Brains on the Move

House 21.1
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# Table of content

Table of content .......................................................................................................... 2

Chapter 1 / Introduction: ........................................................................................... 3

1.1 Subject ................................................................................................................ 3
1.2 Problem area ....................................................................................................... 3
1.3. Definitions: ........................................................................................................ 8
   1.3.1. Brain drain .................................................................................................. 8
   1.3.2. Brain gain .................................................................................................. 8
   1.3.3. Brain circulation ...................................................................................... 8
   1.3.4. Brain overflow ......................................................................................... 9
   1.3.5. Brain waste ............................................................................................. 9
   1.3.6. Source and destination countries ............................................................. 9
   1.3.7. Developing countries and developed countries ........................................ 9
   1.3.8. Highly skilled workers .......................................................................... 10
1.4. Methods used in the project work: .................................................................... 10
1.5. Project limitations: ........................................................................................... 13

Chapter 2 / Theories on labour international labour migration and brain drain.. 15

2.1. Economic theory: Neo-classical theory and Marxist approach ...................... 16
2.2. The New Economics of Labour Migration ....................................................... 18
2.3. Dual Labour Market theory ........................................................................... 18
2.4. The Historical-Structural approach and the World System theory ............... 20
2.5. Migration Network ........................................................................................... 21
2.6. Migration Systems Theory ............................................................................... 21

Chapter 3 / Effects of highly skilled individuals’ migration in source country..... 24

3.1. Negative effects ............................................................................................... 24
   3.1.1. Brain drain: ............................................................................................ 24
   3.1.2. Brain waste: ........................................................................................... 24
3.2. Positive effects ................................................................................................. 27
   3.2.1. Remittances: .......................................................................................... 27
   3.2.2. Brain circulation: .................................................................................. 32
   3.2.3. Policies working for brain circulation ..................................................... 35

Chapter 4 / Case study of Malawi ......................................................................... 38

Chapter 5 / Case study of India ............................................................................ 43

Chapter 6 / Conclusion ............................................................................................. 49

6.1. Perspective ...................................................................................................... 52
Chapter 1 / Introduction:

1.1 Subject

The main subject of our project is the migration of the highly skilled individuals from developing countries to more advanced economies, in this text referred to as brain drain. As it is mostly considered to be a negative phenomenon, we in our analysis will investigate characteristics of the brain drain, and the possibility of reversing the brain drain by encouraging the professionals to return to their source country.

1.2 Problem area

We meet the different forms of globalization in every step of our daily lives. Not only flows of money and goods are characterizing globalization, one of the most significant forms of it is international migration.

International migration comes in different “shapes and sizes”. You could say that migration is an “umbrella-term”, which has to do with e.g. forced migration, caused by political or social conditions, and voluntarily migration in the pursuit of a better life.

International migration of people is no recent invention, nor is it solely a consequence of capitalism and colonialism. It is a phenomenon which has taken place for centuries and it has played a crucial role in expanding economic, political and cultural networks. Indeed migration is, and has been, a great part of the whole globalization process, although there is evidence showing that recent immigration has a tendency to become more and more restricted due to the policies of different countries. Nevertheless, it is believed that handled in the right way it can be beneficial for both – migrants and the countries they are coming from or going to (UN, 1998).

Nowadays human capital is one of the most important forms of capital in the modern world economy. The significance of it has increased during the last decades and now it has become crucial to the international division of labour. Modern economic
environment places more emphasis on education, training and other sources of knowledge, and global economy simply cannot succeed without considerable investment in human capital by all nations. This is especially important in developing countries in order for them to have a chance to grow out of poverty. Therefore it is very important for these countries to invest in education and produce a labour force that is able to compete not only in the home country but also in the international arena.

Labour market for highly skilled workers has become increasingly influenced by globalization in terms of both supply and demand. Global labour market has now become a place where people bring their skills, knowledge and experience as a good. Countries interested in highly skilled labour force must be able to offer certain conditions such as high salary, good governance, respect for human rights, respect for rule of law, good security, infrastructure to support in their work, etc. Global flow of skilled workers does not just help to improve knowledge flows but it also satisfies the demand for skills, especially contributing to the destination countries. Meanwhile there is a risk to the countries that are suffering from the outflow of human capital - the ‘brain drain’. This is a result of a simple fact that in the global labour market some countries can outbid others, creating a situation where skilled workers from certain countries migrate to economies where their chance to pursue a good career and better working conditions is considerably higher than in their home country. For example USA is said to be “a sponge that is happy to soak up talent from across the globe” (Chu, 2006) because it is one of the most popular destination countries for the skilled workforce, both because of the favouring immigration policies that are more likely to grant visas for educated individuals, and because of the friendly working environment for scientists and other highly skilled professionals. While the risk of brain drain in richer countries is not so high, due to the fact that highly skilled workers are often migrating only temporarily, the brain drain in poorer source countries can be more damaging, because migrants from the developing countries are more likely to stay in the destination country than migrants from the advanced countries. It is not only the prospect of higher salaries that leads to brain drain, but a combination of that, and the uncreative and over bureaucratized atmosphere in which these highly skilled workers work (Van der Kroef, 1970). The fact that skilled workers do have problems finding jobs in a particular milieu, in which one’s education entitles one, is an additional cause of the brain drain.
Improper education and “over-education” are pressing problems in most of the countries suffering from brain drain (Van der Kroef, 1970).

First time the problem of brain drain was acknowledged was in the 1960s. It was clear that the long hoped growth of the poorest countries was not reached and that there was uneven development in the world - countries that were already developed were developing with rates that were not equal with ones in the poorer countries of Africa and other parts of the world. A result of the growing infrastructures and production sectors in the developed countries was a great number of new working places and jobs created and those were filled not only by the workers from these developed countries but also by guest workers from the developing world. A combination of need for labour force in developed countries and the difficulties to find a well paid job in the developing countries created a new phenomenon in the modern world: brain drain. Even though education and work abroad has been widespread for centuries, it was first then society started to question value of this wide spread migration. Gain of manpower in the developed countries was reached on the account of the investments that were made by the developing countries in their educational systems, while receiving very little in return because the educated people often migrated and took up jobs in the rich economies. (Glasser, 1978)

Since the 1980s a tremendous increase in the mobility of students and highly skilled workers has taken place, and according to a United Nations report the total number of international immigrants was 175 million people in 2000, the same as 3% of the world’s population. This number is apparently twice as large as in 1970. Moreover most of the immigrants are from developing countries, moving to the developed ones. An example is Africa that lost 30% of its skilled professionals between 1960 and 1987 (Robertson, 2006)

In the recent years brain drain has not lost its importance in the world. Countries are still suffering from the losses of skilled human capital. There is a tendency for the share of highly skilled migrants, from all the migrants, to grow – but here we should also mention that it has a lot to do with the restricted immigration policies in many countries that make it more possible for highly skilled migrants to receive a residence permit, rather than those with low education level.
Largest receivers of the highly skilled migrants are the developed countries of Europe and America. As the main destination we can mention USA as it attracts not only skilled labour from developing countries, but also skilled professionals from the EU. It proves that it is not only the prosperity of the country itself that determines the attraction in the eyes of the skilled workforce; regulations and the working environment in the destination country also provide incentives. For example, many researchers and scientists from countries like France and Italy choose migrate to USA where there is greater support for science and research. Also a certain freedom is given to the scientists in their work, whereas scientific environment in EU is often said to be too bureaucratic (Chu, 2006).

The table below shows the percentage of highly skilled specialists working in the developed countries – it is possible to see that the share they form for example in UK and Australia is considerable comparing to the total number of the highly skilled workers:

Nevertheless, developing countries are the ones suffering the most from brain drain. For example Africa, which is a continent in great need of highly skilled professionals, to boost the developing rates, according to International Organization for Migration (IOM), has experienced an estimated 50 000 to 60 000 middle and high level professionals leaving between 1986 and 1990 (UN, 1998). Other big 'exporters' of
highly skilled workers are Asian countries like China, India, the Philippines. But it is important to notice that countries with large population are somehow better able to cope with the problem of brain drain than countries with a smaller population. India is a good example in the IT related sphere. More detailed information on India will follow in our case studies.

At first glance, this flight of trained and talented individuals can be seen as a problem for the developing countries and in most of the cases when talking about brain drain it has got a negative connotation. As we have found out this is not the whole truth. During the collection of information our attention was drawn to the fact, that there are positive aspects of brain drain in the form of brain circulation.

This leads us to the cardinal research question of our report:

*If at all – how is brain drain currently being reversed into brain circulation in developing countries?*

To support our research we will use additional sub questions:

1. Are the highly skilled migrants likely to return to their source country, hence contributing to the idea of circulation?

2. Which professions are most likely to return to source countries?

3. Which policies are implemented to reverse brain drain into brain circulation in the source countries?

4. Is the network and know-how, hence new ideas and development, of a highly skilled worker working abroad, as valuable as the work he/she personally could do if returning to the source country?

5. Do remittances that highly skilled migrants generate in a destination country have a multiplier effect, and thereby contribute to the development of their home country?

6. In which cases are highly skilled migrants of more use to their source country than to a destination country?
1.3. Definitions:

1.3.1. Brain drain
Brain drain is a common term used for the phenomenon of highly educated professionals, who leave their home country and migrate to another country or region that offers better wages, better living conditions, or professional opportunities. Typically this migration is a movement from less developed countries to developed countries, although the migration of highly skilled is also taking place within regions in the developed part of the world, e.g. when Canadian skilled workers migrate to the United States.

The term Brain drain has been used since the early 1950’s, when it was used by the Royal Society in London, for the first time to describe the flight of highly educated people from UK to USA and Canada (Wikipedia, 2006).

The term covers both individuals who are going abroad to study, and who do not return home after finishing their degree, as well as individuals who migrate after completing an education in their home country. The latter seems to be more devastating to the source country, since the burden of educating the individual lies upon the source country.

1.3.2. Brain gain
Brain gain is a term commonly used to describe the situation that the destination country experiences in relation to the source country’s brain drain. The destination country is facing an increase of human capital in terms of highly skilled/educated individuals, which are perceived as a gain for the country.

1.3.3. Brain circulation
Brain circulation is describing the return of the highly educated migrants, after having lived in the destination country for a period of time. Often the returnee, apart from bringing home the human capital that was originally lost, also brings back accumulated experience and networks that, most likely, would have been impossible to achieve if the returnee had stayed in his/her home country.
1.3.4. Brain overflow
Brain overflow is used to describe the situation when a country has more educated individuals than the actual jobs available in that field, or a situation where high educated and competent workers due to the lack of research and study facilities, are forced to search for a better place to realize their skills and make use of their knowledge. The overflow can force the highly educated individual to pursue a career in a different field. If the individual is forced to undertake manual labour, the brain overflow leads to brain waste.

1.3.5. Brain waste
Brain waste is also a term used to describe the situation, where a highly skilled/highly educated individual migrate in the hope of utilizing his/her skills in the destination country, only to discover that there is no jobs available, leaving no options for the individual but to do unskilled labour. Hence a loss of human capital has taken place for the source country.

1.3.6. Source and destination countries
We will use the term source countries to refer to the place of origin of the emigrating highly skilled workers. The destination countries are countries to which the high skilled workers are migrating to.

1.3.7. Developing countries and developed countries
According to the UN definition there is no established convention for the designation of “developed” and “developing” countries or areas. Also the information form WTO homepage states, that there are no WTO definitions of “developed” and “developing” countries. Members announce for themselves whether they are “developed” or “developing” countries. According to UN:
More developed regions are all regions of Europe plus Northern America, Australia/New Zealand and Japan.
Less developed regions are all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

1.3.8. Highly skilled workers
In our project report we will refer to workers as “highly skilled” if the workers have completed at least 3 years on university level education. We will also use the term “highly skilled” if the workers are considered to be belonging to this group in the source we are using, giving no detailed information about the number of years of education they have completed.

1.4. Methods used in the project work:

In this section we will shortly describe the methodology we have used in our project. In our analysis, of how developing countries are affected by the international migration of highly skilled workers, it was essential for us to investigate our problem by applying a “narrowing down process”. By this process we mean that the cardinal research question could only be answered by first looking at it in a broader perspective, and then going into specific case studies and particular consequences. To show how the process of narrowing down was implemented we have simplified it by making a table that explains the process:
In order to examine our problem area, we initially looked into different theoretical approaches concerning our research area, mainly through articles based on empirical research. This investigation enabled us to define the important concepts that we were going to use throughout the project. These articles also provided us with data and statistics which we have used to base our primary assumption of brain circulation on. In the following we will briefly summarize some of the articles we have used, which have provided us with information and scientific approaches to international migration:
- In the “Illustration of the Brain Gain hypothesis” by Hunger (2004), we are presented to one of the first scientific approaches on the possible positive effect of migrant labour movement. The article argues through well documented empirical data that the success of Indian IT-entrepreneurs is based on “re-migrating” Indian workers. This success is based on different factors, such as extensive know-how, network, and the ability to attract conservative investors within the Indian market.

- In the volume by the World Bank; “International Migration, Remittances and the Brain Drain” (2005), the consequences of the migration of highly skilled workers are extensively described by using empirical data. The book links macro and micro economic effects of international migration to the development of the developing countries. It describes the challenge, the effects and the consequences of international migration through detailed statistical data. This data is very complex, and therefore we have not used it to support our own analysis, but only to remind us of how multifaceted and comprehensive the topic of international migration is.

- In the article by De Hass; “International Migration, Remittances and Development: myths and facts” (2005), the approach to international migration is criticized. The critique is directed at the debate, because analysis of labour migration focuses on the destination countries. The article argues that the solution to immigration is not solely rooted in the destination country by means of different policies and legislations. The solution is equally rooted in the source country, as micro economic effects of migration contribute to the development of the source country.

- Furthermore we have looked at the research by Saxenian; “From brain drain to brain circulation: Trans national communities and regional upgrading in India and China” (2005). This article is based on a new market structure concerning product durability and thereby outsourcing possibility for upcoming developing economies such as India and China. Furthermore it describes the respective countries’ attempt to copy the Silicon Valley model and their following success or failure.
We have chosen to make two case studies; one on Malawi, analyzing the negative effects of brain drain and the absence of brain circulation, and one on India analyzing the positive reversal of brain drain into brain circulation. These two cases are each others counterparts, which documents the versatility of international migration. They also serve as a link between the theoretical predicted data and the observable data. They use the knowledge we have obtained, and explain it at a tangible level.

1.5. Project limitations:

During our work on the project report we faced several limitations. The discussion on international migration is found to be very complex. Labour migration is hard to describe because it is very multifaceted, and it makes it impossible for one single theory to explain this complexity. It may be hard to look into all aspects that need to be considered when talking about brain drain and labour migration. One has to take into consideration the political, the economical and the sociological aspects in order to fully investigate consequences and effects of brain drain.

During the last years, researchers often emphasize that one of the reasons for the vast discussions on brain drain is the lack of necessary data. For instance India does not keep a record of the highly skilled workers that emigrate, as is the case in a great number of other developing countries; therefore it is often difficult to know the exact extent of brain drain.

We have found out that many reports have a tendency to eschew theoretical framework and instead focus on regional empirical studies. This is a problem because specific geographical examples do not always raise the global understanding of brain drain.

Migration has been part of the modern world for a long time, and new concepts and ideas have prospered during the investigation of migration. Brain circulation, brain waste and brain overflow are all new concepts that have to be discussed through empirical data and statistics.
In the following chapter we will discuss theories that are relevant to our research and that also give an insight of the theoretical background on migration and brain drain.
Chapter 2 / Theories on labour international labour migration and brain drain

When dealing with brain drain and brain circulation it is useful to look at different theories and their approach to labour migration, in order to gain a greater understanding of the phenomenon. Doing so, we must acknowledge that these theories may not explain the whole picture as a “final truth”, but more so to frame some of the aspects in motivating and causing labour migration.

Trying to understand the phenomenon of brain drain, we are looking at international labour migration especially coming from the developing countries, moving towards the highly developed countries. Several conceptual approaches have been made up for explaining human behaviour according to labour migration. But even though theories have been shaped in considerable progress during the second half of the twentieth century, today there is no exact theory able to define the very complexities of the phenomenon of brain drain in particular. One single theory still would be all too narrow to explain the diversities of labour migration. However a useful distinction between three main approaches in contemporary debate is a good basis: the economic theory, the historical-structural approach and migration systems theory.

One of first persons who made use of a theoretical explanation was W. Arthur Lewis with the model of “Economic Development with Unlimited Supply of Labour”. He mentions “dual” economies, what may explain the “modern” world beside the “outside” developing world, and claims that international migration plays an important role for the developing economies. For the developed world it comes as an advantage having an unlimited supply of migration workers, and still being able to expand because of the wages that stay low. For the developing world it is a matter of activating surplus labour and to counter the process of development.

“Lewis placed himself in what was known at the time as “development economics”, his model contained in a nutshell the basic elements of equilibrium models which would dominate the social sciences, and migration theorising within it, at least in the ensuing two decades.” (Arango, 2000, p284-285)
2.1. Economic theory: Neo-classical theory and Marxist approach

A founded theory in modern thinking is the economic neo-classical theory, which followed W. Arthur Lewis’ viewpoint and the rise of globalization in the 1960s and 1970s. The reason for migration is found in income- and welfare disparities, and is caused by geographic variations in the supply and demand of labour (Massey et al., 1993). This approach makes use of an incorporated pull- and push-theory, where pull- and push-factors for different reasons encourage people to migrate. Pull-factors attract people to migrate into foreign often high developed countries for the reasons of e.g. a raised demand for labour, good economic opportunities, and improved standards of living. Push-factors make people leave their country of origin because of e.g. low living standards and poor working conditions (Castles and Miller, 2003). The “rational choice” is important, because individuals decide to migrate based on a cost-benefit calculation, which leads them to improved work conditions and higher salaries. In macro-scale, international labour migration will occur as a consequence of wage differences between countries; migration becomes the result of rational economic decisions made by individual actors (Leitner, 2000). Labour markets are the primary mechanisms to ensure that the flow of labour is taken place across borders. “(...) International migration is largely caused by a permanent demand for immigrant labour that is inherent to the economic structure of advanced industrial economies (...)” (Leitner, 2000, p.455).

Workers are liable to move from countries where the volume of labour is in profusion and wages low, toward countries where the wages are high. As a result of a worker moving toward higher wages, the supply of labour in the source country decreases and wages rise, while the supply of labour in the destination country increases and wages fall.

This fact leads to an equilibrium that shows the costs of an international movement when “expensive” labour capital migrate and settle down in another country (Massey et al., 1993).

In micro-scale, decisions are made by families/households rather than only by the individual. We may compare a family with human capital, and when people choose to go abroad, remittances play an important role, because it helps poor families to maintain social security. It is assumed that households make migration decisions to
maximize their welfare, and improve their well being by moving to countries where the reward of labour is higher than in the home country. Higher income does not play as important a role in macro scale, because other problematic conditions in the developing country may be existing, and wages in general are already much higher in the developed country than wages under undeveloped circumstances. If the work conditions in some developing countries are poorer than what is offered in the destination country, employees choose naturally to go abroad and become a part of the international labour market, where demand is raised by the developed countries. In this case even though workers leave their home country to meet foreign labour demand, the source country gets an advantage in the long run by collecting remittances and does not only loose native labour capital.

In the 1970s there was a Marxist breakthrough and a challenge of the dependency theory. It was claimed that the development of capitalism had raised the creation of core industrialized countries and those who were established around agriculture. Underdevelopment was seen as a by-product of development, and the theory did not say very much about the usefulness of migration. Inequalities between countries were moreover intensified (Arango, 2000). This breakthrough not only blurred the correctness of the neo-classical theory, but also created a general sharpened political influence in the end of the twentieth century, which has changed international labour migration. Intensified political domination in the form of more legislation and law-making has made it increasingly difficult to migrate world wide. At present there is no single theory of international labour migration, rather a fragmented set of theories largely developed in isolation from one another.

To get a more coherent picture of the migration factors we must apply some more modern aspects in the analysis. As the circumstances for migration seem more complex than just the relation between wealthy and non-wealthy regions of the world, we will start to look at the individual workers and his or her local circumstances as motivation for migrating.
2.2. The New Economics of Labour Migration

This theory is based on the neo-classical theory considering the “rational choice”, but differs in the way it focuses even more on the family relations than individual opportunities.

“(…) it highlights the role of the families and households, underline the importance of remittances, and pays more attention to information and to the complex interdependence between migrants and in the context in which they operate” (Arango, 2000, p.288).

An important aspect is that migration is a family strategy and search to minimise risks for the family household. Migration becomes an attractive opportunity to achieve an alternative source of capital both for finance improvements in agricultural productivity and to ensure stability in the everyday life of the family. Family members are working abroad to accumulate savings or to transfer capital back in form of remittances (Massey et al., 1993). The new economy of labour migration is very much concerned about the income distribution, and one limitation is that it mainly focuses on the developing source country.

Because of the close connection to the neo-classical theory of labour migration, policies to limit immigration became dominant. During the end of 1970s more modern explanations challenged the theoretical reasoning for both theories, and the view changed from being largely in micro scale to become largely in macro scale (Leitner, 2000).

2.3. Dual Labour Market theory

The theory is formed by Michael Piore in the end of 1970s, and highlights that migration is caused by a permanent demand for foreign labour, which has become very characteristic for advanced economies in developed countries. The focus is placed upon the developed countries, and explains the division of the labour market into
segments; a primary capital-intensive sector where people do have preferences according to what kind of jobs they want, and a secondary labour-intensive sector characterised by unskilled workers, poor working condition, and a sector where native workers refuse to take up unattractive positions (Leitner, 2000). The way to attract workers for lower qualified jobs would be to raise wage, and this is not exactly possible; wages need to be raised proportionately to all positions in the job hierarchy, otherwise structural inflation in the country may occur. “Wages not only reflect conditions of supply and demand; they also confer status and prestige (…)” (Massey et al., 1993, p.441). The result is that developed and highly industrialized countries collect foreign labour force to fill positions that native workers refuse to take up. The demand lies in very deeply rooted economic structures of the developed country, and workers from developing countries are willing to meet the supply because both wages and working standards are much higher than standards in their home country. Developed countries are competing to attract the best brains from around the world, in order to generate the ideas that will lead to innovations, patents and profits. The capitalist market is making promotion to attract potential employees, and here gendered patterns of international labour migration exist. In the western countries’ competitive strategy, men are typically the primary target audience for highly skilled professions, while women are portrayed as nurses and workers in the domestic life. Due to very deep-rooted principles according to both culture and traditions, we have different expectations to men and women in the labour force (Leitner, 2000). Migrants do have different expectations to a work place, and the migration decision does not only have a rational, economic perspective; some immigrants simply make use of the possibility of being transnational actors, or they seek a better life away from their home country. A destination country’s promotion must be considered according to how motives for migration differ, to succeed in attracting potential workers according to a current demand.

What may be a problem in this theory is that the basic explanation emphasise only the developed country’s demand for labour as a reason for migration. This is not always the case. “In many cases, immigrants constitute a supply of labour that creates its own demand, that is, jobs that would not exist without their previous presence” (Arango, 2000, p.290). Labour migration toward highly developed countries is often caused on the basis of migrants’ own initiatives in the developing country.
2.4. The Historical-Structural approach and the World System theory

This theory partly influenced by the Marxist economic guidance, explains migration as an unequal economic and political power in the world economy. “Migration was seen mainly as a way of mobilizing cheap labour for capital. It perpetuated uneven development, exploiting the resources of poor countries to make the rich even richer” (Castles and Miller, 2003, p.25). This inequality is built on both the early phenomenon of colonialism and an attitude toward Europe being unbalanced.

What is to be found in the **world systems theory** is Immanuel Wallerstein’s theoretical explanation of the world as a hegemony divided into three spheres: core-states, semi-periphery areas and peripheral areas. International labour migration is linked to the structure of the world market that has expanded and developed since the sixteenth century (Arango, 2000). The world power comes from the core countries and rather than reaching equilibrium, the world is dominated by unbalanced world inequalities. Labour migration is a consequence of the economic globalization caused by capitalistic core states’ use of expansion; “In this view, it is the penetration of capitalist economic relations into peripheral societies that creates a mobile population prone to migrate abroad” (Leitner, 2000, p.256). The developed countries make use of cheap labour and foreign agricultural raw materials to increase profit in the long run. Migrants do have very little influence when it comes to world powers, and international migration occurs as a response to demands raised by highly industrialised and developed countries. For this reason the economic globalization creates cultural links between the core-states among the developed countries and peripheral areas in the developing countries. The main reason for international labour migration is a natural consequence for workers to go abroad, after they have been disrupted by a number of external developments (Massey et al., 1993).
2.5. Migration Network

Migration networks occur as a connection between migrants, earlier migrants and non-migrants staying in the home country. When workers migrate network connections can be seen as social capital that people can make use of to get access to foreign goods of economic significance as well as foreign employment with higher wages. When workers migrate they make up conditions for further migration to come, and this reduces the costs and risks for a person that otherwise may be present when moving abroad. Every new migrant expands the network and reduces the risks for all family members or friends related to him (Massey et al., 1993). "Migration networks have a multiplier effect, which is implicit in the formerly fashionable expression “chain migration” (Arango, 2000). It is well known that people who choose to migrate are familiar with the “moving” process, because they know friends or have family members who migrated before themselves. For this reason migration becomes a self-perpetuating mechanism and migration networks facilitate and pave the way for further expansion.

2.6. Migration Systems Theory

This modern theory explains how interdisciplinary understanding is important when talking about migration.

“Migration systems theory suggests that migratory movements generally arise from the existence of prior links between sending and receiving countries based on colonization, political influence, trade, investment or cultural ties” (Castles and Miller, 2003, p.26).

Migration occurs as a result of interactions between structures in micro-scale and macro-scale. Structures in macro-scale include the state and politics from both the sending and the receiving country to control migration. Structures in micro-scale include personal relationships and social networks between migrants (Castles and Miller, 2003).
A backward glance at the last half century shows that a major development has taken place. Largely all developed countries have become diverse, multiethnic societies, which is a consequence of globalization and migration of people between continents. Several theorists have tried to explain the topic of labour migration, but what they are most commonly concerned about, are the reasons why people decide to move and factors causing immobility are often forgotten. The state plays a crucial role when we talk about people’s limited mobility and politics related to legislation. Our contemporary understanding of labour migration has become largely complex over time considering ex. collaborative agreements across borders. This makes the earlier theories insufficient because the analysis of state and established politics are missing in many of the explanations. As migration systems theory explains, many different factors must be considered when we talk about migration, and that is the reason for migration systems theory being called a new interdisciplinary approach.

Looking into the different theories, approaches emphasise different aspects of labour migration, but also some of them may be combined without contradicting each other. All migration is part of a process pushed on by the development of globalization, and over decades the focus of this process has changed; early theorists’ attempts to explain the phenomenon, have inspired later theorists for “new” explanations etc.

The problem when dealing with overall theories is that they tend to simplify aspects of migration. The **Dependency Theory** could initially explain why governments were willing to take bright minds from developing countries from the Second World War to roughly the sixties. From then on, it is in our opinion an obsolete worldview, not considering modern movement of capital and labour, and not at least the individual’s reasons for migration. As the **Neo Classical** approach suggests, the reason for migration, *can* be put in an economic context with push and pull factors and inequality as reasons for migration. The **New Economics of Labour** theory tends to agree with the **Neo Classical** approach, but differs by taking the “family sphere argumentation” into account of the overall picture. There is no question that some of the argumentation brought forward by these theories has some legitimacy in reasons for migrating, but it is also apparent that they are not sufficient in explaining the overall picture of the development. India has as the **Neo Classical Theory** argues a prediction of equal wages
in a time period of fifty years. (Hunger, 2004) But the reasons for this are more so due to an understanding of and an adaptation to market changes, than a mere over floating of the market with workers. A reason could be that these theories were not able to predict the globalisation of the market, for instance in the IT sector, and the power of human capital. As our research suggests knowledge and networking gained by migrants have a much more profound impact than any of the theories have contemplated. The fragmentation of production and the very nature of these products have changed the possibilities of creating capital, giving countries like China and India an unprecedented chance of moving into the market, and doing so by relying on former brain drain migrants. We can conclude that maybe a new set of theories must be applied in order to more wholesomely explain reasons and perhaps more importantly effects of migration in the 21st century.
Chapter 3 / Effects of highly skilled individuals’ migration in source country

3.1. Negative effects

3.1.1. Brain drain:

There is no doubt that one of the most negative effects in the source country, when talking about migration of the highly skilled, is brain drain. The effects of brain drain are widely discussed in the previous chapters, therefore we will not go into further details in this chapter. Nevertheless, we feel that it is important to emphasize that brain drain is a negative effect, and especially important to consider because it affects countries in the long run. Not only does the economic welfare of the country receive its share, but individuals and families as well, as they are tightly connected with each economic success or failure of the country. However, there are other negative and positive effects of brain drain that we have not earlier discussed and we will look at some of them in this chapter.

3.1.2. Brain waste:

As we have described earlier, highly skilled workers migrate because of the prospects of better wages, better living conditions or better professional opportunities. In order for these prospects to be carried out successfully, certain conditions have to be met. At first, the highly skilled worker has to obtain a job in which he/her makes more money than he/she would have, if working in the home country. Secondly, the migrant must accumulate experience, know-how and networks to generate brain circulation. Thirdly, the job which is obtained must be in accordance with the skills he/she has acquired through the education in source country. If this last requirement of having a job, which is in accordance with their education, is not fulfilled, we regard it as brain waste. We do this because the qualities of the highly skilled person go to waste. The individual migrate in the hope of utilizing his/her skills abroad only to discover that the job he/she is qualified to do is not available. When the migrant is in this situation there are two options. One is to leave the country gain, and the other is to
stay and do unskilled labour. If the migrant chooses to do unskilled labour a loss of human capital is taking place, both for the source country, but also for the destination country.

When trying to determine which factors lead to brain waste, we will look at the United States as an example. Some highly skilled migrants from certain countries are more likely to end up in unskilled jobs, even though the migrants’ educational levels are comparatively the same. Among the lowest likelihood to obtain a skilled job in the U.S. are migrants from several Latin American, Eastern European and Middle East countries (Özden and Schiff, 2006). In the table below we can see a difference in the composition of migrants to U.S and Europe by education.

**FIGURE 7.5 Composition of Migrants to Europe and the United States by Education**

![Composition of Migrants to Europe and the United States by Education](image)

Source: Docquier and Marfouk this volume.

(Özden and Schiff, 2006)

We see that U.S, as a destination country, has a bigger amount of migrants with a secondary or tertiary education, and factors that determine if the highly skilled migrants will obtain a skilled job or an unskilled job are described in the report from The World Bank (Özden and Schiff, 2006):
The analysis in the report from the World Bank is very complex, but the factors mentioned above should give an overall picture of what is used to describe and determine the likelihood of obtaining a skilled job or an unskilled job.

The types of jobs the migrants obtain are crucial, as this is the main factor that determines whether the “journey” the highly skilled worker has taken when migrating, is regarded as successful or not. But the issue is not as simple as it seems. One has to take into consideration that there are several reasons for the migrants to leave their country of origin. Reasons for the highly skilled worker to leave the source country could, among others, be: the source country could not offer a job the worker was qualified to do, the professional working condition was not satisfactory, and the wage was disproportionate to his/hers education.

But even though brain waste is negative both for the source country and for the destination country, brain waste is actually possible to regard as positive, but only in the short run. This is possible as the unskilled job the migrant possess in the destination country might accumulate higher wage than the wage he/she could earn if possessing a high skilled job in the source country - hence remitting a bigger amount to the family at home (Özden and Schiff, 2006). An example could be that a job as a taxi driver in the U.S. is better paid, than a job as a doctor in India.

This situation is of course not very desirable in the long term, when discussing brain gain and brain circulation. To understand the concept of brain circulation, we consider the fact that a job in the sector they are educated to work within, creates a “community” which in the long run creates possibilities of networking between the source and destination country. In this connection it is not the wage that is important but the network and the know-how that is established – hence contributing
positively to the development of the source country. When working as a taxi driver this experience and know-how, which is of big importance for the source country, is not generated. Therefore the short-term positive effects of brain waste, does not ad up to the long-term negative effects of having the unskilled taxi driver job in the source country, that is not generating the important network and know-how, that contributes to the development of the developing countries.

The question would then be if the highly skilled migrant could have gotten another education in his/her home country that would contribute more positively to the common good, e.g. become a doctor in a country with a shortage of health care personnel, or simply just acquire an education with which the worker was sure to get a job in the source country, hence contributing to the development of developing countries.

3.2. Positive effects

3.2.1. Remittances:

Something to take into consideration when discussing the effects of highly skilled individuals’ migration in the source country is remittances. Remittances are transfers of money by foreign workers to their home countries. But before discussing the effects of remittances, we want to distinguish between the different types of migration in terms of remittances. The migration may happen in two ways; one is the “national” migration, meaning rural-to-urban within the country, e.g. migration from the poor household to the industrialized cities. The other form is the “international” migration, meaning developing country-to-developed country, e.g. migration from India to U.S. It is the latter migration we will focus on, when discussing the impact of remittances. You could say we distinguish between micro-level and macro-level (Cohen, 2005). We focus on the macro-level, as in this context it is possible to discuss whether remittances have a developing effect on the source country or not.

There is no question that the amount of remittances is vast. When sent via official channels, it can be monitored, but a great amount is send via “unofficial” channels that can not be monitored. It is suggested that the real number might me twice
as big. The World Bank report on the subject concludes:

“The flow of formal remittances from migrants to their relatives in their country of birth has exhibited a rapid and accelerating rate of growth. The remittance flow has doubled in the last decade, reaching $216 billion in 2004, with $150 billion going to developing countries (Ratha 2005). It surpasses foreign aid and is the largest source of foreign capital for dozens of countries. As a result of these trends, migration issues have increasingly become the focus of attention, both among governments of origin and destination countries, and within the development community.” (Özden and Schiff, 2006)

The amount of remittances is proportional to the ever growing migration, and as Nikas and King (2005) say in their report on economic growth through remittances, that remittances are often considered as the main macro-economic benefit for labour-exporting countries. The remittance from Indian expatriates was in 1999 more than 11 billion USS, which was the equivalent of 2.6 percent of the Indian GDP. In Bangladesh, US$ 2 billion was received from citizens who have emigrated overseas, and remittances are the second largest source of foreign revenue (Saravia and Miranda, 2004).
But the question is not whether remittances are the main benefit for the source country or not, the question is how the money is used by the recipient. The recipient can in this case both be the individual household, and the state of the developing country. We have already distinguished between micro-level remittances and macro-level remittances, but in our analysis of remittances on the macro-level, it is possible again to divide the level into macro and micro. The micro-level being how the individual household uses the remittances, and the macro-level being how the state of the developing country uses the remittances. In this situation both levels are taken into consideration. In order to elaborate on this, a few working questions must be introduced: Is the money sent generating development and investment? Do remittances

(Saravia and Miranda, 2004)
have a multiplier effect? Or do remittances lead to a neglectable consumption of goods from abroad, and therefore not contributing to the multiplier effect?

Research on a micro level shows that remittances help to reduce poverty, as some families’ main income is the remittances. But the money is spent on consumption, and not on investment (Özden and Schiff, 2006). For a poor household in India, a small amount of money could be the difference between living above or below poverty level. This aspect is of course a romantic sight, but in the report from the World Bank, remittances are concluded to have no effects on the development of the source country. Numerous researches show that approximately 92% of remittances go to daily and household expenses, and only 8% go to business start-ups or investments. Same patterns are to be found in India. The amount of remittances used for activities with multiplier effects which generate development and employment, are small (Cohen, 2005). As remittances are spent on consumption, it is said that receiving remittances leads to a passive and dangerous dependency on remittances (De Hass, 2005), but as De Hass also argues, this is a myth to be changed.

If the major part of remittances is used for purchasing goods and services, such as clothes, schooling and healthcare, but only a small part is used for development and investment, is it then possible to say that remittances do not have a multiplier effect? We argue that the answer is no. The ways remittances are used, do not promote state-wide economic growth (Cohen, 2005), but we do not think it is fair to underestimate the effects remittances can have on the local household. When neglecting the short-term consequences and effects remittances can have on a local community, you also neglect a fundamental right; the right to be healthy and the well being of a community as a whole. When considering the well being of a local community, we think in terms of standards of living. This covers expenditures on food, health and schooling. To say that increased spending on the well being is not productive or developing for a source country, is to say that the well being of the people is not generating entrepreneurship, and thereby research, investment and development. Improvements in well being actually have a tendency to increase productivity, freedom of choice and the capacity to participate in public debate (De Hass, 2005). In this way it is possible to argue that remittances have multiplier effect as the local community expenditures on food, health and schooling increases from the remittances. It is difficult
to examine, but in the long run the developing countries will definitely benefit from this increased freedom, happiness, health, and urge for innovation.

Macro level approaches that focus on the remittances being a tool for the developing country on a state level, is the second part to take into consideration when researching what effects remittances have in the long run. Is it possible that remittances could be used as a tool for the developing countries to extend the economy in terms of research and investment? This would eventually benefit the source country in a whole different way, other than regional support of a particular family. This form of using remittances will in turn spur economic development in the source country, but on a state level, where it is much more tangible.

To find out if remittances have a developing effect on the macro level, one must find out how the distribution of remittances is managed. Mexico, a country where remittances account for more than US$ 12 billion in 2003, has a unique effort to channel these resources for national benefit.

“Mexico has implemented leveraging mechanisms to redirect remittances from spending on consumer good to investment by introducing cooperative banks as a means of saving and borrowing money for average Mexicans” (Saravia and Miranda, 2004, pp. 611).

This in turn makes it possible for the Mexicans to borrow money, and makes it easier to start some sort of business, which will benefit the economy as a whole.

Balance of payment is a term describing the relationship between export and import for an individual country. It sums up the total amount of money coming in to the country subtracting the money going out. For an increased number of developing countries remittances have had a positive effect on the balance of payments and institutions like The World Bank, governments and development NGO’s now describe remittances as the new “development mantra” (De Hass, 2005).

We do not know the exact effect remittances have on the source country, but it is possible to argue that remittances play a crucial role for some developing countries. Whether the role is to increase the well being of people in general, or to significantly change the balance of payments of a country, and remittances do play a big role. As we
have said, countries like Mexico are able to redirect remittances into the state level budget, but we argue that a tangible control device like this, is not the only device that is useable when trying to find out whether remittances have positive effects on source countries. Transparent control devices such as increased quality of life and better health conditions are as good devices as the “state level control device”. But as balance of payments is easier to make numbers and statistics of, compared with quality of life and health conditions, this has become the tool from which the “effects of remittances” are measured. The importance of the non-tangible effect of remittances, such as the quality of life, should therefore not be underestimated.

A point would be whether the high skilled workers would be able to generate more income in their home country, than the amount they are sending home from the developed country in which they are living. If they are not able to make the same revenue at home, it would be an indication that it is actually an advantage – financially – for the developing country to have those highly skilled workers situated in a developed country.

### 3.2.2. Brain circulation:

The main concern focused on the Brain Drain development leaving a crippled society with a shortage of skilled labour, to help overcome a negative or “status quo” development in the respective country. In popular terms the argument of the “decapitation” of the developing countries, which with little success are able to keep their educated workforce, who could help to rebuild economy and create a prospect of “a leap” from developing to developed economy. Research on this subject showed however that another development could be a possibility. The Swiss migration researcher Paul Ladame hypothesized as early as 1958 that reverse migration in the long term was a possibility, a “Circulation des personnes” or “Brain Circulation” contra “Brain Drain” (Hunger, 2004). This hypothesis was largely ignored by the migration and development scholars, who in broad terms focused on the dependency theory and modernization theory (Hunger, 2004) which opinionated that brain drain was a strategy utilized by industrialized countries in order to sustain the dependency of developing countries. However, as our case study of India shows in chapter 5, today, several
decades after Ladame’s prediction of brain circulation, that resent developments, suggests a return migration of previously lost “elites” from developing countries. To quote Hunger in his article on this subject:

“Empirical research has shown evidence to suggest a positive relationship between economic development and return migration of Third world elites, including the establishment of social networks through migrant diasporas.” (Hunger, 2004, p100)

Subsequently there is a possible positive effect by returning highly educated migrants, which in our case study, mainly return to India from the US. Conceiving that Brain Circulation is an on-going development, we must look to what the contributing factors are that lay the grounds for this development.

To start with it is important to understand some of the economic aspects of Brain Circulation. In this particular group project we will not go into great depth of economic analysis, but to describe the development we will have to at least look at some of the economic motives. Developing countries like India and China, have taken over parts of production from Western companies, accomplished by cheap production costs and cheap labour. This is not what we understand as Brain Circulation, but it has meant that an on-going relationship has been build and ultimately a market bridge between economies has been established. This “bridgehead” has been used as a springboard for educated workers to move to the West for further education and/or jobs. During the 1960s approximately 300.000 highly skilled immigrants from developing countries migrated to the developed countries and by the 1990s approximately 2.5 millions had moved to the US, excluding students. Developments in the software industry and specifically Silicon Valley had capacity to indiscriminately absorb thousands of engineers and scientists in the years 1970 to 1990 (Saxenian, 2005). These workers were most likely to stay in the US, thus causing the Brain Drain effect, but later studies show another possibility. To quote Saxenian:

“By 2000, over half (53%) of Silicon Valley’s scientists and engineers were foreign-born. Indian and Chinese immigrants alone accounted for over one-
Those who returned to their home countries helped establish companies at home while maintaining professional ties to the US. Up to this point the developing countries greatest economic problem consisted of raising funds within their home countries to establish new markets and economies. When we look at traditional accounts of economic development, it is assumed that new products and technologies occur when there are established research facilities, skilled labour force and high-income markets. Late developing economies typically face two major disadvantages: they are remote from the sources of leading edge technology, and they are distanced from developed markets and the interactions with users that are crucial for innovation (Saxenian, 2005). With this traditional look at economy we must try to see how countries like India and China could become more than just followers of developed economies. Saxenian explains it by the increasing mobility of highly skilled workers, and fragmentation of production in IT and technology sectors, which creates unprecedented opportunities for former “peripheral” economies. This means that a general shift in production methods is laying the grounds for, for instance Indian and China, to move into the market without the traditional home economy circumstances. Production shifts consisted mainly of what type of products are needed, and in this case it became increasingly popular to move production of, for instance, smaller computer programs working within larger ones, to companies that could provide this service to a quarter of the domestic price (Hunger, 2004). This meant that smaller companies could overtake a small part of a larger production, which previously was carried out by the original company situated in a developed country, by specializing in minor productions of for instance programming. Business ventures in the US saw the potential of fragmenting production as a way of cutting costs and began collaboration with highly skilled Indian workers, working within Silicon Valley (Hunger, 2004), who in return started sending minor based production jobs to India, creating incitement for local Indian investors to fund Indian based companies. Hence, it is arguable that brain circulation does not only have to
include the physical migration of highly skilled individuals, and that networks can be just as beneficial for the source country.

Even though empirical evidence of brain circulation exists, it seems to be occurring only in certain less developed counties, within certain industries. As Hunger describes, there is a positive relationship between economic development and return migration of developing world elites, i.e. economical development is not – initially - a product of brain circulation, economic development is a precondition for brain circulation.

Before looking at specific case studies, we will first describe different countries’ attempts to reverse brain drain into brain circulation.

3.2.3. Policies working for brain circulation

Governments of many countries have come to acknowledge that only organized and planned state action can really reverse the brain drain and turn it into a brain circulation. It takes both time and financial investments; therefore, considering that most of the countries suffering from brain drain are the developing countries of the world, it is not always possible to take action, even though there is a willingness to solve the problem of brain drain.

Nevertheless, there are several positive examples of countries taking action against brain drain and promoting brain circulation, establishing policies that attract the emigrated highly skilled workers to return to the home country.

Policies implemented can be different, depending not only on the destination and source country, but also on the scale, characteristics, and the profession of the migrant workers. Another thing important to notice is that it is not only the salary differences that determine whether highly skilled workers are willing to return home. Working environment, recognition of their work and professional development plays a great role in that as well. It is clear that the work is to be done in cooperation – just as migration itself is usually taking place between several countries, there has to be cooperation between the destination and source countries to fight the problem of brain drain together. One of the suggestions has been to exchange data on the migrants - both leaving the source country and arriving in the destination country (Stilwell et al., 2004).
Only informed government that is aware of the real situation can create strategic approach to managing problems of the brain drain.

To give more specific examples, we will mention just a few cases where countries have actually taken step forward and tried to encourage the emigrated highly skilled workers to return to their home country. The Caribbean Community (CARICOM) for instance has created a scheme that encourages their skilled health care workers and other professionals to work abroad on rotational basis, meaning that they would work overseas for around 3 years and then return home (Stilwell, 2004). In Pakistan a rise of private educational institutions since 1990s, has significantly raised the number of working places for highly skilled professionals, as well as an alternative place for studies for a great number of students. Both help, if not to return already emigrated professionals, then at least keep the ones that have not yet migrated, as well as provide students that might have chosen education abroad with an alternative study place (Kaukab, 2005).

Another example, and a quite successful one, is South Korea (further in this text “Korea”). Brain drain was a serious problem in the country still in 1960s when 96.7% of Korean scientists and 87.7% of Korean engineers educated abroad remained abroad, mainly in the US (Kim, 1998). This was a much higher percentage than other countries at that time. Nevertheless, with the beginning of the industrialization of the country, more and more professionals were needed to meet the needs of the industry. Korean government made direct intervention and implemented several policies to reverse the brain drain effect, and encourage a return of the highly skilled migrants. First systematic repatriation attempts were made by the Korea Institute of Science and Technology (KIST) in 1966 (Kim, 1998) and continued further on. In short the main policies taken up by government institutions were active lobbying between the scientists abroad, as well as broad financial support to the ones that took decision to return. Some of the benefits they received when returning were: airfares to the repatriates and their families, moving expenses, free housing and free education for their children and subsidies for local transport, to mention a few (Kim, 1998). Another thing important to mention is that benefits were not only financial – there was a great acknowledgement of scientists by the government and research was greatly supported, as well as the demand for these scientists was created by establishing many new scientific projects and
Institutions (Kim, 1998). Being a scientist became a very prestigious position in society – enough to say that their salaries were higher than that of the members of the National Assembly (Kim, 1998). Recently there have still been signs of brain drain, as many other growing Asian economies like Malaysia and Taiwan are actively recruiting foreign professionals, especially in the IT sector, but the problem of brain drain seems to become smaller and smaller in South Korea, not only as a consequence of the active government policies in the late 90s, but also due to the overall growth of the country’s economy.

There are many more examples of policies that have been implemented in order to reverse brain drain into a brain circulation but not all of them have been so successful as the case of Korea. For example the Philippines have tried to reduce the outflow of nurses and other professionals, especially doctors, scientists and exchange scholars, by making agreement with US (the J-1 Visa) that requires that the skilled people from industries that are suffering from brain drain in the Philippines, who are visits the US via the Exchange Visitors programme, eventually return home (Ball, 2004). Nevertheless there is still an acute lack of health care professionals in the Philippines.

A number of other countries are trying to fight brain drain without implementing particular emigration restrictions, but are instead trying to make the home country attractive for people who want to return. As an example, the Chinese government has changed its official position since the 1990s from preventing students to study abroad, to support it, and meanwhile encouraging both permanent and temporary return whenever they want. There are also Z and D visas introduced for the Chinese highly skilled workers that hold foreign passports, so they can enter and leave the country whenever they wish within a period of 3 to 5 years (Biao, 2003). These different policies have proven to be successful because the number of Chinese students abroad returning is increasing and that is a sign that even policies that do not require large financial investments, can be very successful in reversing brain drain into a brain circulation.
Chapter 4 / Case study of Malawi

In the previous chapter we have discussed how some countries can manage, or can be fortunate enough, to reverse the brain drain into brain circulation, which is perceived as an advantage for the source country. However, this reversal is not likely to happen in all source countries within a foreseeable future. In order to reverse the brain drain into brain circulation, there must be incentives for the emigrated, to return to his/her home country. These incentives can be political stability or economical improvements leading to better living standards. This could be induced by new, prosperous industries emerging in the source country, as a response to new market demands.

In this chapter we will analyze what happens in a developing country that has no new industry to provide incentives for highly skilled workers to return.

Theoretically, the migration of highly skilled workers from Malawi should be seen as a result of the neo-classical approach. The theory about push- and pull factors explains the migration by implementing factors that encourage the highly skilled workers to migrate. In the case of Malawi, push-factors encourage individuals to migrate as the wage is disproportionate with his/hers education, and the pull-factor encourage migration because of the demand for immigrant labour by advanced industrial countries. The migration is also a result of a “rational choice”, as the prospects of fully utilizing the highly skilled worker’s skills are bigger in a developed country. The rational economic decision explains the migration, as individuals base the decision on a cost-benefit calculation, which leads them to improved work conditions and higher salaries.

As our later research will show, health care workers from Malawi are likely to migrate to the UK. This can be explained by the migration system theory, as there are profound historical links between the two countries; the colonization of Malawi up until 1964, the political influence the UK have had, and the fact that the official language in Malawi is English.
In Chapter 1 we have defined highly skilled migrants as individuals who have graduated after at least 3 years of university level education. This means that the term also covers individuals working in the health industry, i.e. physicians and nurses. Even though there is a huge market for health care in many developing countries, the customers – the citizens and governments in these countries – are rarely able to pay wages that are competitive with the ones offered in the developed. And since sick people of the developing countries are not a commodity that the developed countries are interested in, to the same extent that they are interested in, for example, hardware and software produced in the new “Silicon Valleys” of India, no incentives are created for the skilled workers to return to the source countries.

Where it is easier to apply strictly economical theories on brain drain and circulation of individuals working in the IT sector, it is harder to do the same in the case of health care workers. How can one determine the value of the work a doctor or a nurse performs? And how much does a developing country in critical need of health care workers loose, when a health care worker leaves the country to work abroad?

One of the countries that are experiencing very big problems with brain drain among its health care personnel is Malawi.
Malawi fact box:

Situated in southern Africa, Neighbouring Zambia, Mozambique, and Tanzania.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>118 480 sq km</td>
</tr>
<tr>
<td>Population</td>
<td>13 013 926</td>
</tr>
</tbody>
</table>

Age structure:

- 0-14 years: 46.5%
- 15-64 years: 50.8%
- 65 years and over: 2.7%

Median age: 16.5 years

Population growth rate: 2.38%

Birth rate: 43.13 births/1,000 population

Death rate: 19.33 deaths/1,000 population

Infant mortality rate: 94.37 deaths/1,000 live births

Life expectancy at birth: total population: 41.7 years

Total fertility rate: 5.92 children born/woman

HIV/AIDS - adult prevalence rate: 14.2%

People living with HIV/AIDS: 900,000

HIV/AIDS - deaths: 84,000

(CIA, 2006)

Malawi is one of the poorest countries in the world. It is predominately agricultural. 90% of the population lives in rural areas, and agriculture accounted for about 36% of the GDP and 80% of export revenues in 2005. 60% of exports are from tobacco alone. The country is heavily indebted, and depends on substantial inflows from IMF, the World Bank, and individual donor countries (CIA, 2006)

Besides dealing with financial problems, the country has a challenge in dealing with the increasing number of people who get infected with HIV/AIDS. Even a western country with a modern and well functioning health care sector would probably be facing severe problems if it was to deal with HIV/AIDS patients on the same scale as
Malawi with its 14.2% of the (adult) population infected. But where some western countries have more than 3.5 doctors and 13 nurses per 1000 citizens, Malawi has only 0.02 doctors, and 0.59 nurses per 1000 citizens (WHO, 2006).

One of the reasons for this low number of physicians and nurses is emigration. VSO claims that out of the 500 nurses graduating in Malawi during the past 8 years, only 70 are still working in Malawi. The rest have emigrated, mostly to western countries. Of these emigrants, 84% alone chose the UK as destination country. (VSO, 2004)

UK has experienced a dramatic increase in nurses immigrating to work in British hospitals. This vast emigration constitutes an economical loss for Malawi. In an example given by Muula et al. (2006), the price of educating a nurse through primary, secondary, and tertiary levels constitutes 9329.53 US$. A degree nurse-midwife cost 31.726.26 US$ to train. Since Malawi is heavily indebted, Muula et al. used mortgages with 7% and up to 25% interest per annum, and a 30 year payback period, in their calculations. Hence, the actual price of training a nurse is dramatically increased:

<table>
<thead>
<tr>
<th>Actual price (US$):</th>
<th>7% PA</th>
<th>25% PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse:</td>
<td>71.000</td>
<td>7 500.000</td>
</tr>
<tr>
<td>Degree nurse-midwife:</td>
<td>241.000</td>
<td>25 600.000</td>
</tr>
</tbody>
</table>

In order for the expenses to be a loss for Malawi, it must be assumed that the individual leaves right after graduating, without returning to Malawi to work in health care again (Muula et al., 2006).

However, the examples can be disputed. They are rather simplistic, and take it as read, that the money spent on education is only derived from a loan, and not paid by the income of e.g. tobacco exports. And since the International Monetary Fund have declared Malawi to be a Heavily Indebted Poor Country, some of the debts are paid by the IMF, reducing Malawi’s overall costs to pay out loans.

Besides the economical aspect, there are other consequences of the brain drain in the health sector. The obvious is the Malawian population who are suffering from a loss in life quality due to the lack of proper medical care available. Life quality is
hard to fix a price on, but the lack of proper medical care leads to a deterioration of the population, and thereby the workforce in general. A reduction in the workforce efficiency is substantial, and a measurable parameter.

Muula et al. gives examples of other consequences. The workload on the remaining healthcare workers increases due to shortage of personnel. According to Tanner, 2005, only 28% of the nurse positions were filled in 2003. This shortage will mean that the nurses that are left in Malawi will be more likely to “burn out” early.

Tanner (2005) describes a possible scenario where the elite will go abroad for treatments of e.g. HIV. This will lead to increased inequality; the poorest will be left behind with the lowest quality care, if any at all. Another cause of increased inequality, and a catalyst for brain drain, is the fact that one third of all teachers in Malawi are HIV positive, and “in the near future, AIDS may further kill half of today’s educated elite” (Tanner, 2005, p105). The depletion of educational quality, might lead to more from the elite sending their children abroad to study leaving the poor with even fewer opportunities for educating themselves.

Even though remittances are sent home by the health care workers emigrated to western countries, Tanner suggests that the remittances might further fuel the crisis. Whereas other countries can benefit from remittances, Malawi might not do so, out of lack of inefficient policies regarding remittances. Tanner claims that inefficient and unequal use of remittances results in fewer benefits for the poor.

Tanner takes it further when describing possible consequences of the health brain drain. “Unless the tide is turned, more restlessness and even conflict may be anticipated” (Tanner, 2005, p106). Tanner predicts that growing inequality will be fuelling the conflicts. Others claim that there is a distinct relation between the child mortality rate of a country and the likeliness of a civil conflict to occur (Cincotta, 2003). The child mortality rate of Malawi is likely to increase as the number of HIV incidents increase. Tanner sums up by claiming that: “In the worst case scenario, something that started as excessive voluntarily emigration of the highly skilled may become forced refugee migration for anyone who is capable of escaping”. (Tanner, 2005, p106)
Chapter 5 / Case study of India

India is one of the most interesting examples of the brain drain and brain circulation development.

India fact box:

<table>
<thead>
<tr>
<th>Demography:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area:</td>
<td>3,287,590 sq km</td>
</tr>
<tr>
<td>Population:</td>
<td>1,095,351,995</td>
</tr>
<tr>
<td>Median age:</td>
<td>24,9 years</td>
</tr>
<tr>
<td>Population growth rate:</td>
<td>1,38%</td>
</tr>
<tr>
<td>Birth rate:</td>
<td>22,01 births / 1000 population</td>
</tr>
<tr>
<td>Death rate:</td>
<td>8,18 deaths / 1000 population</td>
</tr>
<tr>
<td>Net migration rate:</td>
<td>-0,07 migrants / 1000 population</td>
</tr>
<tr>
<td>Infant mortality rate:</td>
<td>54,63 deaths / 1000 live births</td>
</tr>
<tr>
<td>Life expectancy at birth:</td>
<td>64,71 years</td>
</tr>
<tr>
<td>Total fertility rate:</td>
<td>2,73 children born / woman</td>
</tr>
<tr>
<td>HIV / AIDS adult prevalence rate:</td>
<td>0,9 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economy:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP – Per capita (PPP):</td>
<td>3400 US$</td>
</tr>
<tr>
<td>GDP – real growth rate:</td>
<td>8,4%</td>
</tr>
<tr>
<td>GDP – Composition by sector:</td>
<td>agriculture: 18,6%, industry: 27,6%, services: 53,8%</td>
</tr>
<tr>
<td>Labour force – by occupation:</td>
<td>agriculture: 60%, industry: 17%, services: 23%</td>
</tr>
<tr>
<td>Population below poverty line:</td>
<td>25%</td>
</tr>
</tbody>
</table>

(CIA, 2006)

India has over an almost forty year period built intellectual and professional relations with Silicon Valley in the US. India has throughout history been a “linking”
factor, as a British colony, between the East and West, with spice trade, the Silk Road and later on as a cheap production country for various types of production.

Although this is seemingly a clear cut case of Migration Systems Theory, it might not offer a full explanation on why India has become one of the leading exporters of highly skilled IT workers to the West, especially the U.S. Whereas the theory says that migratory movements generally arise from prior connections between the source and destination country, especially from ties relating on a colonial past, political influence, trade and cultural ties, a lot of these mechanisms are not obvious in the case of India and the U.S. There are no significant long term political or economical ties among the countries, and they have no shared colonial or cultural past. Except for the language which is a remainder from the British colonial past in India. The language makes it easier for Indians to adapt to the surrounding in the U.S, but does not explain the vast amount of highly skilled Indian migrants.

Another attempt to theoretically explain the Indian brain drain, could be the neo-classical rational choice approach. It suggests that the reason for the Indian brain drain and migration in general, are choices made by individuals based on rational cost-benefit calculations. In this case the pull factors in the U.S. consists of higher wages and better living conditions, and pull factors in India, low wages and lower general living conditions.

Even though Indian Diasporas in the U.S. could create a multiplier effect, or the Indian colonial past with its English language heritage create better conditions for highly skilled Indians to migrate, rational choice theory would explain what drives the individual to migrate. The migration is not likely to take place if the incentive for the individual is not present.

Silicon Valley is interesting to look at, because it in many ways represents the development of the global market, brain drain and brain circulation. The Silicon Valley is an unprecedented example of a collective of Information Technology, Technology industry, and as an employer for many of the highly skilled migrants.

Where Silicon Valley previously was seen as a brain drain factory, it is now possible to argue that it serves as a vector for enhancing brain circulation. Through the development of Silicon Valley, the intake of outside labour force, has actually
worked as a bridge between economic regions. The workers who came to the US in the seventies are now starting to return their knowledge to for instance China and India. In our opinion it can be argued that Silicon Valley has worked as a door to the Global Market for the countries that previously lost highly skilled labour and ultimately a chance of self-development. A case study in India shows that knowledge gained in Silicon Valley has sparkled economic growth and innovation within the home country.

Throughout the nineties an increasing number of Indian companies have taken over parts of small productions for major IT companies, and as the price of communication and transportation was greatly reduced, Indian based companies could take over more and more diverse tasks:

“The software industry is the motor driving the upswing in the Indian technology sector. In the fiscal year 1999/2000, total revenues produced by this industry were US$5.7 billion. In the past 15 years the software industry has accounted for 400,000 new jobs. By 2008, it is estimated that an additional two million jobs will have been created within this sector and this would represent more than 7.5 per cent of the entire Indian Gross domestic product (GDP).” (Hunger, 2004, p101)

This success is pushed by Indian executives understanding that they should not and can not compete head-on with leading market players, but instead concentrate on niche production and by building on skills, technical and economic resources of their home country. This is made possible by the forming networks created by highly skilled migrants mainly in the US. To understand this development and how it differs from brain drain we must reconsider our understanding of brain circulation. Our traditional understanding of brain circulation consists of the notion that these highly skilled migrant workers return to their home country after a given time abroad, but this is not necessarily the case. Actually a large proportion of highly skilled migrant workers stay, for instance, within the US after requiring good jobs and getting accustomed to “Western” living standards. These are the typical arguments and aspects for making brain drain possible; however these workers have another way of “paying back” to their home country. The know-how and knowledge these workers obtain, returns to India through extensive networking with family members, friends and colleagues, combined
with access to e-mail, phones and low-cost travel that has generated a previously unseen flow of information between the regions of the world. It could be argued that this is a reverse multiplier effect as described in the migration network theory. Whereas the multiplier effect describes migrant Diasporas growing, and thereby induces migration through networks, it can be argued that the same mechanisms are working when the highly skilled individuals are returning to their home country.

Others are torn between their “new” reality and traditional lives with marriages, family and cultural heritage, but conclusively it is not as important as previous if these migrants return permanently, since a great proportion keeps some kind of connection to the home or source country. This constant contact between the US and India has meant that it has become increasingly easier to get investors to India and to awake local interest in venture capital from traditional conservative investors in India. The term of “Cross Boarder companies” occurred with partner investors both in the US and in India (Hunger, 2004). When we look at what influence these US based Indians and returnees have on the home market, we see a range of different impacts. Highly skilled migrant workers have helped change legislation and reformed the Indian market to accommodate a more modern and competitive business strategy:

“These changes have liberalized the economy of India, reforming tax laws allowing for greater import flexibility within the software industry, as well as investments in educational and communication infrastructures. Due to these policies India’s centers of technology are of the highest international technical standard and the number of scientific and technical specialists is second to only the US.” (Hunger, U. 2004, p102)

It is also interesting to look at how the highly skilled migrants have influenced the structure and prospect of companies within India. Many of the top-level management positions in the Indian IT sector are currently occupied by Indians who left the country in the 1960s, 1970s and 1980s as former brain drain Indians. They mainly migrated to and stayed in the U.S., but in the beginning of the 1990s, after the Indian economic liberation policy (Hunger, 2004) many of these highly skilled migrant
workers built up networks or enterprises in India either by returning to India or from US based branches. In India these “elites” were able to use the new liberation policy within the IT sector, to revitalize the Indian economy: In 2000, 10 out of the 20 most successful software enterprises in India (representing more than 40% of the total revenues within the industry) were set up and/or managed by former non-resident Indians returning from the U.S.; This can be seen in this figure taken from Hungers article on this subject:

Figure 1. Portion of enterprises set up by (former) Non-resident Indians (red segments) of the twenty leading software enterprises in India 2000. The size of segments represents the portion of the respective enterprises sales at the total turnover of the twenty most successful enterprises in India. Source NASSCOM 2001b: Own Survey. (Hunger, 2004)

These numbers shows that former migrant workers have had a profound impact on the Indian economy and that the brain drain can be reversed into a brain circulation, when dealing with the case study of India.
Another survey was carried out in 2002 on returnees to Bangalore, India, and the results showed that there is indeed a tendency of Indian IT workers to return to their source country. For example the vast majority did not mention permanent settlement as their goal when leaving for studies or work abroad and they were intending to return to India already from the very beginning of their emigration. The main reasons for return mentioned were family ties and other personal reasons as well as increased job opportunities in India. Bangalore was seen as an attractive destination because of variety of reasons such as relatively better infrastructure, availability of experts in the field as well as many others. A fact worth to mention is that respondents were returning, even though they did not know of additional benefits offered by the state to returnees (mostly such as tax rebates, housing facilities or financial assistance when setting up a business in Bangalore). (OECD, 2004)

India has successfully changed the brain drain effect by adapting to a changing market structure and by relying on domestic resources, thus creating a prospect of a growing economy. Due to the movement of highly skilled migrants and their networking and know-how, India is creating a role-model to how third world economies can change from mere cheap production countries to more active market players and ultimately to move out of poverty. Brain circulation can be interpreted as a positive economic effect, by the globalization and the information revolution, which allows for countries like India, China, The Tiger economies (Hunger, 2004) and most recently parts of the Eastern-European regions, to become active market players in a market previously dominated by the developed economies.
Chapter 6 / Conclusion

As our study shows, in some of the cases brain drain is indeed being reversed into brain circulation. As a good example we can mention our case study on India. However, this reversal is conditioned by certain criteria in both source and destination countries. One is the kind of industry that the highly skilled migrant is engaged in. If this industry is steadily developing, like the IT industry, it is possible to create a “copy” of that industry in the source country, utilizing the knowledge and experience gained in the destination country, and the benefits that come with running a business in a less developed country, e.g. lower wages for manual type labour. In the case of India, there is an incentive for the worker to return home, since the accumulated experience is likely to be used in order to obtain managing level positions. Even though the wage the highly skilled returnee is able to earn in India might be smaller than the one he could obtain in Silicon Valley, living expenses in India are lower than in the U.S., meaning that the returnee is experiencing a relative increase in wage. Furthermore, he is increasing his social status, moving from an immigrant class with the lowest wage in his field of work, to a managing class with a high wage compared to the lowest classes of his home society. Also in other cases the professionals who are most likely to return to their home country are workers from rapidly developing industries, like IT, and the development of this kind of industry in the source country can be an additional factor that influences their choice to return.

In addition to this rapidly developing industry in the source country, immigration policies are encouraging brain circulation. Most of the highly skilled individuals entering the U.S. from India are in the H1-B visa category, which means that they are given a 3 year visa, which is extendable for up to 6 years. This obviously induces brain circulation, as long as the visas are not transformed into permanent residency permits for the highly skilled individuals.

In other industries, like the health care industry, incentives for the highly skilled individuals to return are scarcer. In the Malawi case study there is no indication that the brain drain is being reversed into brain circulation. Although the industry in Malawi has a very big demand for health care, supply is very scarce. An obvious reason is the wage difference. The incentives for a nurse to return to Malawi from e.g. the UK
are hard to spot, when wages are up to 60 times higher in the UK. In the Malawi case, there is also a lack of policies that induce brain circulation. There is no immigration law in the UK that forces foreign health care workers to leave the country after a certain period of time. Another thing to be mentioned concerning Malawi, is that it is a clear example of a case when even the networking can not make the migrants of equal use for the home country when they are working abroad. The emigrated nurses would definitely be of more use for the home country because there is obvious lack of health personal in the source country, and considering the poverty rate and situation in the health sector, it is clear that it is not possible to fill this lack of health care professionals by anything else except the actual workers. Also in other cases when there is an acute lack of certain professionals in the home country, the highly skilled migrants would definitely be of more use in the home country, especially in such sectors as health industry and education.

Suggestions that bilateral agreements should be made, so the UK is obligated to pay for the education of the nurses from Malawi who emigrate to the UK, will hardly even relieve the symptoms of the shortage of health care workers. It does not encourage circulation, and it does not deal with the immediate lack of health care workers at all. Nevertheless, this does not necessarily mean that countries should not cooperate with each other. Countries having common policies working for the same goal can definitely improve the situation, if not radically, then at least to some extent. For example policies in the destination countries, which allow the highly skilled workers to stay in the destination country only for a limited period of time (as in the case of J-1 visa agreement between the Philippines and USA as mentioned previously). This is an example of action where countries are at least attempting to encourage the brain circulation process. Even though the actual results are not seen at the moment, it can be a step forward to brain circulation in the future.

Our case studies help us to conclude that countries’ positions in the global scene differ very much from each other, and there is no universal recipe on how to reverse the brain drain into a brain circulation. Therefore each country has to adjust their individual policies, and find their own way to fit in the global process of the international migration of the highly skilled labour, and in doing so learn to benefit from it. Currently countries are practicing various strategies to attract the highly skilled
professionals to return to their home countries and initiate the brain circulation process. This includes bilateral agreements with the destination countries concerning visas, as well as improvements of working conditions and environment in the source country. Some countries have actually tried to offer direct benefits to returnees, in form of financial support and other benefits. What might be one of the biggest problems to face when trying to attract the skilled workers to return is the uneven balance of economic and social development between the developing and the developed countries. This imbalance is difficult to equalize, and is one of the key problematic when talking about globalization and the phenomenon of brain circulation. Nevertheless those disparities between countries may diminish in the future because of the development of globalisation, and the brain circulation may in the long run be easier to achieve.

What needs to be taken into consideration is that the international labour migration of the highly skilled only concerns a small group in society. Only people with higher educations are the target group of the actions taken by the government to encourage brain circulation. To maintain a constant development, also on a national level, remittances become essential. Remittances are important seen in the light of the highly skilled workers being able to support their families in the source country, even though they live and work abroad. Remittances have become the new development mantra, as the amount surpasses foreign aid, and is the largest source of foreign capital for many developing countries. The effects of remittances can be measured both on a macro- and micro level. On a macro level remittances have a measurable and tangible influence on the state budget of a developing country, and on micro level remittances have a more or less non-tangible influence on the quality of life for a poor household in a specific community, in a specific developing country. But this non-tangible effect on the quality of life is not to be underestimated, as the side effects are increased productivity, freedom of choice, and a capacity to participate in the public debate. This will in the end result in a multiplier effect on the economies of the developing countries, as the local community might use more money on education. This has an effect on the development of the developing countries in the long run.

Looking at networks between highly skilled migrants working abroad and the source countries, these contacts play a crucial role. A worker being posted abroad from an international company is an agent for new development and ensures the
existence of learning communities. After acting only in the local network, international possibilities make the network much wider and the development more extensive. Even if the professional leaves to work and live abroad, a continuing networking with his or hers home country will create not only new possibilities and support for following migrants from his country, but also larger networks that can be used to transform the new gained knowledge and experience back to the source country. In some cases the help given for other nationals in the source country can be crucial for the development of a certain industry, therefore creating a situation where the emigrated professional is actually contributing at least as much as he could do when staying in the destination country and working there.

6.1. Perspective

In connection with our project-work on brain drain and brain circulation, it is possible to link our subject with a number of different cases in Denmark and abroad. Here in Denmark the debate has in the last year revolved around the Polish workers taking jobs in the construction industry. Interestingly enough, the debate mostly concerned the wages given to the Polish workers, which in many cases was below the union agreed wages. The main issue in this case concerns the maybe biggest problem within the Danish labour market, namely the lack of qualified workers in this particular sector. With the resent EU legislations and new member countries it is interesting to follow the present political debate. The question is how the traditional wealthy countries of the EU are going to accept the “newcomers” and deal with the issue of equal wages in an economically very divers and fragmented Europe.

Also within the Danish society, we have a segment in the population, often referred to as “new Danes”. Some of these emigrants are actually highly skilled workers as they have a tertiary education. Many have over time become a part of the Danish society, and have actually contributed to the idea of remittances and brain circulation. But others have more or less been left outside, and possess jobs they are overqualified to do, and they are therefore regarded as brain waste. The question is if we as a society can afford to have a segment of people that is not included in society, both financially,
in times with scarce labour force, but also if we ethically can allow anyone to feel unwanted, which in the long run potentially could have catastrophic consequences.
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