "*the international transfer of resources in the form of human capital and mainly applies to the migration of relatively highly educated individuals from developing to developed countries*"⁵. In other words, the brain drain represents the outflow of one of the most, for many countries, scarce resources: human capital. According to this definition one should be aware of the effect that brain drain might have upon the economic development of, mostly those less developed, nations. Therefore, considering brain drain, its effects, and the incentives behind those international transfers of human capital has become essential.

In the last years the number of skilled immigrants living in the OECD member countries has increased considerably. Between 1990 and 2000, there has been an increase of 63.7% skilled immigrants living in the OECD member countries. The majority of these skilled immigrants are from developing countries mainly located in Africa, Latin America and the Caribbean.⁶ Concerns about the effects of skilled immigrants on the human capital formation and economic growth have been a major issue for economists and government planners.⁷ Different analyses of the effect of skilled migration on economic growth have been carried out by various scholars. Wong and Yip (1999) analyse the effect of brain drain on growth, education, income distribution and welfare. Schiff and Wang (2006) carry out an empirical analysis of the impact of brain drain on the productivity growth of countries. Beine et al. (2008) analyse the effects of the prospect of skilled migration on gross human capital formation in the source country. The results present a diverse effect of the brain drain. While most theoretical studies illustrate a negative effect on growth, more recent empirical studies emphasise a positive effect on human capital formation in the source country. Either way, the brain drain has an unquestionable impact on the development process of a country.

⁵ See Beine et al., 2008, p. 631.

⁶ See Donquier and Marfouk, 2006.

⁷ See Bhagwati, 1976, for the discussion of some arguments.

1.2. Problem Discussion

In view of the importance of human capital and the effects of the brain drain on economic growth, it is important to analyse the incentives behind the decision of skilled workers to migrate internationally. According to the human capital theory, an international migration will occur when the expected return associated with the migration exceeds the costs that imply to move to a new country.⁸ In other words, individuals migrate because of economic incentives. However, pure economic incentives describe under the neo-classical approach of the human capital theory, may not be the only reason behind this type of migration.⁹ Other factors like institutions, discrimination, or market imperfections are also influencing the decision to migrate.¹⁰

Pearson and Lain (2002) determine that some reasons for migration to the United Kingdom are, among others, dissatisfaction, desire to travel, and the desire to work with modern equipment and in another society. Guellec and Cervantes (2002) specify the degree of autonomy given to researchers and the available resources as important incentives for migration among researchers. Murakami (2009) points out the technological environment of Japan as the main incentive for the migration of scientists and engineers. Nevertheless, under the importance of human capital for economic growth, it is also important to analyse the reasons that motivate these professionals to return back to the source country. By analysing these factors, governments acquire a better understanding of what should improve at the source country in order to attract their professionals back home.

1.3. Purpose of the study

Based on the importance of human capital for the development of a country and under the consideration of the high number of professionals in countries different than their home country, it is valuable to consider the motives behind their decision to remain abroad or to return home. In 1978 the United Nations Institute for Training and

⁸ See Murakami, 2009, p. 71.

⁹ Apart from the human capital theory, other theories are trying to explain the international movement of people. For a better description and analysis of these theories, please see Massey et al, 1998.

¹⁰ Iredale, 2001, point out that these factors are not considered under human capital theory of migration.

Research (UNITAR¹¹) presented the findings of a multinational comparative survey of professionals from developing countries who were studying abroad. The central aim of this investigation was to find out the motives behind the decision to return home or to remain abroad.¹²

Similar to this investigation, the purpose of the present study is to analyse the incentives of international Latin American masters students to return home or to remain abroad after completing their education at Lund University in Sweden. Through the analysis of these incentives it is possible to get a better understanding of the present factors influencing the decisions of skilled individuals to return back home or to remain abroad. With the help of a theoretical foundation, it is possible to draw some conclusions that could be helpful in order to attract highly qualified individuals back home and thereby minimise the effects of the brain drain through an increased return migration.

1.4. Population of the study

The study is based on 28 Latin American masters students currently studying at Lund University, Sweden.¹³ The study of this special group is highly important when considering the transitional phase they are going through at the moment of the research. While they are moving towards the end of their educational career, the decision for the future professional life has to be made. After completing their current education, these students will be embedded with an international degree that allows them to apply to their preferred jobs, not only at the home country, but all around the world.

An advantage of choosing this research group is their current situation. They already chose to migrate in a temporary base and for educational purposes. Now if they choose to return home, a return migration will take place. If they remain abroad, the source country will lose a part of its human capital. Another advantage is the fact that

¹¹ *"The United Nations Institute for Training and Research was established by the Secretary-General as an autonomous institution within the framework of the United Nations for the purpose of enhancing ... the effectiveness of the United Nations in achieving the major objectives of the Organizations, in particular the maintenance of peace and security and the promotion of economic and social development"* (Glaser, 1978, p. ii).

¹² See Glaser, 1978.

¹³ These students came to Sweden in order to complete a Master program at Lund University. This research will not consider those Latin American students that are on an exchange program, or those who are permanent residents in Sweden.

through this international experience, these students are in a better position to understand what it is to be in a different country, with a different language, and a different culture. This situation allows them to compare both locations in order to make the most convenient decision according to their personal and professional benefit.

1.5. Limitations of the study

The main limitation of the present study is the time required to contact the potential research subjects and to conduct the interviews. The researcher is aware that based on this limitation, not every potential research subject is considered in the study. However, through this investigation it is possible to get an overview of the current factors influencing the decision to return or to remain abroad. It is important to bear in mind that these incentives have a certain value according to each person's perception of the different factors. This value will vary according to their individual experiences and preferences. The researcher is conscious that the obtained results may be different when it is carried out in different research groups, in a different environment, and in the presence of different regulations.

1.6. Overview of the study

The study is divided into five main chapters. In the second chapter the methodology used in the study is described. The literature review, in the third chapter, gives a better understanding of core concepts and the importance of '*human capital*', and '*brain drain*' for regional development. The literature demonstrates that by linking both concepts and their importance in the regional development, it is possible to analyse the effects caused by the brain drain in relation to the human capital accumulation in the source country, as well as, the effects on economic growth. In the fourth chapter, the results of the conducted interviews obtained in Lund during the months of March and April are presented and analysed. The study ends with a concluding discussion of the findings in chapter five.

2. METHODOLOGY¹⁴

This chapter presents a description of the procedure used for this study. The research approach and strategy, as well as the chosen research type are firstly explained. A description of the data collection using primary and secondary sources is presented following by the reliability and validity aspects of the data. The process of data analysis is explained following Miles and Huberman's suggestions¹⁵. This chapter concludes with the generalization and the ethical aspects of the study.

2.1. The Research Approach and Strategy

According to Saunders et al.'s classification and in order to fulfil the purpose of this study, an explorative research study is performed. The empirical data is collected through semi-structured interviews following by a critical analysis of the findings. Through the explorative research the nature of the factors influencing the decision to return or to remain abroad are clarified. The flexibility and adaptation of this type of research gives the study the possibility to start with a broadly focus and narrow it down as the research evolves.¹⁶ However, the study presents some potential problems, such as the time required for the collection of the data, the risk that the interviews will not generate any useful pattern, and the possibility that no useful theory will emerge from the results.¹⁷

With consideration of the nature of the data used in the analysis, and in accordance with the purpose of the study, the investigation is based on an inductive approach. Contrary to the deductive approach, the inductive approach does not build hypothesis, but rather tries to understand the topic of study by collecting the data and analysing them in order to develop a theory.¹⁸

The strategy chosen to carry out the research is the *single case study* of Latin American masters students currently studying at Lund University. Through a case study it is possible to consider "*a contemporary phenomenon within its real-life context*".¹⁹ This is important as the interviews have more weight when they are carried out under

¹⁴ This chapter is based on a previous paper 'Research Design: The Methodology' written by the author of the present study.

¹⁵ Mile and Huberman, 1984, cited in Silverman, 2005

¹⁶ See Saunders et al., 2007, pp. 132 f.

¹⁷ See Saunders et al., 2007, p. 121.

¹⁸ See Saunders et al., 2007, pp. 117 ff.

¹⁹ Yin, 2003, p. 13.

ordinary life circumstances. In order to support the empirical findings, the study presents a literature review of core concepts used in the investigation. This theoretical frame is based on different secondary sources.

2.2. The Research Type

The literature presents two distinct research types: qualitative and quantitative. While the quantitative research is commonly based on collecting numerical data that allows drawing correlation between the theory and the research, the qualitative research focuses on specific situations or people, allowing better understanding of the research context. The qualitative research is classified in terms of '*process theory*', where the process and the mechanism that connect different factors are emphasised. This is important when it comes to obtaining a realistic view of the causation.²⁰

The requirement and the general characteristics of the present study are better accomplished through a qualitative research. Unlike the quantitative research, in the qualitative research the perspective of the study comes from the research subjects rather than representing the point of view of the researcher. Through the conducted interviews, the researcher is involved with the question, allowing the focus on the details which is important in the understanding of specific situations.²¹

2.3. The Data Collection

2.3.1. The Primary and Secondary Data

To accomplish the purpose of the study, primary and secondary data are used. The primary data are specifically collected for the research through semi-structured interviews conducted to 28 Latin American masters students currently studying at Lund University, Sweden. These interviews present standardized questions, while at the same time allow variation throughout the conversation according to the development of the interview.²²

To get to those students the *snowball sampling method* has been used. Through this method, the research subjects are identified through previous respondents. A

²⁰ See Maxwell, 2005, pp. 22 f.

²¹ See Bryman and Bell, 2007, pp. 425 f.

²² See Saunders et al., 2007, pp. 310 ff.

potential problem of using this method is that the sample may become homogenous. However, this may be an advantage as the study is based on a specific group (with similar characteristics) of the total population. Nevertheless, the researcher is aware of the major threat regarding the use of this method, namely, the exclusion of potential research subjects who are not in the same social sphere, or who are not in Lund at the time of conducting the interviews.²³

The secondary data is collected through different qualitative and quantitative published material, such as books and articles published in various journals. This study also made use of information from international organizations through their homepage. Secondary data are important for the construction of the theoretical foundation used to analyse the empirical findings of the study, while saving time and money. Their permanent and available attributes allow present and future verification and comparison between different collected data.²⁴

2.3.2. Semi-structured Interviews²⁵

“Good interviews are cooperative and well motivated; they are eloquent and knowledgeable. They are truthful and consistent”²⁶

The interviews were carried out personally and individually. Depending on the research subject, the interviews were carried out in Spanish or English. Those interviews made in Spanish were translated into English by the researcher after the interview. Each answer was written down separately and the anonymity of the research subject has been taken into account. The questions were formulated according to the purpose of the investigation and based on a similar study presented by the UNITAR in 1978. Although interviews give up to date answers to the research question, they also present some disadvantage regarding reliability and variability which should be considered.

2.4. Reliability and Validity threats

Reliability *“is often treated in relation to the issue of whether a finding is*

²³ See Saunders et al., 2007, pp. 232 f.

²⁴ See Saunders et al., 2007, pp. 248 ff and pp. 257 ff.

²⁵ A sample of the conducted interview is presented in Appendix 1 in pages 62 ff.

²⁶ Kvale and Brinkmann, 2009, p. 165.

reproducible at other times and by other researchers”²⁷. Threats to reliability may arise, on the one hand, when the research subjects do not answer to the questions as they really wish, but rather according to what they consider to be the better answer. On the other hand, the way of asking and interpreting the answer can cause some reliability threats. In order to minimise this problem and to test the consistency of the answers, some questions were formulated in different ways. For example, one of the possible answers for choosing Lund University as the destination for the study abroad was ‘*to explore prospects of migration*’ (question 1). In order to test the consistency of this answer, students were asked about their willingness to stay abroad at the time of applying to Lund University (question 1.1.). Further examples are questions 8 and 13 in which the students were asked about what factors should be changed in their home country in order to attract professionals, such as themselves, back home. While question 8 is more direct, question 13 is more general, but both should result in similar answers in order to verify the consistency of the responses.²⁸ After each interview, the given answers were verified by the research subject together with the researcher. The complete transcriptions of the interviews were sent per e-mail to each of the research subjects for further test of the interpretation. This helped reducing the potential for getting wrong interpretations of the answers. However, this does not mean that the answers will be the same under different conditions and period in time.²⁹

Validity refers “*to the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account*”³⁰. Threats to validity may arise regarding the time when the interview is taking place, if it happens after an important personal experience other than under an ordinary situation. Since the interviews were made face-to-face, the researcher was able to test the validity of the answer through the dialogue with the research subjects.³¹

2.5. The Data Analysis

Since the qualitative data comes commonly in form of words, these should first be analysed before they can be useful in the research. According to the literature, there

²⁷ Kvale and Brinkmann, 2009, p. 245.

²⁸ See Appendix 1 in pages 62 ff.

²⁹ See Saunders et al., 2007, pp. 312 ff.

³⁰ Maxwell, 2005, p. 106.

³¹ See Saunders et al., 2007, p. 150.

are various ways of analysing qualitative data that goes “*from the simple categorisation of responses to processes for identifying relationships between categories*”³². For the analysis and display of the data, this study will follow Miles and Huberman’s suggestion, as described below:³³

- a.) Data deduction: it implies simplification and narrowing selection of the raw data³⁴, in other words, decide which data are more compatible to answer the research question and to accomplish the purpose of the study.
- b.) Data display: it is basically the organization of the data. This is important when it comes to presenting the results in a way that they give clear and coherent information from which one can draw conclusions. Most findings are displayed in diagrams allowing better comparisons while recognising general patterns. Different written answers are quoted in the study in order to “*give the reader an impression of the interview content*”³⁵ and present the exact argumentation given by the research subjects.
- c.) Conclusion drawing: it means to understand the results, to present patterns and to explain them. It should be valid and reliable to their real meaning.
- d.) And verification: at this point the drawing conclusion are compared and tested with previous research in order to confirm their validity. The verification is made mostly by comparing the present findings to those obtained by the UNITAR in 1978.

2.6. Generalization

“[Q]ualitative research using semi-structured or in-depth interviews will not be able to be used to make generalisation”³⁶

Even though a researcher tries to find results that could be applicable in different research settings, the main purpose of the present study is not to produce generalizations, but rather to give an overview of possible factors influencing skilled individuals to return to their home country or to remain abroad. The researcher is aware of the influence of the unique characteristics of the research subjects and the

³² Saunders et al., 2007, p. 417.

³³ See Miles and Huberman, 1984, cited in Silverman, 2005, pp. 177 f.

³⁴ “*Data for which little, of any, data processing has taken place*” (Saunders et al., 2007, p. 609)

³⁵ Kvale and Brinkmann, 2009, p. 279.

³⁶ Saunders et al., 2007, p. 319.

environment where the investigation is taking place. Since the study is related to people, the results may be different under different circumstances. Through the reliability of the theoretical foundation and by comparing the present findings to previous studies, the robustness of the investigation can be tested and some conclusion can be made. It will be interesting to conduct similar investigations in the future in order to see possible variations and to analyse the reasons behind these changes.

2.7. The Ethical Aspect

When performing a qualitative research some ethical issue should be taken into account.³⁷ It is the responsibility of the researcher to maintain these ethical aspects throughout the investigation. At the beginning of the interview, each research subjects was informed about the anonymity of the participation and of the collected answers. The participation in the study was voluntary, allowing them to withdraw the process at any time. The dates and times for the interview were decided by the research subjects according to their availability and motivation to participate in the interview. The research subjects were also informed about the purpose, use, analyse and report of the results.

³⁷ A list of key ethical issues to consider during the research process is presented by Saunders et al., 2007, pp. 181 ff.

3. THEORETICAL FRAME

This chapter presents the theoretical foundation to support the empirical analysis and to strengthen the conclusion. It allows the reader to familiarise with the concepts of human capital, brain drain, and migration in order to get a better understanding of the importance of these core concepts for the economic development of nations. This chapter represents the basis for the discussion of the research topic.

3.1. The Importance of Human Capital

“Human resources constitute the ultimate basis of wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic and political organization, and carry forward national development”³⁸

Although the term ‘human capital’ did not arise until the end of the 1950s the importance of investments in human beings was already emphasised in Adam Smith’s work ‘Wealth of Nations’. Smith recognised that the causes for the high quality output obtained through more efficient production processes were not only based on investments in traditional factors of production such as physical capital, land, and labour. He observed that skilled workers were more productive than unskilled workers, clarifying the unexplained differences in the productivity and quality of the produced goods and services. According to Smith, and later to other scholars, knowledge and skills are factors that contribute to higher efficiency and should therefore be considered as an investment. As with any other investment, the time, money, and energy spent in the acquisition of new knowledge and skills should bring benefits to the investors, in form of improving living standards, increasing productivity, and even national economic development.³⁹ Under these considerations, human capital represents an important factor in the analysis and explanation of economic growth and the income gap between skilled and unskilled workers in an economy.

3.1.1. The Human Capital Theory

“No country has become rich with a universally unskilled population”⁴⁰

The increasing importance of knowledge and skills allowed some scholars to develop a theory where economic growth is explained not only through traditional factors of production, but rather through the endowed and acquired human capabilities.

³⁸ Psacharopoulos and Woodhall, 1997, p. 102.

³⁹ See Nerdrum and Erikson, 2001, pp. 128 f.

⁴⁰ Easterly, 2002, p. 84.

The theory of human capital is the study of investments in human beings through education made by individuals, organizations, or a country as a whole.⁴¹ Therefore, the most important principle behind this theory is the conviction that those acquired capabilities are as valuable as any other resources in the production process. Through education and training the productivity of the labour force is increased, contributing to the profitability of the organization and as a consequence to the economic development of the country.⁴²

Scholars like Schultz, Mincer and Becker have contributed considerably to the development of the human capital theory. Becker in particular gives a different perspective to the analysis of the theory. Thanks to Becker's contributions, the microeconomic foundations have been strengthened. This is important in order to understand the incentive behind investments in education. According to him, education should be considered from the individual, as well as from the society point of view. Under the individual point of view, the return on investments made in education should become visible through higher wages, while the return under the social point of view is perceptible through higher productivity.⁴³ It could be said that there is a sort of chain or relationship between three key elements in human capital, namely: education, productivity, and the labour market. While education is assumed to increase productivity leading to profitable companies, this should result in an increase in the wages of the productive and valuable labour force.⁴⁴

The human capital theory is rooted in the neoclassical economic concept which assumes perfect competition and perfect information. As conceived by its founders, this theory assumes that individuals are rational and they choose their education in order to maximise their utility. In other words, individuals will decide to invest in their education if the future benefits from this investment are higher than the costs, both monetary and non-monetary, of getting the education. Depending on each person's values, these benefits can consist of improvements in the professional as well as personal development, increase in wages, and other non-monetary gains. The same rational economic decision is applied to organizations, as well as countries as a whole.

⁴¹ See Appendix 2 in pages 65 f. for further definitions of human capital theory.

⁴² See Lucas 1988.

⁴³ See Sandmo, 1993.

⁴⁴ See Sobel, 1982, pp. 257 f.

Thereby, the fundamental nature of the human capital theory is that individuals' knowledge and skills are considered a form of capital, and thus an educated population represents a productive population.⁴⁵

3.1.2. Investment in Human Capital

“Many paradoxes and puzzles about our dynamic, growing economy can be resolved once human investment is taken into account”⁴⁶

For centuries, human beings have been considered as a factor of production in economic modelling. However, their importance has increased in the last decades, through the consideration of the productivity capacity of well educated individuals. Nevertheless, one point was still not considered, namely that people invest in themselves, and that in some cases these investments are very large.⁴⁷ Since human capital may increase productivity, it is important to analyse the way individuals allocate their time, money, and energy in order to accumulate new knowledge and skills. According to the human capital theory, individuals' knowledge and skills are considered a form of capital. Like any other capital, investing in human being should generate some sort of return. This is most commonly seen through an improvement in their performance which leads to increasing productivity and thus creates benefits for the entire society.⁴⁸

While investing in human beings, individuals are taking the position of investors. They, as rational human beings, would invest in the acquisition of new knowledge and skills if the present value of the future rate of return is positive. In other words, the decision to invest is made under consideration of the potential rate of return, the direct and indirect costs of investment, and the time of investment. Investing in education is more than just going to school; it represents a loss of potential income that could be earned if education were disregarded. Since the costs, in terms of potential earnings, of getting one year of education is lower at young ages, a profitable investment in human capital is made in the early stage of a person's life. In this case the potential earnings are not only assumed to be lower, but also the rate of return will be higher. This last assumption is founded on the fact that by investing in education at a young age, the time to collect the revenue from these investments is much longer when

⁴⁵ See Becker, 1993, pp. 392 ff.

⁴⁶ Schultz, 1961, p. 3.

⁴⁷ See Schultz, 1961, p. 2.

⁴⁸ See Nafukho, et al., 2004, p. 545 f.

compared to a person who has invested in the late stage of life.⁴⁹ Another consideration when investing in human capital is the amount of years that a person wants to devote to education before entering the labour market. Under the consideration of the present value of future returns, individuals will invest in higher education if the corresponding wages are higher than those for a person with a lower educational level. This is very important when deciding whether to invest in a university degree or whether to enter the labour market as a high school graduate.⁵⁰

The literature presents two main types of training which can be acquired by human beings: general training, and specific training, often in the form of on-the-job training. While general training is useful in various companies and even in different countries, most on-the-job training may only be productive in those places where the training has been obtained. A common example of a general training is the acquired elementary mathematics skills which are useful anywhere. However, those skills that are not applicable universally, such as, for example, the development of a specific process within the recycling industry, are considered specific training. Furthermore, it can be assumed that training obtained in a certain country, even though it is not firm-specific, is to some extent specific training rather than general. The idea behind this reasoning is that the general knowledge and skills obtained in a certain country may not be useful in a different country. This can be a case of country specific education, such as language, history, regulations, etc.⁵¹

Becker (1975) analyses the investments in these different types of training from the point of view of the investor. The main difference is visible in relation to who performs the investments and who benefits from it. In his work, Becker mentions that while general knowledge increases the productivity of various firms, on-the-job training is less portable from one company to another. This specific training most commonly increases the productivity of the workers in the firm that provides the training and thus increases the firm's marginal product. Therefore, firms will have a higher incentive to supply specific trainings, rather than investing in general education that increases the productivity not only of the one firm, but also of others. However, as Becker points out, firms might still provide general trainings "*only if they did not have to pay any of the*

⁴⁹ See Becker, 1975, 1980, and Schultz, 1971.

⁵⁰ See Borjas, 2008, pp. 246 ff.

⁵¹ See Becker, 1975.

costs”⁵². This is the case of the different internships offered by different companies. In some cases an intern may not earn money during the time of the internship, while in others the intern receives a salary which is not necessarily high. However, through the training the intern is getting professional experiences that will increase his or her future return. Becker also mentions that since firms do not have the incentive to provide general training, this should be provided by the government or by each individual who is interested in them.⁵³

Before moving to the next section, it is important to mention the importance of the social environment when it comes to investment in human capital. According to the literature, the social environment is described as human capital externalities. Human capital can not only be accumulated through general or specific education, but much more through social interactions involving groups of people. At school, at home, in the neighbourhood, or at the company, people are constantly learning from each other. There is a continuous effect of this social behaviour on the human capital accumulation which can be either positive or negative depending on the quality of the environment. The consideration of the social environment is very important, since it builds up the character of the individual and it has an influence over his or her way of thinking and decision making throughout life. Therefore, it should be taken into account when analysing the accumulation and investment in human capital.⁵⁴

3.1.3. Return on Human Capital

*“Truly, the most distinctive feature of our economic system is the growth in human capital. Without it there would be only hard, manual work and poverty except for those who have income from property”*⁵⁵

At the same time as human capital has been considered as a factor for economic growth, the returns on investment in education have been estimated by different scholars. Investments in human capital lead not only to private, but also to social returns. A positive return on investment is normally the result of improvements in people’s performance. Since well educated labour is more productive than uneducated labour, the profitability of the firm increases through the increase in the productivity. One can assume that while firms are performing better, individuals will enjoy an

⁵² Becker, 1975, p. 20.

⁵³ See Becker, 1975.

⁵⁴ See Borjas, 2008, pp. 349 ff. and Lucas, 1988, p. 19.

⁵⁵ Schultz, 1961, p. 16.

increase in wages. This situation alters the nature of a person and generates benefit for the society. Thereby, the return on investments in human capital is visible not only in the firm, but also in the personal and social level. It is assumed that through education individuals have more opportunities in the labour market. It also improves the living standards of the individuals and creates a better social environment. Through education an individual has the possibility to change from a permanent unemployment situation to one with stable wages. It can also contribute to a decrease in the income gap between women and men. This will happen under the argument that a higher return on investment in human capital creates more incentives for women to get education and to become active in the productive sector. Thereby, by equalizing the individual human capital endowments it can be possible to achieve a more egalitarian income, status, and power across the different groups in the society.⁵⁶

Borjas (2008) presents the correlation between education and labour force participation rate, unemployment rate, and earnings in the United States. According to him there is a strong correlation between the level of education and these factors. In the findings, the group of people with a college degree have a higher participation in the labour force, as compared to the high school graduates. When it comes to unemployment and earning, the results show a higher unemployment rate and lower income for those with only high school qualifications, when compared to those with higher education.⁵⁷ Nevertheless, it is important to point out that, even though the importance of education is unquestionable, there are still well educated professionals who cannot find a job or who are working in areas in which they are not qualified. In this case there is a negative return on investments in human capital, rather than an expected positive effect.

A study in the analysis of the return on human capital investments has been made by Psacharopoulos and Patrinos (2004). They estimate the raw returns on education for 98 countries during the past years. The results show an overall higher return for the first years of education when compared to the secondary and tertiary education. The regions presenting the highest returns on investment in the earliest years of education are Latin America and other developing countries. When it comes to the return on schooling on average, they find out that it is highest in Latin America and the

⁵⁶ See Becker, 1993, pp. 392 ff and Sobel, 1982, pp. 256 ff.

⁵⁷ See Borjas, 2008, pp. 244 f.

Caribbean. Even though their results show an overall higher return to primary education, they also mention that the average rate of return for every subsequent year of education is 10%.⁵⁸ This represents an incentive for those developing countries to continue investing in their most valuable resource, namely, human capital.

3.2. The Threat of Brain Drain

“The economic prosperity and functioning of a nation depend on its physical and human capital stock”⁵⁹

A country is in need of valuable resources that can increase the internal production, generate profits, and contribute to its economic development. These resources can be physical, in the form of new technologies, land, infrastructures, or they can be other productive resources in the form of knowledge and skills which are embodied in the individual who acquired them. While physical capital is most likely to remain within the firm and the country where the investment is made, human capital is a more mobile resource which is not directly bought by these entities. The nature of human capital does not allow the separation of the capital from the individual that possesses this capital.⁶⁰ This special characteristic and the increasing movement of people create a highly mobile resource that may threaten the potential economic growth of those nations losing higher numbers of their human capital.

3.2.1. Definition of Brain Drain

As the importance of human capital increases, the demand for well qualified individuals also increases. Firms around the world are looking for skilled workers and people are moving from one place to another in search of new and better opportunities. The labour market is no longer domestic, but rather international. However, some complaints in relation to this type of migration materialised, triggering the emergence of the brain drain discussion in the 1960s. The term ‘brain drain’ represents the loss of well educated individuals through migration. According to this definition, a brain drain situation occurs when highly skilled individuals migrate to a new place. This type of migration is most commonly visible from less to more developed countries, generating losses in the less developed countries in terms of one of their valuable resources, their

⁵⁸ See Appendix 3 in page 67 for their findings regarding the regional average returns to investment in education.

⁵⁹ Olaniyan and Okemakinde, 2008, p. 158.

⁶⁰ See Schultz, 1971, pp. 48 f.

human capital. This situation is addressed in most classical textbooks in development economics through the following comment: “[t]he irony of international migration today [... is] that many of the people who migrate from poor to richer lands are the very ones that developing countries can least afford to lose: the highly educated and skilled. Since the great majority of these migrants move on a permanent basis, this perverse brain drain not only represents a loss of valuable human resources but could prove to be a serious constraint on the future economic progress of developing nations”⁶¹. However, one should not disregard the fact that developed nations are also experiencing human capital flight.

While talking about brain drain some clarifications should be made. First, not every migration is a brain drain migration. According to the Organization for Economic Cooperation and Development (OECD) only those with higher education and who obtained a university degree are characterized as part of the brain drain.⁶² Second, a brain drain is not necessarily represented by every skilled worker that migrates. Some professionals move to a new location for a short period of time. These movements are normally related to the acquisition of new training, or even for a vacation. This kind of migration, even though it is composed of skilled workers, does not represent a brain drain. However, once these individuals decide to hold a permanent employment abroad, than it will represent a brain drain. Under these two clarifications, a person is a “*brain drain migrant if he [or she] has the intention of holding permanent employment in a country other than the one in which he [or she] was educated up to a specified, high level*”⁶³.

Nowadays the threat to brain drain intensifies with the increasing number of international exchange programs within different universities around the world. Students are moving to core regions of the world to obtain new knowledge, trainings, and skills. In consideration to this situation, a brain drain migration can also begin from abroad, during the university period. Once abroad, these international students can make the decision to remain abroad and never return home, increasing the number of brain drain migration. An empirical study made in the United States shows that in the year 2000, nearly one-half of those foreign students in the United States intended on

⁶¹ Todaro and Smith, 2006, p. 76.

⁶² OECD, 2010.

⁶³ Grubel and Scott, 1977, p. 49.

staying abroad after completing their education. As the results of those decisions, what at the beginning was a temporary migration with the aim to build up new knowledge and skills ended up being a brain drain migration.⁶⁴

3.2.2. The effects of the Brain Drain

The main assumption behind the effects of the brain drain is the loss of capital through the migration of skilled workers to countries offering higher salaries, better working conditions, and superior living standards. Through these losses the main investments realised in individuals and the potential returns are also being lost. Since brain drain most commonly occurs from developing to developed countries, these losses are considered unfair for those countries in need of productive resources. The literature mentions that *“a nation’s aggregate output will be reduced by any emigration, but it will be reduced more by the emigration of a highly skilled person”*⁶⁵. A country is not only losing productive capital, but also potential governmental revenue generated through different tax rates in the source country. A government is in need of this tax revenue to cover the country’s necessary services, like defence and welfare. A reduction in the government’s revenue can thereby reduce the investment in education made by these governments. Under this situation a brain drain has a negative effect on investments in education and other social services provided by the state.⁶⁶

Even though earliest analysis on brain drain presented negative effects on the economic development of countries, most recent investigations give a more optimistic view on the brain drain phenomenon. Scholars like Beine, Docquier and Rapoport agree that brain drain is not as negative as it is commonly stated in the literature. According to them, there is a beneficial effect of skilled migration prospects on the human capital formation in developing countries. The main argument behind this reasoning is that the income differences across countries create higher incentives for those within the country to invest in education. In an open economy, individuals not only consider the domestic, but also the international labour market. Since wages are higher abroad and the only way to compete for those wages is through a higher level of human capital, these individuals will have higher incentive to invest in their education, and thus increasing the country’s human capital accumulation. They do not disregard

⁶⁴ See Morawska, 2007, p. 5.

⁶⁵ Grubel and Scott, 1977, p. 30.

⁶⁶ See Grubel and Scott, 1977, pp. 37 ff. For further literature related to brain drain and taxation, please consider the analysis made by Bhagwati, 1976.

the existence of skilled migration to more developed countries, but they emphasise that not all skilled individuals actually migrate. For their analysis, these scholars characterised two different brain drain effects, the '*ex ante brain effect*' and the '*ex post drain effect*'. The first effect considers increased investments in human capital accumulation fostered by the prospect of international migration. As mentioned before, higher wages abroad will create a higher incentive to invest in education and thereby, more ability to compete in the international market. The second effect is founded in the actual number of skilled migrations that occur in the country. They argue that even in an economy open to migration, not all skilled workers actually migrate internationally. Thereby, if the first effect dominates the second, the country is endowed with a higher number of educated people. In other words, the country experiences a '*beneficial brain drain*'.^{67 68}

Beine et al. (2008) investigate the net effects of the brain drain in 127 developing countries using counterfactual simulations. According to their findings in the aggregate level there is an overall gain from the brain drain. However, this does not mean that every country is experiencing a '*beneficial brain drain*'. Many small countries are still presenting a higher level of skilled migration when compared to the human capital formation in the country. This creates a situation where the '*ex ante brain effect*' is not big enough to offset the negative effect of the '*ex post drain effect*'. The reason behind their results of an overall net positive effect is attributed to the considerable gains from the main globalised countries like, China, India and Brazil. These authors conclude their work with the thought that, at least at the aggregate level, the brain drain migration has a positive effect on developing countries by an increase in the number of skilled individuals living in these countries.⁶⁹

3.2.3. From a brain drain to a brain gain

Another way of analysing the effects of the brain drain is by considering the potential positive effects of international experiences for the source country (once these skilled individuals return). In her book, Saxenian (2006) illustrates the importance and

⁶⁷ See Beine et al., 2001.

⁶⁸ However, it should still be consider that in a situation where the country is losing their highly educated citizens, the government is also losing in terms of potential revenues. This situation could lead to a lower investment in education, which generate either lower quality of education or a less number of educated people (See Grubel and Scott, 1977, pp. 37 ff.). Nevertheless, some people could still get better education, but at the cost of private investments.

⁶⁹ See Beine et al., 2008.

beneficial effects of skilled workers who return home after working abroad. Through the possibility to migrate to more developed nations, these Argonauts (as she calls them) are continuously acquiring, sharing, and spreading their knowledge with other professionals in different countries. Once they return to the source country, they are endowed not only with international experiences, but also with an international professional and social network that permits them to build up and to maintain the international connection needed when starting their businesses in their home country. These Argonauts have the contacts from abroad and the connections at home. They represent the bridge linking the necessary capital from abroad with the competitive advantage from home. They connect the local knowledge with the global economy, thereby creating a dynamic network of specialized and complementary economies around the world, emerging from the mobility of human capital.⁷⁰

A study made in two high tech cities in India: Bangalore and Hyderabad, illustrates the reverse migration of high skilled workers. According to this study, most of the well educated first generation are returning to India. The reason for their return is a combination of professional and personal factors. Even though they have the desire to return to their roots, in addition the prospects for development, the higher value of their salaries (in terms of purchasing power), and the new job opportunities in these two cities are important reasons for returning home. The effects of this return migration are similar to Saxenian's argument. Through their return new knowledge, connections, and capital are also entering the country. This represents a positive effect for the expansion of the Indian IT industry, and for the improvement of the social and physical infrastructure of these cities.⁷¹

According to these examples, there is potential for economic growth in less developed countries, inasmuch as the present losses of a brain drain in the source country can be transformed into future gains, once these professionals return home. However, for this to happen it is important that the source country creates the necessary conditions to attract these professionals back home. There are areas that should be improved and a number of actions that have to be applied in order to generate a brain

⁷⁰ See Saxenian, 2006, pp. 325 ff.

⁷¹ See Chacko, 2007.

gain or a brain circulation. Governments should invest in the quality of education and infrastructure, while at the same time create a more stable and open economy.⁷²

3.3. International Migration

“Workers are continually searching for higher-paying jobs and firms are searching for cheaper workers”⁷³

Estimations for 2010 show that around 214 million people, the 3.1% of the world’s population, are living in countries other than those in which they were born. It is projected that, in the more developed countries, an international migration of 10% of the total population will occur in 2010, which represents an increase of 2.8% comparing to the year 1990. One third of the global total international migrations are located in Europe. However, when it comes to specific countries, the United States is the largest recipient. According to the OECD, an important part of this migration is composed of university graduates from low-income countries.⁷⁴

The international migration has implications not only for the social, political and economic aspects of the country, but it also affects the living standards of those who decide to migrate. Labour mobility is mainly driven by incentives from the worker to improve their economic situation and from the firms to hire more productive workers. However, there are other non-economic forces that influence the decision to migrate. These should also be considered when analysing migration flows.⁷⁵ The literature presents different theories that are trying to explain the reasons behind migration. Most modern analyses are based on Nobel Laureate John R. Hicks hypothesis of wage differences across regions as a determinant for the probability of migration.⁷⁶ This leads to the idea that people move from areas where the job supply is scarce to areas where it is higher. However, it is important to bear in mind that migration involves adjustments to a new culture, a new language, a new environment, and new political conditions. All these factors also influence the voluntary decision to migrate. Therefore, explaining international migration only through economic mechanisms will disregard other

⁷² See Saxenian, 2006, p. 332. Similar to Saxenian, Daugeliene and Marcinkeviciene, 2009, mentioned the positive effects of the brain circulation and the importance of it in the economic development of a country. They illustrate these effects on some countries situations where the governments made different actions to create the required basis that stimulate a brain circulation.

⁷³ Borjas, 2008, p. 321.

⁷⁴ See UN, 2009 and Appendices 4, 5, and 6 in pages 68 ff.

⁷⁵ See Borjas, 2008, pp. 321 ff.

⁷⁶ See Hicks, 1963, p. 74 ff.

influential factors.⁷⁷ For the purpose of this study, three approaches are described and analysed. These approaches are grounded on the neoclassical approach where rationality is assumed, and migration is caused mainly by imperfections in the labour market.⁷⁸

3.3.1. Push-Pull Approach

“The extent and patterns of migration are clearly not shaped by immigration controls alone. Migration pressures at source influence the outcomes too”⁷⁹

Imperfections in the labour market create incentives to migrate. The disequilibria in the supply and demand for labour lead to differences in wages across regions. People are attracted to regions where the supply for labour, and consequently their wages, are higher. According to the push-pull approach, the lack of job opportunities and the lower wages in the source country represent ‘push’ forces of migration. While these ‘push’ forces are common in developing countries, ‘pull’ forces are normally present in more developed nations. These ‘pull’ forces are: higher wages, better job opportunities, and superior working conditions. These forces explain the increasing number of international migrations from less to more developed nations. Both forces are important when considering the prospect of migration, however, the literature mentions that in most cases ‘pull’ forces are more influential. Nevertheless, migration is a voluntary and personal decision and the importance of these two forces depends on the value a person gives to each of them.⁸⁰

During the 1980s and the 1990s, Latin American countries have experienced an increase of internal migration from rural to urban areas as a result of different structural adjustments. Through these adjustments countries seek to increase their export and thereby promote economic growth. However, the results were not as expected. A period of crises and depression followed these adjustment programs leading these countries to increasing unemployment, decreasing wages, and deteriorating working conditions. These created an unfavourable internal situation that pushed people to look for better

⁷⁷ See Weeks, 2008, p. 265.

⁷⁸ Consider Weeks, 2008, pp. 282 ff. and Morawska, 2007 for the description and analysis of further migration theories.

⁷⁹ Lucas, 2005, p. 5.

⁸⁰ See Weeks, 2008, pp. 272 f.

opportunities abroad. This is an example of a situation where ‘push’ forces were stronger than the ‘pull’ forces.⁸¹

3.3.2. Human Capital Theory

*“Brain goes where brains are, brain goes where money is
brain goes where humanity and justice prevails,
brain goes where recognition and healthy competition is assured”⁸²*

At the early stages of its development, the human capital theory was mainly a theory explaining the decisions to invest in new knowledge and skills. Over time this theory has been expanded to different areas of human beings in order to understand further economic decisions such as occupational choice, migration, health care, and even for planning the family size. The foundation of this theory lies on the assumption of rationality. Individuals make investments under the expectation of future returns.⁸³ Through migration, individuals are able to maximise their returns to investment in human capital, while considering potential opportunities in the home country and abroad. International migration, under the human capital theory, will take place if the present value of the lifetime earnings abroad is higher than those in the source country. This means that the incentive to migrate should decrease if the economic opportunities at the source country improve, or if the cost of migration⁸⁴ is high enough to outweigh the net gains of migration (even under the presence of large income gap).⁸⁵

A main characteristic of migration under human capital theory is that it is dependent on the individual human capital. It is, in a way, a selective migration where those sending countries will be losing their human capital while the receiving countries will gain from it. Losses occur most commonly in less developed countries that are not able to meet the wages and career opportunities of its skilled workers. Since they are more prepared to compete in the international labour market, the decision to migrate might also be much easier for skilled than for unskilled workers. The idea behind this theory leads us to one of the most questionable paradoxes in the development of countries, namely, the high level of investment in human capital in countries that are not providing the required opportunities in terms of salaries and careers. When a

⁸¹ See Robert et al., 1999, pp. 251 ff.

⁸² Dass, C.M.C., New Delhi, 1965.

⁸³ See Dobbs et al., 2008, pp. 789 f.

⁸⁴ Migration costs not only related to the transportation to the new place, it also included legal restrictions, differences in language and culture, and the absent of those social and cultural amenities associated with the source country.

⁸⁵ See Borjas, 2008, pp. 322 ff., Weeks, 2008, p. 282, and Morawska, 2007, pp. 4 f.

country is not offering those opportunities it is automatically pushing its human capital abroad, losing those previously realised investments. This situation is one of the current issues affecting the economic growth of many less developed countries around the world.⁸⁶

As mentioned before, this migration is a selective migration. This also means that not every skilled worker is able to migrate. The migration flow varies according to the person's obtained training. It can be the case that the training obtained in the source country is not the one required in the destination country. And even if the required training is similar to the acquired training there is always country-specific training that may influence the decision to migrate. As discussed in the section 3.1., specific trainings can be also related to a country in particular. If the person is contemplating migration, he or she should be aware of the specific knowledge required in the destination country. Some times people have to learn a new language, get a better understanding of new ways of doing things, or even work with a new technology. In order for a person to be qualified for a job abroad, the person first has to obtain this country-specific training. This represents further investments rather than returns on the already acquired human capital. Therefore, the type of training obtained in the source country and the required training in the destination country need to be similar in order to migrate.

3.3.3. Return Migration

*“No matter under what circumstances you leave it, home does not cease to be home.
No matter how you lived there – well or poorly”⁸⁷*

Many international migration theories analyse the reasons behind the movement of people from the source to the destination country. However, new studies are investigating the reasons that motivate people to return to the source country. This type of analysis is important when considering the importance of human capital and the potential for economic growth in the source country. As mentioned by Glaser (1978), *“[a] return migrant often bears a considerable amount of net gain for the home country since much of his [o her] education and usually all of his [or her] on-the-job training were gained at the expense of the developed country”⁸⁸*. Thereby, a skilled

⁸⁶ See Morawska, 2007, pp. 4 ff.

⁸⁷ Joseph Bredsky.

⁸⁸ Glaser, 1978, p. xxix.

individual who decides to return represents potential gains for the source country through contributing to the productive human capital of the country. However, if the first migration flow was positively selected, those returning back to the source country are the least skilled workers. In other words, if the majority of the immigrants in a country have above-average skills, then those less educated will face some difficulties when searching for jobs, and they will most probably end up returning home. In a case like this, return migration does not necessarily have positive effects on the economic development of the home country.⁸⁹

Therefore, level of human capital plays an important role in many different decisions affecting human beings. Education gives personal and professional improvement possibilities. It generates new opportunities at home and abroad, allowing higher mobility. It also represents influential forces for return migration. People with the knowledge from home and the experience from abroad may have an advantage once returning back. By contrast to the first migration, during the return migration there is no need to acquire country-specific knowledge or adapt to a new culture. Return migration may be seen to be simpler (when considering the requirements to migrate), however, this type of migration still not so common in most societies. According to Lucas (2005), the return to those countries with lower wages is rare. He also mentions that in most cases return migration is related to those who fail to succeed abroad.⁹⁰

According to the literature, return migration occurs for two reasons. First, a person returns based on initial decisions. Each individual has an optimal future plan in relation to their potential residential location. Some individuals migrate under the knowledge that they are returning home after a certain period abroad. This is the most common case of those individuals that decided to migrate for some international professional experiences, to build up new contacts, to accumulate financial resources, or to experience a new way of living. Independent of the reasons that motivate these individuals to move abroad, the decision to migrate has been considered for a specific period of time. Individuals in this group would return to the source country, after achieving those initial settled goals. The second reason for return migration is as a result of disappointments that may arise during the period abroad. One of the most common disappointments that pushes individuals to return is false information about

⁸⁹ See Borjas and Bratsberg, 1996.

⁹⁰ See Lucas, 2005, pp 15 f.

economic opportunities at the destination country. Many people leave in hope to improve their personal and professional situation. However, once abroad they are confronted with difficulties and obstacles that may have not been considered at the time of decision. Maybe they lack those country-specific knowledge required in the destination country. All these difficulties could force the individual to return to the source country.⁹¹

3.4. Conclusion

The importance of human capital is unquestionable. Educated people are more productive, increasing the profitability of firms, and contributing to the benefits of society. Education creates more equal opportunities and gives the possibility to look for new challenges. It also expands the potential labour market internationally. Since returns to investment in human capital are attractive, people, firms, and governments should have more incentives to invest in the accumulation of this resource. However, the increasing international migration can cause losses of human capital in some countries. The brain drain is still considered by many to be negative for the source country. However, new studies may demonstrate positive effects in the accumulation of human capital in the source country. Either way, the beneficial aspect of the brain drain is the acquired international experiences and the professional and social network which can be productive at the source country once these skilled individuals decide to return back home.

⁹¹ See Borjas and Bratsberg, 1996.

4. EMPIRICAL FINDINGS AND ANALYSIS

This chapter presents the findings from the interviews conducted with 28 Latin American masters students currently studying at Lund University, Sweden. The findings are critically analysed by the researcher and supported by the theoretical frame presented in the last chapter. Some similarities to the study presented by the UNITAR in 1978 are mentioned in order to test the validity of the findings. The chapter is divided into three main parts. In the first part the reader gets an overview of the reasons for studying at Lund University. A description and analysis of the incentives to remain abroad or to return home is presented in the second part. The last part offers an overview of the forces that may affect the decision to return and thereby reduce the effects of the brain drain by a potential brain gain.

4.1. First Migration: The decision to study abroad

The first migration (as an international student) is probably the most important step in many people's lives. It does not only represent a movement of people from one country to another, but much more a potential permanent migration. Most individuals move in a temporary fashion in order to try out the new environment and learn the new country-specific characteristics before making the final decision to permanent migration. The increasing number of exchange programmes across different universities around the world has contributed to an increase in the temporary migration. Students are moving to different countries in order to get different education, to experience different cultures, and to create a new personal and professional network. Some of them even move to explore the prospects of permanent migration. Independently of the main personal reason for studying abroad, the decision is made under the assumption that this temporary migration will be beneficial in the future. An international masters degree may open the doors to a new set of working opportunities, expanding the potential labour market from a domestic to an international market.⁹² Through an international experience, these students are also in the position to compare the different locations and to get a clearer view when making the decision of where to reside once completing their education.

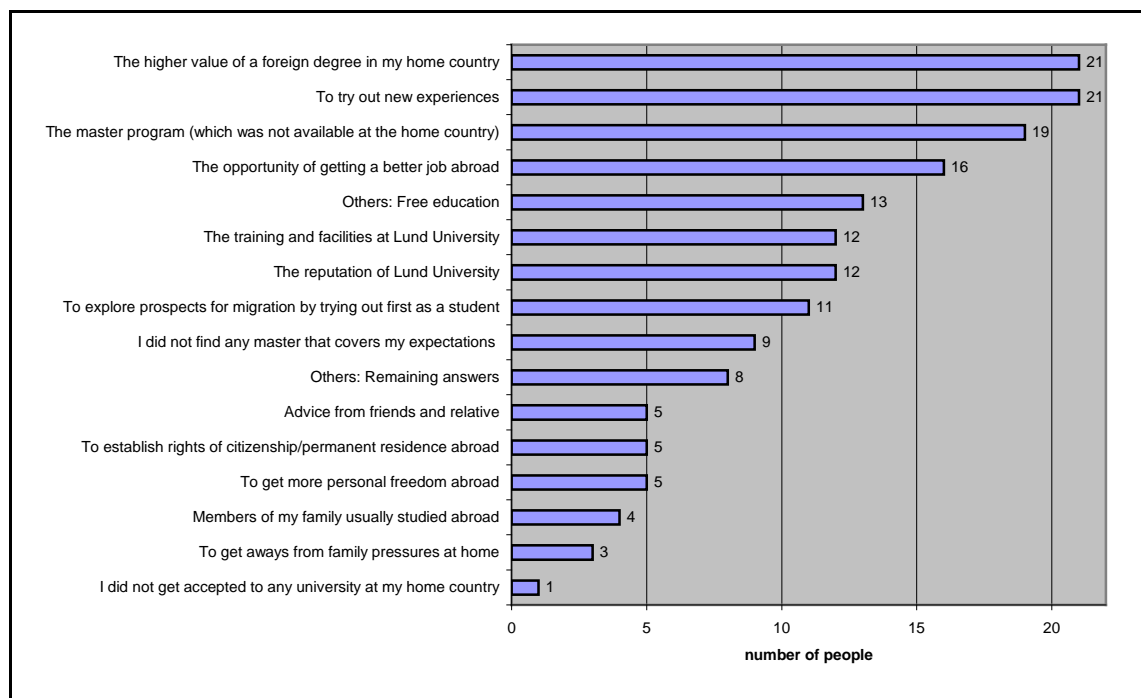
4.1.1. Why Lund University?

In the conducted interviews, the students were asked about the reasons for choosing Lund University as the destination for their study abroad. These students were given a set of possible options to choose from out of which they could choose all of

⁹² At least when the degree was obtained in a recognized university.

those factors that had an influence on their decision to study in Lund.⁹³ The majority of the research subjects mentioned the importance of an international experience as one of the reasons for moving to Lund. These students not only recognised the value of an international degree for their future professional career, but much more the possibility to try out a new experience in a different country and under different social and cultural conditions. As illustrated in figure 1 below, 16 out of 28 students pointed out the importance of an international degree when looking for job opportunities abroad. In a globalised world, where economies are integrating and markets are expanded, the possibility to compete for a position not only in the home country, but also abroad, would increase the potential future return on those current investments made in education. Thereby, under the perspective of human capital theory, the decision to obtain a masters degree at a foreign university is seen as a profitable investment which is expected to increase the future rate of return.

Figure 1: Reasons for choosing Lund University as destination for the study abroad.



Source: Interviews conducted in Lund during March and April 2010.

When it comes to investing in education, not only is the future rate of return on education important, but also the costs that imply the accumulation of this capital. Therefore, the cost of education should represent an important influential factor when

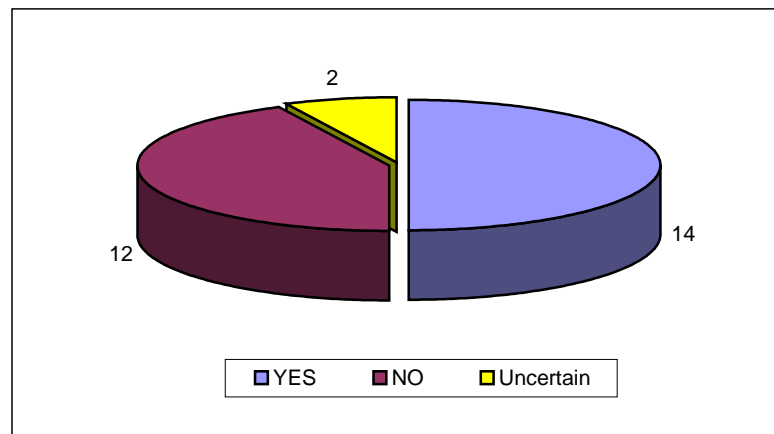
⁹³ The different possible options were formulated according to the structure of the study made by the UNITAR in 1978.

deciding where to study. As can be seen in figure 1 above, 13 students mentioned the importance of free education as one of the reasons for choosing Lund University. There may be reason to believe that this answer would in fact have been much stronger, since it was not listed on the pre-formulated options given to the students to choose from.

The literature mentions that 'pull' forces are highly influential in most cases of migration. This statement is confirmed by the results obtained above. Not only is the importance of an international degree for future opportunities an important 'pull' force mentioned by these students, moreover, the academic benefits of Lund University, such as the reputation of the university, the training and facilities, and the free tuition, represent important 'pull' factors for more than 40% of the interviewees. However, one 'push' force seems very important when deciding to study abroad, namely, the absence of the appropriate or the attractive masters program in the home country. According to the results, 19 students came to Lund attracted by the masters program. From this result, one could assume that in these cases the source country lacked sufficient variety of masters programmes thus creating a migration flow of students in search of more attractive or advantageous educational careers.

4.1.2. The first incentive of a permanent migration

As it can be inferred from the results in figure 1 above, only five students made the decision to study at Lund University with the intention of establishing rights of citizenship or permanent residence abroad. However, when it comes to exploring the prospect of migration by trying it first as a masters student, this number increased to eleven. In order to confirm these results, all 28 students were asked about the willingness they had to remain abroad at the time of application. The answers to this question are displayed in figure 2 below. From the 28 research subjects, 12 applied to a masters program without considering the prospect of staying abroad. Two students were unsure and the remaining 14 students were willing to stay abroad already at the time they decided to apply to Lund University. This shows an inconsistency in the given answers. However, this could be due to an ambiguity in the first question potentially leading to possible misinterpretation of the question, while a more certain answer could perhaps have been given under a more direct question, as is the case in the second question.

Figure 2: Willingness to stay abroad at the moment of applying to Lund University

Source: Interviews conducted in Lund during March and April 2010.

4.2. The trade-off: Stay abroad or return home after completing a masters program at Lund University

The investment made in a masters program in a foreign country is not only beneficial for accumulating new personal and professional experiences. It is also represents a way to compare and to make the most suitable decision regarding the future professional life. Through the experience in Lund, these Latin American students were confronting a new culture, a new environment, a new language, and a new way of life. Now that their year abroad is coming to an end, they are in a better condition to make the most appropriate decision regarding their future life. Their personal willingness to remain abroad or to return home will lead them to very different choices. Depending on each personal decision, it will either increase the losses of human capital in their home country, or it will generate a brain gain if they decided to return home.

In 1978 the UNITAR presented the findings of a multinational comparative survey involving persons from developing countries studying in developed countries. The aim of the research was to find out the forces influencing their decision of where to study and where to search for a job. Unlike other investigations, it involved not only economic incentives, but also personal motives as well as social influences. The findings obtained by the UNITAR showed that that the majority of the students from developing countries studying abroad were planning on returning to their home country. However, many of the graduate students were temporarily working abroad before returning home. According to the findings, their decisions were based on a combination of economic and non-economic incentives. The potential income, the

quality of jobs, and the number of jobs available abroad were influential forces motivating foreign students to stay abroad. As regards to the reasons for returning home, the findings show that non-economic forces such as family, friends, patriotic feelings, as well as unfamiliar social settings, and racial and ethnic discrimination abroad were highly influential.⁹⁴

Similarly to the investigation conducted by the UNITAR, the aim of the present research is to analyse the different forces that either attract Latin American students back home, or motivate them to remain abroad. The next sections show the findings obtained through the interviews which may explain the actual incentive for permanent migration.

4.2.1. The willingness to stay abroad or to return home

As pointed out in the previous section, at the moment of applying to Lund University 14 students were already willing to stay abroad after completing their education in Lund. By the time of the interview this number had increased. According to their answers, 19 students were planning to work abroad. This represents the 67% of the total research population who are not willing to return to their home country straight after completing their masters education in Lund. As shown in figure 3, only eight students were planning to return home straight after their education. One student was indifferent between going home or remaining abroad. This person mentioned the willingness to work where the most interesting job offer was made, indifferent of the location. However, as inferred from the interview, it could be assumed that if interesting job opportunities were available at home, the incentive to return would be higher than the incentive to remain abroad. During the interview this person made the following comment “*the best thing that can happen to me right now is that I get the job I applied for in my home country and I return [...] On the other hand, if I have the opportunity to stay here it will also be a good experience. It depends on where the door opens*”.⁹⁵ There are also reasons to believe that this person was more attracted to the home region, when considering the following comment, “*I will work here, in Europe, but I will not stay here for the rest of my life, when in the Cono Sur⁹⁶ I will stay for the*

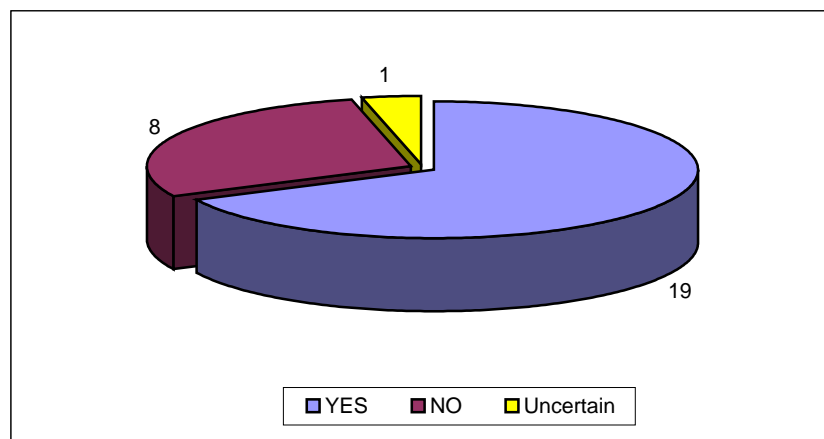
⁹⁴ See Glaser, 1978.

⁹⁵ Interview 012, Date: 02-04-2010.

⁹⁶ Cono Sur or Southern Cone is composed by the most southern areas of South America. It includes the countries Argentina, Chile, Uruguay, Paraguay and the south region of Brazil.

rest of my life”⁹⁷. This shows that in case of working abroad, the willingness to return home in the future should not be disregarded. Similar to this person, there were higher incentives among the large majority of the interviewees to return back home after one or two years of international professional experience. As was mentioned during an interview “*I am willing to go back to my home country after two years. First I want to get some working experience in Scandinavia*”⁹⁸. This is a positive aspect for those countries currently losing their professionals. Once these professionals return home, the source country can profit from the effects of a brain gain, as was discussed in the theoretical framework section. However, the fact that the majority of the interviewees are willing to return home sometime in the future still means losses for those developing countries that may need professional labour force today, in order to support their economic growth.

Figure 3: Current plan to stay abroad after finishing their education at Lund University



Source: Interviews conducted in Lund during March and April 2010.

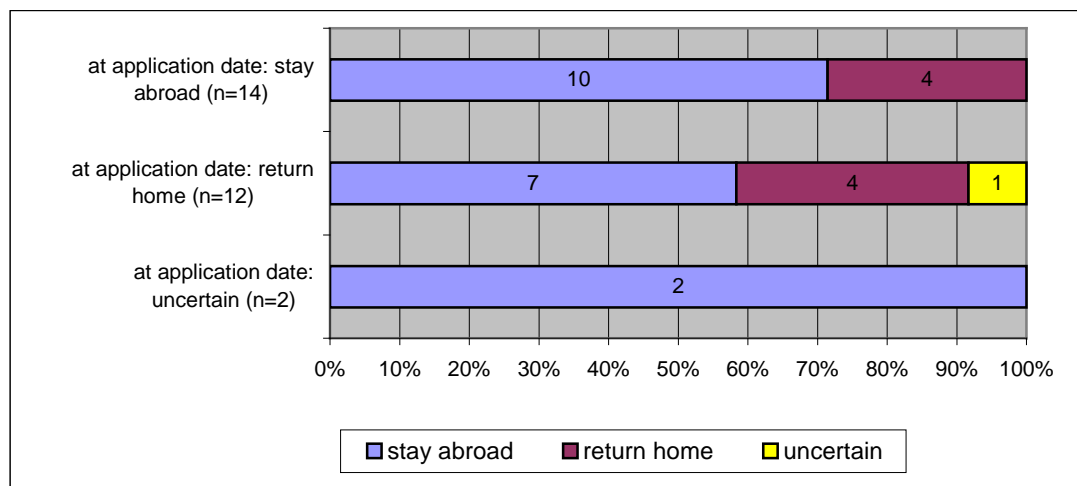
As mentioned in the theoretical frame, a temporal migration allows one to build up a better image of the country where one is willing to migrate. It gives the opportunity to compare and to evaluate different locations. Thus changes in the initial decision may arise. As shown in figure 2, by the time of application, already 14 students were willing to stay abroad. Now, at the end of the time in Lund, the willingness to remain abroad has increased. There are 19 students planning on remaining abroad. However, these increases do not mean that every student who was willing to stay abroad at the beginning of the masters program continues with the same

⁹⁷ Interview 012, Date: 02-04-2010.

⁹⁸ Interview 002, Date: 28-03-2010.

motivation. Some of them are now returning home. A similar situation occurs in the group of people who at the beginning were not planning a permanent migration, but now are looking for opportunities in countries different than their home country. These changes are shown in figure 4 below.

Figure 4: Changes between first and second decision to remain abroad



Source: Interviews conducted in Lund during March and April 2010.

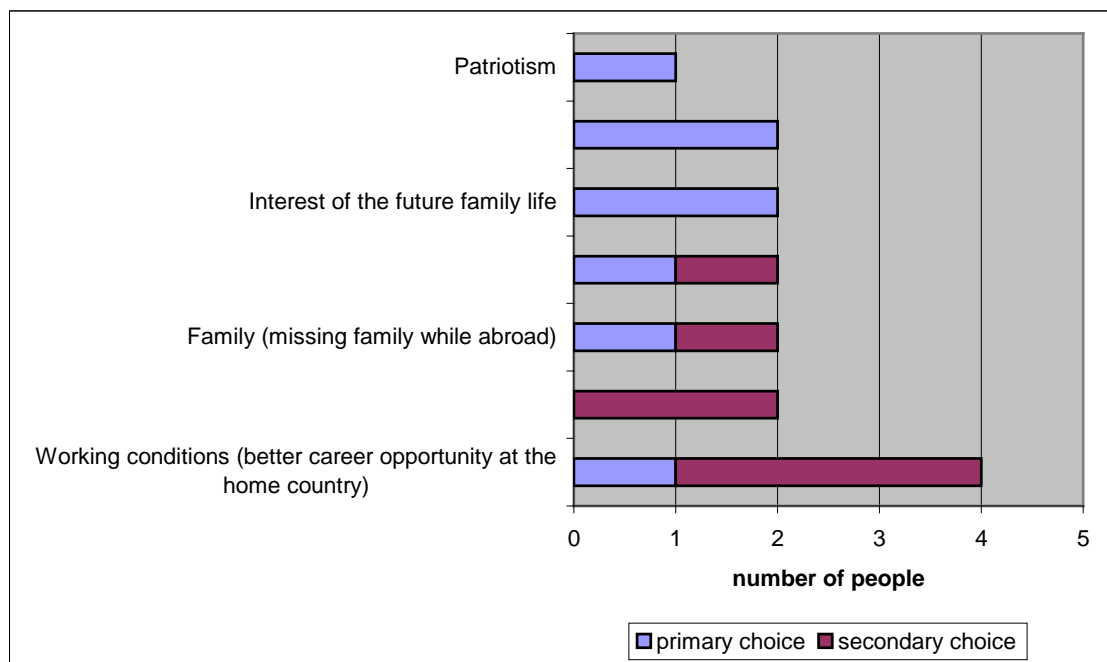
According to the results, from the 14 students willing to stay abroad at the application day, only 10 maintain the same plan. The other four students have decided to return home after finishing their education in Lund. On the other hand, seven of those who applied to Lund University without being willing to remain abroad are now planning on staying. The two persons who at the beginning of the masters were unsure about staying abroad or returning home have decided to stay abroad. The different reasons behind their decision are described in the next two following subsections.

Before moving to the next subsection however, it is important to mention that although 19 students are currently planning and willing to stay abroad, it could be possible that this number will vary if the right job offer comes from the home country, if they do not get any job offer abroad, or if they are confronted with new visa restrictions and migration policies in the destination countries. Under the consideration of these possible situations, the percentage of return migration could increase and thus the potential time abroad may decrease.

4.2.2. Reasons behind the decision to return home

According to the findings only eight students are returning home after completing their education. This small number does not provide a clear pattern in order to draw general conclusions. However, it is possible to find some similarities to previous studies. As illustrated in figure 5 below, the reasons to return are a combination of diverse career and non-career related factors. Similar to those results presented by the UNITAR in 1978, scholarships are influential factors in the decision to return. Students sponsored from the source country are more likely to return since they are subject to some regulations regarding the obtained scholarship. Thereby, conditional scholarships could be considered as a government's tool to minimise the potential brain drain generated in less developed countries if their students decide to remain abroad.⁹⁹

Figure 5: Factors behind the decision to return home



Source: Interviews conducted in Lund during March and April 2010.

According to the literature, through a temporary migration, an individual is in a position to experience and to compare the different locations in order to make the most convenient decision regarding their future professional life. As shown in figure 4, four students are now returning home even though they came with the willingness to stay

⁹⁹ According to the findings presented by the UNITAR, those students on scholarships were more likely to return compared to those that received private financial support (See Glaser, 1978, p. 132 ff.).

abroad after completing their masters education. Similarly to the literature, these four students are returning because of wrong initial expectations. A student mentioned during an interview *“[m]y perspective has changed. At the beginning I thought that with a masters degree from Lund University I would stay in Europe. However, things have been changing and I realised that the only fact of having a masters degree from a European University does not open you doors. One first needs the language rather than the degree [...] . I also realised that if I would stay in Sweden, the level of job that I will get would be much lower than what I could get in my home country”*.¹⁰⁰

These students are in a beneficial position. They are aware of the potential opportunities not only at home, but also abroad. They have a better idea of the international labour market competition. Perhaps, they even realise factors that were not so important in the past, but may be influential once abroad. As shown in figure 1, the value of a foreign degree in the home country is recognised by the majority of the research subjects. This perception also influences their decision to return. A student mentioned the following, *“[w]hen I came, I was planning to stay in Lund, but now I see that it will be easier for me to get a better job in [...my home country...]. If I stay in Europe I would maybe have to work in areas that I will not be able to choose from. In [my home country] I would have the opportunity to choose where I want to work”*¹⁰¹. The present results are in accordance with the human capital theory, where students as rational human beings, and under the assumption of perfect information, are choosing those options which maximise their future rate of return on investments made in education.

Unlike those factors presented in figure 5, factors like alienation and discrimination abroad, potential income and living standards, and the available equipment and technology at the home country are less important when deciding to return back home. These are perhaps less important under the consideration that the source country is assumed to be a developing country and the potential income or technology available in the country is less attractive when compared to those abroad. It could also be the case that these students give less value to these particular factors and thereby, they do not represent an influential factor for returning home.

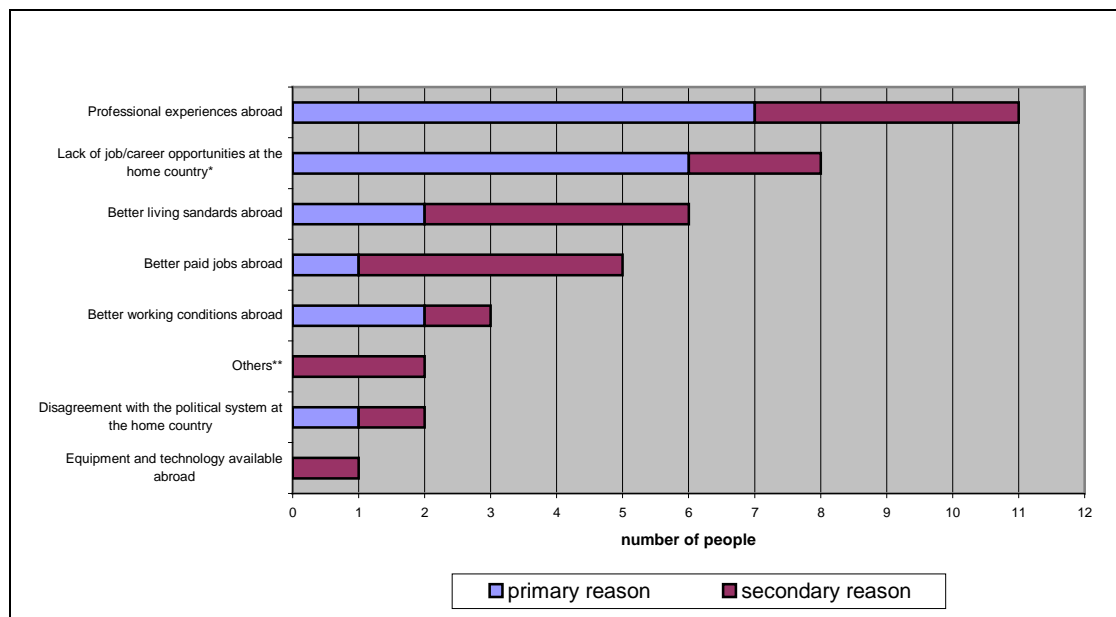
¹⁰⁰ Interview 022, Date: 09-04-2010.

¹⁰¹ Interview 011, Date: 31-03-2010.

4.2.3. Reasons behind the decision to stay abroad

When it comes to the 19 students planning to stay abroad, the findings show a similar pattern to the results presented by UNITAR in 1978. For this group of students, economic factors are more important when it comes to the decision to remain abroad, while the motivation to return is mostly based on non-economic incentives, like family, friends, and culture. The specific reasons that motivate these 19 students to remain abroad after completing their education are illustrated in figure 6 below.

Figure 6: Reasons for staying abroad directly after completing their masters program



* For three students the primary reason for staying abroad was the desire to complete a PhD program, which is not available at the home country. Since a PhD position can be considered as a professional career, these answers were considered under this point.

** Others include experience living standards abroad and development work abroad.

Source: Interviews conducted in Lund during March and April 2010.

The main reason for staying abroad is the desire to acquire international working experiences as mentioned by a student during an interview, “*I want to acquire a professional experience abroad. Not only an international degree, but also an international professional experience*”¹⁰². These students not only consider the importance of an international degree when looking for a job, but also the accumulation of professional working experiences. The decision to remain abroad in order to get some international working experiences could be very understandable in times when the competition in the labour market is increasing and firms are looking for more qualified people. Even though the majority of these students are willing to return home,

¹⁰² Interview 015, Date: 06-04-2010.

they first want to be able to apply their skills and knowledge in places from where they may potentially learn more, while at the same time get a better recognition for their personal and professional value. *“I will return maybe after one or two years. First I am looking for international working experiences. I am also interested on the higher salary and the better working conditions abroad”*.¹⁰³ An international working experience would perhaps allow them to get a competitive advantage over those who did not have the same opportunity, once they decide to return home. Under the human capital theory, this seems to be a very profitable decision that may not only increase the current return on their investments in education, but also the potential future rate of return.

Another important reason in the decision to remain abroad is the lack of career opportunities in the home country. Many students try to find their way to a better economical situation through the accumulation of human capital. As described in the literature, a person invests time and money in order to get a valuable degree that can increase their future rate of return. As with any other investment, these students are looking to allocate their human capital in order to obtain better benefits. However, if the accumulated human capital is not in demand or not even recognised in the home country, these students may rather look for alternatives abroad. One of the common problems of developing countries is the lack of economic growth. If the economy is not growing there is also a lack in the demand for labour, generating unemployment and increasing migration. This can also be considered for those three students who are planning to stay abroad for the PhD studies. It could be that those Latin American countries do not have enough PhD programmes or perhaps the available programmes are not interesting for these students.

Further reasons for remaining abroad are factors such as better living standards and better working conditions abroad. Even under the consideration of better opportunities at the home country, differences in the living standards between countries strengthen the final decision to remain abroad. According to a masters student *“the job opportunities at [the] home country are better with an international degree, but I like the living standards [abroad]”*¹⁰⁴. For many of the research subjects a better living standard means to be secure in the place where one lives. For some of these students, security is even more valuable than economic incentives when making plans about the

¹⁰³ Interview 005, Date: 30-04-2010.

¹⁰⁴ Interview 015, Date: 06-04-2010.

future life. This was clearly mentioned during one interview: “[f]or safety reasons I will prefer to raise my children abroad. In my country money is a factor that creates insecurity. The more money a person has, the less safe this person will be, and more of the income would probably be spent in protection and security.”¹⁰⁵

It is interesting to see that equipment and technology available abroad are less important for the decision to remain abroad. This could mean that, either there are no differences in the available equipment and technology across countries, or that they do not constitute a necessary element within the research subjects’ professional and personal development. Another less influential factor is the disagreement with the political system at the home country. Similarly to the equipment and technology, this result could be perceived in two ways, either the research subjects are in agreement with the political system at home, or they do not care much about it. Either way, both factors do not represent major incentives in their decision to remain abroad.

A permanent migration is not a decision made upon one particular factor. It is more a combination of different pull and push forces, either from the home country or from abroad. The decision to remain or to return is not easy and it may also be affected by factors that have not been considered before. Through an international experience, these students are now exposed to a different perception of the situation in their home country, which may change their way of thinking and deciding about the future. During an interview, a student expressed this situation by making the following statement “*last January I went back [home] and the problems of my country (poverty, insecurity, pollution, etc) were more visible for me now than before I left the country. I am terrified of going back and I also feel that I will not have the same working opportunities within my field of studies (Environmental Studies and Sustainability Studies). [...] I want to stay abroad to get new experiences which will increase my potential to find a job back home, once I return*”¹⁰⁶.

4.2.4. The preferred regions

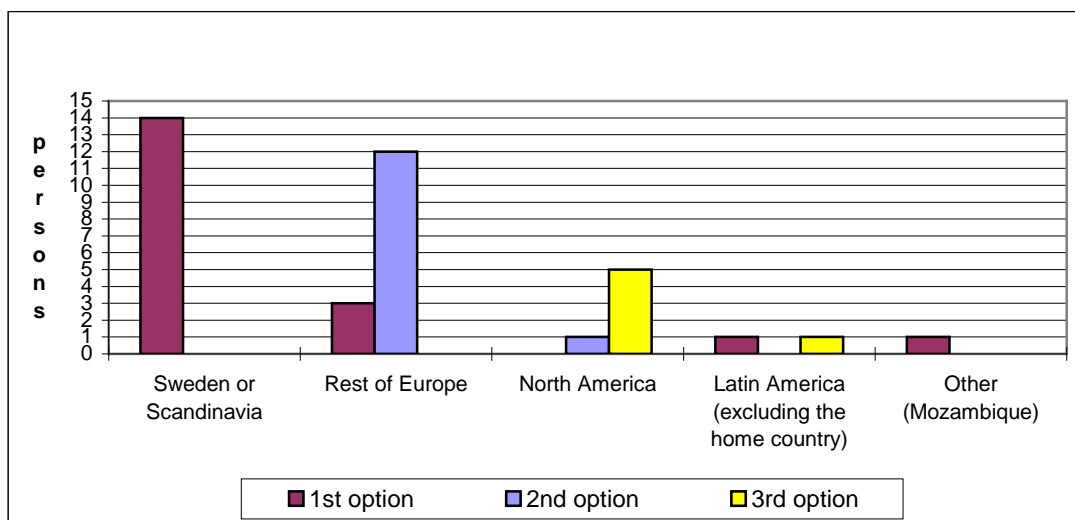
As has been presented, 19 students are planning to stay abroad. The reasons behind this decision were analysed in the last section. Now the question that arises is where these students are planning or willing to stay. According to the interviews, the

¹⁰⁵ Interview 011, Date: 31-03-2010.

¹⁰⁶ Interview 014, Date: 06-04-2010.

majority of these students prefer to stay in Sweden or another country within Scandinavia. Three students are planning to stay in some other country in the rest of Europe. One person is willing to migrate from South America to Mexico and another person is going to Mozambique after completing the education in Lund. As can be seen in figure 7, these results show a clear pattern between the preferred migration destinations. The favoured first destination is Sweden or Scandinavia. As the second option, these students chose the rest of Europe, leaving North America as third important option for migration.

Figure 7: Preferences across regions



Source: Interviews conducted in Lund during March and April 2010.

One potential explanation behind these results could be their personal belief that with a Swedish degree it will be much easier to find a job within Sweden or Scandinavia. Another possible explanation could be based on the value of the country-specific training acquired during their study. Through their experience in Lund, these students have acquired a deeper understanding of the social and cultural settings, as well as the political and economic aspects of this country, which they consider highly valuable. Since migration means adaptation to new situations, by staying in Sweden they do not have to learn all these country-specific aspects again in order to be integrated in the society. A third possible explanation is perhaps they have preferences for the Swedish country-specific aspects, such as civic rights, regulations, security system, etc.

In order to find out the reasons for their particular preferences, these students were asked about the different aspects of Sweden that they admire the most. One of the most common answers was related to the higher level of social equity in the country. In other words, the state is ensuring equal general opportunities for its citizens, by considering the society as a whole and not just the interest of a few. The importance of having fair access to education, health, and career opportunities was almost always mentioned in their responses. The fact that “[t]he basic needs are covered, either when one is working or not”¹⁰⁷ is very important for most of these students. These students not only value the obligation of the state towards its citizens, they also value the social and cultural settings of the country. In one interview the following was mentioned “one thing I admire is the level of the society, how the people think about each other, how the society cares about the social environment and not just about the personal interest”¹⁰⁸. Under these considerations it is also demonstrated that not only economic incentives are important in the decision to migrate. The social and cultural level of the country also plays an important role when choosing where to migrate.

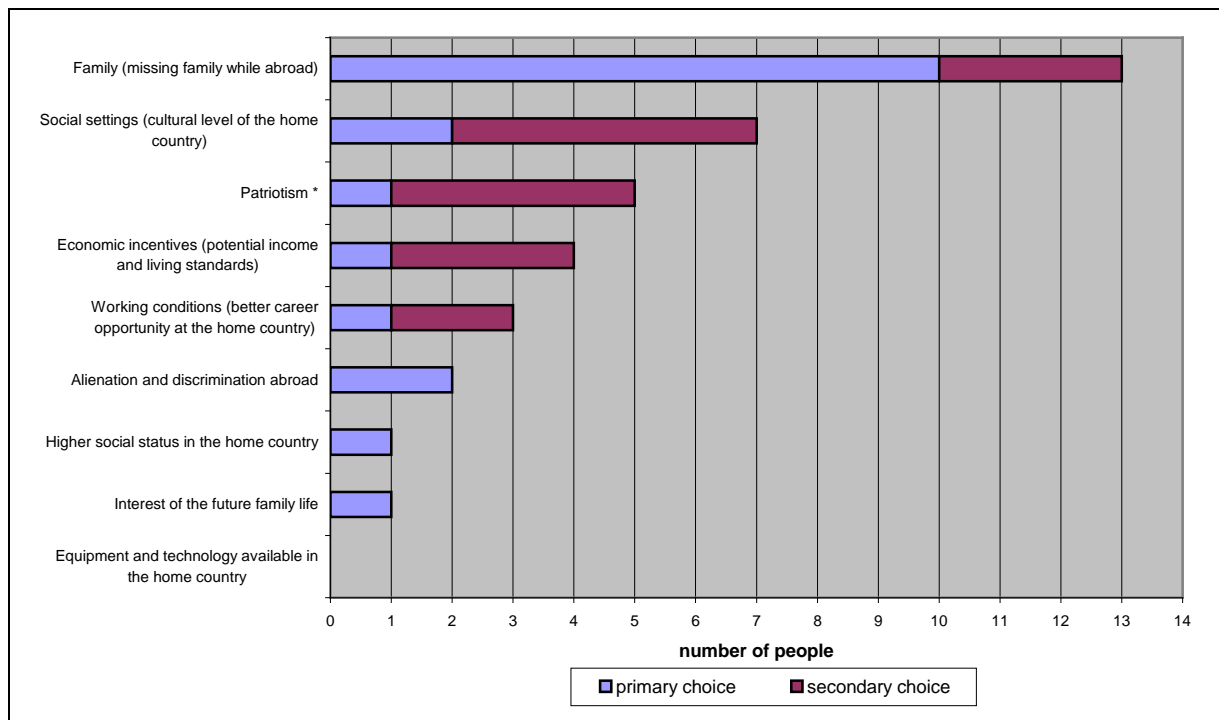
4.2.5. Pull forces from the home country

Human capital is an importance resource for the development of nations. Either if the state or each individual is investing in education, this investment is expected to give some positive personal and social returns. Considering these 19 students planning on staying abroad, Latin American countries are suffering a potential loss of human capital. An overview of forces affecting these students’ decision to remain abroad was presented in the previous section. Nevertheless, the home country also presents forces that may attract these students back home. Contrary to the reasons to remain abroad, the main forces from the home country that pull these students back home are non-economic incentives, as display in figure 8 below. The most important factor pulling them back home (under the current conditions in the home country) is the nostalgia for the family while abroad. Some of them also mentioned the importance of the social settings and the desire to contribute to the development of the home country.

Figure 8: Reasons that pull students back home

¹⁰⁷ Interview 018, Date: 07-04-2010.

¹⁰⁸ Interview 008, Date: 31-03-2010.



* Desire to contribute to the development of the home country

Source: Interviews conducted in Lund during March and April 2010.

For some students, although not for the majority, the potential attractive income and living standards at home are still considered important forces attracting them back. This could be perhaps explained through the higher value of an international degree in those countries, giving them a competitive advantage. Less important factors are the equipment and technology available in the home country, the interest of the future family life, and the potential social status these students may receive once they return. Two students mentioned that due to alienation abroad they will return. However, this factor seems not to be an important issue for the majority.

4.3. Reducing the brain drain: Factors influencing international migration

In accordance with the findings presented by UNITAR in 1978, factors like potential income and living standards, the quality and number of jobs available, and the existing equipment and technology are pulling professionals to more developed nations. While these factors are increasing the desire to migrate internationally, other factors like alienation and discrimination motivate these migrants to return back home. Migration is not only driven by forces from the destination country, it is also influenced by different forces from the home country. It can be assumed that a person who is

satisfied with the conditions in the home country will have fewer incentives to find new opportunities abroad. Even under the human capital theory, professionals migrate if the future rate of return is more attractive somewhere else. If the rate of return abroad is similar or even smaller than in the home country, it could be assumed that no migration will occur. In line with the results from the UNITAR, an important reason for migration is the disagreement with the political system in the home country, while the desire to contribute to the development of the home country supports the decision to return.¹⁰⁹

Through the conducted interviews, the researcher was looking for those factors that are pushing these professionals to remain abroad. By analysing the current situation at the home country, it could be possible to find out those areas that should be changed in order to attract these professionals back home. A more attractive environment could foster the return migration and countries could benefit from the effects of potential brain gains.

4.3.1. Attracting professionals back home

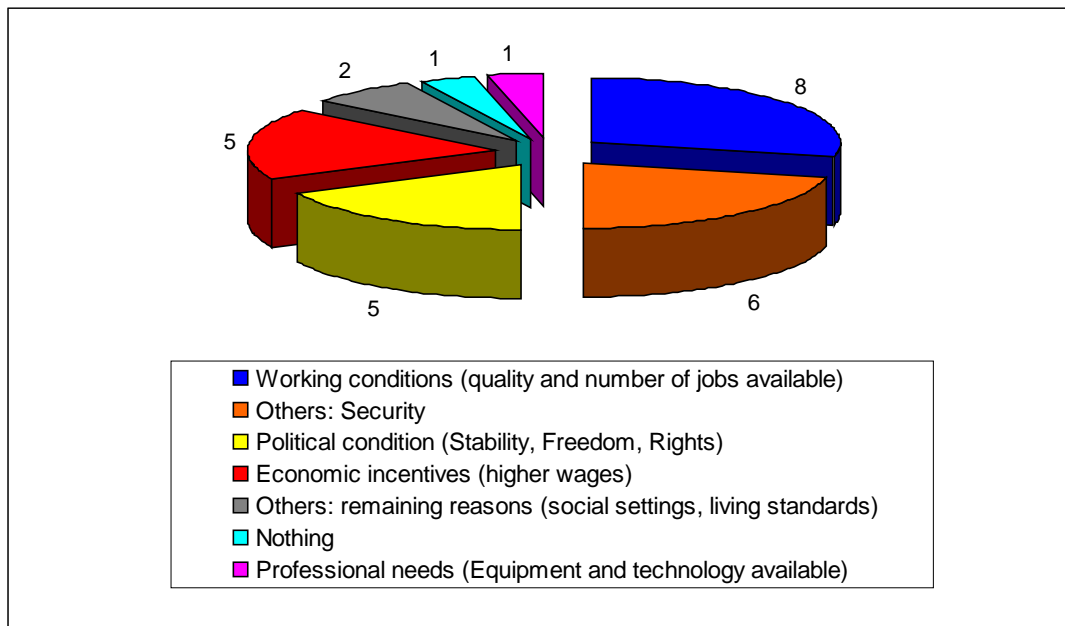
In times where international migration is increasing and less developed countries are losing some of their well qualified citizens, it becomes important to take actions to reduce the negative effects of a brain drain, while considering the positive effect of potential brain gains. This is not an easy task, and each government should act according to the incentives and needs of its citizens, but over all *“the government should think more [...] in covering the interest of the majority [...] and not just looking for the satisfaction of the needs of the upper class”*¹¹⁰. Even though the present study cannot provide any country specific recommendations, through the obtained findings some general conclusions can be drawn about possible changes for Latin American countries.

The research subjects were asked about those factors in their home country that should be changed in order for them to feel more willing to return. As shown in figure 9 the lack of career opportunities in developing countries is one of the factors that needs to be improved in order to attract professionals back home.

Figure 9: Factors that should be improved in order to attract professionals back home

¹⁰⁹ See Glaser, 1978, pp. 88 ff.

¹¹⁰ Interview 018, Date: 07-04-2010.



Source: Interviews conducted in Lund during March and April 2010.

Migration flows, as discussed before, are most commonly seen from regions with a lower demand for labour to regions with a higher demand for labour. This implies that so long as there are not enough jobs or not enough attractive job opportunities in the home country, it is difficult for these countries to attract professionals and to increase their level of human capital. Thereby, one suggestion for these countries is to consider the creation of more working opportunities to cover the increasing supply of skilled labour. This is definitely not an easy task for many economies. If job opportunities are more easily created in growing economies, one could believe that as long as the economy is not growing, the demand for labour will remain the same, while the supply of labour continues growing. It might also be the case that in some countries *“the market controls everything. For this reason [...] the government cannot do much in creating new job opportunities”*¹¹¹. Either way, there are still areas where the government can contribute in reducing the international migration and increasing the return migration.

During the interviews, many students mentioned the importance of having better working conditions in terms of rights and protection to the employees. From the different responses one could infer that *“those working conditions [in Latin American countries] are bad. People work without being able to enjoy their personal life”*¹¹². If

¹¹¹ Interview 017, Date: 07-04-2010.

¹¹² Interview 009, Date: 31-03-2010.

the government is not able to generate new job opportunities, it could perhaps guarantee better working conditions through the creation of new regulations and rights in favour of the employees. However, as inferred from the interviews, governments are not doing much to improve the working conditions. According to various comments made by these students one could get the impression that some governments are actually allowing companies to create their own most advantageous rules instead of protecting the interest of the society.

This situation is perhaps possible due to the existing level of corruption in the country. Corruption could even be seen as a competitive advantage of some countries. As a student mentioned, *“at the moment the competitive advantage that the country and its inhabitants have is to be corrupt, to be able to change the rules according to what they want to achieve”*¹¹³. Another student also mentioned that *“the performance of the whole system depends on corruption [...] The system of corruption is so rooted in the culture, that if one removes it, the citizen will not know what to do”*¹¹⁴. Thereby, another way to attract professionals back home is through the creation of norms and rules that protect the employees’ rights, while at the same time respecting and maintaining them. When it comes to the creation of norms and rules, the government should also consider the importance of a certain level of social equity in the country. Citizens should enjoy equal opportunities, not only of education, health, and security, but also when it comes to finding a job. A considerable number of the interviewees mentioned the importance of having personal contacts when looking for an interesting job. The human capital level in these cases seems to be less important, giving place to a situation where in order to get interesting positions *“a person needs to know people, have contacts. In many cases the acquired education is not enough to get the job”*¹¹⁵. There is a higher value *“to the personal character, the social part, and less to the academic knowledge”*¹¹⁶. In order to create a more equal society, good institutions which guarantee the *“value [of] the people’s knowledge and not [of] the relation they have to get a job, like family names and contacts”*¹¹⁷ should be settled down and cultivated within the society.

¹¹³ Interview 003, Date: 28-03-2010.

¹¹⁴ Interview 024, Date: 10-04-2010.

¹¹⁵ Interview 010, Date: 31-03-2010.

¹¹⁶ Interview 011, Date: 31-04-2010.

¹¹⁷ Interview 027, Date: 15-04-2010.

As can be understood from figure 9, security is the second most important factor influencing the willingness of these students to return. According to the findings, six students classified security as the first factor that should be improved in order for them to feel more attracted to their home country. *“Ten years ago, depending on the economic situation of a person, the life in [my home country] was better than abroad. Nowadays, the people cannot enjoy their money for fear of being robbed, kidnapped, etc”*¹¹⁸. This represents another important area where Latin American countries could improve; not only to stimulate citizens to return, but also to attract foreign investors and thus generate more job opportunities within the country.

Another way to attract these professionals back home is by improving the political conditions in the country and by creating more competitive wages. Instability and disagreement with the current political system in the country are reasons that may discourage these professionals to return back home. By improving civic rights, increasing the political stability, and securing internal freedom, countries could create an attractive environment and stimulate return migration. The creation of competitive wages could be highly related to the supply and demand for labour. Thereby, it is a more complex situation that needs country-specific analysis and recommendations.

4.3.2. The income gap factor

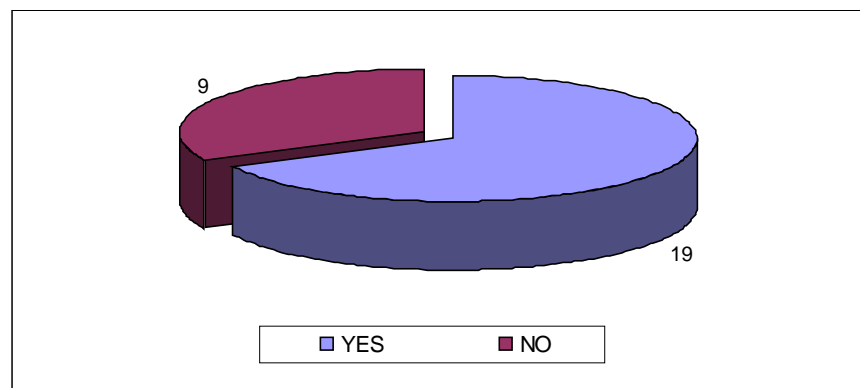
According to the literature a person invests in education in order to maximise future earnings. Therefore, a brain drain is most likely to occur in the presence of a substantial income difference between the source and the destination country. Individuals would favour those places where the return on their investment is greater. However, the results of this study show that there are other factors more important than attractive wages, such as international professional experience, lack of career opportunities, and even security. Nevertheless, as shown in figure 9, five students declared their motivation to return if wages at the home country were higher. While not for everyone, the economic incentive is still a decisive factor for migration.

In order to investigate the importance of the economic reasons for migration, the 28 students were asked about their incentive to migrate internationally under similar job opportunities and relative wages across countries. As can be understood from figure 10 below, 19 students would still have the motivation to migrate and only nine students

¹¹⁸ Interview 022, Date: 09-04-2010.

express the preference to stay home if there were similar job opportunities and relative wages across countries. Four of these nine students were currently planning on staying abroad after completing their education in Lund. From this it could be inferred that unlike the others, these four students are staying abroad either because of higher wages, or lack of job opportunities at home, or both. However, since the majority of these students are still willing to migrate even under similar economic conditions, this shows two things. First, the willingness to migrate internationally is not mainly based on income gap or differences in job opportunities across countries as mentioned in the literature.¹¹⁹ Second, there seems to be other more influential factors than differences in wages and job opportunities when it comes to making the decision migrate internationally.

Figure 10: Incentives to migrate when 'no differences in job opportunities and relative wages across countries'



Source: Interviews conducted in Lund during March and April 2010.

As mentioned in section 4.2.3 the main reason for migration according to these students is the importance of an international experience, not only in the professional, but also in the personal aspect of life. With an international experience, “a person is able to know other things and to learn more about the world”¹²⁰. An international experience not only provides the opportunity to learn new ways of doing things, or to experience a new culture, a new language, and a new environment, but it also gives the possibility “to create a social and professional net. In the field of science it is important to move across different places”¹²¹ in order to develop common projects and

¹¹⁹ This result relates to the 28 interviewed Latin American masters students. The results may be different when considering a different group or a different environment.

¹²⁰ Interview 009, Date: 31-03-2010.

¹²¹ Interview 013, Date: 02-04-2010.

investigations while at the same time increasing the cooperation across countries. Another mentioned factor that is important for migration is the living standards abroad. Most students value the existing level of security in most developed countries. For most of them *“it is more important to have a safe place to live, with little violence that guarantees a better family life”*¹²². *“[J]obs and security have to go hand and hand. It is not important [...] to have a job when security is missing”*¹²³. Thereby, a simply increase in wages in less developed countries would not directly reduce highly skilled migration.

4.3.3. Potential for economic growth

The 19th and 20th Centuries have been witnesses of economic growth in different countries around the world. From the end of the 18th Century the industrial waves expanded to the different continents. Through the industrial revolutions the global economy was transformed. New machines were introduced, individuals were better qualified, and productivity increased considerably. The 19th Century was witness to the rapid economic growth of the United States and the 20th Century saw an exceptionally high growth rate in some East Asian regions. Independently of the forces that had driven these economies, during periods of economic growth, countries were becoming more attractive not only for international organizations, but also for individuals. Saxenian (2006) presents different examples of professionals who returned home and contributed to the development of their country. However, these entrepreneurs would probably not be willing to return if the conditions at the home country had not been favourable. A country has to provide the required infrastructure, technology and resources necessary to foster the national economic growth. At the same time, these professionals have to believe in the economic development of their nations. They have to trust in the potential of their home countries to increase opportunities, to promote stability, and to support investments.

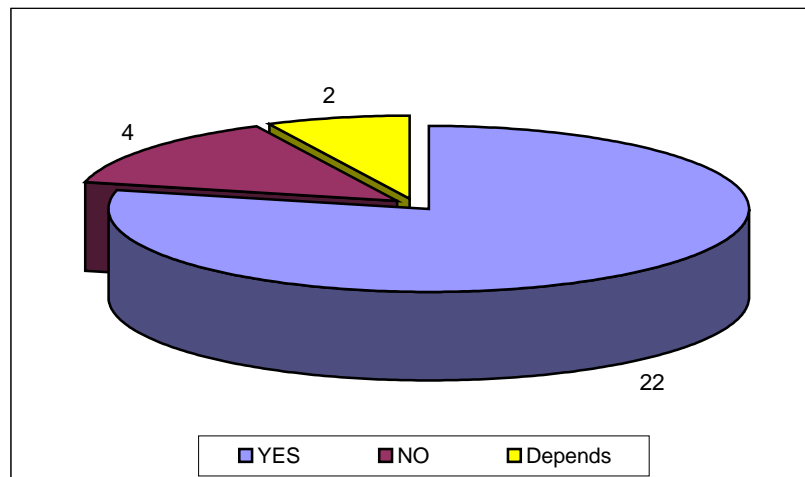
When it comes to Latin American countries, the majority of the respondents in this study believe in the potential economic growth of this region. As displayed in figure 11, only four students do not see potential for economic development in their home country. The reasons behind their negative expectation are the high level of corruption and insecurity, the political situation, and even the way of life of those

¹²² Interview 008, Date: 31-03-2010.

¹²³ Interview 019, Date: 09-04-2010.

citizens in the home country. As mentioned in one interview “with the actual economic and political situation of my home country, I don’t see potential for growth. My country still has a high level of idiosyncrasy that has to be changed. The greatest impediment for growth [...] is the way people think and act. In other words, the culture of corruption that is present in the country”¹²⁴.

Figure 11: The research subjects’ view of the economic growth potential of their home country



Source: Interviews conducted in Lund during March and April 2010.

Nevertheless, the majority of the research subjects believed in the potential for economic growth in their home country. The natural and human resources available in those Latin American countries represent, according to these students, the most significant factors promoting the potential economic growth. Even though 22 students believed in economic development in Latin America, they were also conscious that a potential “growth in GDP does not mean a sustainable growth, and neither does it consider the aspect of environmental security [...]. There is a] growth potential, but at the same time there is a potential for an unsustainable, an anti-social, and an anti-economic growth”¹²⁵. These students are aware of those factors hindering this potential growth. Some of the comments made during the interviews are the following, “there is enough labour force, natural resources, and capital. However, the threat to economic growth is that the capital is in the hands of a few or in the hands of foreigners. The natural resources are being exploited in an irrational way. Further problems are the

¹²⁴ Interview 001, Date: 25-03-2010.

¹²⁵ Interview 012, Date: 02-04-2010.

*corruption and the lack of job opportunities for the population”*¹²⁶. Another student mentioned that *“there are talented and valuable people who only need opportunities [...my country] is a developed country, but the only problem is that this development is based on inequalities”*¹²⁷.

It seems to be that the difficulty of Latin American countries is not the lack of potential for economic growth, but rather it is a more institutional problem, where corruption and inequality discourage sustainable development. It seems to be that Latin American countries are in need of *“good institutions, and good people within these institutions”*¹²⁸ in order to boost sustainable growth, while at the same time it is important to remember that *“the future economic growth [...] also depends on those students that are abroad and decide to return”*¹²⁹.

4.4. Conclusion

The majority of the students interviewed plan on staying abroad after completing their education. The main motivation is the acquisition of international professional experience. While Latin American countries will experience the effects of a brain drain, in the long run a possible positive effect caused through return migration of these professionals can be considered. However, governments should be aware of the present situation in the source country in order to motivate their professionals to return home. There is not a clear policy solution that should be followed in each affected country as the circumstances vary. The problem causing a brain drain seems to be much more complex than purely economic incentives. There seems to be a need to work on the basics; on creating security and promoting a more attractive social environment. In order to understand those country specifics, further research within these countries is needed. Nevertheless, some general conclusions and suggestions are presented in the next chapter.

5. CONCLUDING DISCUSSION

This chapter presents a short discussion about the collected findings in relation to the importance of human capital, increasing migration flow, and the potential threat of

¹²⁶ Interview 020, Date: 09-04-2010.

¹²⁷ Interview 017, Date: 07-04-2010.

¹²⁸ Interview 023, Date: 09-04-2010.

¹²⁹ Interview 002, Date: 28-03-2010.

brain drain. Some problems related to the findings are illustrated. This chapter concludes with a general conclusion and potential suggestions.

5.1. The importance of education and the barriers to economic growth

“Education is fundamental to enhancing the quality of human life and ensuring social and economic progress”¹³⁰

That education is important for the economic development of a nation is not only a statement made in the literature, but a reality in different countries. *“Until now I think that in [my home country], as well as in Latin America, the engine of development has been the education”¹³¹*. The level of education in a society is important not only because it is strongly correlated with wages, but because it is also correlated with the rate of participation in the labour force and the rate of unemployment in an economy. Thereby, education not only improves the living standards of the individuals, but it also improves the outcome in the labour market.¹³² Based on the importance of knowledge and skills and the promising growth potential resulting from high levels of education, many countries have been pursuing the accumulation of human capital in order to promote economic growth. However, not every country has received the expected results from the investments in education. While some countries are experiencing rapid economic growth, many others are still lagging behind in economic development.

Latin American countries are investing in education with the future expectation of positive social returns. Latin Americans are becoming better qualified, while at the same time the prospects of international migration give them the opportunity to increase the rate of return on human capital. As rational human beings, and in accordance to the human capital theory, skilled workers will move to regions where they can maximise their rate of return on their investments in education. However, what is deemed profitable for the individual may not precisely be beneficial for the source country. As discussed in the previous chapters, the international migration of skilled workers has a variety of adverse effects for the source country. An increasing brain drain can threaten the economic development of the country. When skilled workers migrate internationally, the investments in education and training they acquired in the

¹³⁰ United Nations, Report on the World Social Situation, 1997.

¹³¹ Interview 017, Date: 07-04-2010.

¹³² See Borjas, 2008, pp. 244 f.

home country leave as well. Governments are not only losing productive resources, but also future tax revenues which are necessary to guarantee the supply of basic services for the whole society.

According to the literature, individuals will have stronger incentives to migrate internationally when imperfections in the labour market are present. The current study demonstrates that one of the main reasons behind the decision to remain abroad is the lack of career opportunities in the home country. These students are endowed with specific training and skills that can be useful for the home economy. However, the job supply in Latin American countries is not attractive for some of these students who are looking for better opportunities abroad. As it was mentioned in an interview, “[t]he biggest and most important companies in the country are international companies. This means that the design and research work is realised abroad and [my country] is responsible just for the production work. The fun work, such as the creation and the design of new products takes place in Europe or in the United States. Under this circumstance [Latin American] professionals do not have the incentive to work [in their home country].”¹³³ In accordance with the results, the quality and number of jobs available in the source country are potential forces that would attract these young professionals back home. Nevertheless, a further question could be discussed in further research: namely, should these countries provide these specific demanded works in order to attract their professionals back home, or rather invest in knowledge and skills which are currently demanded and needed in the country?

5.2. The importance of international experience

*"In the business world, everyone is paid in two coins: cash and experience.
Take the experience first; the cash will come later"*¹³⁴

As discussed in section 3.1, human capital accumulation is a social rather than an individual activity. Knowledge and skills are acquired not only through teachers and parents, but even more so through the continuous interaction with other individuals. The social environment represents an important element in the accumulation of human capital. Through the possibility to move from one place to another, people are able to learn different ways of doing things and to obtain new personal and professional

¹³³ Interview 006, Date: 31-03-2010.

¹³⁴ Harold Green.

experience. The acquisition of new experiences will endow individuals with new qualifications that may increase their future gains. The empirical results of this study illustrate the importance of an international experience for these 28 students. They not only represented the major forces pushing them to study abroad, but also the main factor behind their decision to remain abroad after completing their education. An international experience would increase their future returns once returning back home. Additionally, it enables the creation of an international network that would facilitate future common research, as it was pointed up by a student, *“I will emigrate in order to learn new cultures and to create a social and professional net. In the field of science it is important to move across different places.”*¹³⁵ For all these reasons, the social environment is an important human capital externality that should be taken into account when analysing human capital accumulation.

Apart from its importance to human capital accumulation, an international experience provides a better perception of a permanent migration. Through international experiences, individuals have the opportunity to compare different locations, while getting a better understanding of the actual situation abroad. It allows individuals to consider other influential aspects before making the final decision to migrate. Migration is most commonly driven by positive expectations of the destination country. Unfortunately these expectations are not always met, which can lead to disappointments once abroad. Through an international masters program, these students were able to experience the new environment before making the final decision to migrate permanently. While some students decided to remain abroad, others have decided to move back home due to unrealized expectations. It would be erroneous to disregard the importance of international experiences in the accumulation of human capital and the decision to migrate. However, the present study has not been able to establish any unambiguous relationship between international experience and brain drain.

5.3. From a brain drain to brain waste

More and more professionals from less developed countries are making their way advanced industrialised nations. Independent of the forces behind their decision to migrate, as investors, these professionals are searching for the most favourable

¹³⁵ Interview 013, Date: 02-04-2010.

conditions and opportunities which maximise their return to investments in human capital. The present study showed that 19 out of 28 Latin American masters students at Lund University are planning to stay abroad after completing their education. However, their individual plan to remain abroad does not say much about what type of jobs, if any, they are going to get abroad. Even though the level of human capital is essential, the increasing competition and the market imperfections could generate some difficulties when searching for jobs. One of the possible situations that may arise is that these students will not find qualified jobs and will end up working in areas which are not suitable to their education, and thereby wasting their investments in human capital.

Even though human capital is important, it does not guarantee that an individual will obtain a job according to his or her qualifications and abilities. A study done in the United States illustrates that among those well-educated Latin American migrants who arrived in the United States labour market in the 1990s only the 36% have found skilled jobs, 26% have a semi-skilled job, and almost the 40% have unskilled jobs.¹³⁶ This type of situation could arise because of high competition in the labour market, or because the required qualifications in the destination country do not match the obtained qualification of these particular individuals. As mentioned in the previous chapters, country-specific knowledge and trainings represent an essential input when considering a career opportunity abroad.

As waste in human capital can occur abroad, it can also occur in the home country. Not every educated person of a country is considering migration. There are professionals who choose to remain in, or even returning to the source country. This is a positive aspect for the development of the country. However, when these professionals are not being employed in the areas where they are trained, a brain waste within the country occurs. The lack of career opportunities creates a situation where those who are not migrating end up working in fields that are not compatible with what they have been studying. A surplus in labour generates a decrease in wages and thus creates a situation where professionals start looking for more profitable alternatives and *“[m]any times these professionals end up driving taxis because they earn more doing*

¹³⁶ Özden, 2006, pp. 9 f.

this job than by working in their professions. The excess of labour supply create lower salaries which provide incentives to start an independent business.”¹³⁷

5.4. Working on the foundations

“Prosperity happens when all the players in the development game have the right incentives. It happens when government incentives induce technological adaptation, high-quality investment in machines, and high-quality schooling”¹³⁸

The results of this study show that there are different forces that motivate these students to remain abroad or to return home. From the different comments made during the interviews, two main problems can be deduced. The first problem is that even though governments are investing in education, it is still not accessible to the whole population. There are groups within the society that are lacking the access to education. Good education costs money, and money is for many (in less developed countries) a scarce asset. As long as the majority of a country’s population does not experience improvements in their living standards, the total percentage of illiterate will remain the same. Governments should improve the quality, increase the accessibility, and enlarge the coverage of the education throughout the country, and particularly to the lower social classes. In an interview, a student made the following comment *“in [my country] less than one percent of the population have access to tertiary education [...]. The people who are in power positions are not well educated [... some] have gone only to the third year of elementary school. How can we hope that a country will develop when we have these uneducated people in the power?”¹³⁹* Providing quality education to everyone is the first step to development, but this education should not only be accessible and free, governments should also provide the necessary school supplies required to guarantee a high quality education. There is much more to do in Latin American countries until *“work will not be the reason for why children are opting not to go to school”¹⁴⁰*.

The second problem is that *“there are many people with university degree that do not have jobs. There are many doctors and lawyers that are driving taxis [or*

¹³⁷ Interview 022, Date: 09-04-2010.

¹³⁸ Easterly, 2002, p. 289.

¹³⁹ Interview 023, Date: 09-04-2010.

¹⁴⁰ Interview 014, Date: 06-04-2010.

*migrating internationally in search of better opportunities.]”¹⁴¹ The lack of job opportunities and the insecurity were main issues for the 28 interviewed students. Latin American countries have to work on the basics, on creating infrastructures, guaranteeing security, and at the same time continuing with the investment in education. These countries should provide enough opportunities for their professionals. They should create the required environment for the development of its population in order to avoid higher rates of underemployment and thus losses in their available human capital. Education is the engine of growth, but education alone will not generate economic development, or at least not in the short run. A country that educates its citizens, but does not provide the required infrastructure to make use of them will still face a brain drain. Educated people are needed, but they are needed in regions where their qualifications can be used. Perhaps there is a need for economic growth in order to generate higher demand for labour, but “*a more important factor than the stage of development is the extent to which a country trains an excess of professionals in a particular field [...] the brain drain is more likely to be a phenomenon affecting certain economic sectors in a country rather than all economic sectors*”¹⁴².*

This study showed some factors that would provide the incentives for professionals to return home. However, it is important to point out that rather than a universal problem, the brain drain is a country-specific phenomenon. Each country must consider those country-specific characteristics that push their professionals abroad. Each country must find the most appropriate remedial actions to minimise the threat of the brain drain. Each country must create the required conditions to motivate its citizens to remain and to be productive within the country. There is much more to do in order to minimise the negative effects of the brain drain, but it depends on each government to understand the needs of its citizens and to create the necessary incentives to retain their productive resources in the country. I hope that fewer and fewer Latin Americans will agree with what Simon Bolivar once said “*aqui lo único que queda por hacer es emigar*”¹⁴³.

¹⁴¹ Interview 019, Date: 09-04-2010.

¹⁴² Glaser, 1978, p. xxvi.

¹⁴³ “all that’s left to do here is to emigrate“

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APPENDICES

This chapter presents different important information related to the current study.

Appendix 1 – Sample of the Interview

“Incentives to return home after concluding a Master Program at Lund University, Sweden”

Interview Nr: Date: / / Sex: F M

Country: Master Program:

1.) What were the reasons for choosing Lund University as the destination for your studies abroad?
 - a. The academic benefits
 - i. I felt that training and the facilities at Lund University was superior to that offered in my home country
 - ii. The reputation of Lund University
 - iii. The master program (which was not available at my home country)
 - b. The value of foreign experiences
 - i. A degree of a foreign university is worth more in my home country than a degree from my country of origin
 - ii. To try out a new experience
 - c. The opportunity of getting a better job abroad (with a degree from Lund)
 - i. It will be much easy to get a job abroad
 - d. The influences of Family, Friends, etc.
 - i. Advice from friends and relatives to study in Lund
 - ii. Members of my family usually studied abroad
 - e. Academic pushes from home
 - i. I did not get accepted to any university at my home country
 - ii. I did not find any master that covers my expectations
 - f. Escape from controls at home
 - i. I get more political and personal freedom abroad
 - ii. I wanted to get away from family pressures in my home country
 - g. Explore prospects for emigration
 - i. I was considering migrating and I thought it is better to try it out first as a student
 - ii. I wanted to establish rights of citizenship or of permanent residence abroad
 - h. Others

1.1.) When you applied for Lund University, were you willing to stay abroad after finishing your master program? YES NO

2.) How would you rate the quality of the education in your home country as compared to that of Lund University?

3.) Are you planning on “returning home and work there” after finishing your master program?

YES NO WHY?

4.) If you are not moving back to your home country, where are you planning/willing to work?

- a. Sweden or Scandinavia
- b. Rest of Europe
- c. North America
- d. Latin America (excluding my home country)
- e. Others

5.) What are the reasons for working abroad (and not going back home) after finishing your education?

- a. Professional experiences (possibility of professional improvement abroad)
- b. Lack of job/career opportunities at the home country
- c. Disagreement with the political system at the home country (stability and freedom)
- d. Economic incentives (better paid jobs)
- e. Better Living Standards abroad
- f. Better working conditions abroad (quality of jobs)
- g. Professional needs (Equipment and technology available abroad)
- h. Others

6.) If there were NO differences in jobs opportunities/relative wages across countries, would you still have an incentive to emigrate?

YES NO WHY?

7.) What would influence your decision to move back and work in your home country?

- a. Working conditions (better career opportunity at the home country)
- b. Economic incentives (Potential income and living standards)
- c. Social settings (cultural level of the home country)
- d. Alienation and discrimination abroad
- e. Interest of the future family life
- f. Patriotism (Obligation to my country)
- g. Family (Missing Family while abroad)
- h. Professional needs (Equipment and technology available in the home country)
- i. Higher social status in the home country
- j. Others

8.) What things ought to be changed in your home country in order for you to be willing to return?

- a. Working conditions (Quality and number of jobs available)
- b. Economic incentives (higher wages)
- c. Professional needs (Equipment and technology available)
- d. Political condition (Stability, Freedom, Rights)
- e. Others

9.) What are the positive aspects (for you as a professional) of your home country?

10.) What are the negative aspects (for you as a professional) of your home country?

11.) What do you admire from the developed countries and regions (US, EU)?

12.) Do you see a potential for economic growth in your home country?

YES

NO

Please explain your answer

13.) What does the government in your country have to do to attract educated professionals?

14.) Do you think that education is important for the development of a country?

YES

NO

15.) Do you think that your home country, considering the present level of education, has a potential for economic growth?

Appendix 2 – Definitions of Human Capital Theory

Table 1 Definitions of Human Capital Theory by leading economics scholars

<i>Author</i>	<i>Year</i>	<i>Definition</i>
Shultz, T. W.	1961	Human capital as the knowledge and skills that people acquire through education and training being a form of capital, and that this capital is a product of deliberate investment that yields returns.
Mincer, J.	1962	Theory of human capital as education and schooling that will prepare the workforce.
Denison, E. F.	1962	Theory of human capital as a form of education that contributes to economic growth by attributing a proportion of economic growth not explained by increases in capital, labor and productive land to improvements arising from increased educational levels in the workforce.
Becker, G. S.	1964	Theory of human capital as a form of investment by individuals in education up to the point where the returns in extra income are equal to the costs of participating in education. Returns are both private to the individual in the form of additional income, and to the general society in the form of greater productivity provided by the educated.
Bowman, M. J.	1969	Theory of human capital as a form of investment. Expenditures on social services, health and education are analogous to investment in physical capital.
Blaug, M.	1976	Human capital as the idea that people spend on themselves in diverse ways, by purchasing education and training not for the sake of present enjoyments, but for future pecuniary and non-pecuniary returns. Individuals and governments incur direct and indirect costs, and a link exists between investment in education and individuals' lifetime earnings.
Psacharopoulos, G. and Woodhall, M.	1985	Human capital as investing in both formal and informal education and training, which provides and enhances individual productivity by providing knowledge, skills and attitudes and motivation necessary for economic and social development.
Romer, P. M.	1986	Human capital as a form of 'new growth theory', which regards knowledge creation as endogenous responding to market incentives such as improved profit opportunities or better education.
Psacharopoulos, G.	1985	Human capital as being formed through investment in education and training. This results in increased productivity among the employees in the workplace.
Romer, P. M.	1987	Human capital as a continuation of the growth theory, which regards knowledge as more endogenous. Increasing returns to organizations are due to investment in human capital through specialization.

(continued overleaf)

Table 1 (continued)

<i>Author</i>	<i>Year</i>	<i>Definition</i>
Romer, P. M.	1990	Human capital as the amount of total stock of human capital that an organization, country or economy has. The economy with a larger total stock of human capital will experience a faster rate of growth.
Becker, G. S., Murphy, K. M. and Tamura, R.	1990	Defines human capital in the form of the fertility model and argues that there is a correlation between family size and the decision to invest in human capital; therefore, societies with small families have invested in human capital and benefited from more economic growth.
Cohn, E. and Geske, T. E.	1990	Human capital as an investment in education and training that has both private and social returns. Schooling and training increase one's productivity and thus one's chances in a free market to obtain higher wages – and certainly increase the contribution to the social product.
Becker, G. S.	1993	Theory of human as investment in an individual's education and training, which is similar to business investments in equipment. Looks at the economic effects of investment in education on employment and earnings, and shows how the theory measures the incentive for such investment.
Bontis, N.	1996	Expenditures made by individuals and governments in purchasing education and training is seen as an investment. This investment is expected to yield future pecuniary and non-pecuniary returns.
Fitz-Enz, J.	2000	Human capital as the traits one brings to the job: intelligence, fulfilling work energy, a generally positive attitude, reliability and commitment. One's ability to learn: aptitude, imagination, creativity, and what is often called 'street smarts' savvy (how to get things done).
David, P. and Lopez, J.	2001	Human capital as acquired human capabilities that are durable traits yielding some positive effects upon performance in socially valued activities.

Source: Nafukho et al, 2004, pp.547 f.

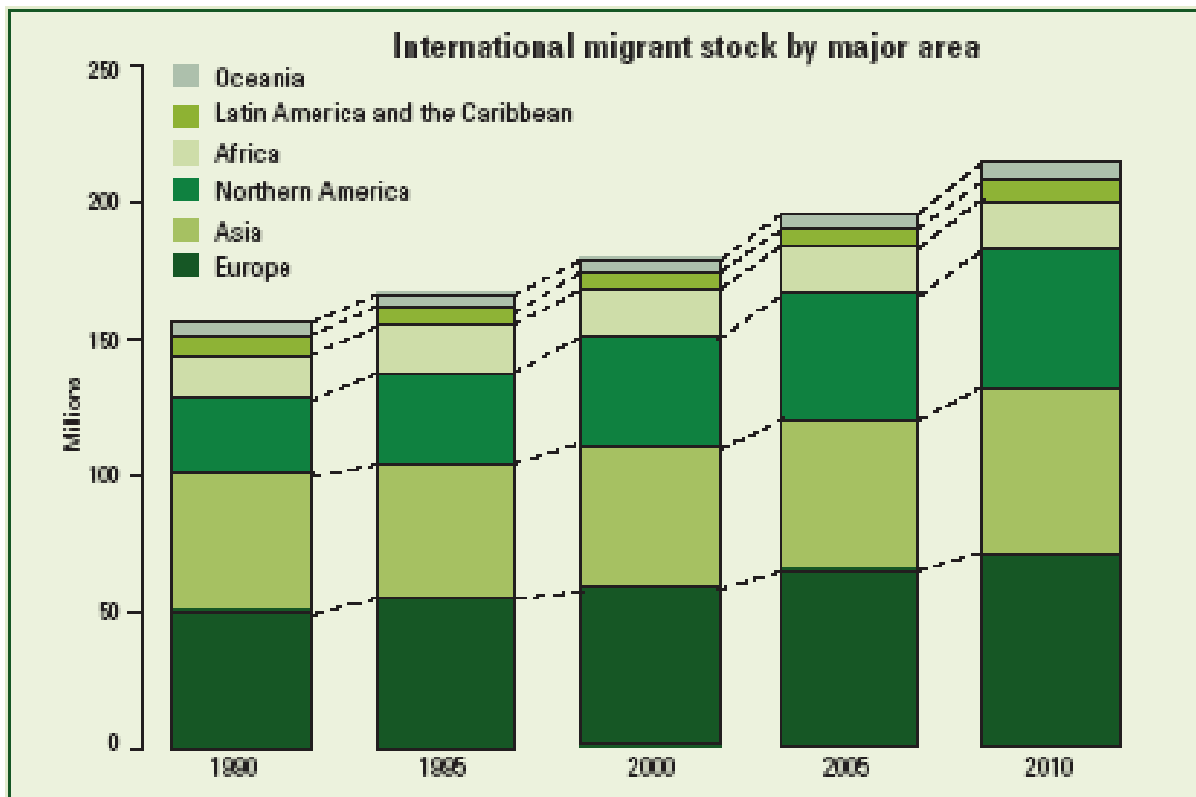
Appendix 3 – Returns to investment in education by level, full method, latest year, regional averages (%)

Region	Social			Private		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Asia*	16.2	11.1	11.0	20.0	15.8	18.2
Europe/Middle East/North Africa*	15.6	9.7	9.9	13.8	13.6	18.8
Latin America/Caribbean	17.4	12.9	12.3	26.6	17.0	19.5
OECD	8.5	9.4	8.5	13.4	11.3	11.6
Sub-Saharan Africa	25.4	18.4	11.3	37.6	24.6	27.8
World	18.9	13.1	10.8	26.6	17.0	19.0

*Non-OECD.

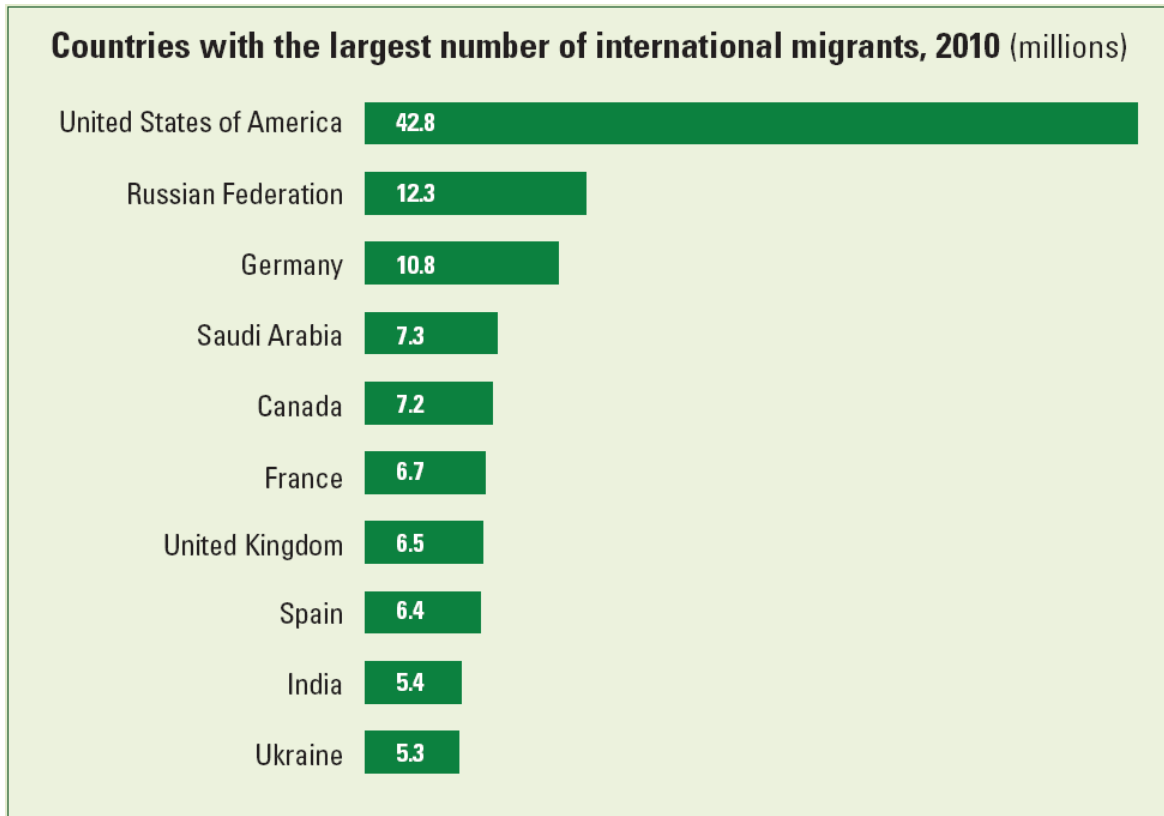
Source: Psacharopoulos and Patrinos, 2004, p. 114.

Appendix 4 – International migrant stock by major area



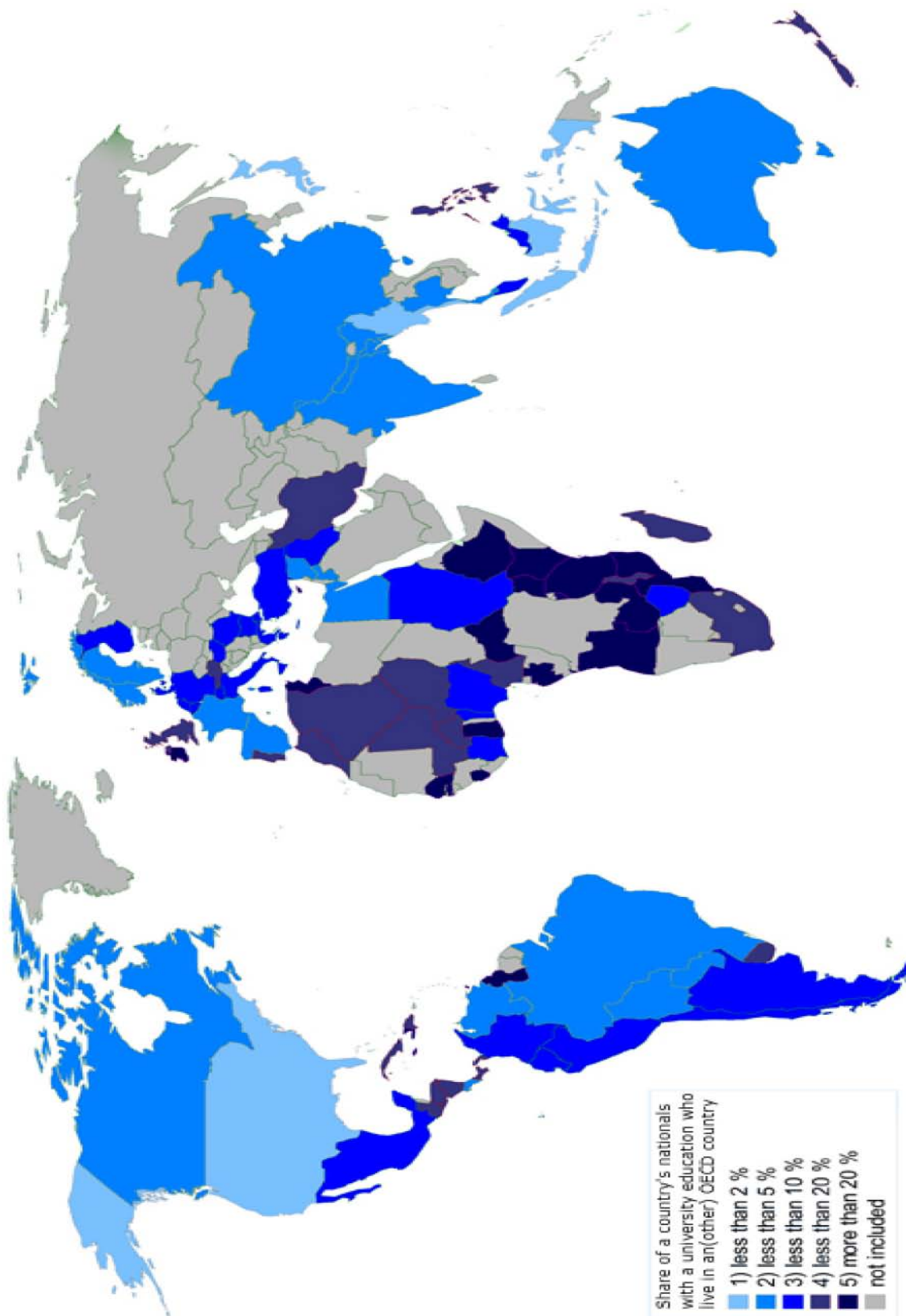
Source: http://www.un.org/esa/population/publications/2009Migration_Chart/ittmig_wallchart09.pdf

Appendix 5 – Countries with the largest number of international migrant, 2010 (millions)



Source: www.un.org/esa/population/publications/2009Migration_Chart/ittmig_wallchart09.pdf

Appendix 6 – Share of a country's nationals with a university degree living in an(other) OECD country



Source: www.oecd.org/document/40/0,3343,en_2649_33935_39269032_1_1_1_1,00.html

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