

Brain Drain, Key Factors Determining Student's Return Intention from Abroad: Evidence from Pakistan

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Abstract

This study explores the factors affecting the return intentions of Pakistani students presently studying abroad. Data is generated through an online survey, while logistic regression was employed to get the results, as return intention is a binary variable. Hence, it is found that many Pakistani students have intentions to return, but few of them have the desire to work in Pakistan. The most important reason for 'students' returns intention is homesickness while living abroad. The most cited reasons for not returning and working in Pakistan are violence, terrorism, unemployment, and economic and political instability. The government should take some serious measures to generate more employment opportunities and create better working conditions.

Keywords: Brain Drain, Students, Return Intentions, Binary Logit Model

JEL Classification: I0, I26, I22

1. Introduction

The emigration of highly skilled workers and employees from developing countries to the industrialized states has become a concerning debate among economists. It is a social and economic loss for developing countries and a brain drain (Candan and Hunger, 2003). Brain drain is the term used for the emigration of tertiary-level educated people with university degrees or skills of the same level (Lindley, 2012). At the beginning of the 1960s, after the wave of globalization, the brain drain phenomenon became a critical issue as globalization opened a window for human capital flight and mobilized the brains where they could get the best economic reward in return for their expertise. For this purpose, several policies in OECD countries have been introduced to attract the best minds in the world, but it left the LDCs in an alarming situation in the race for development and growth (U.K. essays, 2013). OECD countries are attracting international students with their policies significantly. The newest OECD data show considerable trends in international student mobility. In 2020, there were 4.4 million international students

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enrolled in OECD nations, representing 7% of total tertiary students (International Migration Outlook, 2022). Over the last two decades, students have been moving worldwide, and their number is increasing daily (De Wit, 2011). The United States, United Kingdom, and Australia are the main destinations, accounting for 22%, 13%, and 10% of international students, respectively. International students are more prevalent at higher education levels, with 5% at the bachelor's level, 14% at the master's level, and 24% at the doctoral level (International Migration Outlook, 2022).

In 2021, 57% of all overseas students in the OECD countries came from Asia (OECD, 2023b). According to 'Pakistan's overseas employment corporation, over 36000 experts (including doctors, engineers and teachers) have traveled to other countries in the last 30 years. This number in recent years has increased to 45000 while 85668 students have moved from Pakistan to abroad for their studies (OECD, 2012). This evaluation made Pakistan the 4th most affected country by brain drain. More than thirteen million Pakistanis have migrated abroad for jobs or employment from 1971 to April 2024, according to the Bureau of Emigration and Overseas Employment Pakistan. It shows the gravity of the issue, as Pakistan already faces a scarcity of experts in all major sectors of the economy. Returning home is always a good strategy for the origin countries to decrease the brain drain trend. An increasing body of literature is available on this idea, and the results of such studies present a better method for origin countries to make the damage good (Johnson and Regets, 1998). The type of brain drain in which students studying in developed states settle permanently is called the student brain drain (Soon, 2008). Caldwell (2009) says that the emigration of students from Pakistan has increased sharply. No doubt, this high rate of student emigration has shaken Pakistan's ability to integrate into the international markets. Sajjad (2011) finds that most students want to emigrate due to job dissatisfaction, social isolation, and less economic returns according to their skills and abilities.

By providing real data and analysis specific to Pakistani students—a demographic that has been underrepresented in international studies on student migration and return intentions—this study fills a gap in the academic literature. Identifying the factors that impact whether these students choose to return home or stay abroad. Comprehending the return intentions of students is crucial for economic development and planning. The study clarifies the social and institutional elements that affect students' choices as well. This can aid in creating support networks that make it easier for returning students to reintegrate into Pakistani society and the labor market and guarantee their ability to contribute positively.

Furthermore, the study contributes to the global discourse on migration and international education in general.

The organization of this paper is as follows. The second section presents the literature review of related studies. Section 3 explains the data methodology in detail. Results are discussed in section 4. Section 5 discussed the results and conclusions in detail. The last section 6 is for policy recommendations.

2. Literature Review

As essential components of the globalization process and important drivers of economic growth, migration and brain drain have gained prominence in recent decades due to globalization. Highly educated and competent people typically migrate from emerging and impoverished nations to more developed areas like the USA and Europe. Brain drain is caused by a variety of variables, which can be divided into push and pull components. This section entails existing literature review on the drivers of migration.

Iqbal et al. (2021) examined the current trends and determinants of migration intentions in China. They used survey data conducted from China in 2021 using a probability sampling technique. The findings identified several push-and-pull factors influencing the inflow and outflow of skilled human capital in China. High wages abroad and low wages within China were the top reasons for leaving China. The results also showed a positive correlation between better education in host countries and migration intentions from China. Thus, education, wages, opportunities, and lifestyle are significant push factors determining why highly educated individuals emigrate from China.

Mittelmeier et al. (2021) used a questionnaire of 607 South African, Namibian, and Zimbabwean students, to uncover the future migration intentions of students enrolled in online distance education programs in relation to four sets of factors: academic and social adjustment, educational and work experience, socioeconomic variables, and individual demographic characteristics. The results paint a complicated picture of the future migration intentions of international distance learners and highlight notable variations among students with respect to demographics, socioeconomic level, and place of origin.

Simois et al. (2021) investigated the ways in which both objective and subjective factors affect college students' long-term plans to return home before finishing their degrees. This study discovered that students were less inclined to return to their rural roots if their moms were university educated, if they expected to earn more money three years after graduation, and if they felt more connected to

their study area. On the other hand, people who felt more connected to their rural roots over time were more likely to go back. Our results show that there are factors that influence university students from rural areas' intentions to return.

Ryazantsev et al., (2020) examined Iran's brain drain. Five theories were put up to study Iran's brain drain: infrastructure, unemployment, discrimination based on gender, military duty, and hope for the future. Based on surveys and interviews, The results show a significant relationship between brain drain and military service, gender discrimination, and hope for the future. The study is unable to definitively ascertain the influence of infrastructure and unemployment rates, nevertheless.

Mohyuddin and Ullah, (2015) investigated some key factors responsible for brain drain in Baluchistan. They collected the secondary sourced data from the government of Baluchistan. The determinants of unrest, poor working conditions, better-earning opportunities, political instability, better living standards, and fast career growth were included in the analysis. However, unrest and poor working conditions were the most significant factors behind the brain drain in Baluchistan. On the other hand, Bashir et al., (2014) tried to determine the factors determining the 'brain drain in Pakistan. The results revealed that male students were more inclined to move from Pakistan than female students. The study found a better education system as the most important reason to migrate abroad. In another investigation, Sajjad, (2011) explained the causes and solutions of brain drain in Pakistan. He found that most respondents were dissatisfied with Pakistan's political, economic, and job environment and decided to go abroad for a. Most respondents were disappointed with Pakistan's political, economic, and employment environment and decided to go overseas for a better lifestyle.

Paile and Fatoki, (2014) investigated the determinants of return and non-return intentions of students who study in South Africa. They revealed that most students (56%) intend to return after completing their studies. At the same time, the rest of them mentioned the exact reasons for low compensation, not up to the -to-the-mark facilities of health and education, and fewer opportunities for career growth. In another study, Biondoet al., (2013) focused on the brain drain through microeconomic dimensions. They used a theoretical and computational model for return migration. The article developed the simulation model on two individual psychological features, risk aversion and initial expectations. They found a high probability of return with high-risk aversion and vice versa. Between them, it wasn't easy to forecast or draw their likelihood of recovery. At the same time, Zeithammer and Kellogg, (2013) discussed the return migration literature of Chinese students

in the United States. They found that the return rate was elastic in the salary gap. The study collected an essential impact on return migration in Chinese STEM and other traditional migrants from other countries in the U.S. overall.

In the same way, Güngör and Tansel, (2012) provided quantitative evidence on return versus -non-return decisions of Turkish professionals abroad by using pecuniary factors like income or wage differentials and non-pecuniary factors like lifestyle, etc. However, Soon, (2010) examined the non-return intentions of international students to their home countries who were currently studying at New Zealand universities and found that initial return intention and skill opportunity in the home country positively impacted the return probability. Soon, (2008) suggested that policymakers can make better policies regarding 'student migration by knowing the students' return intentions. However, there is a lack of literature identifying the determinants of 'current return intentions in developing countries like Pakistan currently studying abroad. So, this study aims to identify the determinants of Pakistani 'students' current return intentions. The present study contributes to the existing literature by empirically investigating the political, economic, and social factors determining the return intentions of Pakistani students based on online survey data. The issue of terrorism is also included in this investigation, considering Pakistan's current war on terror scenario. The focus of the present study is on tertiary level education, especially ', Master, MPhil, and Ph.D., because highly educated groups of people are the cream of the nation, and their migration from the country is a loss for the economy (Soon, 2010). Based on the results, some policies are also recommended for the government to bring this highly qualified/skilled nation's workforce back to Pakistan.

2.1. Review of theories on student non-return

There is renewed interest in the various aspects of the international migration of skilled individuals, both by policymakers and academicians. Docquier, (2006) provides a recent review of the theoretical and empirical literature. The student non-return has also attracted attention (see, for example, Baruch et al., 2007). Several theories are put forth in recent literature to explain the phenomenon of non-returning students. This section overviews some of the theoretical studies and their implications. Chen and Su, (1995) provide a theoretical framework where the incidence of return decreases when advanced education and training occur in the foreign country of study. This is because education and training received in the country of study complement that country's production technology, work environment, and institutional climate. Thus, graduates with foreign degrees will

be more productive and earn more if they stay in the country where they received their education and training than if they were to return home.

Wong, (1995), alternatively, links brain drains to the learning-by-doing process where learning is the product of experience. The host country has a more significant “cumulative base of knowledge” or expertise than the home country, implying that gaining work experience abroad will allow emigrants to tap this base and hence be more productive and earn more than they would otherwise make in the home country. Dustmann, (2001) brings together several motivations for an 'emigrant's return decision into a life cycle migration model. Human capital accumulation, savings, and consumption decisions are all based on the 'migrants' return expectations and differ depending on whether the migration is believed to be temporary or permanent. According to Dustmann, (2001, p. 4), "immigrants who intend to remain for shorter periods in the host countries could be expected to accumulate less human capital specific to the host country than migrants with more permanent intentions. "Thus, initial return intentions are expected to play a critical, crucial essential role in the return decisions of migrants (Gungor and Tansel, 2007)

3. Data and Methodology

The present study aims to investigate the return intentions of Pakistani students currently studying abroad and to identify their desire to work in Pakistan or other than Pakistan after completing their studies abroad. For this purpose, a self-designed survey questionnaire is prepared to collect students' responses. The study focuses only on students, not skilled professionals. The online survey was created through Google form and sent to the concerned students who met the research criteria. The study focuses on tertiary education students, most universities, or higher education institutions abroad. Initially, the questionnaire was shared in different WhatsApp and Facebook groups of Pakistani students studying in Canada, the USA, Europe, China, Australia, and New Zealand. Questionnaires were shared in every such group of Pakistani students studying abroad that was known to us. To increase the sample size, students who responded were requested to provide the contact of their fellow Pakistani students. In contrast, the questionnaire on Facebook, while others were filled out through Skype. Questionnaires were distributed among 250 Pakistani students, from which 155 valid 'responses were received within a given period. A referral or snowball sampling combined with an online search was used to collect the data. This technique is used because the overall population size and distribution are uncertain. An approximate sample size was chosen by using Cochran, (1977) formula. It was ensured that the sample size chosen represents all the diverse characteristics of the population such as ethnicity,

field of study, gender, countries the students are studying. Where a cover message above the online questionnaire form was mentioned, which explained the purpose of the study, and a link was attached to access the website to fill out the form. While conducting the survey, little data was collected as there is a lack of sufficient information about Pakistani students studying abroad having valid email or other web addresses. The study used a binary logit model to estimate the given objectives of the current research. Because the dependent variable is in dichotomous form and the coefficients of variables are assessed through the maximum likelihood method.

$$\Pr (Y = 1 | X) = 1 + e^{-(\beta_0 + \beta X + \epsilon)}$$

Here X represents the model's independent variables, and β 's are the coefficients of independent variables to be estimated. A detailed overview of these independent variables is given below in the table.

Variables Description	
Variable name	Variable description
Family companionship abroad	Yes/no
Gender	Male/female
Family income	1 = lower middle income, 2 = upper middle income, 3 = high income
' Father's occupation	Self-employed/employed
' Father's education	1 = under matriculation (reference category), 2 = secondary, 3 = higher secondary or university education
Current country of residence (CCR)	1 = UK, 2 = Europe other than UK, 2 = Asia 3 = Australia or North America
Age	In years
Work assessment	Home / abroad
Funding source	1 = part-time job, 2 = scholarship, 3 = family support
Study field	1 = Basic sciences, 2 = Management sciences, 3 = Arts and Social Sciences
Perceptions of foreigners	Positive/negative Perception about Pakistanis
Funding agency bound to return to Pakistan	Yes/no
Employer bounding to return to Pakistan	yes/no
Patriotism	Scale
Economic instability	Yes / No
Family pressure	Yes/no
Job offer in Pakistan	Yes/no
Violence terrorism	Yes/no
Better earning opportunity	Yes/no
Parental choice	Yes/no
Employer requirement	Yes/no
Less job opportunity	Yes/no

These pull and push factors were selected based on their importance justified by previous studies (Gungor and Tansel 2007; Soon 2008; Soon 2010).

The questionnaire starts with ended questions and ends up with open open-ended questions for the students in which they can fill what they like and comment about the survey and Pakistani brain drain. The first part of the questionnaire comprises personal, demographic, and educational questions. The second part

consists of questions about the push and pull factors; the last element is about return intentions. The validity of the questionnaire is checked by measuring Cronbach's alpha, its value is 0.79, which is acceptable. The present study used binary logit regression for analysis as the dependent variable is binary or dichotomous, and the independent variables are categorical and continuous. In binary logistic regression, the probabilistic relationship and predictions can be explained simply by calculating the odd ratios, which gives more precise and rich information LPM.

4. Results

4.1. Model 1: Demographic model

According to the results (see table 4.1), the probability of current return intentions in male students is 4.403 times more than the female. Contrary to (Soon 2008), variable gender is found significant in return intentions. Results align with Pakistan's cultural and religious traditions, where women's prime responsibility is housekeeping. While studying abroad, those women are mostly allowed who take their husbands with them. Most males have gone abroad and are more likely to return to Pakistan, as indicated by its positive coefficient.

On the other hand, results indicate that income significantly impacts the students' return intentions. Students from upper-middle-income families have 51.364 times more probability of returning to Pakistan than students with high-income families. This result is in line with (Kim, 1998), who considered the income or capacity to pay for education the most important determinant. The underlying reason could be that most Pakistani students belong to the middle-middle-income group and are responsible for supporting their families. Most of the time, males must look after their families in Pakistan, or they don't have the resources to settle their families abroad. So, they decide to return and may be well informed that they will be paid more than the locally educated group.

Contrary to this situation, high-income groups have no concerns about settling their families or looking after them as they are already affluent. They don't even need a job, so they don't bother returning. On the other hand, the lower middle group students have 0.128 times less probability of returning to Pakistan than the high-income students, as its coefficient bears a negative sign. They may opt to live abroad because of higher earnings, and they can return back home to support their families.

The variable of father occupation is also significant, as a result, indicating that students whose fathers are self-employed (running their own business or farmer or landlord) are more likely to return to Pakistan. Students with self-employed

fathers' occupations are 65.549 times more likely to return than those whose fathers are employed (work under any government or private organization). Father's occupation is included because, in Pakistan, it is commonly observed that parents who do business or have other non-agricultural employment are more concerned about their children's education and have more intention to send their children abroad, especially males because they can afford their expenses efficiently. Thus, these students will return to Pakistan, where they can better run and excel in their father's business or start their own new business. In contrast, employed parents cannot afford to send their children abroad to study. And if they send their children abroad to learn, they are affording their expenses hard, so these students with employed fathers are less likely to return. Results indicate that other variables, age, Father's education, family companionship abroad, and current country of residence, are insignificant and have no impact on the 'students' intention to return.

Table 4.2 provides results with a variable of desire to work (after completing studies) as a dependent variable. The results revealed that family companionship abroad and gender are insignificant. Family income significantly impacted return intention, but it did not affect students' desire to work. Father's occupation also does not affect students' willingness to work. Father's education significantly impacts students' desire to work after completing their studies, as evidenced (Güngör and Tansel, 2012), who confirmed unequal education opportunities. Thus, results indicate that students whose fathers have degree-level education are less likely to desire to work in Pakistan, with a probability of 0.712 compared to those whose fathers have under matric education. This may be justified because their fathers have more exposure to working conditions in Pakistan, so they 'don't let their children work here. Students whose fathers have secondary and higher secondary education have 0.686- and 0.72 times fewer probabilities than those whose fathers are under matric. The abovementioned argument for higher secondary educated fathers may also justify this. It means that they have less desire to work in Pakistan, which also implies that the fathers of such Pakistani students are well-educated.

The current country of residence also has a significant impact on students' desire to work. According to results, students who live in Asia have 2.314 times less probability of working in Pakistan than UK students. Students who live in Australia and North America also have 0.557 times less probability likelihood than those who live in the U.K. It may be justified that the survey mainly covers students who live in Asia and North America, so most respondents desire to work in their current country of residence. Asian states are emerging economies now with a sizeable absorbing capacity of new workers, which is why students who study there find appropriate jobs. In the U.K. and North America, some saturation is already

prevalent in the job market. At the same time, the analysis took the U.K. as a reference category. Age is also a significant variable with 2.590 times more probability for older students to work in Pakistan than younger students.

4.3. Model 2: Work, educational, and perceptual model

According to the results (see Table 4.3), a work assessment abroad and in Pakistan does not impact students' return intentions. Still, funding source significantly affects students' current return intention. The result shows that students doing part-time jobs to support their children have 1.471 times more likelihood of returning than those studying with their children. Most of the respondents in the survey are on either family support, part-time jobs and loans, or private savings. They intend to return because they are living on their expenses for study. After returning, they may get better jobs in Pakistan or hope to earn better in Pakistan than in their current country of residence. On the other hand, scholarships have no significant impact on the return intention of students. Because very few scholarship holders' present in the survey.

Similarly, the results show that students whose field of study is management sciences have 1.510 times more probability of return than those whose study fields are basic sciences and English literature. This may be because, in Pakistan, there is a lack of locally trained employees and employers in the field of management sciences, so foreign-qualified and trained workers or students are preferred in Pakistan. This lack of availability is better known by the respondents. At the same time, the arts and social science fields have no impact on students' current return intention because survey respondents mainly belong to management sciences, so the general impact of these fields cannot be analyzed. Additionally, the Perception of foreigners also significantly impacts return intention. Students who think their Perception of foreigners Pakistanis is positive have 2.265 times more probability of returning than those who don't think so. This new variable has not been discussed or included in previous studies so far. The present study included this variable because Pakistan, the world map, has been seen with negative reviews after the 9/11 terrorist attack in 2001. This outcome may be justified on the grounds of positive spillovers as living with foreigners and viewing Pakistan as an optimistic country in 'foreigners' Perception may have instilled the desire to return and do better for Pakistan in these students.

Results indicate (see table 4.4) that all the variables included in this model as explanatory variables have no impact on 'students' desire to work in Pakistan or other than Pakistan except one variable. According to the results, funding agency binds students to return to Pakistan, significantly affecting the 'students' willingness

to work. The probability of desire to work in Pakistan is 1.974 times more in students whose funding agency bounds than those without bounds.

4.3. Model 3: Push and pull factor model.

According to the results (see Table 4.5), family pressure, a job offers in Pakistan, better monetary compensation, and parental choice to go abroad do not impact the return intention of Pakistani students. Students who think economic instability is a reason to go overseas have 0.689 times less probability of return than those who 'don't consider economic instability as their cause to go abroad. It can be justified by saying that this is one of the most significant causes of brain drain in developing countries. Similarly, those students who consider terrorism as an important reason for their going abroad have 0.706 times fewer intentions of return as compared to those who did not mention terrorism as a reason for their going abroad. Including the variable of terrorism in the analysis is valid as our country is among the victims of the most heinous types of terrorism.

Employer requirement for foreign study in Pakistan is highly significant. As results indicate, the probability of current return intention is 0.823 times less in students who consider employer requirement as a major factor for their going abroad than those who 'don't think so. The characteristics of the wage gap and smooth working system abroad may seem catchy to them. The students who think unemployment or fewer job opportunities in Pakistan are highly the reason to go overseas have 0.618 times less probability of return intention than those who don't think unemployment is a factor in their going abroad.

Results (see table 4.6) indicate that economic instability, a job offer in Pakistan, better-earning opportunities abroad, parental choice, employer requirements, and fewer job opportunities are highly insignificant in this model. Students who 'don't bear family pressure for return accounts for 0.773 times fewer return intentions than others.

5. Discussion and Conclusion

After a detailed look on the results, it can easily be inferred that economic factors are the most significant for determining 'students' return intentions as students from lower income families and from affluent class both have preferred to stay abroad after completing their studies. And it is also evident from the previous research (Bashir; Xu et al., 2014) that male students were more likely to migrate from Pakistan. Age is also a significant variable, unlike (Soon, 2008), with 2.590 times more probability for older students to work in Pakistan than younger students. According to the results, stability is the main factor of students' return intentions,

like other studies (Sajjad, 2011) and (Zeeshan et al., 2012), in which economic instability in Pakistan is also a cause to move abroad. The students who think unemployment or fewer job opportunities in Pakistan are highly the reason to go overseas have less probability of return intention than those who don't think unemployment is a factor in their going abroad. The present study's results align with the previous studies (Azeem et al., 2011; Güngör and Tansel, 2012; Sajjad, 2011; Zeeshan et al. 2012; Paile and Fatoki, 2014). Family consideration plays a vital role in the settlement plans of students, as other studies (Güngör and Tansel, 2012) and (Pimpa, 2004) also claim so.

Employer exploitation, corruption, robbery, and all such violence exist in society, and they have just driven the people to migrate from Pakistan. Fewer job opportunities, a fragile work system, the job offers in host countries, and the wage gap between Pakistan and other countries also persuade the students to stay in their current countries of residence. However, social factors also significantly impact their return intentions. Violence, terrorism, corruption, and poor living standards play the role of push factors, and students prefer to settle in their host countries. Secondly, the 'foreigners' perceptions of Pakistan also affect 'students' return decisions. It makes them feel good about their country and nation if foreigners consider Pakistan optimistic. In contrast, personal issues of homesickness and family pressure are less significant factors affecting 'students' return intentions.

The current study deals with the return intentions of Pakistani students studying overseas and their desire to work after completing their studies. While work determining student return intentions is not enough, the Pakistani government should ensure that students do not have to leave the country for higher education. All the significant variables have a combined impact on the current return intention of Pakistani students and also on where they want to work after completing their studies. Identifying these factors for the home and host countries are essential for migration policymaking. It is believed that the answers of such overseas Pakistani students will help expand the understanding about why Pakistani students migrate and why Pakistan is less desirable for them to work. This study paved the way to look thoroughly into this issue because if such a highly educated and skilled group of people do not return to serve their home country, it may cause the phenomenon of brain drain, which is now a growing problem among developing countries, including Pakistan.

5.1. Policy Recommendations

Efficient policies for enhancing research culture, a conducive and safe working environment, and handsome monetary compensations with attractive

service structures can bring back many students studying abroad, as they frequently cite these issues. To guarantee that Pakistani students studying abroad come home after completing their studies, the Ministry of Education in Pakistan should work with foreign financing organizations. Through the utilization of international fellowship programs and foreign aid efforts, the Ministry has the potential to improve the standard of education in Pakistan and offer students comprehensive training, consequently decreasing the need to pursue studies outside.

The Ministry of Education should also collaborate with international funding agencies to bind their international students to return to their home country because, in doing so, Pakistani students can return and serve Pakistan. With the help of international fellowship nations/organizations and foreign-aided programs, the Ministry of Education of Pakistan should also improve the educational quality and train students by utilizing these resources fully to reduce the pressure of studying abroad. Immigration authorities of Pakistan should also create a proper database of Pakistani students who are studying abroad or who have gone abroad for study purposes. This will be very helpful for future research purposes.

Direction for future research: Further research is recommended to investigate the impact of social contracts, social barriers on return intentions. Moreover, talented youth who wish to go abroad but are unable to do so may also be included in future research.

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Appendix

Table 4.1: Dependent variable = current return intention

Variable name	B	S.E.	Sig.	Exp(β)
Family companionship abroad	.196	.516	.703	1.217
Gender	1.687	.897	.060	5.403
Family income	-.137	.093	.140	.872
Family income(1)			.002	
Family income(2)	3.958	1.160	.001	52.364
Father's occupation	4.198	1.270	.001	66.549
Father's education	-.613	.672	.362	.542
Fathers education(1)			.521	
Fathers education(2)	.194	.741	.794	1.214
Fathers education(3)	.978	.770	.204	2.660
Current country of residence (CCR)	.799	.715	.264	2.223
CCR(1)			.463	
CCR(2)	-.070	.874	.936	.932
CCR(3)	-.639	.700	.362	.528
Age	.264	.810	.745	1.302
Constant	-.427	2.494	.864	.653

Source: Author's calculations

Table 4.2: Dependent variable: the desire to work after at (after completing studies)

Variable name	B	S.E.	Sig.	Exp(β)
Family companionship abroad	.446	.459	.331	1.562
Gender	-.459	.895	.608	.632
Family income	.043	.086	.617	1.044
Family income(1)			.400	
Family income(2)	.340	1.154	.768	1.405
Father occupation	1.074	1.246	.389	2.926
Father education (degree level)	-1.244	.693	.073	.288
Father education(1) 1= under matric (reference category)			.208	
Father education(2) 2= secondary level	-1.160	.697	.096	.314
Father education(3) 3= higher secondary	-1.274	.667	.056	.280
Current country of residence (CCR) Australia+ North America	-.814	.612	.184	.443
CCR(1) 1= U.K. (reference category)			.144	
CCR(2) 2= Europe other than UK	-.003	.916	.997	.997
CCR(3) 3= Asia	1.198	.729	.100	3.314
Age	1.278	.778	.100	3.590
Constant	-2.668	2.452	.276	.069

Source: Author's calculations

Table 4.3: The dependent variable is the current return intention

Variable names	B	S.E.	Sig.	Exp(β)
Work assessment	.482	1.570	.759	1.620
Funding source			.249	
Funding source(1)	.185	.650	.776	1.204
Funding source(2)	.905	.548	.099	2.471
Study field			.238	
Study field(1)	.920	.591	.119	2.510
Study field(2)	.019	.685	.978	1.019
Perceptions of foreigners	1.183	.600	.049	3.265
Funding agency bound to return Pakistan	-.283	.614	.645	.753
Employer bounding to return Pakistan	-.556	.628	.376	.573
patriotism	.308	.850	.717	1.361
Constant	-.999	1.601	.533	.368

Source: Author's calculations

Table 4.4: Dependent variable: the desire to work in Pakistan or other than Pakistan

Variable names	B	S.E.	Sig.	Exp(β)
Work assessment	-.632	1.250	.613	.532
Funding source			.369	
Funding source(1)	.760	.640	.235	2.138
Funding source(2)	-.134	.564	.813	.875
Study field			.388	
Study field(1)	.086	.590	.884	1.090
Study field(2)	.875	.696	.209	2.400
Perceptions of foreigners	-.402	.661	.543	.669
Funding agency bound Pak	1.090	.568	.055	2.974
Employer bounding	.127	.632	.841	1.135
Patriotism	-.712	.885	.421	.491
Constant	-.286	1.337	.831	.751

Author's calculations

Table 4.5: Dependent variable = current return intention

Variable name	B	S.E.	Sig.	Exp(β)
Economic instability	-1.166	.896	.193	.311
Family pressure	-.538	.621	.387	.584
Job offer in Pakistan	.715	.657	.277	2.043
Violence terrorism	-1.223	.545	.025	.294
Better earning opportunity	.777	.749	.300	2.174
Parental choice	.564	.531	.288	1.757
Employer requirement	-1.729	.650	.008	.177
Less job opportunity	-.962	.534	.072	.382
Constant	3.124	.934	.001	22.747

Source: Author's calculations

Table 4.6: Dependent variable= desire to work at Pakistan

Variable name	B	S.E.	Sig.	Exp(β)
Economic instability	-.025	.538	.963	.976
Family pressure	-1.485	.529	.005	.227
Job offer in Pakistan	-.033	.552	.952	.967
Violence terrorism	-.751	.560	.180	.472
Better earning opportunity	-.646	.563	.252	.524
Parental choice	-.327	.468	.485	.721
Employer requirement	.069	.504	.891	1.071
Less job opportunity	-.071	.495	.886	.932
Constant	.286	.600	.634	1.330

Source: Author's calculations