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**FROM BRAIN DRAIN TO BRAIN GAIN: AN INSIGHT IN
TO HUMAN CAPITAL FLIGHT FROM PAKISTAN**

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CHAPTER 1

Introduction

Migration of mankind from one to another geographical location has existed since the history of mankind. Though quite difficult but this shows the courage and resilience on the part of human nature to migrate for better opportunities of living. The reasons and logics of the migrations has been numerous and unending. As per UNO, till 2013 there are 232 million people comprising 3.2% of world population, who are living outside their country of birth. This number almost doubled in the last two decade which was only 154 million in 1990. The global north is the home to 136 million while global south houses the remaining 96 million migrants. Of these migrants 74% are in the working class aged 22-64. Women as international migrants accounts for 48% of these figures. The migration of human being especially the educated and skilled from developing to developed countries got the attention of policy makers lately during the mid 20th century. The term brain drain (synonymously used with Human Capital Flight HCF) referring to the migration of skilled and educated people from one country to another for any reason, appeared in the UK. British royal society coined the term to describe the out flow of scientists and technologists to USA and Canada. (Giannoccolo, P. 2009). The equation on both sides is normally referred to gain for one side (the recipient or importing countries) and losses for other side (the sending or exporting countries). Consequently it is considered as a zero sum gain where recipient countries gain is considered loss for the sending countries. The identification of the entities (losers and winners) has taken a considerable academic and policy agendas on human being as a most valuable capital (Borta, Oxana 2007). From traditional point of view the phenomenon always carried a negative connotation. This aspect by the developing or sending countries is mainly attributing to the expenses incurred for subsidising the higher education and the benefits attained from those educated had they not migrated. As the level of education increases the magnitude of loss is considered to be increased as the cost to tertiary level higher education is more and subsidised to a greater extent. The determining factors for migration are generally oriented towards the economical, social and political factors.

The target areas for majority of the migrants remained the OECD area, where the states have the most accommodating policies to attract the polished human capital

from the south. It is always difficult to ascertain the skilled / education levels of migrant as the actual data on the subject is difficult to find. Beine, M., Docquier, F., & Rapoport, H. (2008) using a new data set (World Bank sponsored Docquier and Marfouk 2006) found about the educational level of migrants of 27 OECD countries. This accounted for almost 98% stock of the immigration in OECD countries. They used this data to compute the immigration rate by education level for 195 emigration countries in 2000. The estimates show that 90% of highly skilled migrants live in the OECD area. Also the size of country to emigration rates were found to be inversely proportional, where the emigration rates were 7 times more for countries with population less than 25 millions than countries with more than 25 million population. The middle income countries had the maximum emigration rates with Caribbean and Pacific areas being most affected. But the problem is not only with developing countries only as factors like money and independence lure young scientists of Europe to USA (Bosch, X. 2003). As per this report about 400,000 researchers were working in USA which was termed about 4% of total pool of research and development resources. Declaring UK as having the highest stay-rate in USA where only 30% scientific graduates return home, the study released by the European Commission say about 75% of Europe graduates studying in USA say that they intend to stay back after completing their doctoral work as USA offers better career and employment opportunities for scientists.

Brain Drain (BD) as a result of higher education abroad by the students of developing countries is considered one of the many reasons. The scarce opportunities at developing countries encourage students to improve their education levels at developed countries where the research and education facilities are favouring their mobility. Sub-Saharan students for tertiary level education are termed to be the most mobile in the world, (UNESCO institute of statistics UIS 2007). Between 1999-2004 the number of mobile students around the world increased by 41 percent from 1.75 million to 2.5 million, which reflects the expansion of tertiary education itself. During this time just six countries hosted 67% of these mobile students including USA 23%, UK 12%, Germany 11%, France 10%, Australia 7% and Japan 5%.

Remittances as a potential benefit of international migration are a much debated entity. Whether these remittances are contributing positively towards economical

growth of a country is much debateable. It is assumed that these amounts are not utilised effectively for constructive projects. More over these transfers of remittances are on individual basis. So should the receiving country interfere in these transfers or not is questionable. Considering these remittances as source of income, how these should help development. At macro level, the governments should have a system in place where people are encouraged to save some amount extra they have (Winter L. Alan 2010). At micro level there is reasonable evidence that these remittances relieve individuals and families of migrants of financial constraints so they can spend more money on the education of their children which is not possible under normal circumstances. Alan (2010) also referred to some evidence from World Bank that suggests that flow of remittances do encourage the recipients to integrate in to formal financial systems, leading to continuing benefits for economic activity. So in some way the remittances can play an important role in development.

Encouraging the highly educated and skilled to return home has been an option by many countries and international agencies. Though many have introduced such programmes but the costs to such incentives could be very burdening. The incentive pay and perks for return migrants and fixed costs on establishing research centres may be very costly. Also resentment from those who stayed at home would resent to such privileges and could encourage emigration. Such incentives could prove futile if the technology settings back at home are lower (Lucas, R. E. 2004).

Though the set of questions have changed but the assumptions and allegations behind the concept on brain drain has not changed much since mid 20th century. The negative connotation of BD for the sending countries that they provide much rebated skilled education to their people but can't make use of this due to emigration of their skilled. The network effects continue to be discussed where the migration has always been due to some family networks or due to a particular profession required abroad. More often the analysis of these issues and the way these are considered at higher levels and bigger and bigger datasets created has changed the debate in contemporary era.

Pakistan is a developing country and has seen this phenomenon since its inception in 1947. As per Bureau of emigration and overseas employment Pakistan, a total of 6.9 million skilled/educated Pakistanis have been registered with government of

Pakistan as employees abroad till September, 2013. But the actual figures are estimated to be quite high as many emigrants could not be registered by the bureau. As per World Bank migration and development brief 21 issued in October 2013, the remittances made by these Pakistani expats during 2013 (USD 15 billion) put Pakistan on 8th most remittances recipient country in the world. These remittances are expected to be 137% of foreign exchange reserves of Pakistan. The migration from Pakistan is mainly attributed to poor economical conditions, urge to acquire better living standards, uncertain political environment, better higher education and lately the deteriorating security environments in the country.

1.1 Purpose of the research

The word brain refers to any special expertise and the drain refers to its exit in one direction and rate of exit is considered more than normal. The research already available on the subject has different social and economical aspects. The phenomenon of brain drain has taken a new dimension in the last two decades referring it to brain gain, brain circulation, brain exchange etc where in, it's always used negative connotation is redirected towards its potential gains for the exporting countries. So is it valid that the old aged negative impact of BD has started to reap the positive fruit because human capital is the core asset which can be eventually converted in to any kind of potential. Is this new dimension is valid for Pakistan as a developing country where it requires it's skilled and educated population to contribute towards nation building. The underlying assumptions attached with the phenomenon of human capital flight that it's no more a brain drain rather brain gain because of the expertise achieved abroad by the skilled Pakistani expatriates and remittances contributing directly to the Foreign Direct Investment, pumped in to Pakistani economy motivated me to research this ever increasing aspect of human history in general and Pakistan in particular.

1.2 Research question

Does brain drain have more of positive externalities for Pakistan against the traditional belief of negative externalities?

1.3 **Delimitations of the study**

The research was intended from all three sources primary, secondary and tertiary. The secondary sources are reasonably available through internet and books to explore the study, while tertiary resources are not enough due sketchy data sharing by government departments. The primary research was planned through a self structured questionnaire which was taken up through an email survey. Because the only source of contact with sample was email, the response was highly dependent on the perception of sample that how they take this study. The snowball sampling technique used for primary research was aimed to keep the sample confined to highly educated, skilled professionals in areas where the majority of emigrants are housed.

1.4 **Definitions**

The phenomenon of brain drain has not been defined in a single way in any of the dictionaries available till date. There have been many definitions by different dictionaries. These definitions has many aspects like movement from poorer to richer geographical location, referring to specific expertises and skills, the economic factor, but the main notion of “looking for more promising opportunities” has been the major ingredient in all the definitions. In all cases where the direction of migration is seemed more in one direction the term brain drain or brain gain is used, but in other cases the brain exchange, when the transfer of expertises is considered mutual and bi directional, is also used. Another term brain waste is used in specific cases where individuals opted for a job or work lower than their specific skills or opted for a job which does not require that potential at all. Brain circulation is another notion used in this context, in which it is considered that people migrated in search of improving their educational and or skills to a country, then taking a job in the immigrated country and later returning home to make use of opportunities offered at home. This form is considered more when the economic disparities between the emigrant and immigrant countries continue to minimize. Following are the few definitions of the term brain drain as defined in few modern and old dictionaries.

- “A **pejorative**¹ description of the tendency for the **talented** people from poor countries to **seek employment** in richer ones. Sometimes this migration occurs because, while similar skills are needed in both poor and rich countries, the rich **pay** more for them. In other cases brain drain occurs because the technical and economical situation of poorer countries means that job **opportunities** are limited there or non-existent. It is also possible that the brain drain is encouraged because of tendencies in poorer countries to fill such jobs as there are on basis of family connections, political **influence** and corruption while on average richer countries, though subject to some of the same problems, tend to fill posts on a more meritocratic basis”
- “**Loss**² of a nation’s best-**educated** and most **intelligent** people to other nations”
- “International migration³ of highly **qualified** persons, e.g. surgeons, physicians, scientists and engineers from low income countries to more prosperous countries especially the USA. Differences in **salaries** and research **facilities** together with the **oversupply** of specialised graduates in less developed countries has brought about this increase in the human capital stock of advanced countries”
- “The Brain Drain⁴ is an expression of British origin commonly used to describe one of the most sensitive areas in the transfer of technology. It refers to **skilled** professionals who leave their native lands in order to seek more **promising opportunities** elsewhere”
- “The migration of **educated** and **skilled** labour from poorer to richer countries. Education skill, which represents investment in human capital, is usually cheaper to acquire in poorer, labour abundant countries, since its provision is usually a labour intensive activity. Those with the skills or education then move to more developed countries where the **return** to their **human capital** is higher. Such migration is often encouraged by

¹ Black, J., Hashimzade, N., & Myles, G. (Eds.). (2012). *A dictionary of economics*. Oxford University Press.

² Friedman, J. P. (2012). *Dictionary of Business and Economic Terms*. Barron's Educational Series.

³ Rutherford, D. (1995). *Routledge dictionary of economics*. Taylor & Francis.

⁴ (Giannoccolo, P. 2009). Kwok & Leland (1982).

laws⁵ and institutional factors, as most countries look more favourably on immigration by those with skills than those without.

Looking at these definitions, it is evident that these carry negative connotation, refers to highly skilled and educated human capital, the movement flow is in one direction. Mainly all these refer to migration reasons as economical and social. The migration is from less developed and opportune geographical locations to more developed and opportune areas.

1.5 Some related Terminologies to Brain Drain

Optimal Brain Drain: - Some developing countries can benefit from the “right” amount of skilled emigration.

Brain Waste: - A situation both in sending and receiving countries, when highly educated are underemployed like Physicians working as Taxi drivers.

Brain Circulation: - Lively return migration of the native born boosting source country productivity.

Brain Exchange: - A source country may exchange highly skilled migrants with one or many foreign countries. As a result loss of native born worker is offset by the equivalent inflow of foreign workers.

Brain Globalization: - Multinational corporations require international mobility. So some level of skilled mobility is needed to participate in the global economy.

Brain Export: - A strategy to educate and export highly skilled workers in order to gain economic feedback. This helps in balancing the national balance sheet through return earnings, experienced workers and remittances.

⁵ Giannoccolo, P. (2009). The Dictionary of Modern Economics, edited by D. W. Pearce (1981) The Macmillan press, London.

CHAPTER-2

Literature Review

2.0 **The phenomenon and changing conceptual dimension, past-present-future**

The phenomenon which received international attention in mid 20th century has changed over a period of time. Though the set of questions remain same but underlying assumptions changed over the last two decades.

2.1 **Traditional View of Brain Drain**

Traditional views about brain drain remained negative. The main argument was the cost incurred on the brain being trained at home and then losing it to benefit the importing countries.

2.1.1 **A negative externality**

The traditional view on the subject has more or less carried the negative connotation. Especially during the 1970s it was considered to be damaging for the sending countries. The work of notable scholars like Jagdish Bhagwati and William Dallalgar (1972), Jagdish Bhagwati and Koichi Hamada (1973), Hamada & Bhagwati (1975) and Hamada (1977) is a clear manifestation of BD being negative and detrimental for exporting countries. Hillel Rapoport (2004) concluded the same negative notions of the phenomenon, (a) BD is a negative externality imposed upon those who are left behind in developing countries. (b) International community should adopt the policies which compensate for the loss incurred as a result of BD. (c) It is a zero sum game with rich states getting richer and poor states getting more poorer. This is clearly manifested in the following statement.

“In contrast to the case of foreign investment, where the gain from the international factor movements is divided by the two countries, the developed country gains now at the cost of those left behind in the less developed country. The emigrants similarly are seen to gain at the sacrifice of those left behind”
(Hamada 1977)

2.1.2 Brain Drain Tax: To compensate the reduction of non migrants' welfare

The welfare of the non migrants being reduced due to more migration came in to much discussion during mid 1970s. Bhagwati et al (1972, 1973 & 1975) had been its biggest supporter. The concept behind this tax was mainly on the pretext of neoclassical mode of reasoning that “a man carries away his marginal product” leaving those left behind no better or worse off. With discouraging a policy of preventing migration they suggested a brain tax to be imposed on the migrants. The tax was suggested to be collected after migration and may be collected under the auspices of UNO under its any appropriate UNDP and subsequently handed over to the LDCs concerned. They also tried to clear the objections like if the tax is not intended for some dictatorial regime so then it could be vetoed and used in general UNDP. The tenure for brain tax was suggested as ten years from the date of migration as keeping the USA (with professional migration data 1962-69) as an example for applying the citizenship after five years. By the time they completed their first proposal Russia had imposed a pre-departure tax On the educate migration which received an opposition on the premise of human rights. The debate continued during next one decade and Bhagwati et al (1982) tried to refine this proposal by extending the home country taxation system jurisdiction on their nationals migrated abroad. Wilson, J. D. (2008) suggested a voluntary brain drain tax in continuation to Bhagwati tax. Referring to the administrative problems associated to the collection of such tax abroad, he proposed a voluntary tax paid by the emigrants abroad with an incentive of reduced tax payments as compared to those who evaded this tax, when they return home. This incentive owing to the expected value of tax motivates the emigrants to pay tax and even get tax credits while returning home. Though he presented a partial solution to the problem but mentioned himself that country like USA who has a much elaborated tax system faced problems in taxing the foreign income. The major issue remains the cooperation between the home and host countries on sharing the details about the emigrants and their income abroad.

2.2 Contemporary thinking about brain drain

2.2.1 A positive externality

A paradigm shift is required to change the thinking, the way migration of highly skilled and educated is perceived, (UNESCO, education today 2007). The 1990s notion of negative externalities of unidirectional migration is analysed in another way of potential gains. It is no more a onetime unidirectional activity rather the economic and social progress in developing countries refers to the positive force of skill circulation behind accelerating development. The increased remittances, digital Diasporas and technology assisted programmes like setting up of ICT technology in Silicon Valley in Bangalore India are very few of the many examples. Another point of view on BD in contemporary era is influenced by the modern theories of endogenous growth (Rapoport 2004). Although the earlier analysis by endogenous theories indicates to its negative outcome, but later studies also looks in to the way, human capital formation is carried out. It is pertinent to note that merely the presence of wage differential between developing and developed countries, which are the case almost every time, would affect the education decisions of the population in developing countries. Apparently there has been greater sectoral diversity but when it comes to migrant characteristics migration has become less diversified (Simon Commander, Mari Kangasniemi and L Alan Winters 2004). The more strict screening by the recipient countries on the basis of skills and education is very much evident. But this could not be true of migration to Middle East where there are still many requirements of the people for labour only.

Beine et al (2008) proved with macro data of around 37 OECD countries that the net results of BD are positive for the sending countries. They also computed the countries specific results like winners (experienced positive growth effect) are the countries with limited human capital and lower migration rates where as the losers were the ones with high migration rates and/or high enrolment role in higher education. They also proved that though there were more losers than winners but surprisingly the latter were with largest countries in terms of demographic size (China, Brazil, Indonesia and India) and represented the 80%

of population of chosen sample. So the optimum migration rate for any developing country is positive and countries imposing restriction on their educated population mobility on the reasons of publically financed education are actually decreasing the long run human capital formation. But the richer should not rest on the education capital of the poor. So designing selective immigration policies with incentives for the return emigrants for those countries badly affected by the phenomenon of BD and international cooperation aiming at brain circulation is mostly desired but mostly difficult also. As per International Office of Migration (IOM), by 2050 the population of developed countries aged 20-64 would decrease by 23% and on the contrary the same population in developing countries notably Africa would triple from 408 million in 2005 to 1.12 billion in 2050. This demographic trend contrasts the shortage of manpower at developing countries and would exert more pressures on migration as people would be force to move for finding a job (Winter L. Alan 2010).

2.2.2 Returns to Human Capital

Returns to human capital in receiving countries, is one of the major positive externalities considered for the sending countries. Assume the expected wage in immigrant country is ten times than that of emigrant country. Then even the mere 20% chances of migration would have a direct effect on the education and skill level achievement in the sending country. The central notion to this positive effect is that if possibility of migration encourages more skill attainment than skill loss as the opportunities open up the sending countries increase their skill accumulation (Simon et al 2004). In addition this skill attainment has a whole beneficial than private gains as anticipated by the people acquiring those skills, the economy as a whole benefits. Two aspects comes out of these models, first is the social benefit of the higher skill levels and second is the increment to skill levels by the next generation as a production externality depending on the skills achieved by the previous generation. Beine et al (2001) refer it to the passing of average skill of one generation to other directly. In all these examples the apparent effect is negative on the exporting country as a drain effect but the

possibility of potential gain effect in encouraging human capital formulation (Simon et al 2004).

2.2.3 Temporary Migration

Temporary migration is because of two major reasons. First the decision of the migrant himself, as people planned to emigrate for a short time to accumulate money. Second the intentions to return home and start a new job or business, generally entrepreneurial business. The long term migration in one way or the other poses pressures on recipient countries, where they have to take advantage of the expertises of the migrant for 10-15 years and then have to give them social benefits for 25 years at the old age. Also it is difficult for the native people of developed countries to accept the people from other cultures and societies for a life time, which may be difficult to be absorbed in few cases. As the phenomenon of migration is no more considered as a onetime activity by the migrants rather it is more of a brain circulation in modern day world. This temporary migration helps both the sending and receiving countries in two ways (Winter L. Alan 2010). One it would lessen the burden on host countries to permanently integrate the migrants in to the host society and give them social benefits at the old age. Secondly for the home country it would lessen their worries about brain drain, though temporary migration is brain drain at the beginning but at the end it is a return brain not only with certain increased expertises but money also as the returns to human capital and wage differential in host countries are normally multiple times as of home country. So the more earned experience and money can be effectively utilised back at home.

2.2.4 Beneficial Brain Drain

The concept of beneficial brain drain professes that the possibility of emigration encourages people to get educated, which in return increases the stock of skilled people at home as all those who get educated does not get chance to emigrate also (Winter L. Alan 2010). There has to be certain conditions to exist for beneficial brain drain. First one has to be educated to

emigrate, secondly the supply of education has to be flexible so as many people who demand education, get the chance to acquire it and thirdly very few of those who intend to emigrate actually gets the chance to migrate. But what will happen if a government does not respond to a demand for particular profession and education for that is not increased in numbers, in which case the beneficial brain drain would not happen. Also there is contradictory research that in certain cases the education acquired at home at places does not get the value at destination country so there would be little inclination for more education on the possibility of emigration. Two of the studies support this assumption as mentioned by Winter L. Alan (2010). The case for Mexican moving to USA and migration of rural Chinese to city centres, but in all probable cases it is very much a case specific, as it may produce the positive effects for one country and may produce the opposite effects for the second. As per Skeldon, R. (2010), the concept of beneficial BD, brain exchange etc is oversimplified, where as actually it is quite complex. He says that there different aspects to this notion. If we say that developing countries are experiencing the BD, we have to see where these brains are trained, like a person trained at a developed country (while there is no availability of such a training back at home) would be accepted globally. So a brain to be considered drained has to be at a level to be accepted globally. In contrast there have been countries like Ghana, where the official stance on quality of training like in health sectors has been maintained in par with international standards, so a highly trained person in a particular sector would be a waste as there a need of basic skills is more required. So training your people with certain standards whether local or international would yield the same results. Using OECD data he further clarifies that as an example South Africa showed an 35,000 vacancies vacant for nurses at the start of this century, which refers to the migration of major chunk of qualified people in health sector, but at the same time there is also evidence from OECD data that there are about 38,000 nurses are either unemployed or left the sector, which refers to the bad working conditions in the health sector.

2.2.5 Transnational networks and Diasporas

Transnational networks and Diasporas play a positive role for their home countries Lucas, R. E. (2004). This two way role first helps the successor migrants by easing out their relocation abroad, so as to act as a factor of sustain and amplify the emigration. Secondly as these Diasporas become established abroad, they become source of shaping the development at source countries. To what extent these Diasporas are effective in positive outcomes differs from country to country. If India has made use of its IT professionals abroad, especially USA to establish its IT industry, then China has benefitted from its ethnic entrepreneurs who invested back at home at large scales producing large number of jobs. But if compared for taking advantage of technology expertises of Diasporas abroad probably industry rich countries like Taiwan, Korea, Ireland and Israel has taken a lead than China and India. The Philippines though having a largest emigration rates in the world showed an initial contribution towards development but lately did not show any further brain gain effects. This is dependent on the efforts of the Diasporas itself along with the policies adopted by these countries that how much they benefit from their networks abroad.

2.2.6 Remittances and economic growth

Remittances are considered one of the major positive externality which creates positive brain drain effect. Other than diasporas and technology transfer, remittances probably is the widely discussed entity in the BD literature. Presumably countries with lower GDP and more human capital can benefit this type of Foreign Direct Investment (FDI) in to their economies. The two main motivation to remit are altruism and exchange (Docquier, F., & Rapoport, H. 2007). Altruism is referred to one's immediate family and friends but decreases with social distance, but exchange does not require any such distance. Exchange based theory of remittances indicates that exchange simply buys various services for taking care of moveable and immoveable assets of the migrants back at home. Normally such transfers are based on temporary migration and intentions to return. A specific exchange takes place when remittances become de facto repayments of the expenditures incurred on the education and/or migration but if

the migrant intended to migrate with family, then less remittances may be expected than a migrant emigrating alone. Gianturco, D. (2010) argues that both home and host countries can benefit from remittances. The host countries achieve better output results due to a better competitive advantage and improvement in living standards which is owed to the competent migrated work force. The home countries achieve better living conditions of siblings of emigrants, who improve their household and in return stay at origin countries reducing the pressure of greater migration. Gianturco (2010) argues that till end of 20th century, little attention was paid to the remittances as a source of economical development in developing countries. Since the start of 21st century it has been taken into consideration as a source of development. The amount has seen a tremendous increase in quantity and with an increment of 25% during the first decade of 21st century it rose to about 400 million USDs. Though these remittances are not considered as a primary source of economical development but with increase of every 3% in remittances poverty level is expected to decrease by 1%.

There has been quite a bit debate on magnitude of remittances by skilled and unskilled migrants. Do educated migrants remit more or less is a quite tricky question to be answered. Based on the assumptions and some simple model, Faini, R. (2007) opined that more educated are likely to remit less. This research is based on the premise that one, more educated are mostly from the richer and educated families so reducing the chances to remit more and second, these migrants most presumably bring their close relations to host countries and they stay longer in host countries weakening their bindings with home countries. Faini suggested exploring these findings in details at household levels to be confirmed, which was done by another research in 2011. Although in all such debates one thing is very clear that education is not a detrimental factor for remit behaviour rather it is associated with other things which affect the remit behaviour [Bollard, A., McKenzie, D., Morten, M., & Rapoport, H. (2011)]. There are two kinds of assumptions in their studies. First more skilled are likely to earn more which increases the potential remit amount, secondly more skilled had their education financed back at home so they are likely to remit more as repayment of their education expanses, thirdly the educated lot is very less likely

to be the illegal migrants so they would have bank accounts and remittances expenses being less increases their chances to remit more. The opposing assumptions are firstly the more skilled migrate mostly with their household so there won't be a dire need to remit, secondly they are from more well off and educated family who do not require much of the financial support from abroad and thirdly it is expected that more educated and skilled do not migrate with the return intentions so the role of remittances as their binding with household back at home is expected to be less. Bollard et al (2011) proved in their research that more educated are likely to remit more as compared to less educated. They used the micro dataset of 33,000 migrants collected during 14 surveys in 11 different OECD countries. These countries according to them comprised of 79% of global migration to OECD area. The extensive margin of "to remit at all" and intensive margin "how much to remit" gives an overall positive effect of education and amount of remittances.

2.3 **Brain Drain through lens of time**

Borta, Oxana (2007) has presented three generation BD controversy. The first generation is during the 1960s where two opposing models are presented. The first model is Don Pantinkin's national model. As per this model the basic premise is every nation should develop and maintain its human capital for the capacity building and any flight of this resource undermines the capacity of that nation. As the cost to build up the human capital is quite burden on the public funds, so the countries attracting human capital are blamed for poaching brain power. The second opposing model is of Henry Johnson's international or world cosmopolitan model. This model supports the assumption that skilled migration is voluntarily by individuals who try to seek best reward for their education and skill. The migration is based on the demand and supply forces in the labour market and how well an individual gets the best of or use the acquired skill. So the losses are considered as very temporary and more potential gains are for the individual and exporting country. The only loss considered is the loss of tax, which these highly skilled might have paid to the home country, so he suggests a service tax paid by the recipient country or emigrant which is considered to face difficulty of imposing. The second generation of BD in these writings come during the

1970s and 1990s when the connotation referred towards the negative brain drain. The outflow of skilled people is considered to generate larger magnitude of disruption in sending countries like remittances sent by the migrants could lead to a dependency syndrome and more migration is considered to widen the gap between poor sending and richer receiving countries. Late seventies observed a drastic change in the way the BD is seen as majority of migrants would not return to their home country. The blame for poaching the so called most fruitful human capital was considered to deprive the sending countries of an important economic resource for future prosperity. Also the more educated and skilled was considered to be the subsidy of poor nations to the richer ones as the former bear the total cost of the capital till they attained the age of productivity. This is the time when scholars like Bhagwati and Hamada suggests the policies for taxing the brain drain or adopting neoliberal reforms. The third generation is during 1990s and onwards. This is referred towards beneficial brain drain. The two concepts an ex ante (brain effect) and ex post (drain effect) are identified as two growth effects. If the former dominates this is termed as brain gain as in former the migration prospects foster investment in education due to increased returns on education abroad whereas drain effect is the result of actual migration. But under uncertainty about migration results in accumulation of skilled human capital which could be a brain gain for the home country. Another positive aspect is the proper use of the technology as after migration the expertises achieved abroad are shared with the people back at home country so builds an effective link in development projects. So the results are that the brain drain can bring the exporting country to higher levels of human capital per worker. Beine et al (2008) also concluded the same in their research. More or less the same views have been developed by Docquier et al (2007). The first generation of BD starts in 1960s, during which early contributor to BD literature has adopted the neutral impact of BD on sending countries. The negative externalities of work were considered small if not “negligible” with a general belief that the skilled migrants leave behind part of their assets which could assist the remaining skilled or unskilled labour in the production process. At a broader perspective the researchers in this era with the exception of very few, generally regarded the migration as benefit to the world economy and disregarded the traditional concept of damage to the developing countries. The second generation is during the 1970s which professed the traditional and pessimistic view of the phenomenon. The negative externalities for those who left

behind considered skilled migration as the source of inequality between the developing and developed countries, where the richer countries are getting more richer at the expense of the poor. The concepts prevailed even during the mid 1990s the writings investigating the migration-human capital formation in an endogenous growth framework focussed on the same negative effects of BD on source countries. The third generation literature on the subject is viewed from 1995 onwards. Looking at how the human capital formation is taking place in the developing countries and how migration changes the incentive structure for remaining residents, this literature though considered theoretical but included some empirical studies. The higher returns to education abroad are considered to foster higher education enrolment at source countries. Also the remittances, return emigration and business networks along with Diasporas are considered to impact the source countries positively. Table 1 presented in the following page represent the evolution of BD literature through mid of 20th century to first decade of 21st century⁶.

⁶ Giannoccolo, P. (2009). The brain drain: a survey of the literature.

Table-1 (Trends in Brain Drain Literature)

	1950s-1960s	1970s	1980s	1990s-2000s
Human Capital (HC) and Education	Social aspect of the education	Education implies HC. HC is a very peculiar productive factor	HC is an important component of the growth	HC and its effect on the technology and progress
Brain Drain's studies				
Topics	Social welfare	Fall in the welfare of the sending countries-public goods-taxes	Macroeconomics HC, education and growth- International commerce	Macroeconomics, innovation, technology and growth
Countries more studied	UK, West Europe USA and Canada	LDCs and HDCs (few)	LDCs and emerging countries	HDCs and LDCs
Motivation to migrate	Political and social	Market incomplete or inadequate to employ skilled workers	More productivity (and so income) of the skilled workers in the HDCs	Individual motivation (income, vote with their feet, social etc)
Effects and consequences for the sending countries	Bad effect on the welfare, social structure and population	Bad effects on the economy, development (short run effects on the taxes and unemployment etc)	Bad effects on the economy and growth (Long run effects, increase of the divergence between LDCs and HDCs)	Bad effect and good effect (Brain Gain)
Solutions suggested	International organizations and institutions	Coordination among states and BD taxes to compensate externalities	Incentives to coming back and increased opportunities to work in the LDCs	Individual incentives and implement the conditions to have brain gain

CHAPTER-3

Literature Review Specific to Pakistan

3.0 Brain Drain Pakistan: from brain drain to brain gain

The phenomenon of Brain Drain for Pakistan was inherited as the country came in to being. The region ruled by the British Empire for almost a century had the effects of British colonialism. The freedom from the British masters and the subcontinent being divided into two distinctive states namely Pakistan and India had the far reaching consequences on the geographical, social and demographical perspectives of the region. Pakistan with its inherited weak infrastructure discriminated for distribution of assets and very weak and fragile economy with totally unbalanced job opportunities forced the skilled, non skilled educated and non educated population to think about migration for better living standards. Though the time asked for a larger sacrifice on the part of migrants to leave their siblings behind but the promise of better livelihood overshadowed the bitter part of the migration. The world over major powers of the North recently recovering from the devastating effects of World War II were more than willing to accept the skilled or non skilled migrants from the Global South. Ultimately the phenomenon of BD was co inherited by countries like Pakistan with their independence from the Foreigner masters. The potential migrated lot was more inclined towards the former masters in Britain and recent inclination towards USA by the new government of Pakistan. So as result the initial migration was more towards OECD especially UK and USA oriented. The trend continued for a long time until during the last three decades the migration trend included the Gulf states of Saudi Kingdom and UAE which attracted more of the non skilled migrants due to attractive salaries, though tougher working environment. The UAE especially attracted the educated lot in the latter part where the number of migrants to UAE much increased as compared to the OECD and Global North. As of now Saudia Arabia and UAE holds the 70% of almost 7 million registered Pakistani migrants who are registered with Bureau of emigration and overseas employment Pakistan.

3.1 The inception of phenomenon and realisation

The brain drain for Pakistan as an inherited gift comes with its existence in 1947. Though the phenomenon existed since Pakistan came in to being but the realisation would come at much later stage. Even then the magnitude of the remedial measures for controlling the brain drain and to reverse the HCF would not be as evident even today as it should have been. Though it hurts the domestic economy as a whole and the welfare of those who are left back home is hampered at a larger scale but the phenomenon is still considered as an escape goat for the unemployment, discrimination in recruitment political instability and security situation in the country.

3.1.1 From opportunities to brain drain (The first three decades): - The first three decades of Pakistan's existence with regards to migration are characterised by the distinct set of economical and political conditions within and outside the country (Naseem 1979). During the first decade the readjustment period for Pakistan followed by migrations from India to Pakistan on a much larger scale was very much evident. The country saw migration of the unskilled uneducated labour lot to the UK and Western Europe. Brain drain did not exist at this time as the economy at an infancy stage already had very less educated people against opportunities for the educated lot. The second decade of Pakistan's existence saw the transformation of Pakistan economy from agricultural base to industrialisation, which did not cater for the increase in the labour population though strengthening the economy as a whole. The rural to urban migration increased and the gaps for educated jobs was filled resulting in the major migration by the educated lot with intentions not to return back. The third decade till end of 1970s saw a huge migration rate due to an increased labour demand in the Middle East. This opened a new venue for Pakistani labour market. Instability to Pakistan's economy was added by two major wars with India in 1965 and 1971 and loss of Eastern Pakistan into a new state Bangladesh. The oil boom of 1973 in Middle East increased the demand for labour. As the Bureau of Emigration and overseas Pakistanis started to figure out the migration an estimated 660,000 were registered by bureau as emigrants, where as the actual figures were more higher than this and considered at a rate of 50, 000 migrations every year at the end of 1970s. Of these figures 70% were non skilled

15-20% semi skilled like mechanics, welders, masons etc and 15-20% highly skilled like doctors, engineers, accountants and teachers, majority of these still employed in UK and Middle East.

3.1.2 Government's attitude and BD policy measures:- Unemployment and underemployment has always been a problem in Pakistan and government till date takes migration as a relief to such problems. Government has never considered the problem on cost benefit analysis. Government's attitude during the first three decades of BD regarding policies can be broadly encompassing broad areas of policy formulation, emigration ordinance, wage and salary structures with education and manpower policies (Naseem 1979). With regards to policy formulation for BD, the response from government seemed very late though the problem existed since Pakistan came in to being. Initially except for migration of doctors (that too only required an NOC from the concerned ministry) in many cases migration was backed by study leaves given to government employees when government was the major supplier of employment opportunities. Very few studies were conducted in this regard to ascertain the cost benefit analysis. As the initial focus was on migration of doctors, one such study showed the cost benefit ratio to 1:10 which though may not be true for all professions, refers to the gravity of the situation. For Emigration ordinance of 1976 (some times referred to 1979), which did nothing more than trying to stream lined the migration process. Though it tried to put barrier on certain important and more migrated profession in shape of fees on foreign earned money, but the legislation had to be abolished within first two weeks due to tremendous internal and external pressures. Wage and salary structure was another broad area where government tried to do but unsuccessful efforts. Pay scales in public and private sectors underwent major changes. In public sectors the first such major efforts were seen during the pay commissions of 1972 & 1976. Initially the colonial era inherited 650 pay scales were converted to 22 pay scales named National Pay Scales (NPS) under six major categories of professions. 1972 pay scale focussed on attracting the higher calibre potential to public sector while in 1976 effort was made to link the salaries with jobs. As a personal observation of the author, the later pay commissions appointed during

different times also did nothing much to curtail the problems. Later policies adopted by different governments relied on adhoc pay increments every year and after 4-5 years these adhoc increments were included in the basic pay scales, but the increased base for taxable salary every year did nothing much at the end to effectively cater for the sky rocketing increase in cost of living. Also a different attitude was observed for the pay scales of military and civil employees in the public sector jobs. Education and manpower policies are another area for concern in migration. Pakistan is the sixth largest country as for population is concerned. The population estimated is 174 million (Gallup Pakistan 2010). Though the returns to human capital on primary education are expected to be high but only 31% of children under the age of 15 were enrolled in primary education, of which merely 40% completes primary education and 15% completes tenth grade (Naseem 1979). If we take a look at present trends then of 174 million population 37% (64 million) are under the age of 15 and of these only 34% are enrolled in primary and secondary education (Gallup Pakistan 2010), which shows the declining demand of primary education. Increasing unemployment ratios has even discouraged the participation in university education where not more than 3% of primary enrolled students are seen reaching the university level despite that about 40% of education budget is spent on higher education. More or less education attainment in Pakistan is still considered a commodity for those who could afford it. Even the education year and curriculum is quite different for public and private institutes showing a non effective government policy. 85% of people surveyed want a uniform curriculum and 76% blamed the government for lack of access to education (Gallup Pakistan 2010).

3.1.3 BD realised but not taken care off (Last three decades):- Selective immigration policies by the developed world have increased the magnitude of skilled and educated migration from Pakistan. More than 139,000 emigrants have been registered by the Bureau of emigration and overseas employment in the categories of engineers, doctors, teachers, accountants and managers and IT experts. These figures are much lesser than actual and indicative of migrations only during the last four decades. The increase demand of these expertise

professions has given rise to immigration consultants in the country. But surprisingly the government is still unconcerned and there is no evidence of any concrete steps or efforts on the part of government to curtail this grim situation (Haque & Chandio 2013). Government's attitude towards skilled and semi skilled migration in the past has been influenced by three major factors (Naseem, 2010). First government considers this as a relief to unemployment and underemployment in the country. Secondly the remittances received are considered one of the major sources for scarce foreign exchange reserve and thirdly the increasing demand from middle east is from those countries with whom Pakistan intends to strengthen its relations so there has not been much restrictions on the skilled and semi skilled migration. A news item published in the express tribune (Pakistan's only internationally affiliated newspaper with International New York times) on Dec, 23, 2013 tries to highlight this problem as "According to the figures from January 2008 to September 2013, the selection of the workers was prerogative of the foreign employers which is based on the criteria "right person for the right job". In an earlier report, the Ministry of Overseas Pakistanis had stated that 5,873,539 Pakistanis have emigrated from 1981 to 2012, out of which a staggering 41,498 professional and technical workers left in 2012 alone. The reasons may be varied, but Pakistan will lose out on human resource if the brain drain trend continues. The trend becomes more evident as the amount of remittances overseas Pakistanis send to their families residing in Pakistan keeps growing each year. Expatriate and overseas Pakistanis sent home a record \$13.920 billion in the previous fiscal year (July 2012-June 2013), according to data released by the State Bank of Pakistan. The figures show a growth of 5.56% or \$733.64 million compared with \$13.187 billion a year earlier. The top six destinations are Saudi Arabia, UAE, USA, UK, Gulf Cooperation Council (GCC) countries (including Bahrain, Kuwait, Qatar and Oman) and EU countries, with Saudi Arabia topping the list because of the \$4.105 billion sent back home by Pakistanis from KSA between July 2012-June 2013.

3.2 Causes of BD from Pakistan (Push and pull factors)

3.2.1 Push Factors

Push factors refer to the reasons which compel an individual to migrate. These are numerous starting from mere economical compulsion to the very much needed security and safety situations in a country. Pakistan has an ending list of these ills to force its talented human capital to migrate.

3.2.1.1 **Employment opportunities:** - When opportunities are not equal for all, it creates frustration. There have been instances of discrimination on the basis of gender, religion and ethnic origin (Haque & Chandio 2013). The discrimination during the employment process is probably one of the mostly used injustices during the recruitment processes. The ill is mostly evident in public sector organisations and politically driven biases are much evident in government organisations. Faisal Bari who is an Associate professor of economics at Lahore University of Management (LUMS) referring to a news article published on 14 March 2014 in daily Dawn a leading English news papers of Pakistan, elaborated this curse. The news items informs about the briefing given by the federal minister of planning, development and reforms to Senate (Upper house in government legislation) that despite of the advertisement for the job of chief economist in the media, no one was found suitable for the job. Though the federal minister referred to the problem of brain drain in Pakistan, but the author termed it more than a problem of brain drain. He argues that the problem is more of a political nature as many people did not find this job offer attractive knowing that higher ups in the power corridors do not want an independent mind appointed on the slot. He also referred appointment of the prestigious appointment of governor state bank of Pakistan on same ground. If this is the state of affairs for appointment of such detrimental positions in government machinery then what could be the situation for recruitment for lower positions? Many studies even in the past referred to much higher unemployment in youth. Different studies put it to 15-25% for degree holders and 25-45% for the diploma holders (Naseem 2010).

3.2.1.2 **Job insecurity:** - Job insecurity is apparently a new threat in Pakistan owing to the result oriented corporate culture prevalent in today's dynamic and competitive job market. The legal mechanism and ignorance on the part of employees is one of the major reasons behind this curse and resultantly 95% of such cases are not reported in a court of law (Haque & Chandio 2013). Also in such cases the prohibitive fees for the legal petitions and fear of time wastage discourages the individuals effected.

3.2.1.3 **Recruitment policy:** - Absence of a clear cut and effective recruitment policy is a big loop hole exploited by the favouritism. The age old regulations for recruitment especially in the public sector organisations are exploited to the maximum. Merit is ignored at large and personal connections based on political and family affiliations works against the much needed fairness in recruitment. Additionally there has been presence of institutional influences like IBA (Institute of Business Administration) in Karachi and LUMS and Punjab University in Lahore for job selections (Haque and Chandio 2013).

3.2.1.4 **Family considerations:** - Family considerations are one of the major decisions while making decision about migration from Pakistan. The foremost reason is getting married to a foreign nationality holder. It is a common practice for Pakistanis settled abroad to get their children married to Pakistani girls or boys. Notwithstanding the cultural differences in host countries, the strong roots to the religion of Islam, compels Pakistani community abroad to come back for the marriage of their children. Other reasons include the financial constraints to support the families back in Pakistan as the culture of working by available male family members for the entire family is still prevalent and still working by the female members for the bread earning of the family is taken up in extreme situations of difficulty. In many cases the semi skilled male members leave the home land for earning abroad with intentions of short term migration. In few cases the support from the parents who are seen well educated and intend to let

their children improve on educational qualifications is also evident (Ali 2013).

3.2.1.5 **Security situation:** - Security situation in the country is turning out to be another major reason for migration decisions. Pakistan's support on Global war on terror (GWOt) has cost thousands of innocent lives sacrificed by its military and civil population. The numerous incidents of suicide bombings at public crowded places put an ever increasing fear in every individual's mind. People feared for their beloved ones who go out for jobs or education. The situation was even worse when attacks on well guarded places like GHQ (Army head quarters) and NHQ (Naval headquarters) were carried out by suicide bombers and normal citizen felt very insecure while leaving his home. The suicide bombing is considered the major side effect of Pakistan's support to USA on GWOt and as per statistics from the national crisis management cell reveals the bitter facts that in the last decade starting from the year 2002 there have been more than 200 suicide attacks claiming the lives of more than 3,000 people and injuring more than 6,000 (Sultan, Qadri and Fazal 2011). The major targets other than the crowded public places have been the security forces especially army and police.

3.2.1.6 **Political instability:** - Political instability has been a hallmark of all evils in power corridors of Pakistan. Sparingly any elected government could complete its tenure of five years. There have been three major military coups which weakened much of the democratic forces in Pakistan. Because of the political instability the inconsistency in government policies is also very much evident and succeeding government do not keep the policies of the predecessor and at times change in ongoing projects has cost the economy more than the actual costs. Democratic forces and political institutions remained weak to confront the strength of the organization of military. This hide and seek play by the democracy and military coups has damaged the Pakistan a lot and few achievements by virtue of scarce democratic time could not do good to the well being of people at large. The ever increasing corruption

and weak political institutes has always added to the increasing desire of talented people who have legible rights to look for better life opportunities abroad.

3.2.1.7 **Poor higher education facilities:** - Though Pakistan saw a phenomenal improvement in its education system, especially in the higher education after the inception of HEC in 2002. Since 1947 none of the Pakistani university could secure a position in first six hundred universities in the world. Though the government during the year 2002 was of military rule but the envisioned leadership and appointment of Dr. Atta-ur-Rehman, a leading scholar and scientist in organic Chemistry, as the chairman HEC, did what was termed as ‘‘a miracle happened’’ and Pakistan was in the international limelight for higher education. This miracle has still not been able to do the miracle of stopping the brain drain on account of higher education abroad. The minute federal budget of merely 2-3% or even lesser in few cases on education could never make the much required higher education facilities in the country. The field of research is much ignored and very lesser participation is seen in this mainly because of no incentives. Ali et al (2013) research on the psychological factors influencing decisions of youngsters to go abroad for higher studies found out poor higher education facilities among the three major causes of such decision. About 60% of their sample termed it the major reason for their decision to go abroad for higher studies abroad.

3.2.2 **Pull Factors**

Better prospects abroad, which may be in shape of better pay and salaries, better social conditions or better research opportunities has always been magnetic factors to pull Pakistani human capital abroad. Haque & Chandio (2013) argues this aspect with evidence from a survey conducted by Gallup-Pakistan 2009. As per this two third (62%) of interviewed Pakistani adults wish to go abroad and more than half (38%) of these don't intend to come back, where as a similar survey in 1984 indicates intentions of only 17% of Pakistanis

to go abroad. This is an indication of peoples' loosing trust on the economic future of the country. There has been a major reason as pull factors for migration of skilled from developing countries in shape of much advancement in technology in developed countries (Bhorat 2002). The technological revolution has resulted in huge growth in sectors like IT and resulted in attractions for millions of IT qualified foreigners from developing countries.

3.2.2.1 Better employment & working conditions: - Employment conditions are much better abroad, which attracts the talented and skilled from developing world. Starting from the basics of recruitment on merit till the core requirements of perks and privileges during one's career in particular field, and sexual harassment to gender discrimination form part of few factors to be considered for employment conditions. More than 50% of 500 doctors consulted to ascertain the reason for migration of health workers from Pakistan said that the working conditions is one of the major reason of doctors' BD from Pakistan, while pay and perks, security threats, discrimination and further learning opportunities being other reasons (Tahir et al 2011).

3.2.2.2 Better living conditions: - Better living conditions including the safety and security with social justice attribute to major pull factors for migrants. The living conditions are so much favourable for immigrants that more than 50% of 40 million migrants in USA own their own house (Center for American progress 2013). Health care services are also much better abroad owing to the advancements in health care services. Though the costs seem quite more but the quality overtakes this aspect for better living conditions. High standards of living have come to a major concern for those parents who could not afford but intend to give this facility to their children.

3.2.2.3 Better higher education facilities: - Much higher and advanced facilities to pursue their educational ambitions are probably the most cited reason for human mobility other than the economical reasons. Hundreds of educational institutions abroad offer better and promising

future for highly educated to further enhance their educational qualifications. USA and other OECD countries are the most favoured destinations in this regard. For countries like USA higher education is its finest export and it receives as much as 500,000 foreign students every year (Haque 2007). Of about 35% (18,000 of 51,000) doctorate degree recipients in USA were temporary visa holders (NSF 2012). In 2008 UK, Australia & Switzerland received 20%, while Canada 13%, France 11%, Germany 10%, and Netherlands 7% while USA Italy and Spain about 3% of their tertiary education enrolment share from foreign students among the top ten OECD countries. The combined figures for these countries were estimated more than 624,000 foreign students being enrolled for tertiary education (Dustmann 2011).

3.2.2.4 **Higher returns to human capital:** - Returns to human capital is the best reason for major migration decisions. Nasir (2002) in his study “returns to human capital in Pakistan: a gender disaggregated analysis” proved with facts that each year of schooling increase the chances of earning by 8%. He, while using the data set of Pakistan Integrated Household Survey (PIHS) also proved that the quality of education increase the wage level of individual. The results showed that a private school male graduate would get 26% and female 31% more wages as compared to their counterparts from public schools. So the role of education is considered as the productivity enhancing device than screening device. But in a developing country with a limited growth potential, the return to human capital is likely to low (Adams 2003). This in turn would lead to less incentive to acquire education considered as the engine for economic growth. But as the world at large encourages migration of the best of the best and very few in actual are successful in migration so the pull factor is to foster the acquiring of higher education in developing countries. At places the migrants have been more prosperous than the native people. Pakistani Americans have been earning more than the native as per 2002 estimates. As the US 2002 census shows that average American’s yearly income was around USD 59,000 where as that of a Pakistani American was around USD 70,000

(Hussain 2012). The figures clearly indicate the much better returns to human capital in labour importing countries.

3.3 **Organisational role to facilitate migration and return migration**

3.3.1 **International Efforts**

Some key facts about developed world: - USA had the most lucrative and attractive brain gain foreign policy. USA heavily relies on imported scientists (Haque 2007). Till the end of millennium USA had overall 12% of total as foreign origin science and engineering degrees. Of these 72% were born in a developing country. As the degree has a higher value so does the proportion of foreign- born population. 23% of doctorate degrees are not USA born and these figures are 40% in the fields of engineering and computer sciences. Receiving 500,000 foreign students every year who contributes almost USD 7 billion for USA economy, education is USA's finest export. This rate increases at 5% incremental every year during the last three decades. Almost 50% of PHD awards in USA are foreign nationals and 50% of these like to stay back in USA after achieving their degrees. During last decade of 2000, countries like UK, Germany, Australia and Canada tried to ease out their immigration policies, such as point system based on the educational qualification and expertises achieved by the immigrants and making immigration a selective commodity for importing countries. The number of tertiary educated migrants to OECD increased by 70% reaching to 27 million in 2010-11, (World migration in figures UNDESA-OECD). This report says that more than 50% of world migrant stock lives in only ten countries, which include 45.8 million in USA (about 20% of world migrants), Russian federation 11 million, Germany 9.8 million, Saudi Arabia 9.1 million, UAE & UK with 7.8 million each, France 7.5 million, Canada 7.3 million, Australia and Spain 6.5 million each.

3.3.1.1 **Global Index for support of immigration:** - A survey conducted by Gallup International (2012) revealed very interesting results. The survey was conducted by interviewing more than 53,000 individuals (sample size comprises 200 of South Africa as minimum and 2705 of Pakistanis as maximum), across 59 countries in five different

continents. The countries were divided with regards to population density and income groups. Countries with less than 100, 101-250 and more than 250 persons per square kilometre were termed as low density, medium density and high density countries. Likewise countries with per capita income under USD10,000 (low income), USD 10,000-30,000 (middle income) and more than USD 30,000 (high income) were categorised for the purpose of polls. Not all the high income countries were against immigration and views on immigration were not necessarily divided by the population density. Surprisingly Pakistan showed a net result of 41% (53% in favour and 13% in opposition) in support of immigration while majority of population if given a chance would like to migrate themselves. Switzerland with highest per capita income of USD 50,170 showed a positive 14% in favour of while thinly populated countries like Turkey 102 persons per kilometre showed -46% and Australia with merely 3 persons per kilometre showed a net result of -12% for immigration. USA though having a immigrant favouring policy showed an overall net result of -20% where as the poll says its per capita is USD 47,000 and it's thinly populated with only 32 persons per square kilometre. They defined global index for support of migration as "percent of population that supports immigration minus percent of population that is against immigration." These 59 countries house the 74% of world population. The question asked from the respondents was "generally speaking, do you think immigration including bringing in foreign workers is a good thing or a bad thing for this country". There was a net support for immigration in 21 countries where as a net opposition was monitored in 38 countries. In response to the question 34% said it a good thing where as 38% termed it bad, 23% were of the neutral opinion as neither good nor bad and 5% were unable to answer. So a world which is liked to be called as borderless by technology fans is sharply divided on matter of immigration because it directly affects their own country. A net support result of -4% (termed as opposing immigration with reference to definition) reveals this interesting fact that global citizenry is divided on the desirability of immigration, but they

declare that this division is amongst citizen and not necessarily among nations or their controversially perceived national interests.

3.3.1.2 UNESCO Academics across borders (AAB); opportunities and options: - Emerging out of the discussions in world conference on higher education (WCHE) in 1998, UNESCO launched academics across borders (AAB). The main aim was to offset the limitations of globalization on higher education on developing countries and make use of the opportunities offered by the same. The programme specially targeted the developing countries reforming their higher education and emerging out of crisis to enhance the university capacity. Owing to the concerns of migrating experts from developing south to the developed north, where they are losing not only on their human capital but also in terms of finances incurred on the higher education of these experts. The remittances though are considered one of the major outputs from this migration but cannot be a replacement to the hampered welfare of those who are left behind, so strategies of such nature are required to benefit the home countries in the unavoidable cases of migration. Academic solidarity through inter-university sharing across regions, volunteers from among professors who have distinguished themselves in respective fields who are encouraged to return to their homeland and work for strengthening universities and research institutes, sharing in selected higher education management activities and across border research activities among young promising academics formed part of the initial agenda items as the AAB was launched in the year 2005. UNESCO declared it sufficiently limited in scope yet sufficiently wide enough to accommodate the cross border activities as per the needs of the universities.

3.3.1.3 TOKTEN: - Transfer of Knowledge through Expatriate National (TOKTEN) is an innovative UN volunteer programme which encourages expatriates of programme countries to return their home land for a period of two weeks to three months to contribute their skills and expertises for the development of their countries. The programme was

first started in 1977 in Turkey to cater for the negative effects of brain drain on developing countries. With broad objectives of reducing the impact of brain drain, transferring the latest know how and cutting edge technology, pass on the private sector knowledge and promoting institutional capacity building this programme works under the auspices of UNESCO and UNDP. The uniqueness of the expatriates that they are well conversant with the target area which is their own homeland, can bring about tremendous positive results for the government agencies, education and research institutes, NGOs and private sector companies.

3.3.1.4 ICTP, Trieste, Italy: - Abdus Salam International Centre for Theoretical Physics is an international research centre for Physics and Mathematical sciences. It was founded by Pakistani Nobel laureate Dr. Abdus Salam in 1964 under tripartite agreement between UNESCO, IAEA and Italy. Its mission is to foster the growth of advanced studies and research in physical and mathematical sciences, especially in support of excellence in developing countries. ICTP develops high level scientific programmes keeping in mind the needs of the developing world and conduct research at the highest international standards. The centre is a part of the Trieste system, a network of national and international scientific institutes in Trieste. ICTP opened its regional branch in Sao Paulo Brazil with the name of ICTP South American institute of Fundamental Research. ICTP has been a major driving force behind stemming the scientific brain drain from the developing world. The institute awards four different types of honours and awards to encourage the research work by scientists of developing nations. The centre invites around 6000 scientist every year and since 1964 around 100,000 scientists (from 170 countries and 45 international organizations) have participated in the centre activities, of which 70% come from the Asia, Africa, Latin America and Eastern Europe (Then and Now, ICTP autumn 2004).

3.3.1.5 Digital Diasporas: - Sharing a self consciousness or Diaspora consciousness, Diasporas are ethnic minority groups of migrant

origin, who live and act in the host country but has strong sentimental and physical links with their home land. Relatively a new phenomenon, Digital Diasporas are expanding as does the informational technology, because the use of IT is extensive in this case. “Digital Diasporas use the internet to negotiate their identity, promote solidarity, learn, explore, enact democratic values and mobilize to pursue policy influence, service objectives and economic participation in the home land (Brinkerhoff 2009).” Pakistan also identified the potential of digital Diasporas and defined it in its new emigration policy as “Effective Integration of Diaspora Resources” as priority area. (Wickramasekara 2011). But the fruits of such a working are still to be reaped by any country, except in very few and rare cases the Diasporas could not do much for their origin. Diasporas at times are seen being developed by the pragmatic approach by the international community as well; like in 1990s 41 of such networks were established to bring the expatriate’s individual and collective skills to 36 developing countries (Meyer 2001). The logic says that expats migrated because of the opportunities abroad they could get to improve upon their expertises which would have never been provided to them in home country so it is good to make use of their expertises and socio-professional networks they have formed abroad.

3.3.2 National Efforts

3.3.2.1 **National Talent Pool (NTP):** - National Talent Pool was established in 1976, duly approved by the then Prime Minister Z.A. Bhutto. The initial purpose was to collect the details about the highly qualified Pakistanis in the country so as to facilitate the government to know about the experts in each category. In 1978 the mandate was expanded with addition of a programme “Regular visits of Pakistani experts positioned abroad to Pakistan” to cater for the negative impact of the brain drain. With the start of UNDP programme TOKTEN in Pakistan in 1980, both the programmes were merged together in 1989. As of April, 2014 the data of around 6,000 Pakistanis in highly qualified

categories is available on the official website. Considering the usefulness of the programme in 2009 the programme was extended till 2014 with a funding of 236 million Pak rupees and renamed as “President’s programme for care of highly qualified overseas Pakistanis (PPQP). NTP has the following objectives.

- Identify and mark key manpower occupations according to scarcity and relative importance for national development.
- Arrange for collection of basic personal data of talented persons and details regarding their professional attainments and work experience.
- Prepare computerized inventories of high level manpower of various disciplines for dissemination to user organizations both for public and private sector including overseas employment corporation (OEC) to meet the demand of international labour market for employment abroad.

3.3.2.2 Emigration Ordinance of 1976, to rationalize the migration of highly skilled: - Emigration Ordinance of 1976 first time ever in the history of Pakistan tried to regulate the migration of highly skilled personnel. It declared 13 categories of skilled and semi skilled professions, namely military persons, civil servants, technologists, scientists, medical personnel, teachers, aircraft and marine pilots, economists, machinists, accountants and bankers. The intending migrants from each category were required to obtain a no objection certificate (NOC) from the concerned ministry. It also tried to impose a capitation fee up to 20% of the foreign earned money, which is considered as the first ever in any developing country. The ordinance just introduced in January, 1976 had to be withdrawn due to a strong protest from professional organisations and vested groups abroad and home (Naseem, 1979).

3.3.2.3 Transfer of knowledge through expatriate nationals (TOKTEN), UNDP collaboration: - In Pakistan the programme remained active from the year 1980-2003. Before this a local programme named “Regular visits of Pakistani professional positioned abroad to Pakistan” was enforce. Later in 1989 both the programmes were merged together. In 2003 UNDP stopped funding this programme in Pakistan as per their policy decision and since then this programme is looked after by the Government of Pakistan but awaits an achievement to be celebrated.

3.3.2.4 Foreign Faculty Hiring Programme (FFHP): - Higher education commission (HEC) of Pakistan is the government body looking after the higher education activities in public and private sector institutes including universities and degree awarding institutes (DAIs). The commission was preceded by the university grants commission (UGC) which was established in 1947. A constitutional amendment created the HEC in 2002. Before the creation of HEC none of the university in Pakistan was falling in first 600 universities in the world but just after two to three years of its inception two universities made up to a slot within top 200 universities in addition to five other universities finding their slot in top 600 universities. Till date HEC is making concerted efforts to improve the quality of higher education in Pakistan. Foreign faculty hiring programme (FFHP) is one of the many initiatives of the HEC to attract highly qualified Pakistani expatriates to come back and contribute towards higher education in Pakistan. The programme is termed as brain-gain drive of HEC in Pakistan (Mughul, 2008). The programme aimed at attracting 1500 PHD expats on lucrative terms and conditions over a period of five years at a rate of 300 PHDs per year. Offering the potential candidates salaries from 1300 to 4300 USDs (much higher than normal pay of any local faculty member), with housing and transport facilities and economy class return air ticket and contract of one year extendable up to five years, this programme was one the major successful effort of HEC, which not only reversed the brain

drain but also contributed towards HEC's aim to add up the PHD faculties of universities. Launched in October, 2003 this programme attracted 1500 applications of which 934 were considered eligible and 872 were selected and offers were made but only 366 PHDs joined in the first four years, which was almost 30% of the estimated target of 300 PHDs per year. Dr. Atta ur Rehman the first chairman of HEC who received three international awards for his initiatives in HEC termed that Pakistan is undergoing a "knowledge revolution" and the best thing about this change is that the country has succeeded in reversing the brain drain (Mughul, 2008).

3.3.2.5 **Pakistan Education and Research Network (PERN): -**

This was another useful initiative by HEC in 2002 to provide internet infrastructure to educational and R & D organisations which increased the university enrolments but also helped in international publications by the higher learning institutes (Sajjad 2011). PERN is a fibre optic network which initially connected 60 public sector universities and acting as digital library for collaborative research. This provided access to 23000 full text journals without any charges. Today PERN connects 183 educational institutes with each other for sharing of digital data, providing broadband internet, national digital library, video conferencing through VoIP and allied services for research, where as PERN2 has been connected to global education and research networks RENs via Internet2, GEANT2, TEIN3 through an international private leased circuit (PERN official website). A collaborative research with the help of British Council integrated 35 British universities with Pakistani institutes. The projects by HEC with national and international collaboration showed a significant improvement in the field of engineering, IT and biological sciences.

3.3.2.6 **National research programme for universities (NRPU): -**

With objectives of encouraging research and increasing the indigenous capacity and reduce exodus of talent from the country HEC

launched national research programme for universities (NRPU). With an overall grant of around USD 200,000 for a researcher the programme encourages full time faculty member of universities who have advanced academic degree and relevant research experience in the areas of social, natural, management, humanities and medical sciences in addition to the fields of engineering and technology. The grant is awarded for a maximum period of three years on competitive basis. Research is categorised in five categories namely basic, applied, community/social, thematic and commercial/industrial.

3.4 **Remittances and its role in economic growth**

Remittances are considered the real concrete benefit of HCF other than the expertises achieved by the expats abroad. As per World Bank migration and development brief 21, issued in October 2013, the remittances made by the Pakistani expats during 2013 (USD 15 billion) put Pakistan on 8th most remittances recipient country in the world. These remittances are expected to be 137% of foreign exchange reserves of Pakistan. As per this report the phenomenal increments in workers' remittances notably in Pakistan is attributed to constituted incentives for attracting remittances (World Bank development brief Oct 2013). There have been quite a few studies at micro and macro level to see the positive effects of workers' remittances on Pakistani economy. A report released by World Bank in July 2010 declared that poverty level in Pakistan fell from 34.5 percent in 2001-02 to 17.2 percent in 2007-08. Three out of four provinces (except Baluchistan) saw a significant improvement in poverty line. The report suggests that this seems to be possible because of substantial increment in both domestic and foreign remittances (Mohapatra 2010).

3.4.1 Pakistan Remittances Initiatives (PRI): - Remittances turned out to be so important and decisive for the economy that Government of Pakistan asked State bank of Pakistan (SBP), ministry of finance and ministry of overseas Pakistanis to launch Pakistan Remittances Initiatives (PRI). PRI was launched in 2009 as a joint initiative with aims of facilitating/supporting efficient flow of workers' remittances and to look after other financial needs of overseas Pakistanis and their families back home. An objective analysis with aims of

collecting remittances related data, evaluating the remittances system in practice, the problem areas, international and regional efforts on remittances led PRI to formulate a comprehensive strategy to involve the financial sector for facilitating the remittances structure, transparency in remittances with consumer protection and speedy payment system (Shabbir 2012). PRI encouraged the banks to open home remittances centres in addition to financial banks and postal system for remittances payments. PRI is also encouraging the financial institutions to enhance their capacity overseas for remittances collection. The key motto for PRI is “nearer to remitter and near to beneficiary.” SBP has taken many steps to enhance the efficiency of remittance payment system including real-time interbank settlement mechanism (PRISM-RTGS) which has enabled interbank transactions in minimum time frame to pay the beneficiary. To speed up the process further a 24/7 call centre has also been established to entertain the complaints and an international toll free number for overseas Pakistanis in 12 regions. As per Pakistan economic survey 2012-13 with an increase of USD 0.69 billion over a period of one year the share of remittances through banks increased from 75% in Fiscal year (FY 10) to 90% in FY 13 and this is mainly attributed to governments efforts to divert the remittances through informal channels to formal channels of banks and financial institutes (Pakistan economic survey 2012-13).

3.4.2 Remittances increases economic growth: - Iqbal & Sattar (2010) proved the fact that a positive and highly significant relation exists between remittances and GDP, implying that higher remittances are associated with higher economic growth at macro level. They used the data set from 1972-73 till 2002-03 and multiple regression framework to separate out the effects of workers’ remittances and other key macro economic factors on real GDP growth. They argued that as the workers’ remittances are consumed for supplementing domestic investment and or consumption so it contributes towards economic growth directly or indirectly. Empirical evidence provided by these scholars refer to the fact that over the period of last three to four decades there has been an substantial increment in workers’ remittances. These stand at 3.9% of GDP during 1970s, 8.2% during the 1980s owing to the rising number

of emigrants due to more demand of semi skilled workers in Gulf countries. A sharp reduction was seen during 1990s to about 3.3% attributed to major reasons of slower economic activities in importing countries, competitive labour market and freezing of foreign currency accounts in Pakistan. Since 1999 the remittances has shown a substantial growth and it reaches to about USD 4.2 billion in 2002-03 from mere USD 984 millions in 1990s.

Khalid and Zea (2012) carried out a study to ascertain the impact of BD on economy of country. Using a simple linear regression and data from 1980-2010 they found out that contrary to common belief BD has positive implications for the economy. Their study with independent variable of annual outflow of labour had positive impact on seven dependent variables namely, workers' remittances, FDI, imports, GNI per capita, private consumption, private savings and GDP. Their final results revealed that with an increase of 1% in outflow of labour would increase 0.018% remittances, 0.013% FDI, and 0.005% of GNI per capita, 0.096% imports, 28.6% in private consumption, 4.76% in private savings and 35.6% in GDP.

There is availability of sufficient evidence that workers' remittances yield positive effect on the economic growth, GDP and per capita income (Najimdeen, Durrani and Tauhidi 2014). Laxity of government not to put in place the adequate infrastructures could eventually be detrimental for the economic growth, especially as it becomes the exodus of brain drain. Najimdeen et al, by using a simple linear regression model and data set for the period 1980-2011 proved that workers' remittances show a positive correlation with GDP and per capita income at 99% confidence level that with the increase of remittances per capita income will increase by 60%-70% with 1% error margin. Other than the second decade they found out that due to the remittances increments economy witnessed a rise in per capita income and invariably reflected on the living and life style of people. For countries like Pakistan the injection of remittances is considered a life saving for the ailing economy.

3.4.3 Migration and remittances flows: recent trends and outlook: - There are more than 230 million international and 700 million internal migrants across

the world. Global remittances flows to developing countries are likely to increase by 6.8% amounting to USD 414 billion (World Bank migration and development brief, Oct 2013). As per this brief remittances are growing exponentially and comprises of more than the foreign exchange reserves of 14 developing countries including Pakistan and almost half of the foreign exchange reserves of 26 developing countries. Despite that cost of remittances is decreasing slightly, the depreciating domestic currencies at receiving countries is increasing the flow of remittances. In South Asian the stock of migrants is estimated to 35 million of which 10 million migrated within the region and local migration within boundaries is 10 times larger. South Asian migration to rest of the world as per UN population division is growing very fast and rose to 91.5% from 1990 to 2013. Surprisingly in spite of country specific efforts to attract remittances through formal channel of banks and financial institutes, still majority of migrants send remittances to South Asia through informal channels, as two third of South Asian recipients reported to do so. Though the region has five least costly corridors for remittances transfer when it comes to cost of sending but much more is required to be done in this regard, as an example cost from Singapore to Pakistan is more than 15% which is extremely high and reducing it to about half could lead an additional transfer of USD 52 million in the pockets of beneficiaries.

3.5 Discussion

3.5.1 Paucity of data set available for analysis:- It is more of a problem in any kind of study involving the migration of people that availability of data at international and national levels both the is very weak area. At international levels there is no mechanism of consistent set of statistics to ascertain the skill level of migrants and on the part of labour exporting countries it is not common to collect the data of migrants and if few does so they use a different definition of the migration. As the number of migrants and the amount they remit continue to increase every year the data on such migrants, their skill and education levels remain fragmented, scattered and unreliable (Adams 2003).

3.5.2 Policy guide lines for HRM:- Talent management policy is a must for developing countries. How it could be done? If USA can get maximum

out of its immigrants then why can't the exporting countries. So the point is to appoint the best talent at the point of maximum delivery and the talent could be imported. So to look at its incentives rather than curbs, the developing countries must have a talent management policy, so as to open the key appointments to open talent. This would move the old negative ideas of taxing the brain drain to manage the brain at home.

3.5.3 An effective HRM Model:- There could be numerous HRM models which suit the HRM requirements for Pakistan. One of these types is Harvard HRM model. Harvard Business School generated one of the most influential models of HRM (Haque & Chandio 2013). I consider this model though a fantasy to be implemented in Pakistan but it outlines a very basic and very effective HRM policy. This model consists of four components.

Human Resource flows: - This process includes recruitment, selection, placement, appraisal and assessment, promotion and termination etc.

Reward systems: - Pay systems and motivations etc.

Employee influence: - Delegated levels of authority, responsibility and power.

Work systems: - Definition/design of work and alignment of people.

This type of model adopted for Pakistan would bring four Cs (Commitment, Congruence, Competence and Cost effectiveness) to retain the human capital in the country.

3.5.4 Remittances and Diasporas as substitute of HCF

Remittances are the over voiced substitute for HCF. The money sent back home is one of the major attractions now days but in no case it could be a substitute to the actual human capital. Countries like Pakistan though receive this power injection more from its uneducated labour emigrants than the skilled educated lot. The latter normally moves out with its house hold and has a lesser

rate of remittances than the former whose house hold is dependent left back home. To make effective use of Diasporas back at home has been a questionable term. Very rarely they are seen making their expertises back home. So in no case remittances and Diasporas can substitute Human capital.

3.5.5 Coordination between educational and job sectors

Lack of reconciliation between the educational and job sector is one of the major reason, where the institutes do not train the individuals as per demands of the industrial job sector and as a result very much willing and able Pakistanis wander in the pool of unemployment (Najimdeen et al 2014). Pakistan is blessed with a huge human capital and effective utilisation of this capital is very much needed o put the economy on progressing path but the reverse is the evidence during present times. It's a simple equation of demand and supply where if the balance is not kept on both sides would tend to have the spill over effects. Though Pakistan's education sector is fragmented and segmented into private and public sectors but its pertinent to note that private sector is rarely a major supplier of required human capital. So both the education and industrial sector should work together to balance the equation of demand and supply for the required human capital.

3.5.6 Wage and Salary structure

Wage differentials at home and abroad are major reasons to brain drain. The difference at times is at the ratio of 1:10. Any person with this much of salary difference would never refuse to migrate to another country. This difference, if brought to half or any substantial figures may discourage many potential migrants to do so as the cost of initial settlement abroad is always too much. But practically if this is not possible to achieve the results at this quantum, then the adding an improved relative position of a highly skilled person in relation to his countrymen can do the trick. As the welfare of any individual in a society is not only the absolute value of his income but also his relative position in the income distribution scale.

3.5.7 **Inconsistent and inadequate efforts for brain gain**

It is not possible to completely overcome the problem of BD without having it to support with effective and consistent policies and having looked after the giant problem of underdevelopment. The slogans of patriotism and self reliance which have been used effectively by Chinese and Indians in some case are bound to be ineffective in the absence of backed up by the relevant policies.

CHAPTER-4

Data Collection through Primary Research

4.0 Primary Research through email survey, empirical evidence across the world

4.1 Method and Methodology adopted for primary research

Though the terms of “research methods” and “research methodology” are commonly used synonymously but there is quite a difference between these two (Greener 2008). Research method refers to the method adopted to collect the research evidence in support of one’s individual effort. These methods could be interviews, email surveys, observations etc, while the methodology is the one’s attitude to and understanding of the research and strategy chosen to answer the research questions. In this primary research the main method adopted is through email survey. With specific to researching about Pakistan brain drain, efforts were made to select those areas and sample population which should come in the category of highly qualified and skilled so as to know the insight of the problem. Though the figures for these highly skilled people remain very low as compared to the semi skilled and simple labour migrants but the effects of this population migrating are far reaching. With an intention of combining the results of qualitative and quantitative research method, methodology adopted was use of SPSS tools to ascertain the results of the primary research. Descriptive analysis and group analysis were carried out like frequency tables and T test and one way ANOVA.

4.2 The sample description and technique used

To qualitatively take up the primary research a “snow ball sampling technique” was used for the email survey. This type of technique is considered similar to convenience sampling and adopted for qualitative approach. There is no sampling frame so it is not random and at times it is difficult to predefine the population (Greener 2008). Initially a sample size of only 10 individuals was contacted through emails. These individuals were not only themselves highly qualified and skilled professionals; rather they had migrated and settled abroad since long. This initial sample was requested in tern to further contact the skilled and qualified people in their circle of contacts. Focus

remained on acquiring the individual opinions on the subject and not much of the personal data was asked from the sample population. The self structured questionnaire was aimed at inquiring about individual's educational and / or professional qualifications and the institutions to acquire these expertises so as to know the highest standards achieved from Pakistan or abroad. The remaining part was distributed on three major parts namely the reasons to migrate, positive or negative impact of brain drain on Pakistan in terms of economy, welfare of those who are left behind and positive / negative externalities arising out of it. The last part was specifically aimed at knowing the return intensions to Pakistan for short/ long terms.

4.3 **Model adopted for primary research**

The primary sample size of merely ten individuals did their best and this sample was converted to size of 53 individuals who were contacted through emails with email survey being forwarded by primary sample and were requested to respond to the author directly or indirectly via primary sample through email. Before dispatching the questionnaire to the target sample they were asked to confirm about whether they would like to respond or not. Initially a positive response from 20 individuals was received in one month. A reminder was given to the remaining individuals after a month and subsequently after two months. Finally they responded and a full response was achieved within four months. The primary sample was chosen mainly from two major regions namely OECD and Middle East which houses the major chunk of Pakistani migrants. The self structured questionnaire was designed in a way that initially a note was posted on the first page to keep the sample confident about confidentiality of their personal data and feedback, then topic was introduced the questionnaire comprised of four parts. The questionnaire was structured on likert scale with shades of strongly disagree to strongly agree in ascending scale. Part one having four questions was related to general information about the sample including their highest educational and professional qualifications and the source institute for this expertises. Their present location in terms of region/country and job title to ascertain their position in that particular environment was also sought in first part. The second part having two major questions was related to reasons of migration from Pakistan which included push from Pakistan and pull from abroad. They were given numerous reasons to choose from and

could opt more than one reason. Third part comprising ten questions tried to ascertain the brain drain effects on Pakistan. Finally the fourth part intended to know the return intentions of migrants back to Pakistan. This part had four closed and one open question to say their heart out regarding their return intentions. The questionnaire is appended below.

4.4 **Research questionnaire elaboration**

Self structured questionnaire is appended below. The focus remained on asking the indirect questions related to the phenomenon and its externalities.

IMPORTANT NOTE

Please read the first two pages before starting your opinion from third page

This is purely an academic survey questionnaire in partial fulfilment of Master's degree requirements. The questions are self structured by the researcher with an aim to obtain the individual opinions on "**Brain drain situation in Pakistan and its gains / losses for Pakistan**". The contents of this questionnaire would be handled with proper confidentiality. No personal information of any individual would be revealed to any third person. Only the results of this questionnaire would be revealed as a whole, for declaring the hypothesis of the research being proved or otherwise.

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“From brain drain to brain gain: an insight into human capital flight from Pakistan”

Brain drain (BD), also known as Human Capital Flight (HCF) refers to migration of skilled and or educated from developing to developed countries. In actual the phenomenon is no more one way from the developing to developed, rather many developed countries are experiencing the same like from Eastern Europe to west and north. The term first coined by the British Royal Society during mid 20th century, then referred to the outflow of scientists and technologists to USA and Canada. The word brain refers to any special expertise and the drain refers to its exit in one direction and rate of exit is considered more than normal. The research on the subject has different social and economical aspects. The phenomenon has taken a new dimension in the last two decades referring it to brain gain, brain circulation, brain exchange etc where in, it's always used negative connotation is redirected towards its potential gains for the exporting countries. Pakistan is a developing country and has seen this phenomenon since its inception in 1947. As per Bureau of emigration and overseas employment Pakistan, a total of 6.9 million skilled/educated Pakistanis have been registered with government of Pakistan as employees abroad till September, 2013. But the actual figures are estimated to be quite high as many emigrants could not be registered by the bureau. As per World Bank migration and development brief 21 issued in October 2013, the remittances made by these Pakistani expats during 2013 (**USD 15 billion**) put Pakistan on **8th** most remittances recipient country in the world. These remittances are expected to be **137%** of foreign exchange reserves of Pakistan. The migration from Pakistan is mainly attributed to poor economical conditions, urge to acquire better living standards, uncertain political environment, better higher education and lately the deteriorating security environments in the country. The underlying assumptions attached with the phenomenon of human capital flight that owing to the positive impact of globalization, it is no more a brain drain rather brain gain because of the expertises achieved abroad by the Pakistani expatriates, which could be priceless assets and huge remittances contributing directly to increase in the foreign exchange reserves and Foreign Direct Investment, pumped in to Pakistani economy motivated me to research this ever increasing aspect of human history in general and Pakistan in particular.

"Let us make migration work for the benefit of migrants and countries alike. We owe this to the millions of migrants who, through their courage, vitality and dreams, help make our societies more prosperous, resilient and diverse."

Ban Ki-moon

UN Secretary General

Message for International Migrants Day, 18 December 2013

SURVEY QUESTIONNAIRE

(Please enter your answers in grey shaded area)

1. General Informations

- Your educational qualifications.
- Which institute did you achieve this qualification. (Name and location of the institute).
- Your present location (Country/Region)
- Present Job/work title
 - Doctor
 - Engineer
 - Manager
 - Teacher
 - Student
 - Computer/IT professional
 - Pilot
 - Other. Please specify.

2. Reasons for emigration (you can select more than one)**(Push Factors: The factors which compelled emigration from Pakistan)**

- Unemployment.
- Poor pay and salaries structure.
- Poor Job / work opportunities
- Family considerations (like marriage etc).
- Poor Job satisfaction.
- Lack of respect for particular profession.
- Poor higher education opportunities
- Lack of institutions for research.
- Lack of career guidance and counselling.
- Safety and security situation in the country.
- Political instability.
- Others. Please specify.

(Pull Factors: The factors which attracted from abroad to migrate)

- Better pay and salaries.
- Better employment conditions.
- Better opportunities for career advancement.
- Better living facilities like security, housing, education and health.
- Better research facilities.
- Compatibility to your education/skills with job.
- Better legislations with regards to human rights and social justice.
- Others. Please specify.

3. Brain drain and its impact on Pakistan

- I. Do you think that emigration of skilled and or educated Pakistanis is a brain drain for Pakistan in the long run?
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- II. Considering the ample human capital of Pakistan, the emigration of Pakistani skilled and or educated has more of potential gains than losses for Pakistan as a developing country. (Considering the expertises achieved abroad and remittances sent home).
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- III. If a proper use of technology is made, the negative impact of brain drain can be converted to potential benefits. (The use of internet technology to make use of Pakistani professionals abroad).
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- IV. The government of Pakistan is making concerted efforts to make use of the expertises gained by the Pakistani expats (like offering them incentives to come to Pakistan for long or short term projects/jobs).
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- V. If a certain profession is emigrating more, more education opportunities for that profession in Pakistan can compensate the shortage of professionals in that field.
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- VI. Do you think that because of more demand for highly educated people abroad, the returns to education are rising in Pakistan and as a result there is more investment in educational institutions, especially by the private sector?
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
- VII. Do you think your contribution as Pakistani expat, towards economy in terms of remittances made, the import of goods in shape of gifts, is more than what you had done for the economy of Pakistan if you were in Pakistan?
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

VIII. Do you think that remittances can be a substitute for brain drain from Pakistan?

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

IX. Due to more and more emigration of Pakistanis, the welfare of the people left back home is hampered? (Considering what the emigrants had done for the welfare of people while staying in Pakistan).

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

X. The procedures adopted by Pakistani government for sending remittances to Pakistan including the costs are discouraging and resultantly, Pakistanis abroad prefer to send remittances through informal channels.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

4. Return intentions to Pakistan

XI. Adjusting in your present social environment abroad was difficult than what you had perceived?

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

XII. If you are offered a project or job for long / short duration in Pakistan, you would like to go to Pakistan.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

XIII. You would like to go back to Pakistan permanently?

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

XIV. You will find an appropriate job/work when you go back to Pakistan?

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

XV. What are your expectations (which are feasible and practical) from Pakistan if you go back? (Please write in details).

Thank you for cooperating and sparing your valuable time. I would be more than happy to share the results of this survey questionnaire.

CHAPTER-5

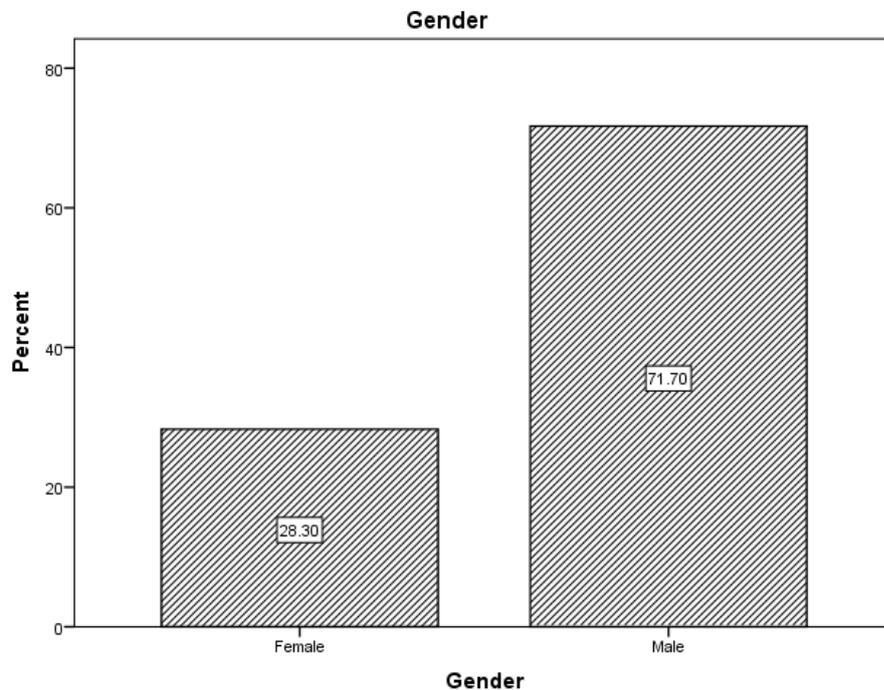
Findings and Analysis

5.0 Findings and Analysis

5.1 **Findings:-** The findings of the primary research are discussed in the following section. Using the Statistical Package for Social Sciences (SPSS) descriptive analysis in shape of frequency tables was carried out to know the outcome. To ascertain the differences of opinions, different group comparisons were carried out by using T test and one way ANOVA. Mostly there was no difference of opinion found except in very few cases.

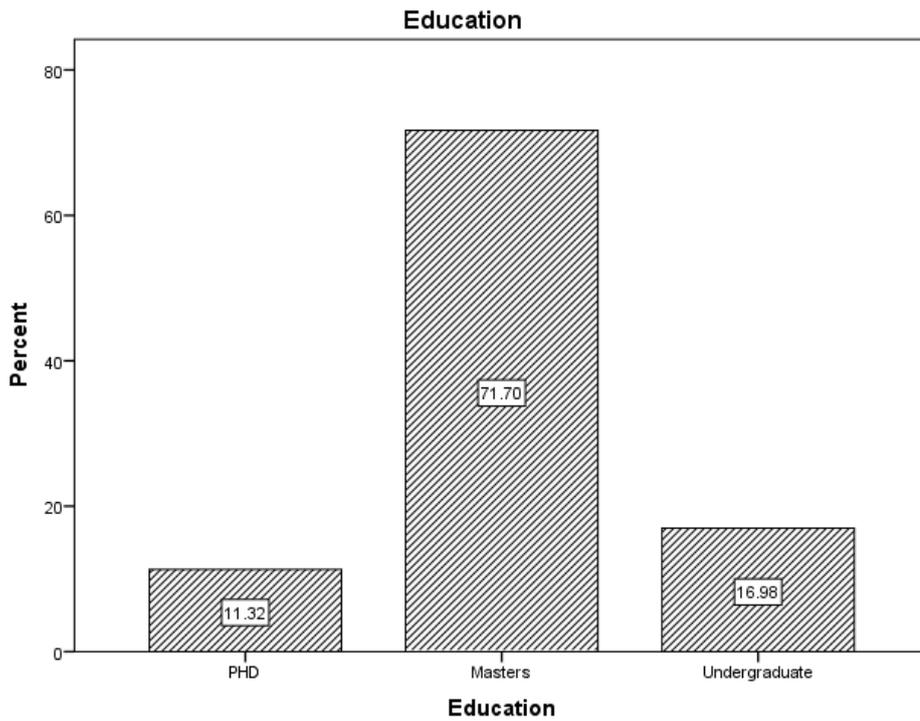
5.2 General details

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	15	28.3	28.3	28.3
	Male	38	71.7	71.7	100.0
	Total	53	100.0	100.0	



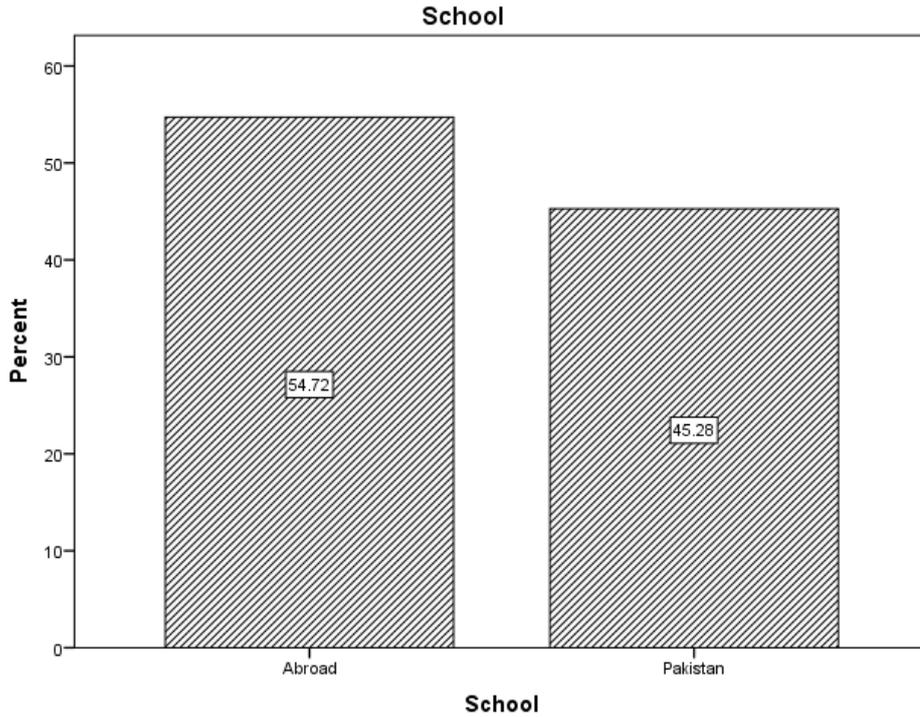
Gender ratio appeared 1:2.5 in favour of male. As normally the male members are observed migrating more so they comprised of 72% of sample size as compared to 28% being female.

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PHD	6	11.3	11.3	11.3
	Masters	38	71.7	71.7	83.0
	Undergraduate	9	17.0	17.0	100.0
	Total	53	100.0	100.0	



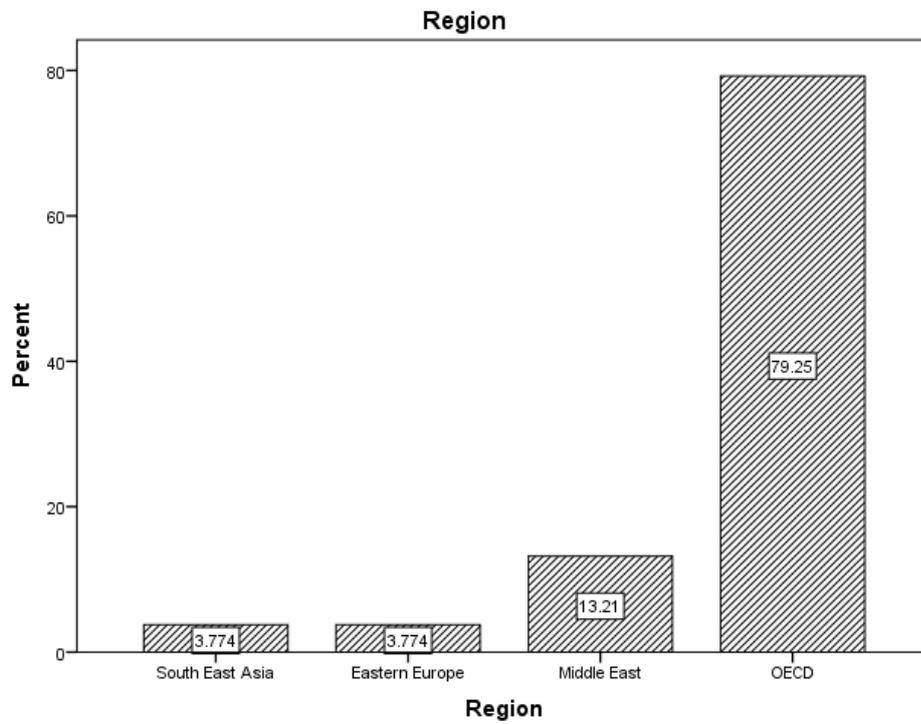
All the sample size was found to have received tertiary education. Of these, majority i.e about 72% are having masters’ degree while undergraduate and PHD were observed as 17% and 11% respectively.

School					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Abroad	29	54.7	54.7	54.7
	Pakistan	24	45.3	45.3	100.0
	Total	53	100.0	100.0	

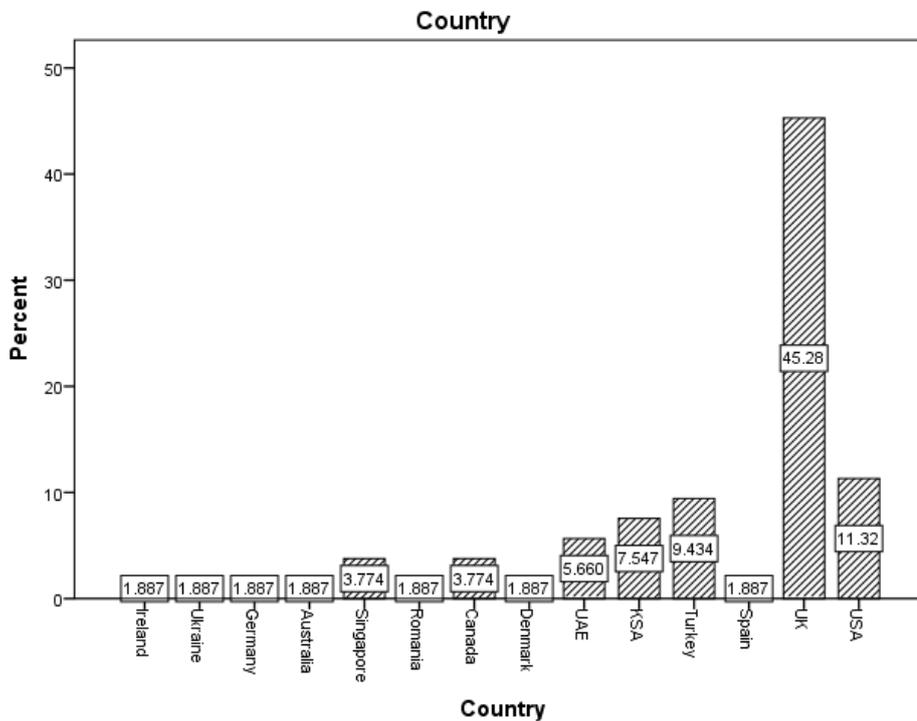


These highest educational qualifications were acquired 55% from institutions abroad while 45% from Pakistani institutes. This is considered almost equal for local and foreign born institutes. In few cases two similar degrees were observed from local and abroad while in most cases the specialization in particular field was acquired abroad.

Region					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	South East Asia	2	3.8	3.8	3.8
	Eastern Europe	2	3.8	3.8	7.5
	Middle East	7	13.2	13.2	20.8
	OECD	42	79.2	79.2	100.0
	Total	53	100.0	100.0	



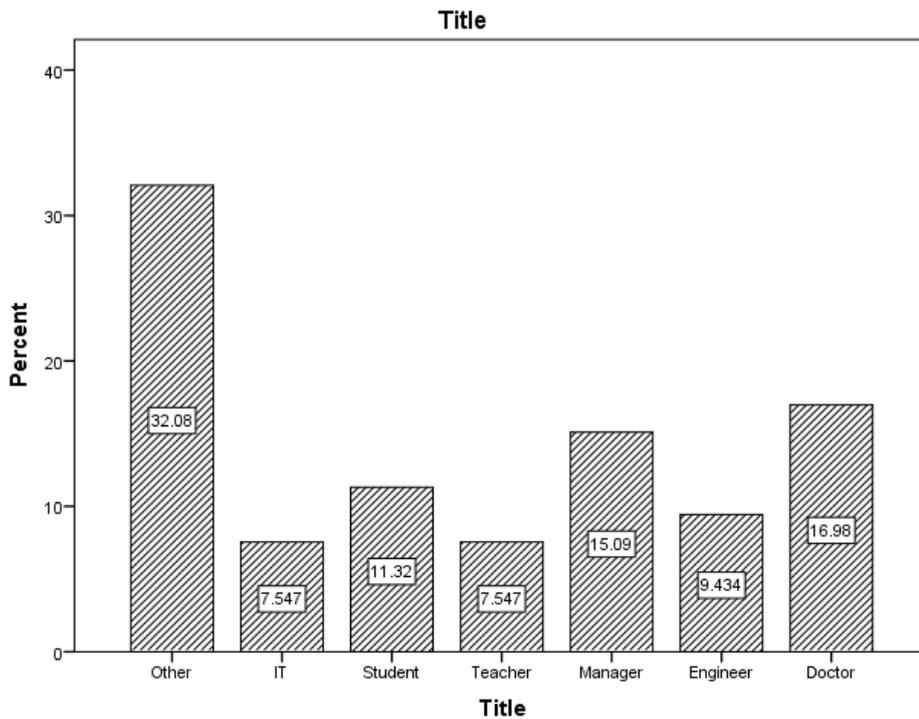
		Country			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ireland	1	1.9	1.9	1.9
	Ukraine	1	1.9	1.9	3.8
	Germany	1	1.9	1.9	5.7
	Australia	1	1.9	1.9	7.5
	Singapore	2	3.8	3.8	11.3
	Romania	1	1.9	1.9	13.2
	Canada	2	3.8	3.8	17.0
	Denmark	1	1.9	1.9	18.9
	UAE	3	5.7	5.7	24.5
	KSA	4	7.5	7.5	32.1
	Turkey	5	9.4	9.4	41.5
	Spain	1	1.9	1.9	43.4
	UK	24	45.3	45.3	88.7
	USA	6	11.3	11.3	100.0
	Total	53	100.0	100.0	



The present location of sample was observed mainly in OECD (79%) and Middle East (13%), while the country specific data reveals that majority are in UK (45%), USA

(11%), Turkey (9%), KSA (7%) and UAE (6%). Over all the respondents were found in four regions and fourteen countries.

		Title			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	17	32.1	32.1	32.1
	IT	4	7.5	7.5	39.6
	Student	6	11.3	11.3	50.9
	Teacher	4	7.5	7.5	58.5
	Manager	8	15.1	15.1	73.6
	Engineer	5	9.4	9.4	83.0
	Doctor	9	17.0	17.0	100.0
	Total	53	100.0	100.0	



Majority of professions (70%) were observed in those categories which are considered migrating more. About 30% of respondents were belonging to professions like accountants, directors of firms, house wives, banker and researchers etc.

5.3 Reasons to emigrate

5.3.1 (Push Factors: The factors which compelled emigration from Pakistan)

Push factors	Recurrence	Percentile
1. Unemployment	6	4%
2. Poor pay and salaries structure.	13	10%
3. Poor Job / work opportunities	19	14%
4. Family considerations (like marriage etc).	14	10%
5. Poor Job satisfaction	6	4%
6. Lack of respect for particular profession	6	4%
7. Poor higher education opportunities	11	8%
8. Lack of institutions for research	11	8%
9. Lack of career guidance and counselling	7	5%
10. Safety and security situation in the country	21	16%
11. Political instability	12	9%
12. Others	11	8%
Total	137	100%

Push factors are the reasons for emigration. These are the factors which pushed the individual out of home country and forced him to emigrate. Respondents were given option to choose out of 12 any number of reasons to furnish the factors for push from Pakistan. In cumulative they chose 137 reasons as push factors. The most recurring reason was safety and security in the country followed by poor job opportunities and salary structure. Remaining reasons were lesser than 10% of the total given reasons. In addition to the closed ended factors it was also a choice to write one's own specific reason if it is not found in the given list. Termed as other reason it counted as 8% of the total score.

5.3.2 **(Pull Factors: The factors which attracted from abroad to migrate)**

Pull factors	Recurrence	Percentile
1. Better pay and salaries	25	15%
2. Better employment conditions	21	12%
3. Better opportunities for career advancement	33	20%
4. Better living facilities like security, housing, education and health	35	21%
5. Better research facilities	12	8%
6. Compatibility to your education/skills with job	19	11%
7. Better legislations with regards to human rights and social justice	20	12%
8. Others	5	3%
Total	170	100%

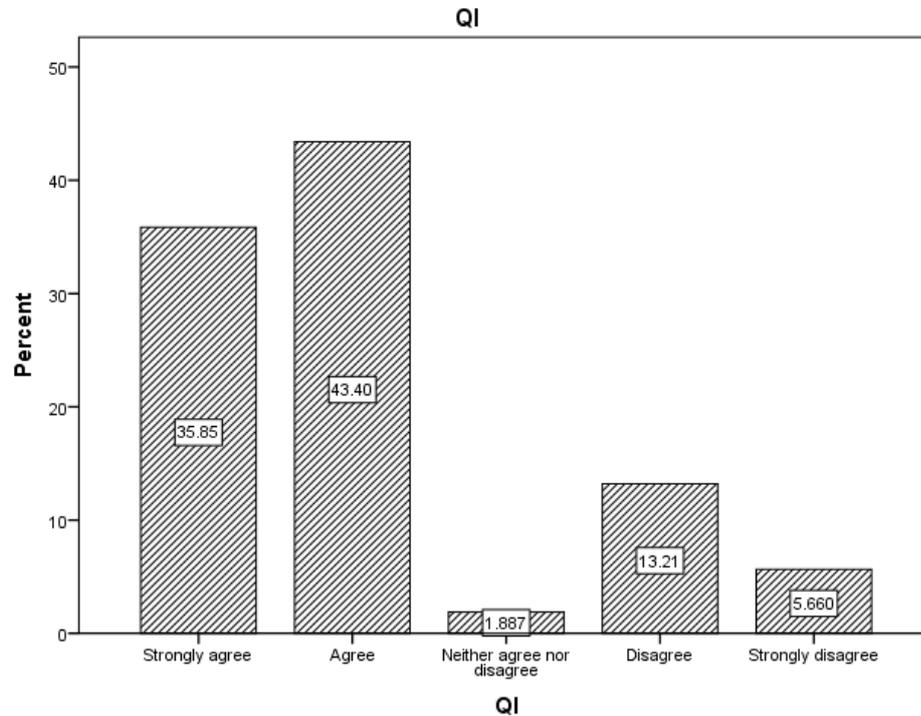
Pull factors are the reasons which acted as magnet and pulled the individuals from their homeland. Having the options to choose more than one reason for being pulled abroad the respondents chose 170 reasons in total. Better living facilities and better opportunities for career advancement are the two major cries by the expats. This aspect shows the emigrants confidence on the system in migrating countries with regards to social facilities for living and career advancement. Better financial benefits in pay and salaries followed by employment conditions and better human rights were mostly cited as the pull factors. Compatibility of job offered with regards to qualification of the individual and better research facilities comprised the remaining part with minor reasons as cited in category of other reasons.

5.4 **Brain drain and its effects on Pakistan**

Ten questions were asked in this section to know the positive or negative externalities of brain drain on Pakistan. These questions aimed at asking the target sample about understanding of the problem, its effects on Pakistan as considered by the respondents may be positive or negative. These questions asked indirectly about the externalities so as the target sample should not respond spontaneously in negation or affirmation to this aspect. The response to these questions is analysed in ensuing pages.

Q I: Do you think that emigration of skilled and or educated Pakistanis is a brain drain for Pakistan in the long run?

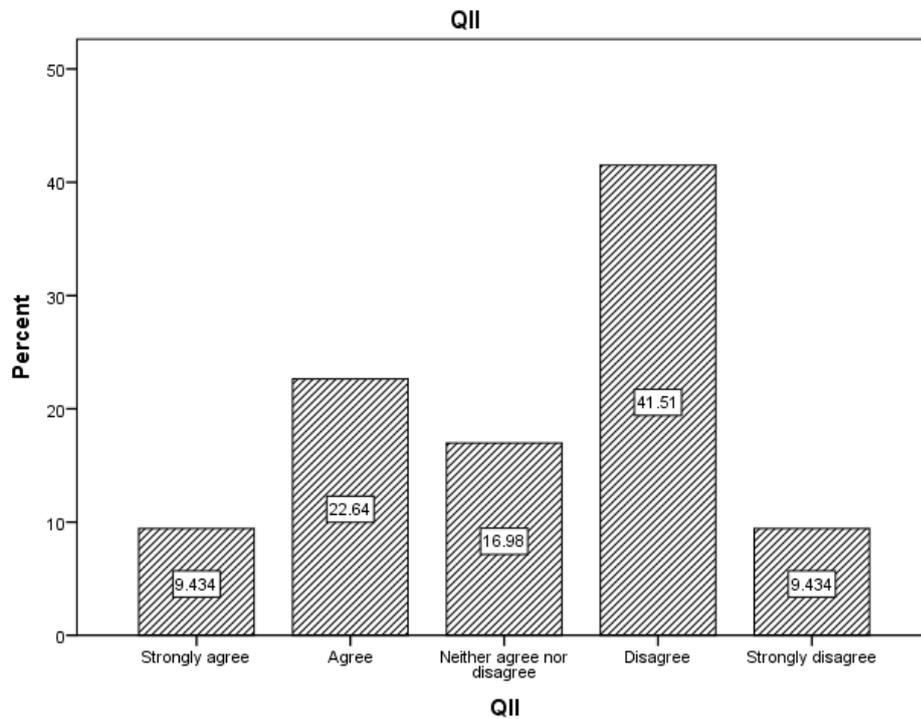
QI					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	19	35.8	35.8	35.8
	Agree	23	43.4	43.4	79.2
	Neither agree nor disagree	1	1.9	1.9	81.1
	Disagree	7	13.2	13.2	94.3
	Strongly disagree	3	5.7	5.7	100.0
	Total	53	100.0	100.0	



Majority of respondents (almost 80%) agree that emigration of educated and or skilled population is brain drain for Pakistan if continued for long time.

QII: Considering the ample human capital of Pakistan, the emigration of Pakistani skilled and or educated has more of potential gains than losses for Pakistan as a developing country. (Considering the expertises achieved abroad and remittances sent home).

QII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	9.4	9.4	9.4
	Agree	12	22.6	22.6	32.1
	Neither agree nor disagree	9	17.0	17.0	49.1
	Disagree	22	41.5	41.5	90.6
	Strongly disagree	5	9.4	9.4	100.0
	Total	53	100.0	100.0	

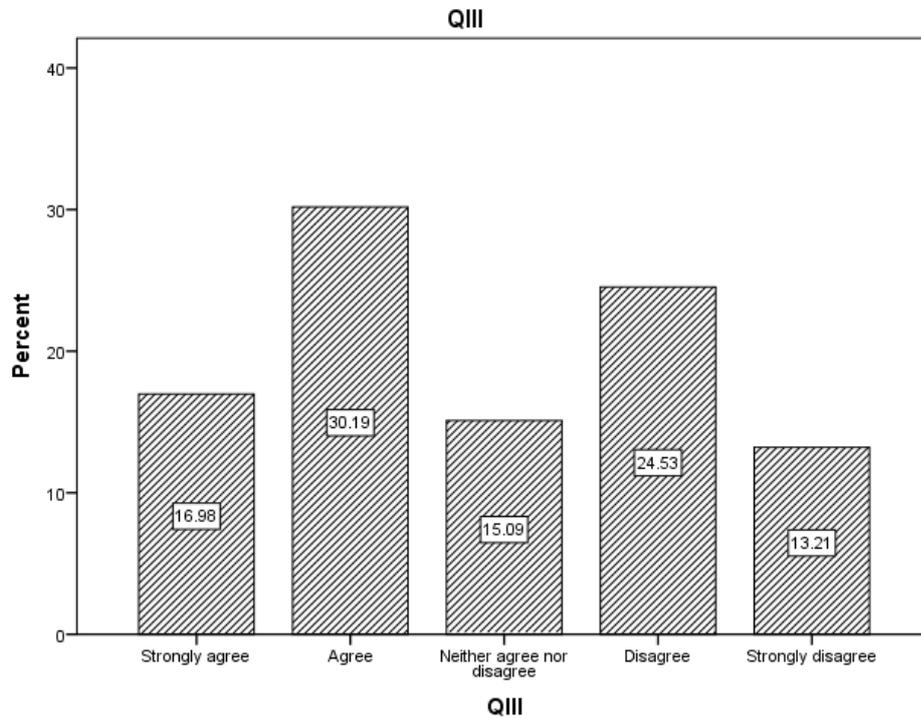


The response to this question shows results contrary to first question as the opinion is divided over the brain drain’s potential gains for Pakistan. Resultantly 51% do not consider emigration of skill and their expertises achieved abroad along with remittances

as the potential gain for Pakistan, where as 17% are not sure about this and 32% considers this as a gain for Pakistan.

QIII: If a proper use of technology is made, the negative impact of brain drain can be converted to potential benefits. (The use of internet technology to make use of Pakistani professionals abroad).

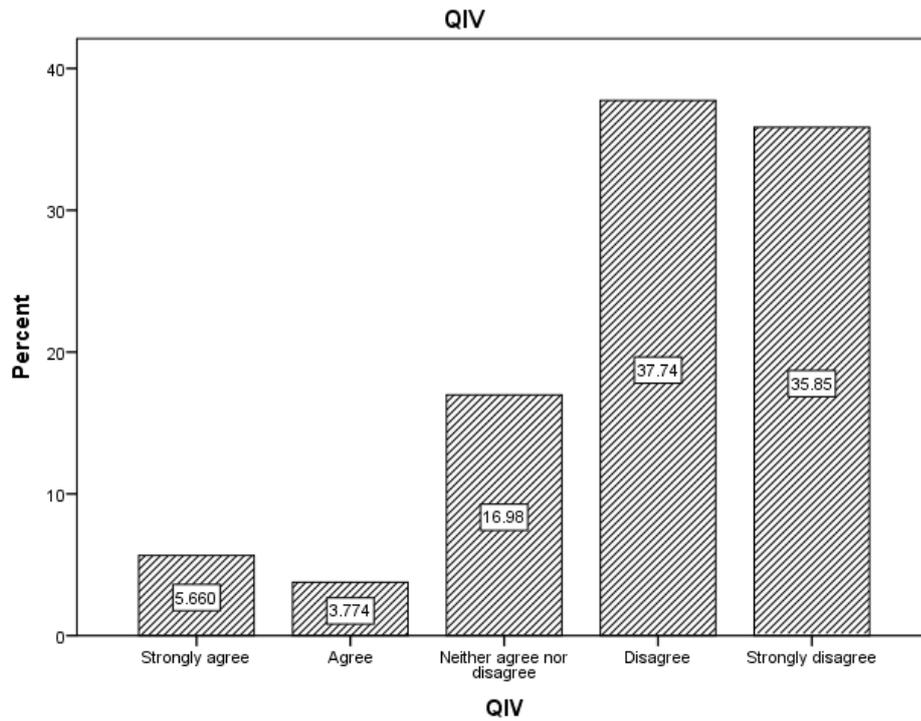
QIII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	9	17.0	17.0	17.0
	Agree	16	30.2	30.2	47.2
	Neither agree nor disagree	8	15.1	15.1	62.3
	Disagree	13	24.5	24.5	86.8
	Strongly disagree	7	13.2	13.2	100.0
	Total	53	100.0	100.0	



For the use of technology to offset the limitations created by skilled migration 47% agree to use it and 37% do not consider it a tool for exploitation of emigrants' expertises while 15% are not sure of it.

QIV: The government of Pakistan is making concerted efforts to make use of the expertises gained by the Pakistani expats (like offering them incentives to come to Pakistan for long or short term projects/jobs).

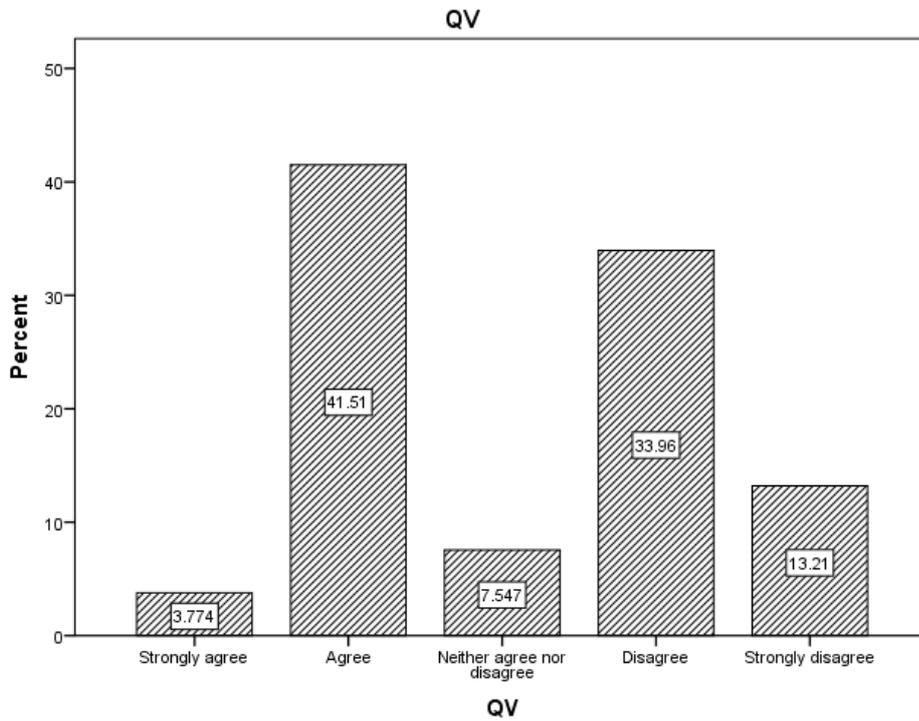
QIV					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	3	5.7	5.7	5.7
	Agree	2	3.8	3.8	9.4
	Neither agree nor disagree	9	17.0	17.0	26.4
	Disagree	20	37.7	37.7	64.2
	Strongly disagree	19	35.8	35.8	100.0
	Total	53	100.0	100.0	



The opinion in this case is almost unanimous where almost 74% agree that there are not enough efforts by the government to give incentives to the expats to return home.

QV: If a certain profession is emigrating more, more education opportunities for that profession in Pakistan can compensate the shortage of professionals in that field.

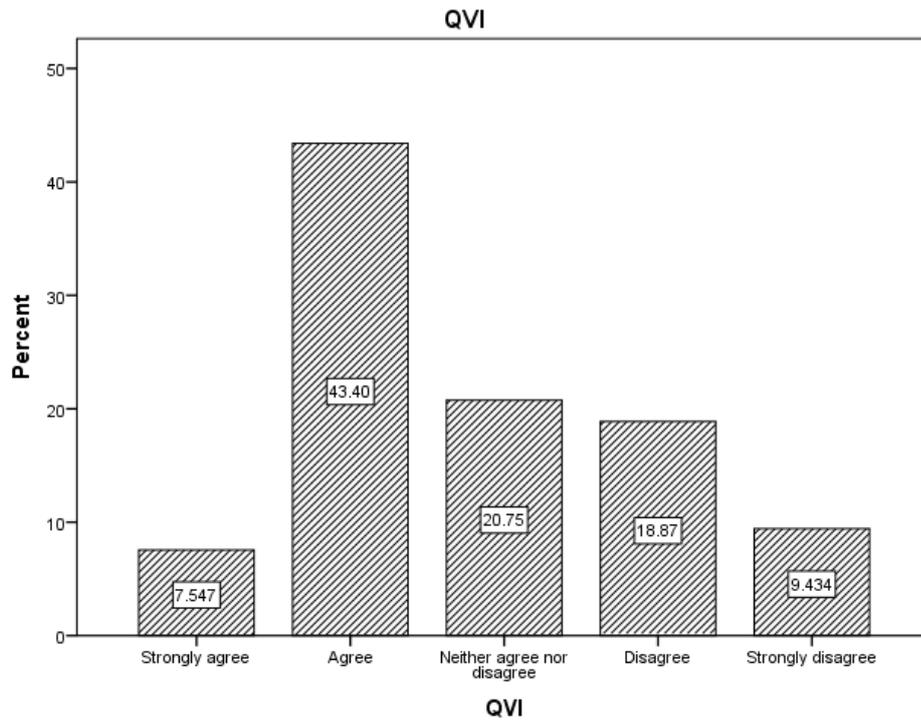
QV					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	2	3.8	3.8	3.8
	Agree	22	41.5	41.5	45.3
	Neither agree nor disagree	4	7.5	7.5	52.8
	Disagree	18	34.0	34.0	86.8
	Strongly disagree	7	13.2	13.2	100.0
	Total	53	100.0	100.0	



The respondents are divided on this aspect and 45% agree while 47% do not agree that the effects can be offset this way.

QVI: Do you think that because of more demand for highly educated people abroad, the returns to education are rising in Pakistan and as a result there is more investment in educational institutions, especially by the private sector?

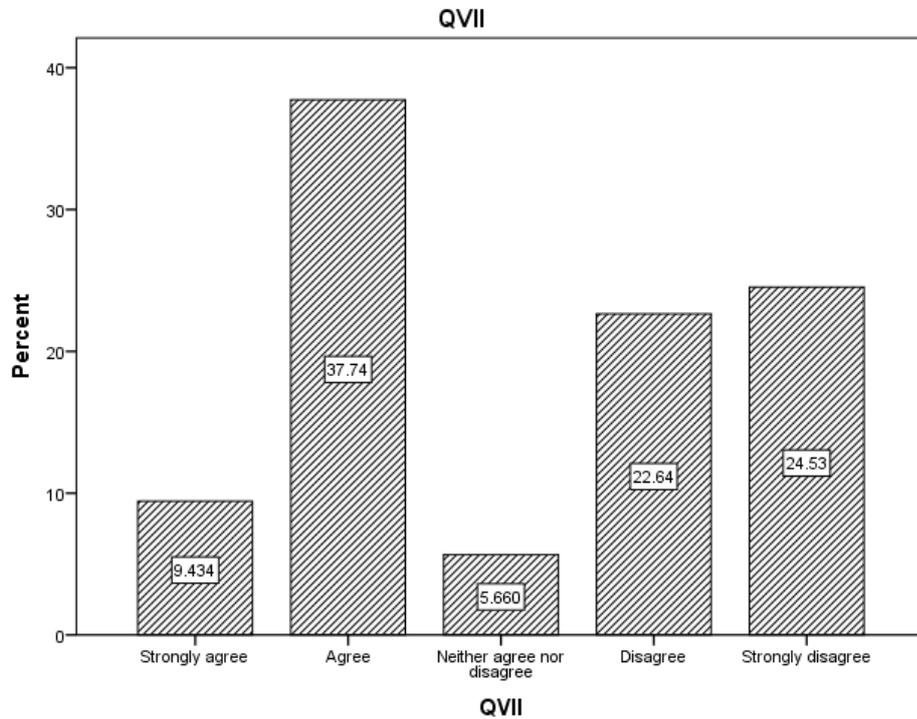
QVI					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	7.5	7.5	7.5
	Agree	23	43.4	43.4	50.9
	Neither agree nor disagree	11	20.8	20.8	71.7
	Disagree	10	18.9	18.9	90.6
	Strongly disagree	5	9.4	9.4	100.0
	Total	53	100.0	100.0	



The response on this aspect is more in positive tone as 51% agree while 21% are neutral and 28% do not agree that returns to education are more in Pakistan due to more demand of highly educated people abroad.

QVII: Do you think your contribution as Pakistani expat, towards economy in terms of remittances made, the import of goods in shape of gifts, is more than what you had done for the economy of Pakistan if you were in Pakistan?

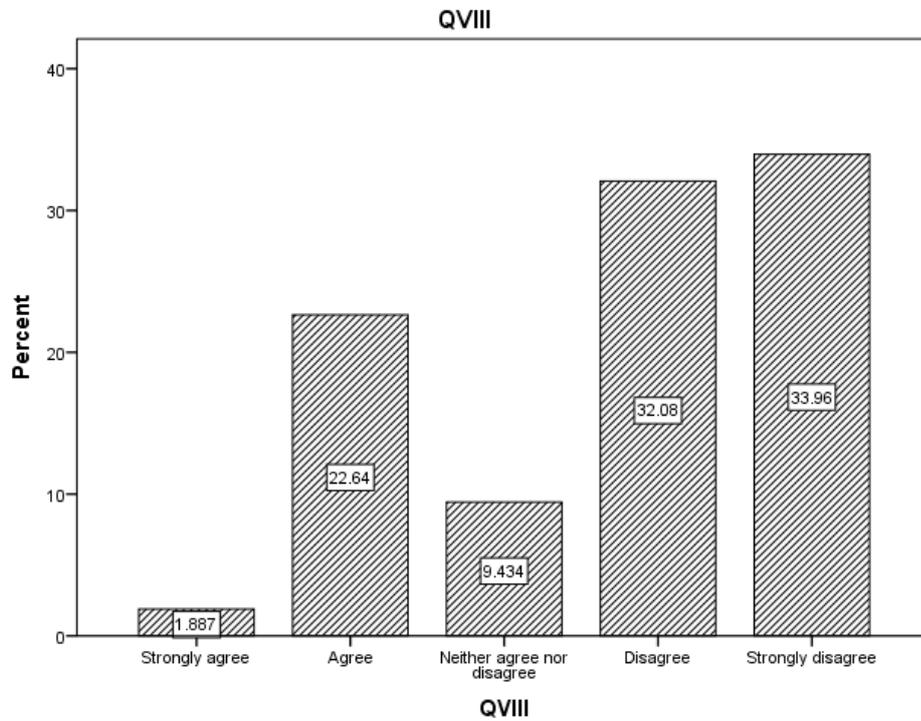
QVII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	9.4	9.4	9.4
	Agree	20	37.7	37.7	47.2
	Neither agree nor disagree	3	5.7	5.7	52.8
	Disagree	12	22.6	22.6	75.5
	Strongly disagree	13	24.5	24.5	100.0
	Total	53	100.0	100.0	



Again the opinion in this case is divided by 47% each in agree and not agree while 6% in neutral tone.

QVIII: Do you think that remittances can be a substitute for brain drain from Pakistan?

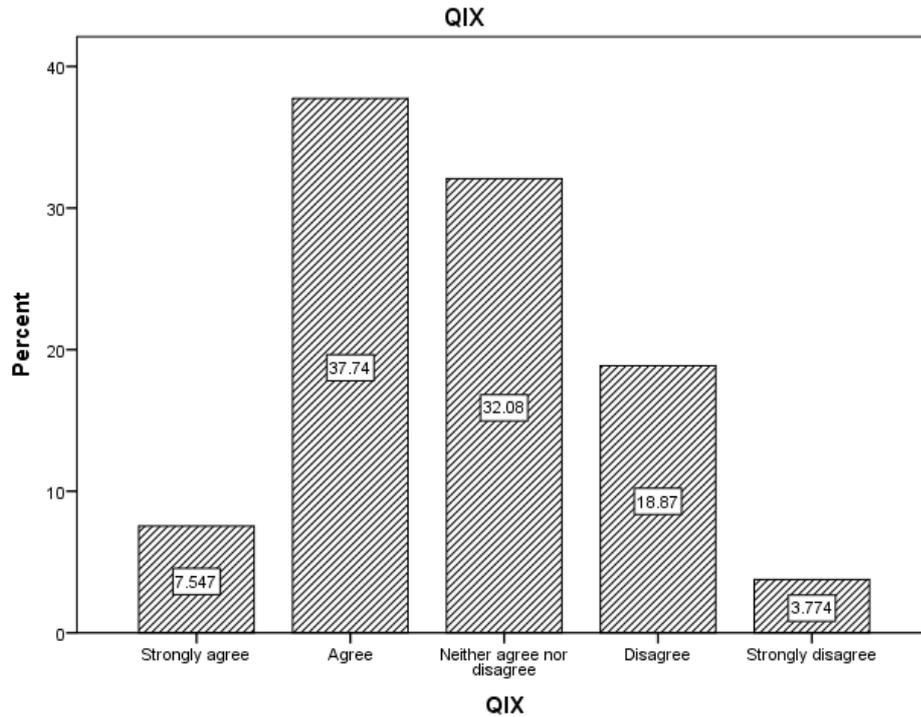
QVIII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	1.9	1.9	1.9
	Agree	12	22.6	22.6	24.5
	Neither agree nor disagree	5	9.4	9.4	34.0
	Disagree	17	32.1	32.1	66.0
	Strongly disagree	18	34.0	34.0	100.0
	Total	53	100.0	100.0	



This aspect is clearer in respondents' minds like the understanding for brain drain and 66% say that remittances cannot be a substitute to brain drain.

QIX: Due to more and more emigration of Pakistanis, the welfare of the people left back home is hampered? (Considering what the emigrants had done for the welfare of people while staying in Pakistan).

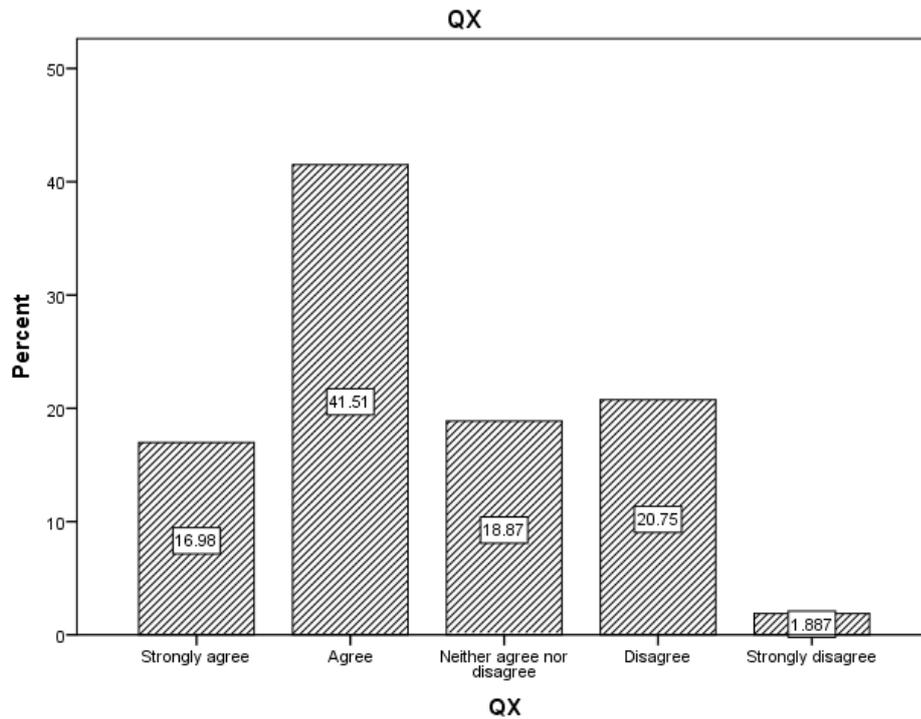
QIX					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	7.5	7.5	7.5
	Agree	20	37.7	37.7	45.3
	Neither agree nor disagree	17	32.1	32.1	77.4
	Disagree	10	18.9	18.9	96.2
	Strongly disagree	2	3.8	3.8	100.0
	Total	53	100.0	100.0	



Though 47% emigrants agree that brain drain is hampering the welfare of those left back home but 32% are not sure of it which refers to the doubts in their mind about their contribution if they had stayed home.

QX: The procedures adopted by Pakistani government for sending remittances to Pakistan including the costs are discouraging and resultantly, Pakistanis abroad prefer to send remittances through informal channels.

QX					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	9	17.0	17.0	17.0
	Agree	22	41.5	41.5	58.5
	Neither agree nor disagree	10	18.9	18.9	77.4
	Disagree	11	20.8	20.8	98.1
	Strongly disagree	1	1.9	1.9	100.0
	Total	53	100.0	100.0	



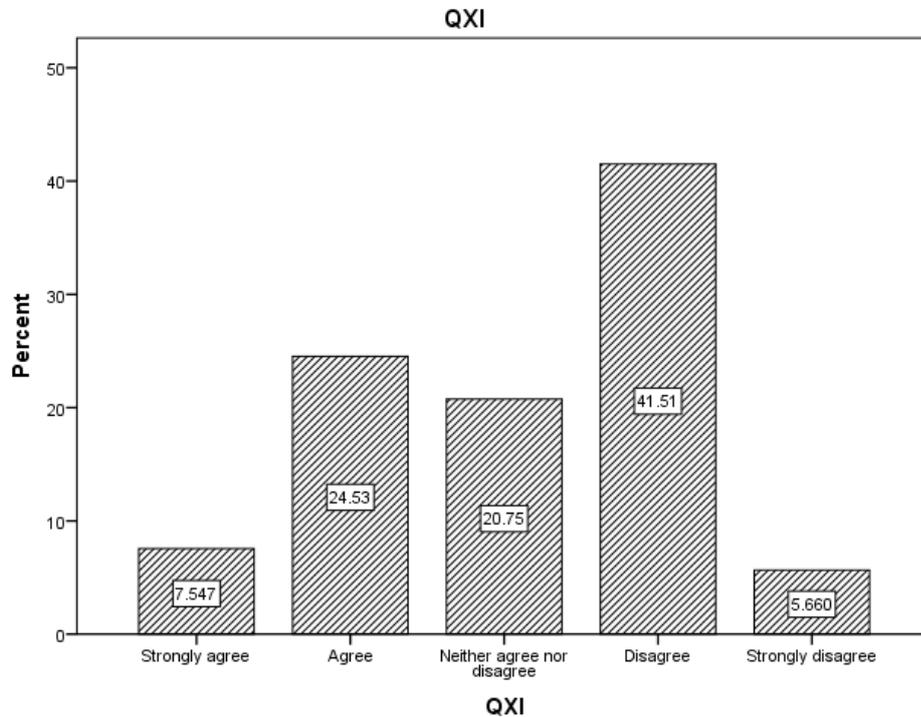
The steps taken by government to ease out the procedure for sending remittances are still considered inadequate and 58% respondents think that expats are using the informal channels for the purpose while those who say it's not the case are only 23% while 19% are not sure of it.

5.5 Return intentions

A total of five questions comprising of four closed and one open were asked from the respondents. Main focus was to know the return intentions and the expectations associated with these intentions.

QXI: Adjusting in your present social environment abroad was difficult than what you had perceived?

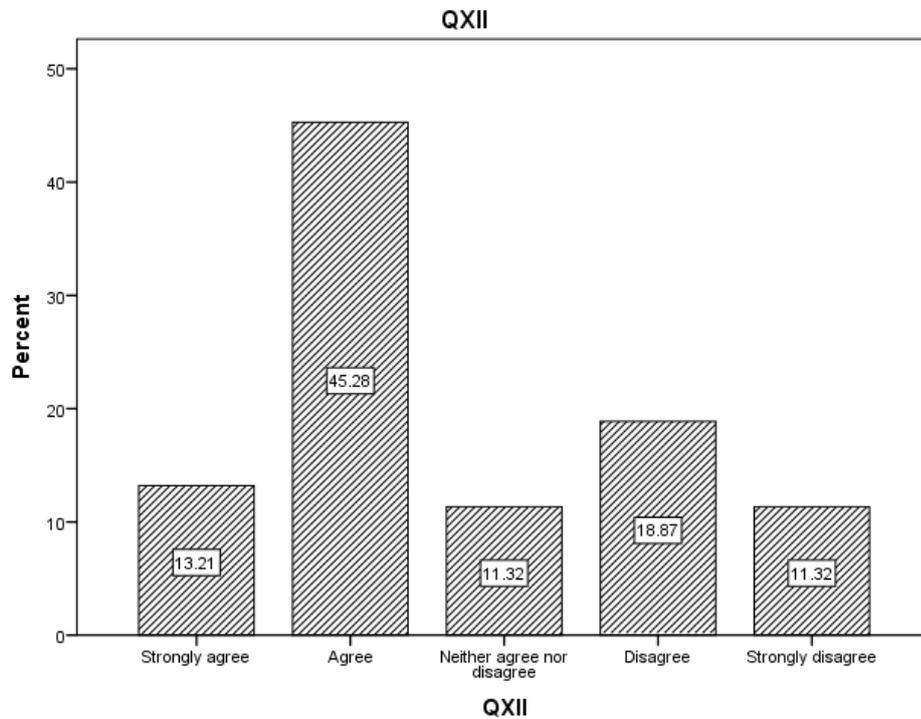
QXI					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	4	7.5	7.5	7.5
	Agree	13	24.5	24.5	32.1
	Neither agree nor disagree	11	20.8	20.8	52.8
	Disagree	22	41.5	41.5	94.3
	Strongly disagree	3	5.7	5.7	100.0
	Total	53	100.0	100.0	



It's a mix response with 47% say that the settling abroad was difficult than expected while those saying yes 32% and neutral are 21%.

QXII: If you are offered a project or job for long / short duration in Pakistan, you would like to go to Pakistan.

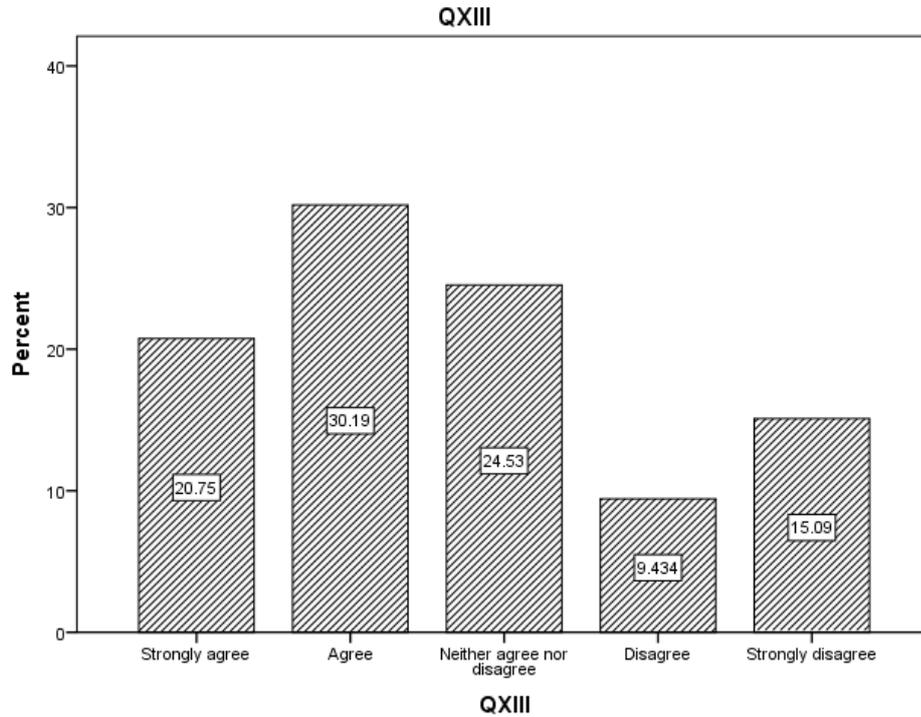
QXII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	7	13.2	13.2	13.2
	Agree	24	45.3	45.3	58.5
	Neither agree nor disagree	6	11.3	11.3	69.8
	Disagree	10	18.9	18.9	88.7
	Strongly disagree	6	11.3	11.3	100.0
	Total	53	100.0	100.0	



Majority of expats (59%) agree to go back if they are offered a short or long project in Pakistan. While those who do not are 30% and 11% are not sure of accepting such offer.

QXIII: You would like to go back to Pakistan permanently?

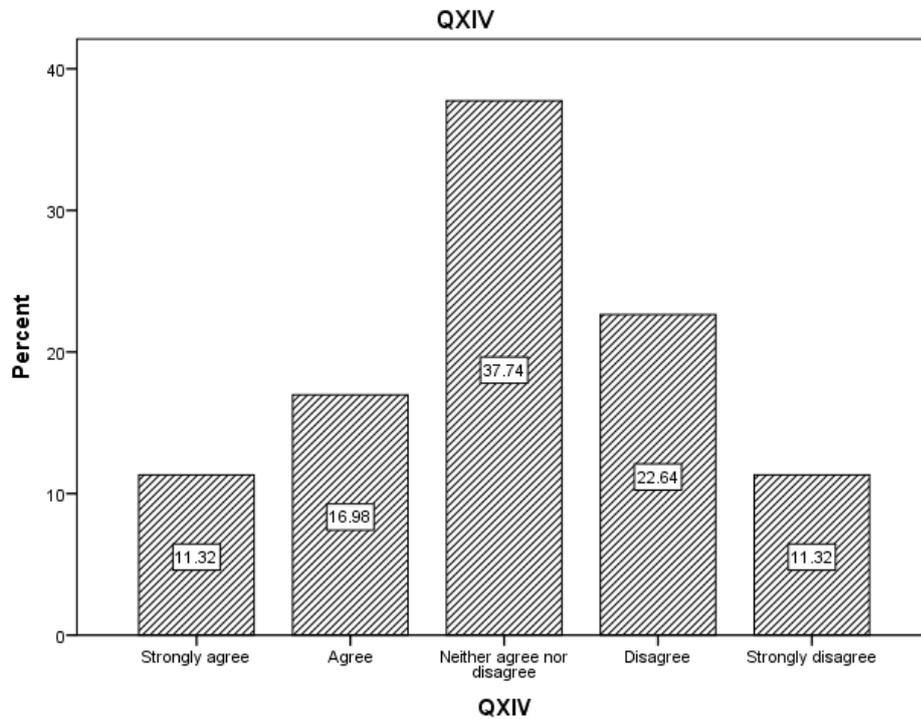
QXIII					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	11	20.8	20.8	20.8
	Agree	16	30.2	30.2	50.9
	Neither agree nor disagree	13	24.5	24.5	75.5
	Disagree	5	9.4	9.4	84.9
	Strongly disagree	8	15.1	15.1	100.0
	Total	53	100.0	100.0	



In continuity to earlier question 50% agree to go back to Pakistan permanently while those who do not and unsure to go back are 25% each.

QXIV: You will find an appropriate job/work when you go back to Pakistan?

QXIV					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	6	11.3	11.3	11.3
	Agree	9	17.0	17.0	28.3
	Neither agree nor disagree	20	37.7	37.7	66.0
	Disagree	12	22.6	22.6	88.7
	Strongly disagree	6	11.3	11.3	100.0
	Total	53	100.0	100.0	



Now again the un-surety comes, only 28% are sure to get the appropriate job in Pakistan if they go back, 38% are not sure to find and 34% do not think that they will get the appropriate job.

5.6 Analysis between the groups (T test and one way ANOVA)

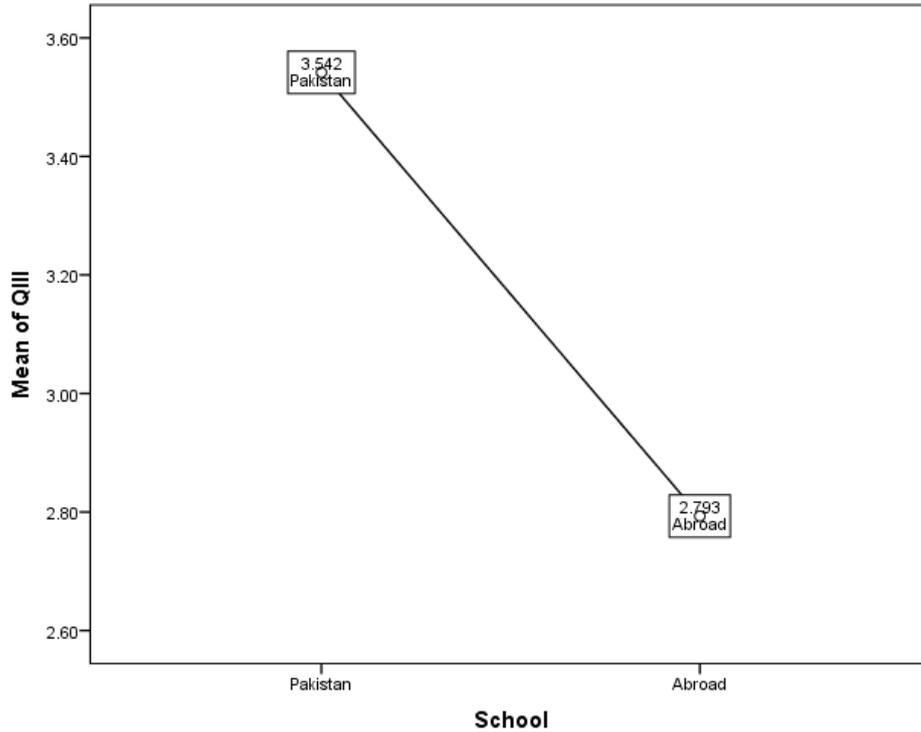
A total of 84 tests were carried out to compare the mean score for different groups to ascertain that whether there is any specific difference. T test & one way Anova were carried out for different groups. T test was done for gender and Schooling as independent variables with all questions as dependent variables while one way ANOVA was done for Region, countries, education and profession titles as independent variables and all questions as dependent variables. Except following 2 cases, all other results showed no statistically significant difference between the groups.

QIII: If a proper use of technology is made, the negative impact of brain drain can be converted to potential benefits. (The use of internet technology to make use of Pakistani professionals abroad).

T Test

	School	N	Mean	Std. Deviation
QIII	Pakistan	24	3.5417	1.21509
	Abroad	29	2.7931	1.34641

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
QIII	Equal variances assumed	.947	.335	2.105	51	.040	.74856	.35566	.03455	1.46258
	Equal variances not assumed			2.126	50.586	.038	.74856	.35218	.04140	1.45573



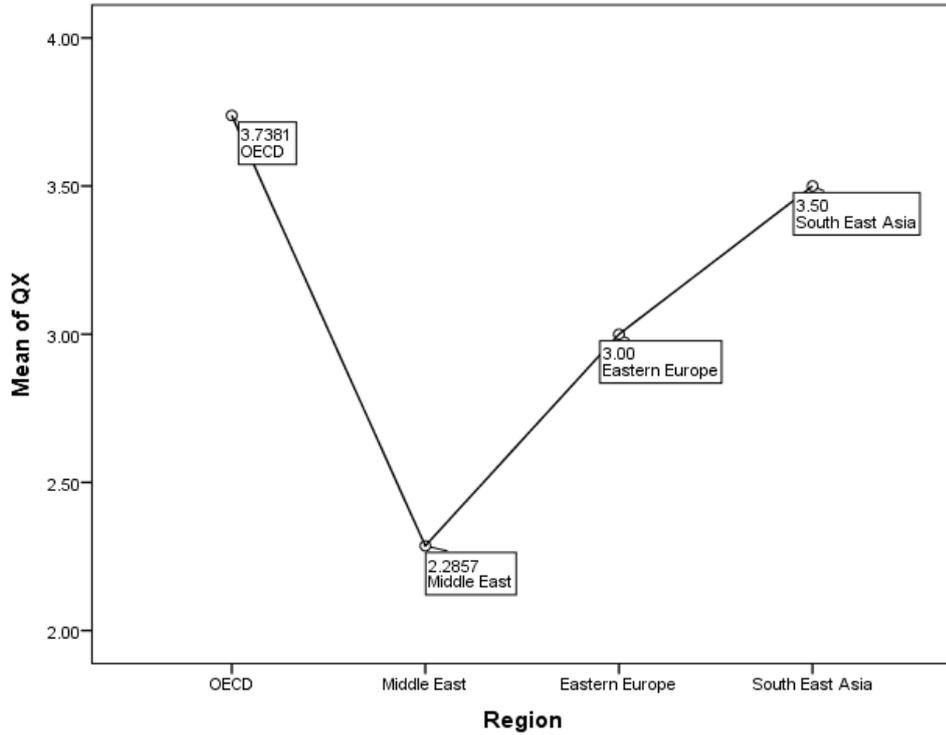
This independent T test was conducted to determine if the difference exists between people educated abroad and locally for use of technology as a tool to offset the negative effects of brain drain. As the p or sig is < 0.05 there is a statistically significant difference between the groups Pakistan ($n=24$ $M=3.5$ $SD=1.2$) and abroad ($n=29$ $M=2.7$ $SD=1.3$). So in this case the null hypothesis (that there is no significant difference between the sample with education in Pakistan and abroad) can be rejected. The dichotomy has been unexpected as more of those who were educated abroad denied this fact while the educated inland considered it one of the tools, though the former had better understanding of the concept and facilities available to do so.

QX: The procedures adopted by Pakistani government for sending remittances to Pakistan including the costs are discouraging and resultantly, Pakistanis abroad prefer to send remittances through informal channels.

One way ANOVA (Region Vs Question X)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
OECD	42	3.7381	.98920	.15264	3.4298	4.0464
Middle East	7	2.2857	.75593	.28571	1.5866	2.9848
Eastern Europe	2	3.0000	1.41421	1.00000	-9.7062	15.7062
South East Asia	2	3.5000	.70711	.50000	-2.8531	9.8531
Total	53	3.5094	1.06740	.14662	3.2152	3.8036

ANOVA					
QX					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	13.198	3	4.399	4.681	.006
Within Groups	46.048	49	.940		
Total	59.245	52			



This one way analysis of variance was conducted to evaluate the null hypothesis that the expats abroad in different regions have no difference of opinion about the government's procedures for remittances being non effective. Anova was significant between groups as p or $\text{sig} < 0.05$ i.e 0.006 so there is a significant evidence to reject the null hypothesis. The actual difference between the groups was found while consulting the post hoc multiple comparisons and it was in between Middle East and OECD while the other two regions had no difference with ME and OECD.

QXV: What are your expectations (which are feasible and practical) from Pakistan if you go back? (Please write in details).

This question was left open ended so that the respondents may say their heart out for their return intentions and expectations if they decide to do so. Out of the 53 respondents 48 replied to this question making a 90% response. The socio economic jargons like security and safety, better job opportunities, economic conditions, pay and salaries and social justices remained recurring in almost all the opinions expressed. Only three of the respondents expressed that they do not want to go back for reasons like either they are well settled abroad or they were born abroad. Majority expressed their concerns over the security situation in the country. Physical security of their families and assets was point of concern in their response to this question. Availability of appropriate job as per the qualifications and merit system was another concern. Mostly referred that because of no reference with the selection committee they will not be able to secure a position in a job set up. Basic necessities like fair and impartial judicial system, health facilities, better education system, equal opportunities offered on merit basis were few of the mostly demanded entities which they considered essential to return to their home land. Instability in political system, increasing corruption and deteriorating economical conditions were also points of concern. The major points in this response are reproduced below. Every respondent have been given a specific code to keep his/her identity confidential.

R#1. Security and rule of law. Stability in economy. Meritocracy. Less interference/influence of religion in all spheres of life.

R#2. Better job opportunity.

R#3. If I will be offered by a good job with good salary then I will prefer to stay with my family there in my own country.

R#4. Even though the current political and security situation does not make one to have any expectations, yet Pakistan is a land full of opportunity for those who have investment , talent and passion to do something.

R#5. First of all security to me and my family, and all the basic needs without any difficulty and many more.

R#6. A corruption free & safe environment, job opportunities according to qualification & experience and facilities for investors.

R#7. It will depend on the current situation of Pakistan political and economical.

R#8. I want to go back to Pakistan but due to lack of basic needs / facilities, I am not going. Such as Transportation System, Traffic System, Sewage System, Neat & Clean Environment, Security, Electricity Problems, Water Problem, Gas Problems etc.

R#9. That they provide security and safety to me, my family and my assets and let me and family grow and live in peace with sufficient growth opportunities. I would go to Pakistan because my parents and siblings are living there. If they all move somewhere else, I would not go to Pakistan ever.

R#10. Security for family and myself. Security from religious fanatics, fundamentalists and professional ransom-abductors.

R#11. It's mostly the security and economical growth factor which make an impact for people like us to go back to our beloved country.

R#12. The system in Pakistan needs a complete overhaul. None of the elements of society seems to work in harmony with other elements. Education, health care, religious institutions, political system and the judiciary needs to be aligned. We need to make the institutions strong instead of the individuals.

R#13. Primarily, safety of my family. The law and order situation must be controlled. Having that we can go back and do things for people and country.

R#14. Offer me suitable opportunities to get the best of my talent and professional expertise. However, I do not have much expectation from the Government. I would prefer to get my foreign passport and then return to my country with all the advanced research ideas and material. I certainly believe I have to make a difference where ever I live, in particular for a place like Pakistan. The world has really become a global village

if your intentions are pure you can extend your positive influence to any part of the world and so can Pakistanis for Pakistan.

R#15. I cannot comment because I have never lived in Pakistan and so would be unfair to have any expectations which may be not unrealistic.

R#16. I want Pakistan to be politically stable and safe for my family. I want fair jurisdiction system and less corruption. If this will happen then I think anybody will be happy to return back to Pakistan. Because in terms of education, we know that the country has some great institutions by which we are competing worldwide. However as far as the social rights, benefit systems for the under privileged, health system, fair job availability and many other aspects of life which we immigrants are enjoying will be drawback to move back to Pakistan.

R#17. My family and I are all settled here; don't want to go back to Pakistan. We are well established here but of course we have family ties back home. So if the situation in Pakistan will become better, people would think about going back.

R#18. I want to go back to Pakistan and willing that my children will get their education there.

R#19. Security situation and merit is the major concern.

R#20. Now a days due to the condition of safety, security, gas and electricity problems it's difficult to think, but still our hearts are in Pakistan and would like to get settled there if possible.

R#21. Security is my first priority. Money can come and go, but safety of my family is my first concern.

R#22. Better job opportunities, better living conditions including safety & security.

R#23. I expect that there is a very big demand of specialists in Pakistan and there will always be jobs available over there. So I won't find it difficult at all to get a job straight away and even if I don't get a job, specialist doctors can always run their own clinics successfully.

R#24. Better social security provided by the govt.

R#25. Politically, Economically, Judicially & Religiously stable. Have Equality, Peace & Liberty.

R#26. I am sorry to say this country is only for a special class of people who have been enjoying all the benefits & misusing the authority. I can only wish & pray to make our land the pure land, the real Pakistan.

R#27. I will definitely get the job there, but the salary structure and organizational politics may suffer the career growth. If performance based evaluation and timely benefits are given then majority people will prefer to stay in Pakistan.

R#29. I would like to go back but I work in a niche area which has no scope in Pakistan. Also issues like inflation and corruption are big problems.

R#30. Would never want to go back; good life in UK.

R#31. Political stability and rule of law - both seem distant prospects.

R#32. The social setup in England is coherent and fair. Pakistan is too corrupt and job salaries are not enough.

R#33. If I move it will be to Middle East, the only draw of Pakistan is family. The country itself is run by corrupt people and the common man suffers.

R#34. We need a coherent government who can control corruption and inflation. salaries are insufficient unless you are born rich.

R#35. Safe place and friendly social environment where everyone respect each other's point of view.

R#36. I expect to not get a decent position or a job unless I have a strong reference. Not to have a comfortable standard of living and would always worry about minor things like electricity problems, security and other issues.

R#37. We (Pakistani) are still living in sense of denial where research has no space to deal with social issues. Policies made without any theoretical or practical knowledge.

Politicians and bureaucratic elites are following their own agendas. May be I am so naïve, but frankly speaking, if I go back to Pakistan, my work can only be used as a reference in academic research projects.

R#39. Now days in Pakistan there is lot of talent and lot of skilful people but they do not have appropriate opportunities, there are well educated people but have no relevant job, they are doing what they do not have to. My expectations if I go back to Pakistan would be to get job in which I can serve the Pakistani people in right direction and will try to educate them about their rights, in response of all that I need respect and government support.

R#41. I would definitely love to go back to Pakistan at anytime given the current financial and security situation improves. The only expectations I would have from Pakistan is to provide a safe and secure working environment so that investors' confidence reaches a higher level which will ultimately open new avenues of investments and create new and better job opportunities. The pay structure also needs to be revisited. If these factors improve then I have no doubt that there will be millions of expats including myself who would love to come back to their home country and serve it for the times to come.

R#42. I won't be able to find a job in Pakistan that will be capable enough to offer me big challenge neither it will provide me enough compensation that I deserve.

R#44. Security and less inflation.

R#45. We need an infrastructure in the country which is fair and provides equal opportunities to people regardless of their background.

R#46. Given the current condition of the country, the standard of life is below average. Any human being expects to be provided with the basics i.e. food/shelter and security of their life. At the moment many people are living without these basic necessities. I expect the government to provide each household a shelter and ample food for families to survive as well as the security to live freely without any robber randomly killing them on the street.

R#47. My one and the only expectation from Pakistan is "The Security" followed by "Merit".

R#48. My expectations would be career advancement professionally in a senior management and leadership role in an MNC and personally to integrate back into the social fabric. The only concern I would have would be the security threat faced by Pakistani's everyday which has a major impact on the quality of life of its citizens'.

R#49. If I have a very strong and closely related reference then I have a real chance of finding an appropriate job.

R#51. I don't see any reason for me to remotely consider going back and settling in Pakistan. This is unfortunate, but true that Pakistani society is devoid of any sense of pluralism or tolerance for a diverse and heterogeneous point of view. We cannot imagine living in a country that has completely and utterly failed to provide any sense of security to its people. Pakistan is a lost cause, unless the people of Pakistan rise and make a simple decision to support Right vs. Wrong and hold its leadership accountable to uphold that principle.

R#52. There is no better place than Pakistan. Younger generation has an absolutely key role to play in the development of the country but we are forced to seek greener pastures because of the aforementioned points. If only the country can offer equal opportunities for all, sort out the law and order situation and work on accountability across the board, most of us would consider returning back.

R#53. Safety, justice and accountability which is unlikely to be found in the current circumstances.

5.7 Analysis

The phenomenon of brain drain is well understood well interpreted and well established problem in today's global world. The main assumptions and beliefs about the phenomenon remain same till date; only the set of questions has changed. To prove or otherwise the main hypothesis, an indirect approach was maintained in the primary research. The sample size being well educated and having received at least tertiary level

education were asked indirect questions about the positive or negative externalities of brain drain on Pakistan. The specific areas are analysed in the subsequent paragraphs.

5.7.1 Targeted sample: - The targeted sample was well educated having received at least tertiary level education, with 11% PHDs, 72% masters and 17% undergraduate degrees. 55% highest educational degree was achieved abroad while 45% was received at home. The sample was 70% male and 30% female in gender discrimination. Major chunk of expats 79% was found in OECD countries while 13% are residing in UAE, remaining 8% were divided by Eastern Europe and South East Asia. The professional titles for the respondents were 70% in those professions considered migrating more like doctors, engineers, IT professionals, teachers and managers while rest 30% were categorised as other professions like accountants, bankers, house wives and institutes heads.

5.7.2 Push and pull factors for brain drain: - While ascertaining the push factors from Pakistan and pull factors from abroad, the targeted sample was given a list of options of which they could chose more if desired so. They were allowed to choose more than one factor and to define their own factor if they do not find one appropriate to their circumstances in the given list. It is evident from the response that push factors from Pakistan were pull factors from abroad. For push factors the major concern was shown on the safety and security situation in the home country, while supporting this concern a major pull factor was better living conditions abroad including the security. Next concern in push factor was poor job opportunities, pay and salary structure which is taken care of by the pull factors like better employment conditions, better pay and salaries and better career advancement facilities. Compatibility of job with one's qualifications is also one of the major pull factor as the job opportunities back at home land also restrict the options due to either non availability of those particular jobs or very less availability. Family considerations like marriage with foreign husband / wife is also a prominent reason. The instability in political system and poor higher education facilities are catered by better social justices and better higher education research facilities.

5.7.3 Understanding the brain drain and its effects on Pakistan: - The understanding of the traditional brain drain concept was evident from the response given to the relevant questions. While almost 80% considered it a brain drain for Pakistan if emigration of skilled and or educated continued for long time, the percentage dropped to 51% for those who consider it a potential loss for Pakistan. With 32% considering it a potential gain 17% remained unsure. This aspect shows a contradiction with first answer to brain drain understanding. Additionally majority of respondents do not consider remittances as a substitute to the brain drain. It could be a short time benefit for the economy or foreign reserves but cannot be a substitute to the human capital flight. The use of technology to create a virtual world and offsetting the limitations of brain drain received unexpected results. While those abroad having knowledge of technical facilities available to them mostly denied this and those back at home considered it a good tool to be used to thwart the limitations imposed by migration of educated and skilled. Government's efforts to call back expats for short and or long projects in the home country had a unanimous opinion that government is not at all doing enough. Despite of having numerous departments for this purpose the efforts made and incentives given are not at all satisfactory. Also the financial institutes' procedures for depositing remittances are also not considered enough to curb the practices of sending money through informal channels back home. Returns to education in Pakistan increased as a result of more demand of educated abroad so the educational investments are increasing in Pakistan. Welfare of those left behind being hampered as a result of brain drain is majority's concern but a major number of respondents are not sure about this also. This response shows that those who think welfare is being hampered would go back if they are offered a proper opportunity.

5.7.4 Return intentions explained: - Half of the respondents did not find it difficult to settle initially while one third faced the difficulty and one fifth are neutral in this response. While answering to the returning for short / long duration on some task assigned and returning permanently the tone is more positive and less negative but a reasonable size remains unsure. While for finding a job when returned home a major number like 40% remained unsure

that they can find appropriate job. The return intentions are inclined towards returning home which could be for short or long duration. But no clarity on finding an appropriate job would always restricts the decision making in this regard.

5.7.5 Expectations from Pakistan if returning back home: - This open ended question answered turned out to be more or less replica of previous sections. Expectations like safety and security of family members and physical assets, finding an appropriate job compatible to acquired qualifications and experience, better pay and salaries, social justice, health facilities, better education system and curbing the corruption and improving the economy were major demands. Very few denied the intentions to go back to Pakistan as they either were born abroad or well settled to take this huge risk of going back to Pakistan.

5.7.6 Research question answered: - Though the primary research did not inquire about the externalities of brain drain on Pakistan directly but it did inquire indirectly, which has helped in answering the research question. The goal of the study that “Does brain drain have more of positive externalities for Pakistan against traditional belief of negative externalities?” is answered on the following grounds.

- Majority of respondents understand the concept and definition of brain drain.
- More than half of the respondents had acquired their highest qualifications abroad.
- Returns to education are rising in Pakistan due to more demand of educated people abroad.
- Government’s efforts for bringing back expats and remittances procedures are inadequate.
- Majority acknowledge that remittances cannot be a substitute for brain drain.
- Sizeable sample considers that the welfare of those left behind is hampered due to more emigration.

- Majority wants to go back for short / long projects and even permanently.
- Removing their concerns for safety and security, merit based selection system, compatible job offers and better human rights can bring this talented and expert population back home which is very much evident from their return intentions. So the present brain drain could be a brain gain for Pakistan.

CHAPTER-6

Conclusion and Suggestions

Conclusion

Brain drain got the attention of the policy makers in mid 20th century. Though the set of questions have changed but the assumptions and allegations behind the concept on brain drain has not changed much since then. The negative connotation of BD for the sending countries that they provide much rebated skilled education to their people but can't make use of this due to emigration of their skilled. The network effects continue to be discussed where the migration has always been due to some family networks or due to a particular profession required abroad. More often the analysis of these issues and the way these are considered at higher levels and bigger and bigger datasets created, has changed the debate in contemporary era. The phenomenon has both positive and negative externalities. This is dependent on case to case basis. Better returns to human capital, the remittances, digital Diasporas are few of the many preached positive externalities. While the negative externalities, are like stealing the poor countries of their educated and skilled population, hampering the welfare of those who left behind. As per UNO, till 2013 there are 232 million people comprising 3.2% of world population, who are living outside their country of birth. This number almost doubled in the last two decade which was only 154 million in 1990. The global north is the home to 196 million while global south houses the remaining 96 million migrants. Of these migrants 74% are in the working class aged 22-64. The phenomenon is not only confined to the global south rather many developed countries also consider themselves to be the victim of this. For Pakistan it started with its inception like few other third world countries that had been colonies of great powers. For Pakistan the increments in emigration were exponential but it did brought returns to human capital in shape of expertises achieved abroad and tremendous increase in remittances sent back home. Pakistani government's attitude has always been to see emigration as relief to low employment in the country, increased remittances as boosting the foreign reserves and foreign investment. Due to this mindset so far the steps taken to call back the talented expertises home were not adequate and so have not yield the expected results. One of the factor would remained prominent that major chunk of the remittances which comes from ME, especially the Saudi Kingdom is by the semi or unskilled emigrants

who do not come in the domain of brain drain and its associated factors. Today's well informed population cannot be kept aloof from taking the advantage of growth and development in other parts of the world. Though there have been quite a few efforts to reverse the negative effects of brain drain on Pakistan like FFHP by higher education commission but unfortunately none has born the fruitful results. The major problem remains inconsistency in policies to handle these situations. So it is the time to think about reversing the negative connotation of the brain drain in to positive gains and how it is done to one's own advantage is the need of time. The concepts of beneficial brain drain, brain circulation and reverse brain grain if applied with proper future planning can bring about its positive externalities for sources ridden third world countries while bringing the improvements in the life of its people. The primary research carried out by this researcher has indicated positively in this direction.

Suggestions for further research

The research study was taken to gain an insight of HCF from Pakistan and evaluate the traditional belief of brain drain being negative in nature and measuring its positive externalities if any for Pakistan. Theoretical understanding was well established by reviewing the research material. But due to paucity of time and non availability of some solid data of Pakistani expats was a limitation to take up the research exclusively. A sizeable sample size dispersed over a reasonable geographical location with diversity of professions could bear some better understanding of the subject. If taken up in future for further research a support sought from the departments like Bureau of emigration and overseas employment Pakistan in terms of data about the Pakistani expats along with organisational support to contact these individuals could further refine the research. Moreover another aspect of emigration from Pakistan needs to be considered which is of semi or non skilled migration. Though this does not come under the domain of brain drain but having some concrete data on semi or non skilled emigration of Pakistanis' with their contribution towards economy and upbringing the house hold back at home can help a lot in understanding the dynamics of this phenomenon exclusively for Pakistan.

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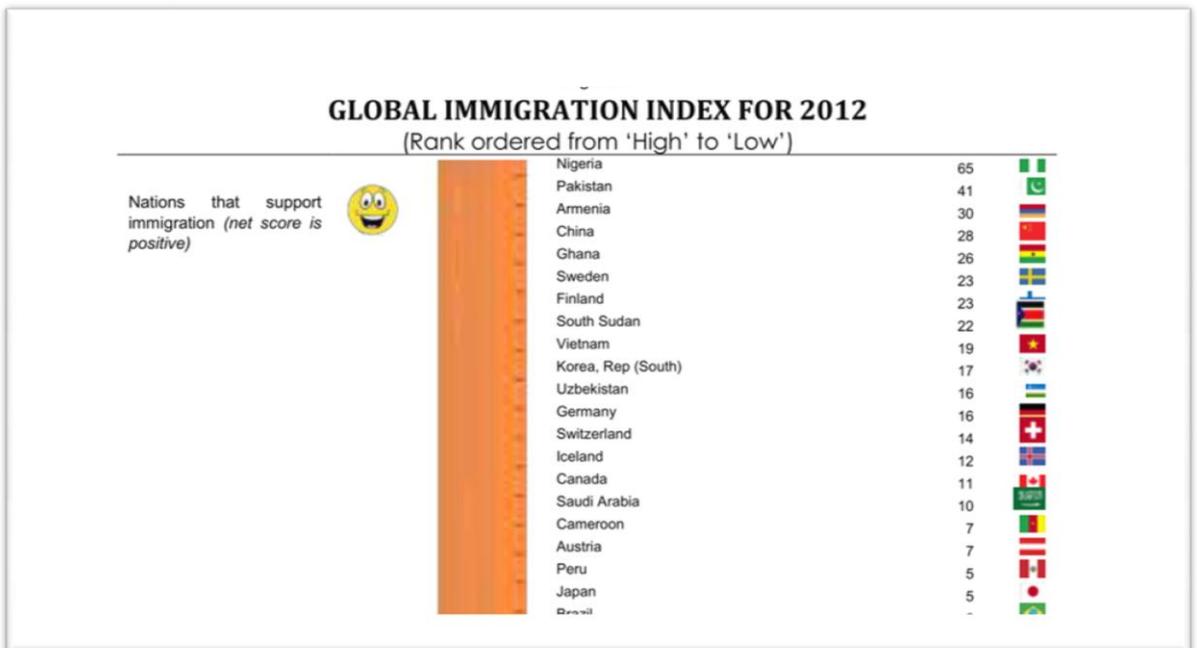
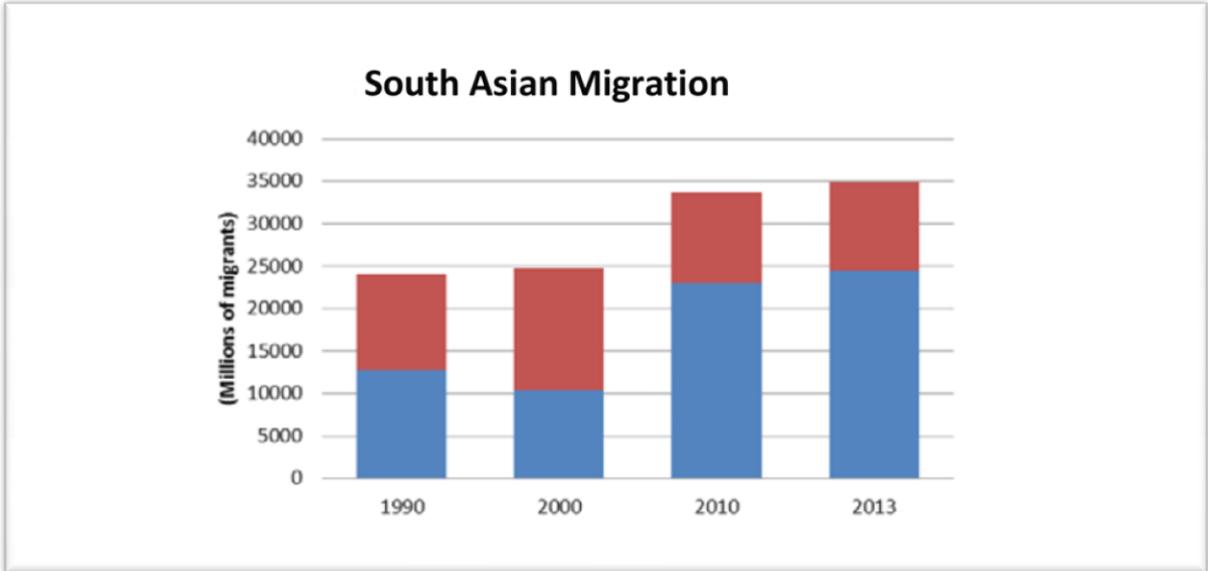
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APPENDICES

LIST OF ABBREVIATIONS

BD	Brain Drain
FDI	Foreign Direct Investment
FFHP	Foreign Faculty Higher Programme
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GNI	Gross National Income
GOP	Government of Pakistan
GWoT	Global war on terror
HCF	Human Capital Flight
HEC	Higher Education Commission
HRM	Human Resource Management
IAEA	International Atomic Energy Agency
ICTP	International Centre of Theoretical Physics
NOC	No Objection Certificate
NRPU	National Research Programme for Universities
NTP	National Talent Pool
OEC	Overseas Employment Corporation
OECD	Organisation for Economic Cooperation and Development
PERN	Pakistan Education Research Network
PIHS	Pakistan Integrated Household Survey
PRI	Pakistan Remittances Initiatives
PPQP	Presidents Programme for the care of highly Qualified Pakistanis
SBP	State bank of Pakistan
TOKTEN	Transfer of Knowledge through Expatriate National

UGC	University Grants Commission
UNCTAD	United Nations Conference on Trade and Development
UN-DESA	United Nations Department of Economics and Social Affairs
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization



Workers registered for overseas employment by Bureau of emigration & overseas employment during the period 1981-2013 (up to Sep)

(Province wise)

YEAR	PUNJAB	SINDH	KPK	BALUCHI STAN	AZAD KASHMIR	N/AREA	TRIBAL AREA	TOTAL
1981	75529	22800	38485	1755	12094	4	2414	153081
1982	71466	22571	29697	1461	8945	6	3389	137535
1983	67976	18997	18035	971	9822	7	4223	120031
1984	48111	17202	16147	1067	8321	1	2691	93540
1985	40858	12259	17725	724	5011	18	5738	82333
1986	28539	6445	14574	389	3573	19	4463	58002
1987	33459	7595	15481	642	4873	6	4130	66186
1988	41656	8713	18933	1153	5750	18	5322	81545
1989	47281	10253	22909	1644	6005	5	7766	95863
1990	60742	12465	25612	2127	6261	3	6571	113781
1991	74693	13628	37219	945	8706	5	7622	142818
1992	100873	15461	49147	1989	10352	17	13667	191506
1993	81724	13769	36902	1441	8720	104	11869	154529
1994	52791	7672	30102	1135	7733	159	11344	110936
1995	60644	10607	27309	1367	9004	145	7972	117048
1996	64978	10417	27695	1420	9280	184	5655	119629
1997	75136	10792	40240	1673	11602	372	9214	149029
1998	53205	6431	26563	1444	6236	158	6669	100706
1999	36144	6373	24725	1727	3750	149	5225	78093
2000	50154	8329	35461	2544	6269	77	4899	107733
2001	61291	9447	42521	1867	6421	213	6169	127929
2002	72662	10826	46815	1584	8382	105	7048	147422
2003	116404	12963	59604	2834	12097	157	9980	214039
2004	97045	11914	42946	3194	11106	253	7366	173824
2005	77476	11801	35013	2750	9327	190	5578	142135
2006	100181	14830	44937	3172	12041	364	7666	183191
2007	154300	20426	76669	3952	19324	504	11858	287033
2008	206284	31835	131342	6763	31881	378	21831	430314
2009	201261	30779	114633	4480	31329	507	20539	403528
2010	190547	31814	98222	3130	22535	458	16198	362904
2011	228707	40171	130119	5262	33133	732	18769	456893
2012	341874	46607	176349	5122	38833	780	29022	638587
2013	253766	40057	116045	6850	30375	860	25610	473563
Total	3267757	556249	1668176	78578	419091	6958	318477	6315286

Source: Official website of Bureau of immigration and overseas employment Pakistan

**Workers registered with Bureau of immigration and overseas employment
Pakistan during the period 1971-2013**

S.#	Categories	1971-03	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
1	Engineer	2124	88	95	135	217	329	235	240	295	357	345	4464
2	Doctor	599	43	53	50	46	51	58	81	145	121	81	1334
3	Nurse	513	34	31	12	99	11	21	78	13	44	25	726
4	Teacher	536	28	16	42	55	41	45	53	61	95	65	1043
5	Accountant	1262	61	69	96	123	232	124	138	180	259	239	2787
6	Manager	832	107	139	246	280	316	214	193	227	279	266	3103
7	Welder	3714	177	143	309	442	606	535	512	636	989	1011	9079
8	Secr/Stenograph	240	92	10	15	88	77	86	93	10	21	21	362
9	Storekper	612	28	32	77	48	79	45	50	105	196	120	1397
10	Agricul	11550	745	772	1078	1280	1758	1142	915	1112	1711	1257	23325
11	Clerk/Typist	5422	109	109	167	163	304	208	266	371	426	442	7991
12	For/Supervisor	3552	154	152	187	289	375	277	196	427	553	457	6623
13	Mason	25703	1364	968	970	1621	3625	3808	3061	3532	5449	3487	53592
14	Carpenter	18172	1123	802	886	1278	2667	2255	1854	2456	3382	2382	37261
15	Electrician	11752	602	420	568	856	1545	1573	1451	1732	2416	2093	25012
16	Cook	6559	315	231	278	252	333	424	403	388	534	469	10190
17	Plumber	5275	294	158	287	451	870	830	767	902	1410	1317	12565
18	Waiter/Bearer	2192	68	36	58	71	87	172	114	214	433	352	3803
19	Steel Fixer	10449	668	493	631	986	1790	1678	1440	1722	2497	1878	24236
20	Painter	6950	323	251	330	497	647	774	650	762	1325	1064	13577
21	Labourer	126547	6665	5473	7509	13089	18784	16851	14411	19085	24220	16532	269169
22	Technician	12388	1025	865	830	1105	1692	1748	1971	1810	2806	2396	28639
23	Mechanic	9548	440	370	430	677	964	997	1187	1313	1209	1180	18321
24	Cable Jointer	311	70	78	13	73	17	70	107	29	38	22	632
25	Driver	32471	1483	1162	1411	2650	2741	3350	3490	4818	8656	5856	68092
26	Operator	4061	182	370	384	500	953	811	827	981	1288	952	11313
27	Tailor	15819	391	229	274	406	452	526	405	456	591	409	19964
28	Surveyor	635	18	12	28	50	89	68	55	81	197	151	1388
29	Fitter	1707	114	154	292	376	764	637	444	573	813	861	6738
30	Denter	2456	111	44	61	90	104	219	163	220	275	233	3979
31	Comp/Analyst	286	37	44	67	93	94	62	59	72	174	196	1187
32	Designer	134	10	46	62	59	70	21	68	55	20	50	273
33	Goldsmith	415	23	13	32	14	76	90	40	94	42	12	584
34	Pharmacist	44	68	16	31	12	21	18	59	48	16	15	104
35	Rigger	159	15	11	71	104	55	46	12	89	146	59	774
36	Salesman	4105	419	396	411	489	565	440	664	746	749	935	9923
37	Draftsman	160	11	63	11	11	22	13	13	20	42	28	342
38	Blacksmith	85	12	98	17	26	15	26	43	54	48	17	358
39	Photographer	37	51	18	11	14	10	45	16	62	44	94	73
40	Artist	167	54	44	28	18	11	10	63	11	83	55	416
41	Others.	7581	0	0	0	0	0	0	0	0	0	0	7581
TOTAL:-		337140	17382	14213	18319	28703	43031	40352	36290	45689	63858	47356	6923379

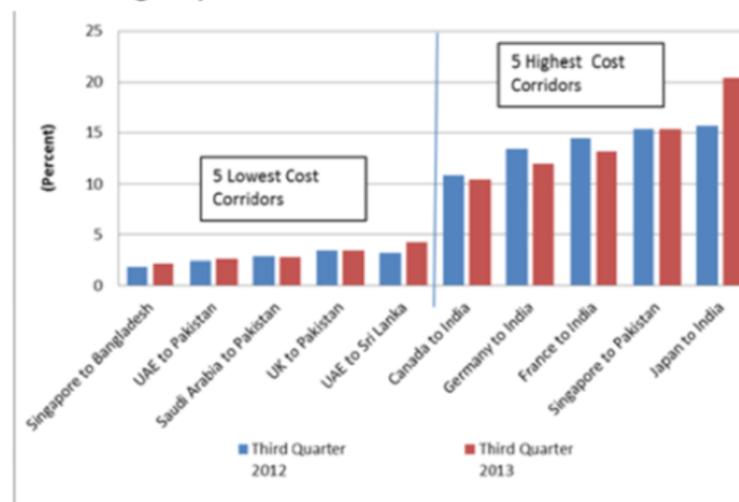
Source: Official website of Bureau of immigration and overseas employment Pakistan

Pakistan Population and Labour force

Year	Population (mln)	Labour Force Participation Rate(%)	Civilian Labour Force (mln)	Employment Total (mln)	Crude Birth Rate	Crude Death Rate	Crude Mortality Rate
					(per 1000 persons)		
1981 *	85.09	30.30	25.78	24.70	..	..	..
1991	112.61	27.97	31.50	29.52	39.50	9.80	102.40
1992	115.54	28.11	32.48	30.58	39.30	10.10	100.90
1993	118.50	27.86	33.01	31.45	38.90	10.10	101.80
1994	121.48	27.88	33.87	32.23	37.60	9.90	100.40
1995	124.49	27.46	34.18	32.35	36.60	9.20	94.60
1996	127.51	28.69	35.01	33.13	35.20	8.80	85.50
1997	130.56	29.38	37.45	35.16	33.80	8.90	84.40
1998 *	133.48	29.38	39.17	36.86	..	..	..
1999	136.40	28.97	40.08	37.70	30.50	8.60	82.90
2000	139.55	28.97	40.38	37.22	..	..	..
2001	142.76	28.48	41.23	38.00	..	..	..
2002	146.02	29.61	43.01	39.45	27.03	8.20	85.00
2003	149.32	29.61	43.88	40.25	27.30	8.00	83.00
2004	152.66	30.41	45.95	42.42	27.80	8.70	79.90
2005	156.04	30.41	46.82	43.22	..	..	..
2006	159.46	32.22	50.50	47.37	26.10	7.10	76.70
2007	162.91	31.82	50.78	48.07	25.50	7.90	72.40
2008	166.41	32.17	52.23	49.52	25.00	7.70	70.20
2009	169.94	32.81	55.76	52.71	28.40	7.60	73.50
2010	173.51	32.98	57.22	54.05	28.00	7.40	72.00
2011	177.10	32.98	58.14	55.17	27.50	7.30	70.50
2012	180.71	32.83	59.33	55.80	27.20	7.20	69.00
2013	184.33	32.83	60.52	56.43	26.90	7.00	67.50

Source: - Pakistan Economical Survey 2013 (Pakistan Bureau of Statistics)

Total average cost of sending about \$200 along key corridors in South Asia (including fees and exchange rate margins)

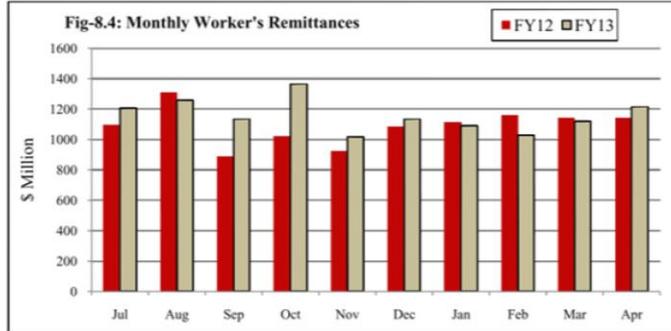


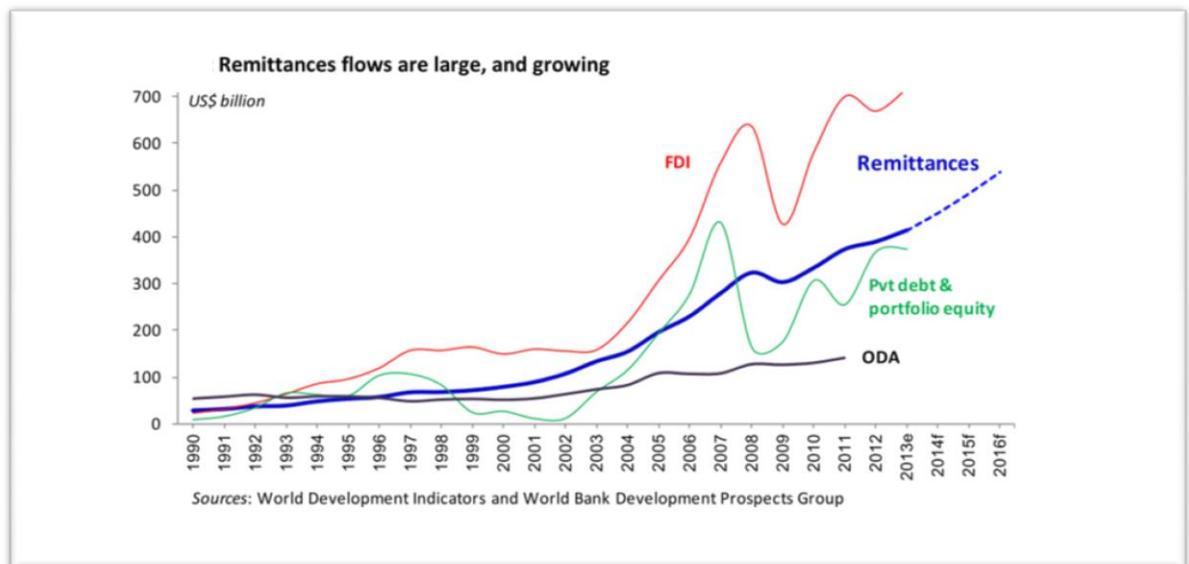
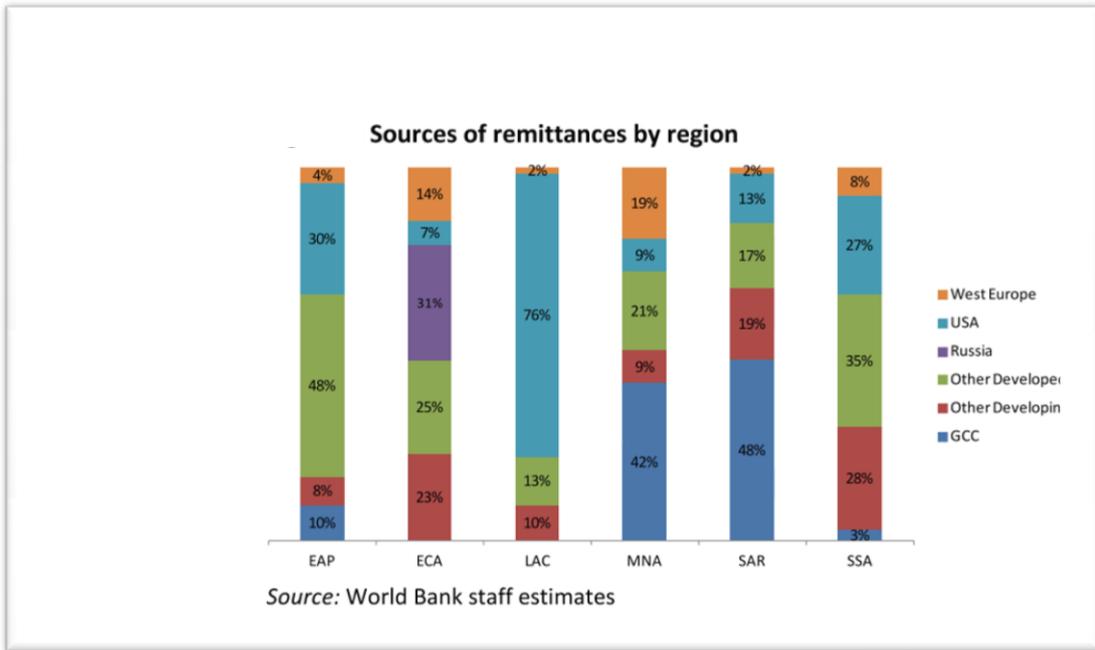
Source: Remittance Prices Worldwide, the World Bank.

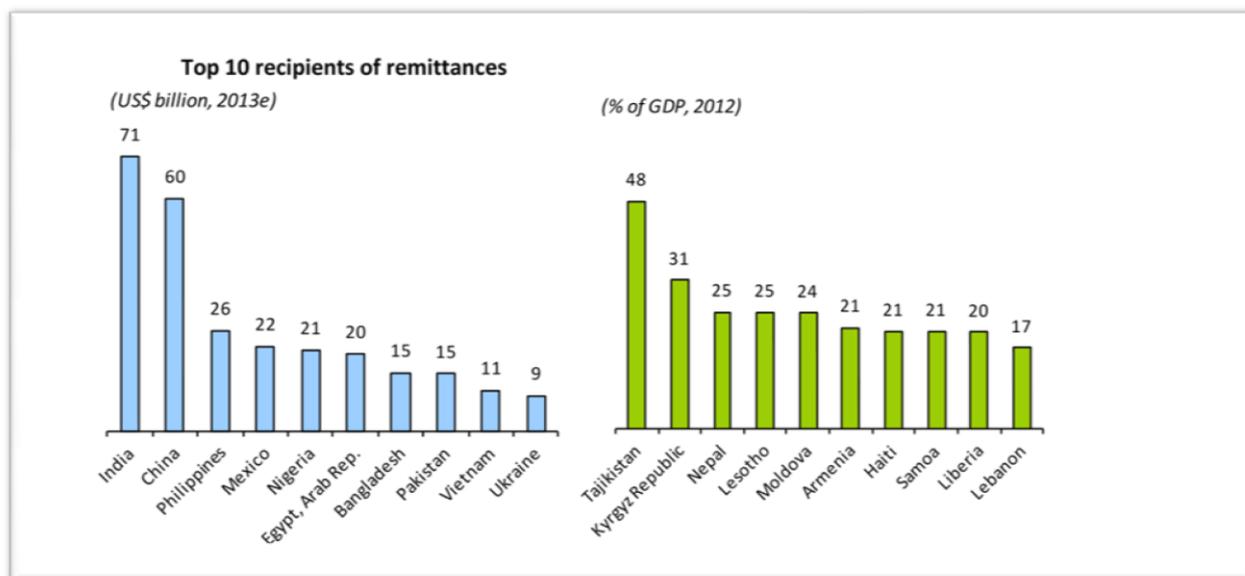
\$6.468 billion of SBP and \$5.048 billion with commercial banks.



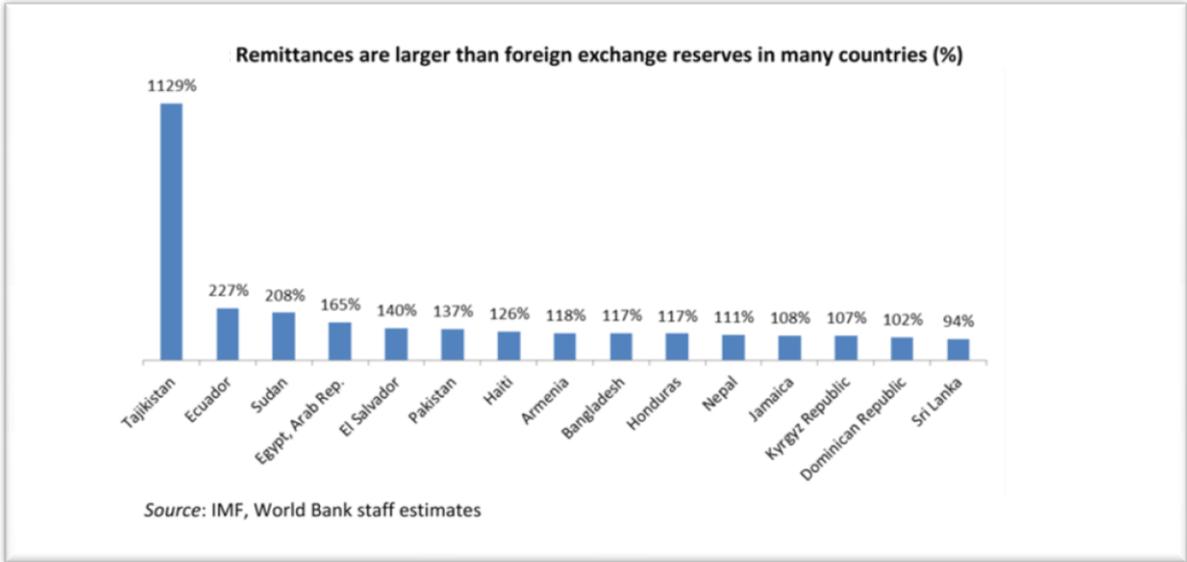
Remittances Initiative (PRI), the share of worker's remittances coming through banking channel has increased considerably from 75 percent in FY10 to 90 percent in FY13.







Source: World Bank staff calculation based on data from IMF Balance of Payments Statistics Yearbooks and data releases from central banks, national statistical agencies, and World Bank country desks. See Migration and Development Brief 12 for the forecast methodology available at www.worldbank.org/migration



ABSTRACT

Brain drain (BD), also known as Human Capital Flight (HCF) refers to migration of skilled and or educated from developing to developed countries. In actual the phenomenon is no more one way from the developing to developed, rather many developed countries are experiencing the same like from Eastern Europe to west and north. The term first coined by the British Royal Society during mid 20th century, then referred to the outflow of scientists and technologists to USA and Canada. The word brain refers to any special expertise and the drain refers to its exit in one direction and rate of exit is considered more than normal. The research on the subject has different social and economical aspects. The phenomenon has taken a new dimension in the last two decades referring it to brain gain, brain circulation, brain exchange etc where in, it's always used negative connotation is redirected towards its potential gains for the exporting countries.

Pakistan is a developing country and has seen this phenomenon since its inception in 1947. As per Bureau of emigration and overseas employment Pakistan, a total of 6.9 million skilled/educated Pakistanis have been registered with government of Pakistan as employees abroad till September, 2013. But the actual figures are estimated to be quite high as many emigrants could not be registered by the bureau. As per World Bank migration and development brief 21 issued in October 2013, the remittances made by these Pakistani expats during 2013 (USD 15 billion) put Pakistan on 8th most remittances recipient country in the world. These remittances are expected to be 137% of foreign exchange reserves of Pakistan. The migration from Pakistan is mainly attributed to poor economical conditions, urge to acquire better living standards, uncertain political environment, better higher education and lately the deteriorating security environments in the country.

The study has been taken by qualitative and quantitative methods of research. By conducting an email survey (using snow ball sampling technique) of highly educated and skilled Pakistani expats it tried to ascertain the positive or negative externalities of BD on Pakistan. These educated people are mostly professional in their own fields and settled abroad in four different regions with majority in OECD and Middle East which are the major target areas for Pakistani emigrants. With an intention of combining the results of qualitative and quantitative research method, methodology adopted was use of SPSS tools to ascertain the results of the primary research. Descriptive analysis by calculating the frequency tables and

group analysis by doing T test and one way Anova helped in understanding the findings and analysis. The findings revealed that though the phenomenon is increasing but it has more positive externalities than negative. This implies that in this increasing trend the measures required at national level, to take the benefit of this migration trend are direly needed otherwise it will be too late to make use of this ever increasing human aspect.

Key Words: - Brain drain, Brain gain, Externalities, Migration and Remittances.

ÖZET

Beşeri Sermayenin kaçıışı olarak bilinen beyin göçü (BD), gelişmekte olan ülkelerdeki eğitilmiş insanların yetenekli veya gelişmiş ülkelere göç etmesidir. Gerçekte batı ve kuzey Avrupa gibi gelişmiş ülkelerde de aynı olay yaşanmaktadır., yerine birçok gelişmiş ülkede gelişmekte batı ve kuzeyde Doğu Avrupa gibi aynı yaşandığı en fazla bir yoldur. Terim İlk olarak 20. yüzyıl ortalarında İngiliz Royal Society tarafından icat edilmiş, daha sonra ABD ve Kanada'da bilim adamları ve mühendisler aktarılmıştır. Beyin sözcüğü, özel bir uzmanlık belirtir ve göç bir yöne doğru çıkış ile ilgilidir ve çıkış hızı normalden daha fazla kabul edilir. Bu araştırmanın farklı sosyal ve ekonomik yönleri vardır. Beyin göçü olayı, beyin kazanımı, beyin dolaşımı, beyin değişimi vb. yönleriyle son iki yılda yeni bir boyut kazanmıştı ve negatif çağırışımı ihraç ülkeleri için potansiyel kazanımlara dönüşmüştür.

Pakistan gelişmekte olan bir ülke olduğunu ve yurt dışında Eylül 2013 tarihine kadar çalışanlar olarak Pakistan hükümeti ile tescil edilmiştir göç ve yurtdışı istihdam Pakistan, 6.9 milyon kalifiye eğitilmiş / Pakistanlı toplam Bürosu başı olarak 1947 yılında kurulduğu günden beri bu fenomeni gördü. ama gerçek rakamlar pek çok göçmenler bürosu tarafından tescil edilemeyen oldukça yüksek olduğu tahmin edilmektedir. Ekim 2013 yılında yayınlanan Dünya Bankası göç ve geliştirme aşamasında 21 başı olarak, 2013 sırasında bu Pakistanlı gurbetçilerin tarafından yapılan havaleler (15 milyar dolar) dünyada en çok alıcı ülke işçilerin ülkelerine gönderdikleri dövizin 8th Pakistan koydu. Bu dövizleri Pakistan döviz rezervlerinin% 137 olması beklenmektedir. Pakistan'dan göç ağırlıklı olarak kötü ekonomik koşullara atfedilir, daha iyi yaşam standartlarına, belirsiz siyasi ortamı, daha iyi yüksek öğretim ve son zamanlarda ülkedeki kötüleşen güvenlik ortamları elde etmek için çağırıyorum.

Çalışma Araştırmanın nitel ve nicel yöntemler tarafından alınmıştır. Bir e-posta anket yaparak bu Pakistan'a BD pozitif ya da negatif dışsallıkları saptamaya çalıştık yüksek eğitilmiş ve yetenekli Pakistan gurbetçilerin (kar topu örnekleme tekniği kullanılarak). Bu eğitilmiş insanlar kendi alanlarında çoğunlukla profesyonel ve Pakistanlı göçmenler için önemli hedef alanları OECD ve Orta Doğu'da çoğunluğu ile dört farklı bölgelerde yurtdışında yerleşti. Nitel ve nicel araştırma yönteminin sonuçlarını birleştirerek bir niyet ile, kabul edilen metodoloji birincil araştırma sonuçlarını belirlemek için SPSS araçlarının kullanımı oldu. ANOVA T testi yapıyor ve tek yönlü tarafından frekans tabloları ve grup analizi hesaplayarak tanımlayıcı

analiz bulguları ve analizleri anlamakta yardımcı oldu. Bulgular fenomen artıyor ama negatif daha olumlu dışsallıklar sahip olsa ortaya koymuştur. Bu, bu artan eğilim ulusal düzeyde gerekli önlemler, bu artan insan yönüyle faydalanmak için dehşetle aksi takdirde çok geç olacak ihtiyaç vardır, bu göç eğilimi parası almak anlamına gelir.

Anahtar Kelimeler: - Beyin göçü, beyin kazanç, Dışsallıklar, Göç ve Para göndermeler.